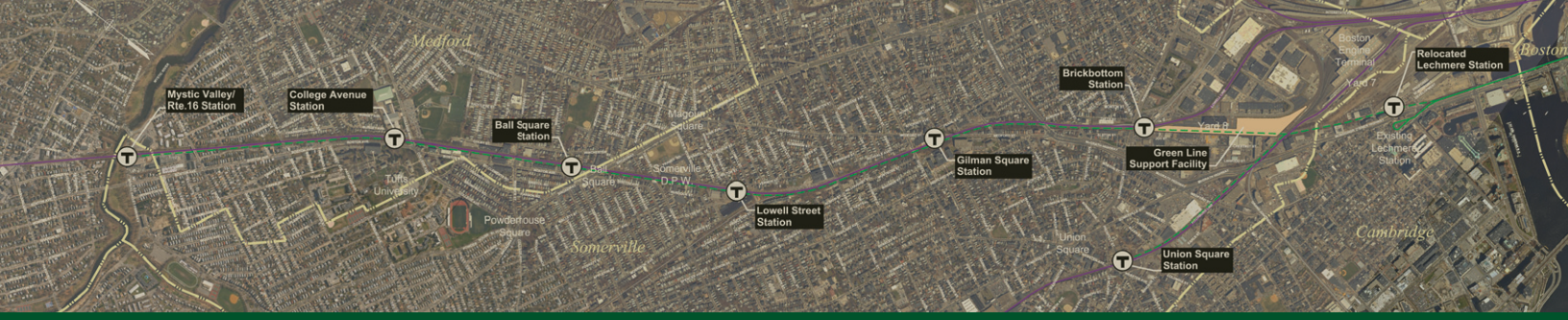

Draft Environmental Impact Report/
Environmental Assessment and
Section 4(f) Statement

Green Line Extension Project

EEA #13886







Volume 3 | Appendix A
Responses to Comments on the EENF

October 2009

Executive Office of
Transportation and
Public Works

U.S. Department of Transportation
Federal Transit Administration

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Committee on Financial Services
Committee on Transportation & Infrastructure
Democratic Regional Whip
Democratic Steering & Policy Committee
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Roxbury Community College
Room 110

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MEPA

October 26, 2006

Secretary Robert Golledge, Jr.
Executive Office of Environmental Affairs
Attn: MEPA Office
Dierdre Buckley, EOEA No. 13886
100 Cambridge St., Ste. 900
Boston, MA 02114-2524

Dear Secretary Golledge:

I am writing with regard to your office's request for comments on the Extended Environmental Notification Form for the Green Line extension project, EOEA No. 13886. I appreciate the opportunity to share my thoughts on scoping the Green Line extension Environmental Review Report (EIR).

First, I want to re-affirm my support for the Green Line extension. The city of Somerville has been underserved, transit-wise, for far too long. By extending the Green Line from Lechmere station to some point in Medford, and adding a spur from Lechmere to Union Square, I feel the Commonwealth will take a major step forward in offering adequate transit service to Somerville residents.

F-001-001 I strongly endorse your office requiring the MBTA and/or the Executive Office of Transportation (EOT) to file an EIR. While this project has existed in theory for some time, and in fact the MBTA has already spent considerable time weighing various alternatives in the Beyond Lechmere process, I do feel there are several areas that require the in-depth study associated with an EIR. Additionally, I hope that EOT decides to concurrently file an Environmental Impact Statement (EIS) so that this project may also qualify for federal funding.

F-001-002 In general, clearly there is much coordination necessary between the MBTA, Massachusetts Highways, EOT, and the cities of Somerville and Medford in order for this project to be successful. An EIR ought to spell out clearly this necessity, and make it a requirement, as well as enumerate the areas in which coordination is required.

F-001-003 In particular, I suggest that the EIR address transportation and environmental concerns. There are several transportation related issues that merit study. First, it seems that adding new tracks to accommodate Green Line vehicles will impact the Lowell commuter line. This should be done

F-001-004 with a minimum of disruption to the Lowell Line. Additionally, a number of roadway and

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F-001-001

The December 1, 2006 MEPA Certificate (EOEA #13886) required the EOT to prepare a DEIR in accordance with Section 11.08 of the MEPA regulations. This document also serves as an Environmental Assessment (EA), required by the National Environmental Policy Act (NEPA) for the EOT to seek federal funding through the Federal Transit Administration (FTA).

F-001-002

In addition to the Advisory Group, which has representatives from the Cambridge, Somerville and Medford, the Green Line Extension project team has held at least 48 official and agency briefings with city representatives and elected officials. The team has also had 35 meetings with other agencies, including the MBTA, the Department of Conservation and Recreation (DCR), MassHighway, and Cities of Medford, Somerville and Cambridge.

F-001-003

The construction sequence is intended to maintain existing commuter rail service on all affected lines. Construction sequencing and staging is discussed in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

F-001-004

As detailed in Chapter 3 (Alternatives), Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA, a construction staging plan is being proposed to minimize bridge closures and maintain traffic during construction to the greatest extent possible. Also, coordination with communities and local public safety and emergency services will continue through the development of Preliminary Engineering plans for the Project.



- 2 -

F-001-004 railway bridges in Somerville will need work in order to accommodate the Green Line. Each bridge should be studied thoroughly to determine what alterations are needed, and the construction schedule must be well coordinated with Somerville public safety and emergency services. EOT must also understand and appreciate that Somerville residents have already endured a number of indefinite bridge closures. Whenever these bridges need to be closed for Green Line work, there must be ongoing communication with the community and an effective
F-001-005 traffic plan in place. Lastly, I urge you to include coordination with the Somerville Community Path in the EIR. It is essential that the Community Path and the extension are able to co-exist.

F-001-006 There are also several environmental issues which I feel ought to be included in the EIR. First, the MBTA will need to expand and/or build new storage and maintenance facilities. The environmental impact in the forms of noise, ground and air pollution at these sites ought to
F-001-007 considered and addressed. It seems likely that there will be an unknown number of hazardous sites discovered along the right of way. Acceptable ways of dealing with these sites needs to be
F-001-008 planned. It is my understanding that no wetlands will be impacted by the Green Line extension, which I am pleased with. However, I expect that between building impervious cover (in the form of Green Line stations) and work around retaining walls for the right of way, there will be an impact on groundwater and storm water management. Both of these issues ought to be included
F-001-009 in the EIR. Lastly, it is my understanding that it is possible construction may have an impact on two city of Somerville parks, Trum Field and the Hoyt-Sullivan playground. The EIR should include studying the impact, and finding methods to mitigate the impact on each of these parks. Green space is vital everywhere, and especially so in Somerville. Losing it, even temporarily, should be minimized as much as possible.

In closing, I would like to take the opportunity to underscore my support for the Green Line extension. The MBTA should be in the business of reaching out to serve areas that have unmet public transit needs while connecting people with jobs. I believe that the Green Line extension, when completed, will accomplish both of these two goals and will also spur economic growth in several Somerville neighborhoods. I appreciate the opportunity to offer my thoughts on how EOT should proceed in studying the Green Line extension.

Sincerely,

Michael E. Capuano
Member of Congress

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F-001-005

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Community Path. Details on the design and coordination of the Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

F-001-006

A full environmental review of the proposed maintenance and storage facility site, including evaluations of noise, traffic and air quality impacts, was prepared for this Project and is detailed in the DEIR/EA. The results of the environmental analyses for the Project can be found in Chapter 5 (Environmental Consequences) of the DEIR/EA.

F-001-007

Known contamination issues for properties to be acquired or constructed upon were identified through records research and site investigation. These contaminated sites are identified in Chapter 4 (Affected Environment), Section 4.16, *Hazardous Materials* of the DEIR/EA. The potential for each alternative to encounter hazardous materials in soil or groundwater is assessed in Chapter 5 (Environmental Consequences), Section 5.14, *Hazardous Materials* of the DEIR/EA. Any contamination encountered during construction will be handled according to DEP regulations.

F-001-008

Changes in impervious cover may increase stormwater flows and decrease infiltration and groundwater recharge; however, these effects can be offset through detention- and infiltration-based stormwater management. Techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

F-001-009

Impacts of the Green Line Extension Project on parks and recreation areas such as Trum Field and the Hoyt-Sullivan playground, were evaluated as part of the DEIR/EA. Impacts to parks and recreation areas and their associated mitigation are discussed in Section 5.11, *Parks and Recreation Areas* of the DEIR/EA. The analysis concluded that the Project would not directly impact or result in constructive use of these park or recreational areas.

13886 DB

COMMONWEALTH OF MASSACHUSETTS

MASSACHUSETTS SENATE

STATE HOUSE, BOSTON 02133-1053

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CONSUMER PROTECTION & PROFESSIONAL LICENSURE
PUBLIC HEALTH
HOUSING
TRANSPORTATION
MUNICIPALITIES & REGIONAL GOVERNMENT

November 13, 2006

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MEPA

Mr. Robert Golledge, Jr.
Secretary of Environmental Affairs
Green Line Extension
100 Cambridge Street, Suite 900
Boston, MA 02114
Attention: MEPA Office

Dear Mr. Golledge,

I am writing to express my comments relative to the Environmental Notification Form (ENF) regarding the Green Line Extension. As the ENF indicates, the current plans for the proposed Green Line Extension begin at the existing Lechmere Station in Cambridge and will travel through Somerville towards Medford along the Lowell commuter rail line. The plan also calls for a spur line into Union Square in Somerville along the Fitchburg commuter rail.

The communities of Somerville, Medford and Cambridge have suffered greatly from the Big Dig construction and the resulting increase in traffic and pollution. Their "requests" regarding the extension should be a critical component of the planned development of this project. The Green line extension is a promise the state made in exchange for the expense, inconvenience and pollution caused by the Big Dig. Furthermore, the Green Line Extension is a fifteen year legal obligation rooted in federal clean air laws and commitment made to improve transportation services for the metropolitan Boston area.

The cities of Cambridge, Somerville and Medford have developed plans to promote residential growth, revitalize the neighborhood commercial centers that would serve these

S-001-001

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

Environmental Affairs to be mindful of these municipal plans with respect to the Green Line Extension.

With that being said, I support the Green Line Extension and its direct benefit to the cities of Somerville, Cambridge and Medford. I am

Sincerely Yours,

Jarrett T. Barrios
Senator

JTB/jmc

Buckley, Deirdre (ENV)

From: Backman, Andy (DCR)
Sent: Monday, November 13, 2006 1:12 PM
To: Buckley, Deirdre (ENV)
Cc: Kirwin, Ken (DCR); Overton, Samantha (DCR)
Subject: RE: project review - 13886

Hi Deirdre. The Green Line Extension project as currently described does not affect DCR bridges or roadways.

S-002-001 The proponent does not know at this time how the Fitchburg Line commuter/freight tracks beneath the McGrath Highway will be configured. There is therefore potential that this highway bridge, which is part of the DCR system, might have to be modified. If that is the case, DCR review and comment will be required prior to issuing construction and access permits. There might also be historical review implications because much of the DCR parkway system is recognized by MHC as an historical resource.

The proponent needs to provide additional info in the EIR before DCR can provide an adequate response.

Andy Backman
Resource Management Planner
andy.backman@state.ma.us
(508) 278-0789
FAX (508) 278-2845
Blackstone Heritage State Park
271 Oak Street
Uxbridge, MA 01569

From: Buckley, Deirdre (ENV)
Sent: Thu 10/5/2006 3:21 PM
To: Backman, Andy (DCR)
Subject: project review

Hi Andy.

Just a heads up on two projects I am reviewing where it will be important to have DCR comments:

Green Line extension to Medford and Somerville (13886) will be in the next Monitor (10/10) and a consultation session is scheduled for 10/16. It will affect DCR bridges and roadways.

Residences at Lower Mills (12887) is located within an ACEC (Neponset River) and adjacent to DCR land/pathway. The ACEC program is preparing comments.

Thanks.

11/28/2006

S-002-001

There will be no impacts to the McGrath Highway bridge in the vicinity of the commuter/freight tracks beneath it. To accommodate the Union Square Branch in this area, no structural modification to the bridge will be necessary. Coordination with DCR has occurred in the preparation of this DEIR/EA; and will continue into preliminary engineering to obtain necessary permits, if needed.

COMMONWEALTH OF MASSACHUSETTS

MASSACHUSETTS SENATE

STATE HOUSE, BOSTON 02133-1053

DB

PATRICIA JEHLEN
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Chair:
Committee on Public Service

Vice-Chair:
Committee on State Administration
Committee on Municipalities

Member:
Committee on Labor and Workforce Development
Committee on Elder Affairs

November 21, 2006

Secretary Robert W. Golledge Jr.
Executive Office of Environmental Affairs
Attention: MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge St., Suite 900
Boston, MA 02114

Dear Ms. Buckley:

I am writing to offer my thoughts on the extension of the Green Line to Somerville and Medford, specifically on the scope of the Executive Office of Transportation's (EOT) Expanded Environmental Notification Form (EENF).

First, I want to commend the Massachusetts Environmental Policy Act (MEPA) Office and EOT for hosting a second public meeting on the EENF in Medford. The Green Line extension is a complex matter and education was needed for the residents of Medford. I hope that MEPA will stress the need for adequate community input in its certification document for this project. I hope that MEPA will require EOT to conduct a thorough corridor planning process and an exhaustive study on traffic and parking impact in the neighborhoods that abut the Green Line. Alleviating neighborhood and environmental justice concerns associated with this project are of the utmost importance to me.

S-003-001

As an elected official and longtime resident of Somerville, I am very excited about the Green Line Extension and the positive impact it will have on public transportation and air quality in Somerville and Medford. I support a Single Environmental Impact Report (SEIR) rather than a Draft Environmental Impact Report (DEIR) to move the process forward as quickly as possible. However, if proper community input and concerns cannot be addressed in a SEIR framework, I recommend a DEIR to ensure that all of the community's concerns are addressed.

For years, residents of Somerville and Medford have waited for the EENF to be filed and for the project to move forward. The EENF should just be a starting point to determine the scope of the project, which is why the EIR should not be limited. Its scope should include options that maximize the benefit for the residents and businesses of Somerville and Medford.

I offer the following comments on the EENF:

S-003-001

Since the release of the October 2006 EENF, the EOT has implemented an extensive public involvement process that includes a public website, a Project Advisory Group, open public meetings, and coordination with staff and elected officials of Medford, Somerville, and Cambridge as well as other stakeholders along the corridor. Details of the public involvement process are discussed in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA

Volume 3 of the DEIR/EA provides responses to the approximately 90 public comment letters received on the October 2006 EENF.

S-003-002 **Station Stop near Brickbottom or Twin Cities.** There is a large gap between the Lechmere, Washington Street, and Union Square stations. The environmental review should be expanded to include a stop near Brickbottom and the Twin Cities shopping center. Somerville has limited opportunities for economic development; this station would enable the city to explore economic development in that area. A stop coupled with the prospect of commercial establishments in this area would greatly benefit Somerville's underserved environmental justice communities.

S-003-003 **Union Square Station Location.** Currently, the EENF fails to include a study of a Union Square Station located directly in the square. Studying the feasibility and impact of placing a station in the heart of the Square is worthwhile and I strongly encourage MEPA to expand the scope of the EIR to look at that alternative.

S-003-004 **Route 16 Terminus in Medford.** It is disappointing that the scope of the EENF fails to study the possibility of extending the Green Line to Route 16. The location could serve residents of Somerville, Medford, and East Arlington, thereby significantly reducing traffic. Additionally, the Route 16 terminus would allow Somerville and Medford to explore smart growth opportunities and transit oriented development at the location. I hope the scope of the project will be expanded to study the possibility of an end terminus at Route 16.

S-003-005 **Green Line Storage and Maintenance Facility.** Under the EENF, the 25 trolleys currently stored at Lechmere and the additional 30 or more trolleys that will be added for the Green Line extension would be stored at Yard 8 in the Inner Belt. This proposal could negatively impact the Somerville's Inner Belt development goals and interfere with the Community Path alignment. I hope that the EIR will consider and evaluate alternative storage and service locations, such as the nearby Boston Engine Terminal, which is large enough for storage and maintenance.

S-003-007
S-003-006 **Extension of the Community Path as part of the Green Line.** The coordination of the Community Path and Green Line extensions should be explicit in the EIR. Environmental justice communities must be provided with safe pedestrian and bicycle access to public transportation in Winter Hill and East Somerville. The Community Path should serve as the main route for East Somerville residents to access the Green Line extension. It will ensure that East Somerville residents do not have to cross McGrath Highway or Washington Street in order to gain access to stations.

Again, thank you for taking the time to provide a second public hearing on the EENF in Medford. I hope that community input continues to help shape this project and that construction will be completed by 2014.

Should you have any questions regarding my testimony, please don't hesitate to contact me.

Sincerely,

PATRICIA D. JEHLEN
STATE SENATOR

S-003-002

A detailed station siting evaluation was conducted and is included in Appendix B to the DEIR/EA. The area between Brickbottom and Washington Street was evaluated as part of this work. It was concluded that one station in this area is warranted. The distance from Lechmere Station to the proposed location of the Brickbottom Station is approximately 3/4 of a mile, which provides adequate coverage of this area. Providing an additional station in the vicinity of Twin Cities Shopping Center would not be warranted at this time, and could slow travel times along the line, which would adversely affect service and ridership along these lines without providing significant ridership increases at the additional station.

S-003-003

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. The station location for this alternative is approximately 200 yards from the heart of Union Square activity. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost prohibitive.

S-003-004

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

S-003-005

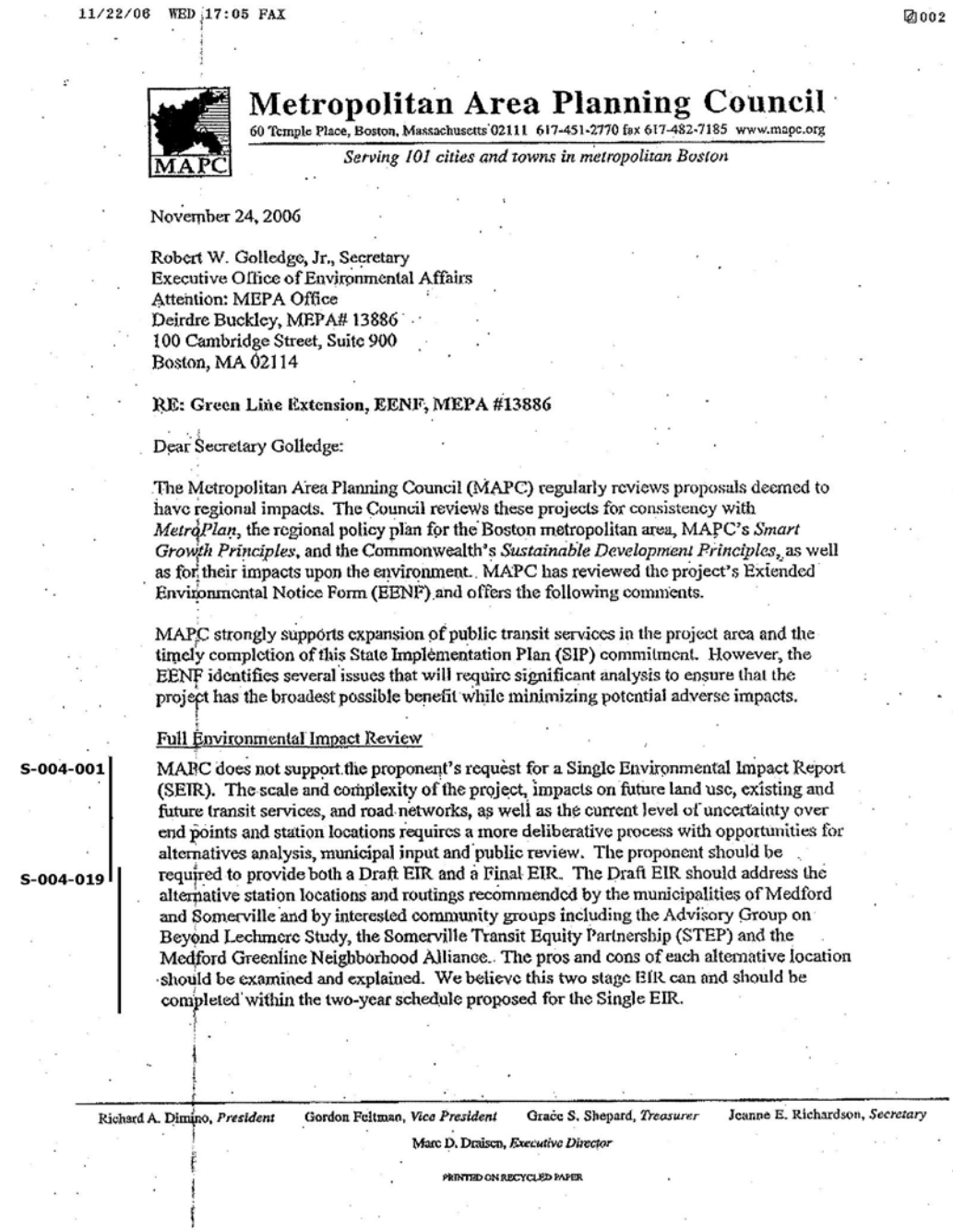
The Secretary's Certificate required the DEIR/EA to investigate feasible alternatives to the Yard 8 site, including the expansion of the Boston Engine Terminal (BET). As outlined in Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility* of the DEIR/EA, several sites were considered to accommodate the new Green Line maintenance facility. Additional sites or variations of these sites were suggested by representatives of the Cities of Medford and Somerville, by Project Advisory Group members, and by the public. The summary of this analysis is provided in Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility*, of the DEIR/EA and in Appendix C of the DEIR/EA.

S-003-006

Increased transit access for environmental justice populations is discussed in Chapter 5 (Environmental Consequences), Section 5.4, *Environmental Justice* of the DEIR/EA.

S-003-007

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Community Path. Details on the design and coordination of the Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.



11/22/06 WED 17:05 FAX 002

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts 02111 617-451-2770 fax 617-482-7185 www.mapc.org

Serving 101 cities and towns in metropolitan Boston

November 24, 2006

Robert W. Golledge, Jr., Secretary
Executive Office of Environmental Affairs
Attention: MEPA Office
Deirdre Buckley, MEPA# 13886
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Green Line Extension, EENF, MEPA #13886

Dear Secretary Golledge:

The Metropolitan Area Planning Council (MAPC) regularly reviews proposals deemed to have regional impacts. The Council reviews these projects for consistency with *MetroPlan*, the regional policy plan for the Boston metropolitan area, MAPC's *Smart Growth Principles*, and the Commonwealth's *Sustainable Development Principles*, as well as for their impacts upon the environment. MAPC has reviewed the project's Extended Environmental Notice Form (EENF) and offers the following comments.

MAPC strongly supports expansion of public transit services in the project area and the timely completion of this State Implementation Plan (SIP) commitment. However, the EENF identifies several issues that will require significant analysis to ensure that the project has the broadest possible benefit while minimizing potential adverse impacts.

Full Environmental Impact Review

S-004-001 MAPC does not support the proponent's request for a Single Environmental Impact Report (SEIR). The scale and complexity of the project, impacts on future land use, existing and future transit services, and road networks, as well as the current level of uncertainty over end points and station locations requires a more deliberative process with opportunities for alternatives analysis, municipal input and public review. The proponent should be

S-004-019 required to provide both a Draft EIR and a Final EIR. The Draft EIR should address the alternative station locations and routings recommended by the municipalities of Medford and Somerville and by interested community groups including the Advisory Group on Beyond Lechmere Study, the Somerville Transit Equity Partnership (STEP) and the Medford Greenline Neighborhood Alliance. The pros and cons of each alternative location should be examined and explained. We believe this two stage EIR can and should be completed within the two-year schedule proposed for the Single EIR.

Richard A. Dimino, *President* Gordon Feltman, *Vice President* Grace S. Shepard, *Treasurer* Jeanne E. Richardson, *Secretary*
Marc D. Draisen, *Executive Director*

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S-004-001

The DEIR/EA provides the results of a detailed analysis of impacts to future land use (Section 5.2, *Land Use*) and existing and future transit services and road networks (Section 4.5, *Existing Transportation System*, and Sections 4.6 and 5.5, *Traffic*). The detailed analysis of station locations is presented in Section 3.7.3, *Stations* of the DEIR/EA. MEPA stated in the December 1, 2006 Certificate that if the DEIR provides a reasonably complete and stand-alone description and analysis of the project, project alternatives and environmental impacts, and adequately addresses mitigation, the regulations allow the DEIR to be reviewed as a FEIR.

11/22/06 WED 17:05 FAX 003

Corridor Study

S-004-002 To help provide answers to existing uncertainties, MAPC recommends that a corridor study be undertaken for the proposed project to analyze all land use and transportation impacts. The corridor study would recommend final station locations and routings. Where to end in Medford or Somerville (e.g., Hillside, Winthrop Street, West Medford Square, Route 16) and how to get to Union Square in Somerville should be among the questions studied. This corridor study should include considerable public outreach efforts within the corridor area. MAPC recommends the formation of a corridor advisory committee for the project area. An advisory committee of community, municipal, and regional representatives can provide valuable input to the corridor analysis, and a forum for discussion of alternative scenarios.

S-004-003 Station locations should be identified not only to maximize ridership based on existing land use and rail rights of way, but also to maximize the economic development potential that a new transit station can unlock. The Brickbottom area in Somerville, currently without a designated station, is an example of where future growth could lead to sufficient ridership to warrant a station. In the case of Union Square, locating the station near the center versus the periphery could play a large role in the area's revitalization. While MAPC does not currently endorse any specific station location over another, we believe that a corridor study can help to determine the best locations based on data and public input.

Accordingly, firm recommendations regarding station locations and routings should be a major outcome of the corridor study. In making these recommendations, information on walk and bike access, noise and air quality impacts, and the opportunities to minimize runoff should all be addressed. The corridor study should also include an analysis of whether the communities have zoned to take advantage of the potential for new growth (TOD zoning), potential and existing bus route connections, and the project's impact on environmental justice communities. These items are discussed in more detail below.

S-004-004 The selection criteria used for the station locations should be explained and further illustrations should be provided for the design of each of the proposed stops. Particular information that should be provided on the station designs includes:

- the length of each platform;
- the pedestrian capacity of each platform;
- disabled access provisions;
- overhead shelter;
- seating capacity;
- lighting; and
- landscaping.

2

S-004-002

In the development of the Green Line Extension Project DEIR/EA, land use and transportation around each of the proposed station locations was evaluated. Specific land use analyses are provided in Chapter 4 (Affected Environment) Section 4.2, *Land Use* and in Chapter 5 (Environmental Consequences) Section 5.2, *Land Use*. The process by which the station sites was selected is described in Chapter 3 (Alternatives) Section 3.3.1, *Stations* and Appendix B of the DEIR/EA. Additionally, EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The Green Line Extension Project Advisory Group provides important guidance and input to EOT and the consultant team on a range of issues relating to the project. The work of the Advisory Committee is described in greater detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

S-004-003

Proposed station site alternatives and the process by which the final station sites were selected for the Green Line Extension Project were based on an evaluation that weighted the benefits and disadvantages of each of the station alternatives. Such evaluated criteria included, but was not limited to, station accessing challenges, transit operations, land use compatibility, property impacts and project costs. Station ranking and rating summaries are provided in Appendix B of the DEIR/EA. Upon identification of the proposed station locations, benefits and impacts of the project including environmental justice, transportation,

S-004-005 The project area is a tightly built-up urban area, and the appearance of the proposed stops should respect the visual character of the surrounding neighborhoods. The project will involve "extensive replacement and/or construction of retaining walls near the outer limits of the right-of-way." The design of the retaining walls should incorporate materials and landscape plantings to minimize adverse visual impact of this project on adjoining properties. Consideration should also be made within the DEIR and FEIR for visual impact of the concrete intrusion barrier between the Green Line and the Commuter Rail.

Parking and Traffic

S-004-006 The proponent should provide a more detailed analysis of the potential traffic and parking impacts at each of the proposed stops. Further analysis should be undertaken to determine a more reliable estimate of the number of vehicle trips per day associated with the proposed project.

Transit Connectivity

S-004-007 Section III of the "Transportation – Traffic Generation Section" of the EENF states the proposed project will "improve mobility and connectivity between modes." Further information is required to demonstrate how the project will improve connectivity between

S-004-008 transportation modes. The Draft EIR should identify how the project will coordinate with the proposed Urban Ring project.

Regional Impacts

S-004-009 Besides local impacts on the communities, this transit extension will provide a regional transportation benefits. Access to the stations for those beyond Somerville and Medford will thus be important. For stations served by bus, or the future Urban Ring, full discussion of how these routes will be designed to maximize access should be part of the study. For the end station (or the stations nearest regional roadways) some parking may also be beneficial from a regional standpoint. A full discussion in the EIR of the costs and benefits of regional parking at one or more stations, and a discussion of how to do this with the least disruption to surrounding communities should be part of the analysis. One aspect of this issue is whether potential parking facilities for transit could serve as business enhancements during off-peak hours.

Stormwater

S-004-010 The proponent should investigate potential stormwater runoff flow and water quality impacts, particularly in the Medford Hillside area and in the "Yard 8" storage facility area. The proponent should identify which best stormwater management practice(s) will be incorporated into the "Yard 8" storage facility expansion to ensure that ground water and

S-004-011 surface water quality are not adversely affected by the proposed expansion. A stormwater management plan should be prepared that includes an ongoing maintenance plan for all

transit-oriented development opportunities and land use were evaluated and summarized in the DEIR/EA.

S-004-004

Evaluation criteria used in the station selection process are defined in Section 3.3.1, *Stations* and in Appendix B to the DEIR/EA. Proposed Green Line Extension Project stations are described in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA. Conceptual designs for each of the stations were developed and are provided in Volume 2, Figures of the DEIR/EA. Concept plans show station elements such as access, platforms, passenger circulation, canopies and other amenties. All stations were designed to conform to relevant federal, state and local regulations including the Americans with Disabilities Act (ADA) to provide fully accessible stations. Designs will be further developed and refined as the Project moves into the next phase of project development.

S-004-005

The Project will include vegetation in and above the retaining walls to maximize the vegetation within the rights-of-way (ROW). The use of vegetation on the retaining walls is discussed in Section 3.7.1, *Land Acquisitions and Easements* as well as in Section 5.10, *Fish, Wildlife, and Plants*, and in Section 5.12, *Visual Environment* of the DEIR/EA.

A four-foot high inter-track fence will be proposed between the Green Line tracks and the Commuter Rail tracks in lieu of the concrete barrier.

S-004-006

Traffic and parking impacts at each station are addressed in Sections 4.6 and 5.5, *Traffic* of the DEIR/EA.

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S-004-011 stormwater systems within the corridor, including regular maintenance of any proposed porous pavement surfaces.

Freight service

S-004-012 The project will result in the removal or relocation of freight rail tracks and/or elimination of freight rights. Further information is required to demonstrate the impacts of the Green Line extension on freight service delivery and where and how rail freight traffic will be diverted. The analysis should examine the economic, traffic and neighborhood impacts of eliminating rail freight from this line in Somerville and surrounding communities. Such analysis should include the impacts of existing truck restrictions in surrounding communities; and additional wear and tear on roadways. The DEIR should also address alternatives that would not eliminate existing freight service (such as the potential for off-peak use of commuter rail tracks for freight delivery).

Bicycles and Pedestrians

S-004-013 The EENF states that the project will coordinate with the Somerville Community Path and the North Point Development project. Rather than simple coordination, the project should support the Community Path extension. Project design should make sure that the path can be built (or that on-street accommodations are possible where the ROW is too narrow) and that necessary support structure/retaining walls are constructed as part of this project. An analysis of the potential for bicycle parking in public spaces at or adjacent to the proposed stops should be provided.

Air / Noise / Lighting

S-004-014 The Draft EIR should specify what noise attenuation measures are to be incorporated into the design of the project, particularly in sections adjacent to residentially zoned land, to ameliorate noise impacts during both construction and operation of the Green Line.

S-004-015 Details should also be provided as to what air quality protection measures will be incorporated into both the construction and operation phases of this project.

S-004-016 Consideration should be given to the use of alternative power sources (such as solar) for lighting within the project area and to ensure that the lighting provided at stations is appropriate to the location in both design and intensity.

Environmental Justice

S-004-017 Much of this project runs through identified Environmental Justice communities. The analysis included in the EIR should demonstrate that these communities have at least equal access to the stations and that the economic development benefits are also fairly distributed. The potential for gentrification impacts should be identified, so that steps can be taken to make sure that the EJ communities are not harmed by the coming of transit.

4

S-004-007

Section 5.5, *Traffic* of the DEIR/EA discusses the traffic generated by the proposed project. Coordination with the Urban Ring and other proposed transportation projects is discussed in Section 3.9, *Coordination with Regional Projects*.

Existing bus service within the project area will be retained. As discussed in Sections 3.7.3, *Stations* and 5.5.1.5, *Public Bus Transportation* of the DEIR/EA, there are at least two or three existing bus stops located within blocks of each proposed station. The CTPS traffic model showed an increase in ridership on some bus routes, due to their function as feeder buses to the new Green Line Stations. The relocated Lechmere Station will include a bus terminal to accommodate the bus routes that serve the existing Lechmere Station as well as future bus routes associated with the Urban Ring System.

S-004-008

The Secretary's Certificate on the EENF requires consideration of and coordination with other regional projects, including the Urban Ring, the reconstruction of Route 28/McGrath Highway, the Community Path, the NorthPoint Redevelopment, the relocation of Lechmere Station, and the Minuteman to Mystic Valley Parkway Path. Details are found in Section 3.9, *Coordination with Regional Projects of* the DEIR/EA.

S-004-009

The ridership analysis performed by CTPS assesses the total increase in transit access by all modes. Section 5.5, *Traffic* of the DEIR/EA, addresses the interactions between the different modes of transportation involved in the Project (including bus, light rail, the Urban Ring, and passenger vehicles) for each alternative.

Station parking is associated with Alternatives 2A, 4, and 5A only. A discussion on providing parking at the Mystic Valley Parkway/Route

S-004-017 Since gentrification and displacement have often accompanied past transit expansions, it is MAPC's opinion that the Commonwealth has an affirmative obligation to help the municipalities and community-based organizations address this issue before construction begins, and to assist the municipalities in preserving affordable housing in the affected area. The EIR should consider these issues, and recommend ways to minimize the loss of affordable housing.

Consultation with MAPC

S-004-018 As the regional planning agency for the adjacent and surrounding municipalities affected by this project, MAPC is willing to assist in the corridor planning effort and to provide technical support. We would be glad to work with your department, EOT, the MBTA, as well as Cambridge, Medford, and Somerville, to address the issues raised in this letter as the environmental review continues.

Thank you for the opportunity to comment.

Sincerely,

Marc D. Draisen
Executive Director

Cc:
John Cogliano, Secretary of Transportation, Commonwealth of Massachusetts
Joseph A. Curtatone, Mayor, City of Somerville
Lauren DiLorenzo, Director of Community Development, City of Medford
Daniel A Grabauskas, General Manager, MBTA
Robert Healy, City Manager, City of Cambridge
James G. Kostaras, Executive Director, Strategic Planning & Community Development, City of Somerville
Michael J. McGlynn, Mayor, City of Medford
Susanne Rasmussen, Director of Environmental and Transportation Planning Division, City of Cambridge
Richard C. Walker III, V.P., Public and Community Affairs, Federal Reserve Bank of Boston

16 Station and its potential impact to the surrounding community can be found in Section 5.5, *Traffic* of the DEIR/EA.

S-004-010

The stations themselves would result in minor increases in impervious cover, and new track areas would have pervious ballast to minimize the amount of stormwater runoff. The maintenance facility would be built on an existing disturbed site and, therefore, would cause a relatively small increase in impervious area. The drainage systems for the stations, tracks, and maintenance facilities would be designed with detention and/or infiltration systems to maintain existing peak flows into the municipal drainage systems, which would prevent any increase in flood risk. Changes in impervious cover and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

S-004-011

Proposed drainage improvements and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA. The Operations and Maintenance requirements are identified in Section 5.9.6, *Operations and Maintenance* of the DEIR/EA.

S-004-012

The Green Line Extension Project will not impact freight operations. Today freight operations along the MBTA's Lowell Line operate through Yard 8 for connections to the Boston Engine Terminal and the MBTA Fitchburg Line. The Yard 8 freight connection will be eliminated to accomodate the proposed Green Line mainline and storage yard. The Project proposes to reconstruct the Yard 10 lead track to maintain freight connections that exist today. On the northern side of Washington Street, the existing commuter rail tracks will continue to operate, and the Green Line will operate on new tracks within the same right-of-way.

S-004-013

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Community Path. Details on the design and coordination of the Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

S-004-014

Potential noise and vibration impacts are assessed and mitigation measures are proposed in Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA, respectively. This assessment includes both long-term effects from transit operations and short-term effects from construction activities.

S-004-015

A construction mitigation plan will be developed that will incorporate air quality mitigation measures such as requiring construction vehicles to be maintained, use ultra low-sulfur fuel, and measures to reduce dust and other particulate pollutants.

The air quality impacts from the operations of the proposed project are discussed in the mesoscale (regional) and microscale (local) air quality analyses presented in Section 5.6, *Air Quality* of the DEIR/EA.

S-004-016

Lighting and renewable energy objectives are discussed in Section 3.7.3, *Stations* of the DEIR/EA.

S-004-017

Environmental justice populations will have a greater increase in transit opportunity than the rest of the community and will not suffer any disproportionate impacts under the Build Alternatives. Potential benefits and impacts to environmental justice communities in Cambridge,

Medford, and Somerville are assessed in Section 5.4, *Environmental Justice* of the DEIR/EA. Indirect and long-term changes in land use, including known and anticipated development plans near the Green Line Extension Project, are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

S-004-018

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

S-004-019

Proposed station sites were selected working with the local municipalities, the communities at station workshops, and with the Project Advisory Group. The station siting utilized a methodology that evaluated the pros and cons of the station alternative locations and ranked and rated them for selection. The summary of the process by which the station locations were evaluated and selected is provided in Appendix B of the DEIR/EA.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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DB

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KERRY HEALEY
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ROBERT W. GOLLEDGE, Jr.
Secretary

ARLEEN O'DONNELL
Commissioner

November 9, 2006

Robert Golledge, Secretary
Executive Office of
Environmental Affairs
100 Cambridge Street
Boston MA, 02114

RE: Somerville, Medford,
Cambridge
Green Line Extension
EOEA # 13886

RECEIVED
NOV 16
MEPA

Attn: MEPA Unit

Dear Secretary Golledge:

The Department of Environmental Protection has reviewed the Expanded Environmental Notification Form (EENF) submitted by the Massachusetts Executive Office of Transportation (EOT) to extend the Green Line mass transit service from the relocated Lechmere Station in Cambridge to the Medford Hillside section of Medford (EOEA# 13886). The proposed rail corridor would extend along 4.4 miles of railroad right-of-way, following the Lowell commuter rail line to Medford, and the Fitchburg commuter rail line to Union Square in Somerville. The preferred alternative rail extension project would require the construction of light rail track, station platforms, and a maintenance/storage facility. In addition, commuter rail track will need to be relocated and several bridges need reconstruction. The Department provides the following comments.

Hazardous Waste

S-005-001 Due to limited land alterations for the rail extension, the EENF indicates that the project is not expected to affect sites that are regulated under the Massachusetts Contingency Plan (MPC). Even so, the EENF identifies many locations of contaminated soil in the vicinity of the rail right-of-way, and also indicates that new reviews and potentially remediation of 21E sites will be needed as the project design progresses. Therefore, should 21E contamination issues become more significant than expected, MassDEP offers to consult with the Executive Office of Transportation to assist in the planning and implementation of demolition and the management of contaminated soil.

S-005-002 The EENF provides a map of the proposed transit corridor, showing the locations of hazardous waste sites and major facilities with hazardous materials. A spreadsheet complements the map with information on these sites. Although the list is extensive, MassDEP's waste site database includes more sites on Broadway in Somerville, in the vicinity of the rail corridor, than are

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service 1-978-694-3492.
http://www.mass.gov/dep • Fax (978) 694-3499
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S-005-001

A Phase I Environmental Site Assessment (ESA) was performed on all properties proposed to be taken for the construction of the Green Line Extension Project specifically for the stations and the maintenance facility. The results of the assessments and next steps are identified in Section 5.14, *Hazardous Materials* of the DEIR/EA.

S-005-002

Potential release sites were identified using federal and state databases. MassDEP files were also reviewed as necessary to provide additional information on site histories and potential environmental impacts.

As recommended, Release Tracking Numbers have been included in the tables in Section 5.14, *Hazardous Materials* of the DEIR/EA.

S-005-002 listed and shown on the map in the EENF. In addition to expanding the universe of waste sites consistent with MassDEP's database, MassDEP recommends that the Release Tracking Numbers (RTN) be provided for easier reference to information on the sites in the MassDEP database.

S-005-003 Due to releases of oil and hazardous materials (OHM) to the soil and groundwater in the vicinity of the rail corridor expansion project, the proponent is advised that removing contaminated soil, pumping contaminated groundwater, or working in contaminated media must be done under the provisions of MGL c.21E/21C and OSHA. The EIR should briefly explain the proposal to evaluate, manage, and disposal of soils and sediments contaminated with OHM. The status of any new reviews of 21E sites and the need for further site remediation work also should be reported in the EIR. To avoid delays, soil and groundwater tests should be conducted well in advance of the start of construction and services of a Licensed Site Professional should be readily available to provide technical guidance in fulfilling regulatory requirements of the Massachusetts Contingency Plan/21E program.

Stormwater

S-005-004 Although there are no wetland resource areas in the vicinity of the rail corridor expansion, the EENF indicates that there will be a small increase in imperviousness for the station platforms and that the project would be designed to control stormwater runoff in accordance with a stormwater management plan to conform to the Massachusetts Stormwater Management Policy. MassDEP agrees with the proposed approach to control stormwater and requests that the EIR provide information, drainage plans, and calculations in enough detail to 1) understand the proposed stormwater plan for the rail corridor during and after construction, 2) to show that the drainage system design will control runoff to avoid and minimize flooding on adjacent properties, and 3) to demonstrate that the nine Stormwater Management Policy standards have been met.

Recycling Issues

S-005-005 The project includes bridge reconstruction, which will generate construction and demolition (C&D) waste. Although the EENF has not made a commitment to recycling construction debris, MassDEP encourages the project proponent to incorporate C&D recycling activities, to the extent it is feasible, as a sustainable measure for the project.

S-005-006 The project proponent is advised that demolition activities must comply with both Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. Chapter 40, Section 54, which provides:

> "Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by Section one hundred and fifty A of Chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate."

S-005-003

Hazardous materials investigations were performed in order to identify possible contamination in soil and groundwater that may be exposed or encountered during the construction of the Project. Proper handling, treatment, and disposal procedures for hazardous materials will be in place to address both known and unexpected contamination encountered during construction. Prior to construction, subsurface investigations will be performed on all areas of expected soil disturbance to identify any additional areas of contamination. Licensed Site Professionals will be involved as needed for any contaminated sites.

The hazardous sites identified are discussed in Section 4.16, *Hazardous Materials*, and potential impacts to these contaminated sites under each alternative are discussed in Section 5.14, *Hazardous Materials* of the DEIR/EA.

S-005-004

Proposed drainage modifications and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

S-005-005

Construction and demolition waste will be recycled where practicable. Section 3.7.3, *Stations* of this DEIR/EA describes EOT's commitments to sustainable design, including recycling site and building materials.

S-005-006

Solid Waste and Air Pollution Control regulations will be complied with during construction. The cost of compliance has been incorporated into the estimated construction costs. Section 5.6.7, *Construction/Demolition Mitigation* of this DEIR/EA describes measures to reduce greenhouse gas emissions during construction.

S-005-011 For purposes of implementing the requirements of M.G.L. Chapter 40, Section 54, MassDEP considers an asphalt, brick, and concrete (ABC) rubble processing or recycling facility, pursuant to the provisions of section (3) of 310 CMR 16.05 Site Assignment Regulations for Solid Waste Management Facilities, to be conditionally exempt from the site assignment requirements if the ABC rubble at such facilities is separated at the point of generation from other solid waste materials. Under 310 CMR 16.05(3), ABC can be crushed on-site with just a 30-day notification to MassDEP. However, the asphalt is limited to weathered bituminous concrete (no roofing asphalt) and the brick and concrete must be uncoated or not impregnated with materials such as roofing epoxy. If the brick and concrete are not clean, e.g., coated and/or impregnated, the material is defined as construction and demolition (C&D) waste and requires either a Beneficial Use Determination (BUD) or a Site Assignment and permit before it can be crushed.

S-005-007 Pursuant to the requirements of 310 CMR 7.02 of the Air Pollution Control Regulations, if the ABC crushing activities are projected to result in the emission of one ton or more of particulate matter to the ambient air per year and/or if the crushing equipment employs a diesel oil fired engine with an energy input capacity of three million or more British thermal units per hour for either mechanical or electrical power which will remain on-site for twelve or more months, then a plan application must be submitted to MassDEP for written Approval prior to installation and operation of the crushing equipment.

S-005-008 In addition, since it appears that significant portions of the demolition project contain asbestos, the project proponent is advised that asbestos and asbestos-containing waste material are a special waste as defined in the Solid Waste Management regulations (310 CMR 19.061). Asbestos removal notification on permit form ANF 001 and building demolition notification on permit form AQ06 must be submitted to MassDEP at least 10 working days prior to initiating work. Except for vinyl asbestos tile (VAT) and asphaltic-asbestos felt and shingles, the disposal of asbestos containing materials within the Commonwealth must be at a facility specifically approved by MassDEP (310 CMR 19.061). No asbestos containing material including VAT, and/or asphaltic-asbestos felts or shingles may be disposed at a facility operating as a recycling facility, (310 CMR 16.05). The disposal of the asbestos containing materials outside the jurisdictional boundaries of the Commonwealth must comply with all the applicable laws and regulations of the state receiving the material.

S-005-009 The demolition activity also must conform to current Massachusetts Air Pollution Control Regulations governing nuisance conditions at 310 CMR 7.01, 7.09 and 7.10. As such, the proponent should propose measures to alleviate dust, noise, and odor nuisance conditions, which may occur during the demolition. MassDEP must be notified in writing, at least 10 days in advance of removing any asbestos. MassDEP also must be notified in writing, at least 10 days prior to any demolition work. The removal of asbestos from the buildings must adhere to the special safeguards defined in the Air Pollution Control Regulations (310 CMR 7.15 (2)).

S-005-010 Facilitating future waste reduction and recycling and integrating recycled materials into the project are necessary to minimize or mitigate the long-term solid waste impacts of this type of development. The Commonwealth's waste diversion strategy is part of an integrated solid waste management plan, contained in The Solid Waste Master Plan that places a priority on

S-005-007

Solid Waste and Air Pollution Control regulations will be complied with during construction. Necessary plan and permit submittals will be made after final design is completed and before construction begins and as defined in Section 5.6.7, *Construction/Demolition Mitigation* of the DEIR/EA.

S-005-008

Any buildings to be demolished will be inspected for asbestos and other hazardous materials prior to demolition. If hazardous materials are identified, they will be removed by a licensed contractor and disposed of in accordance with the Massachusetts requirements. If asbestos is identified, the proper asbestos notification will be provided to MassDEP as required. More discussion with regard to this topic can be found in Section 5.14, *Hazardous Materials* of the DEIR/EA.

S-005-009

Air Pollution Regulations, including notification to DEP for asbestos removal and demolition work, will be followed. A pre-demolition audit will be performed during the design phase on all buildings to be demolished for the project. The audits will identify all asbestos, lead paint, PCB's, mercury and other particulate matter to be disposed of in accordance with federal and state regulations. The contractor will be directed to adhere to relevant provisions of the Air Pollution Control Regulations. More discussion with regard to this topic can be found in Section 5.14, *Hazardous Materials* of the DEIR/EA.

S-005-010

Recycling at stations and the use of recycled materials for construction are discussed in Section 3.7.3, *Stations* of the DEIR/EA.

S-005-010

source reduction and recycling. Efforts to reduce waste generation and promote recycling have yielded significant environmental and economic benefits to Massachusetts' residents, businesses and municipal governments over the last ten years. Waste diversion will become even more important in the future as the key means to conserve the state's declining supply of disposal capacity and stabilize waste disposal costs.

The MassDEP appreciates the opportunity to comment on this proposed project. If you have any general questions regarding these comments, please contact Nancy Baker, MEPA Review Coordinator at (978) 694-3338.

Sincerely,

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Phil Weinberg, Richard Lehan, Steve Lipman, MassDEP-Boston
Stephen Johnson, Iris Davis, Nancy Baker MassDEP-NERO

S-005-011

Notification will be made for the crushing of clean asphalt, brick, and concrete as required in 310 CMR 16.05(3). Required permits will be obtained before any other construction and demolition waste is processed.

Comments on Green Line Extension ENF
No. 13886

November 22, 2006

Thank you for the opportunity to comment on the ENF for the Green Line Extension (hereinafter GLE). I've been a strong advocate for this project since the release of the 1984 "beyond Lechmere" study. I am pleased that the project has finally reached the environmental review process.

My comments will follow, roughly, the chronology of topics in the ENF.

1) Estimated completion date 2014: The Need for Delay Mitigation

This estimated date for completion of the project does not comply with the December 31, 2011, date stipulated in the state's Consent Agreement with the Conservation Law Foundation. As it is, significant engineering work will have to proceed over the next four years to prevent further slippage. Somerville – and particularly its Environmental Justice TAZ zones – will suffer additional years of poor mobility, impaired air quality, and inequitable distribution of transit resources, and should be accorded substantial mitigations, to compensate for the delay in project implementation.

S-006-001

One transit mitigation to which EOT should commit is the Orange Line stop at Assembly Square. Such a project will support all the same purposes as the Green Line Extension. Moreover, it requires very little expense and effort to be implemented: the project is in the Regional Transportation Plan (RTP) and the Transportation Improvement Plan (TIP), and its funding is basically covered, between its $25 m SAFETEA-LU earmark, and the $15 m recently pledged by the major landowners at Assembly Square, in its historic settlement agreement with the Mystic View Task force.

S-006-002

EOT should also commit now to creating adequate and safe bicycle and pedestrian connections to the GLE, especially between the TAZ areas of East Somerville and Winter Hill to the proposed stations. Concrete and valuable steps in this direction would be upgrading pedestrian features, including crossing signals, at intersections all along Rte. 28 in Somerville. Another important connection to the GRE will be filling in the portion of the Community Path between its planned North Point terminus, and its present Somerville terminus.

S-006-003

These steps would make significant contributions to improved air quality and mobility in the interim, by promoting safe alternatives to car travel. Another important transit mitigation for Somerville – especially its EJ community – will be an equitable solution to the impacts of January's fare increases, combined with the Charlie Card rollout. Without a fair plan, and a well-crafted outreach program to explain it, there will be unacceptable

S-006-001

The Assembly Square Orange Line Station is not a part of the Green Line Extension Project. However, the Project does include planning consideration and accommodation for the Assembly Square Station. Details can be found in Section 3.9.5, *Assembly Square Orange Line Station* of the DEIR/EA.

S-006-002

Bicycle and pedestrian access to the stations is a vital part of the Project design. Specifics about the design of each station can be found in Section 3.7.3, *Stations* of the DEIR/EA. In addition, the Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Sommerville Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA..

Also, the project is proposing traffic and pedestrian mitigation measures at thirty-three locations along the corridor in Section 5.5.4, *Mitigation Measures* of the DEIR/EA.

S-006-003

The effects of prior fare increases and the implementation of CharlieCards are not related to the Green Line Extension Project.

S-006-004 impacts on Somerville, especially on the transit-dependent EJ community, with its limited literacy, English language capability, and internet access resources.

2) No additional Parking Spaces Proposed for Stations

S-006-005 I'm pleased that the decision has been made not to provide parking at stations; Somerville is too land-poor for such an option, and such parking would only serve as a magnet to out-of-town traffic, with its resultant pollution and congestion. Yet this decision reinforces the need to include in the project the pedestrian and bicycle mobility and safety improvements described above. If commuters are to get to stations on foot, the access points must be numerous, convenient, and designed for safety.

3) No Conservation/Art. 97 Land;/No Rare Species or Habitat

S-006-006 While it is true that these restrictions do not apply to the GRE through Somerville, more's the pity. Somerville has less open space per capita than any community in the state, including others which are primarily urban. While the letter of the conservation laws does not apply to this project, I would implore you to apply their spirit; consider how much the railroad rights of way contribute to the little green and open space that exist in the city, and plan on how to conserve this contribution as much as possible.

S-006-007 The Lowell line ROW, in particular, constitutes as much of a "green belt" through Somerville as we have. The trees growing in the ROW represent a significant portion of the total trees in the city, and should be preserved or replaced to the maximum extent. These trees, moreover, constitute the major buffer for noise, vibration, visual impacts, and diesel particulate for the great number of people living adjacent to the ROW.

I am particularly concerned about the fate of the trees because other state projects along the ROW, such as the retaining wall project in the early 1990s, and several Mass. Highway bridge projects since then, have resulted in the wholesale cutting of mature hardwood trees. None of these trees have been replaced, and invasive, non-native species have grown up in the exposed areas. This is environmental degradation by any measure.

Moreover, the trees in the ROW have been observed to be a nesting area for many of the red-tailed hawks and peregrine falcons that make their homes in Somerville. I do not know that these species are considered "rare." They are, in any case, beloved in the city, and make a positive contribution to the control of Somerville's chronic rodent problem.

Plans for the GRE should explicitly aim to conserve trees, especially mature hardwoods. Where conservation is impossible, there should be planting of new trees. Consideration of individual trees as raptor nesting sites, and of vegetation as bird habitat, should be an explicit part of planning.

4) Project Description

S-006-004

The effects of prior fare increases and the implementation of CharlieCards are not related to the Green Line Extension Project.

S-006-005

The pedestrian analysis completed as part of the DEIR/EA includes an examination of how pedestrians and bicyclists will access the proposed station locations and where designated crossings would be needed if they do not currently exist. The results of this analysis can be found in Section 5.5, *Traffic* of the DEIR/EA. Chapter 3 describes pedestrian access points to each station. The proposed pedestrian improvements are outlined in Section 5.5.4, *Mitigation Measures* of the DEIR/EA.

S-006-006

The Project would require the removal of some areas of vegetation adjacent to the right-of-way. New vegetation would be planted on and above the retaining walls, and the stations would include landscaping to increase their aesthetic benefits. Potential visual impacts are discussed in Section 5.12, *Visual Environment*.

S-006-007

The Project would require the removal of some areas of vegetation adjacent to the right-of-way. New vegetation would be planted on and above the retaining walls, and the stations would include landscaping to increase their aesthetic benefits. Potential visual impacts are discussed in Section 5.12, *Visual Environment* of the DEIR/EA. The vegetated areas along the right-of-way were assessed for their habitat value in order to compare impacts between the alternatives. Most of the areas affected by the Project would be low-value habitat areas. Impacts to vegetation and wildlife habitat are discussed in Section 5.10, *Fish, Wildlife, and Plants* of the DEIR/EA. With respect to peregrine

S-006-008

A) Project Purposes include "support of smart growth, sustainable development"/ Consistency with Regional Policy Plan/ "concentrating development is economically and environmentally more practical than the current model of scattered growth"

In order to achieve these laudable purposes, the GRE needs a full, thoughtful, context-sensitive corridor study, starting sooner rather than later. This process should include full, informed public participation in a process that includes in its goals the articulation of publicly-supported development goals. I am confident that such public goals would include ones expressed to me by constituents, such as preservation of existing residential neighborhoods, policies that actively address and prevent displacement of lower-income residents, and expansion of Somerville's commercial tax base in the underdeveloped eastern part of the city.

B) "Along the Fitchburg commuter rail line to Union Square"/ Station "in the vicinity of Union Square"/ Only 2 alternatives considered: No Action, and Extend via Lowell Line and Union Square via Fitchburg Line

S-006-009

Although this alignment for the Union Square branch is the only one which has been put forward, I would urge careful consideration of this decision as final. Part of the reason for this recommendation is the lack of resolution on the alignment options raised in the recent Major investment study. The other consideration is the seriously degraded condition of the Route 28 overpass in and around Union Square.

The overpass has deteriorated to the point where crumbling concrete has exposed rebar in several of the support columns, a matter of concern to the City of Somerville. I am aware of no plans of DCR or Mass. Highway to study or repair the condition of the overpass. I am concerned that it could experience the same fate as the Rutherford Avenue overpass in Charlestown: neglect, until the only engineering solution is total demolition.

Such a situation would cause traffic mayhem in Somerville and in the region. The absence of the overpass, however, would also present tremendous opportunities for Somerville, just as the Rutherford Avenue overpass takedown has to Charlestown. No final decision should be made about the alignment for the Union Square stop without a hard look about the short and long term fate of the Route 28 overpass.

S-006-010

Certainly the Route 28 study being conducted by CTPS should be consulted in connection with the GRE project. While currently in draft form, the study should be finalized shortly, and included when the GRE's "consistency with Regional Policy Plans" is evaluated. The Route 28 Study should also help to articulate some of the needed pedestrian improvements, as referenced in Sec.1 above (Delay Mitigations).

S-006-011

C) "Impacts on Noise, Vibration, and Visual Environment will be documented"

Because so many homes – including the one identified building of historical significance - are so close to the ROW, it is vital to document these impacts. It will also be important

falcons, they typically nest on cliffs and tall buildings (such as the Customs House Tower in Boston) and not in trees.

S-006-008

Outreach efforts for local residents, including the Project Advisory Group and numerous public meetings, are discussed in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA. Smart growth and redevelopment opportunities that may be enhanced by the Project are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

The project will not require taking of any residential properties. Takings associated with residential properties are limited to a few strip takings that will not result in the displacement of any residents. The summary of takings is provided in Tables 5.2-2 and 5.2-3 in the DEIR/EA.

S-006-009

Based on information provided by the Massachusetts Department of Conservation and Recreation (DCR), there are currently no immediate plans to reconstruct Route 28/McGrath Highway. The only planned improvements along Route 28/McGrath Highway would be in the form of in-kind repairs with no plans to increase capacity or significantly modify the corridor. The proposed Union Square branch will not require any modifications to the Route 28 overpass.

S-006-010

To determine the appropriate forecast for future traffic volumes, several documents were consulted, including the on-going (and currently on hold) Route 28 study being prepared by CTPS. The project team contacted a number of planning officials in the municipalities surrounding the study area. A comparative analysis between discussions with city

S-006-011 to mitigate these impacts (see, e.g., the discussion in section 3 about the importance of conserving and planting trees to screen for noise and other adverse effects. Please consider also the exposure of corridor residents to diesel particulate matter from the commuter rail engines, and the ongoing need to evaluate and mitigate this exposure.)

S-006-012 There should also be consideration of a likely future regulatory environment which will require reduced human exposure to fine and ultra-fine particulate matter. When the electrical supply system for the GRE is planned, it should include capacity for the conversion of the commuter rail system from diesel fuel to electric power. Planning should begin now for this shift, before it becomes a mandate for which insufficient planning results in increased costs and disruption.

S-006-013 While on the subject of air quality, I would remark on the fact that DEP's revised Ozone SIP regulations have still not been released, though originally due for publication in January of 2006, then February, then October. Clearly, those amendments are relevant to this project in several ways. I would hope that EOEA issues the SIP amendments to allow for timely review by US EPA, and forestall any further delays to this long-delayed project.

In Closing…

I do appreciate the opportunity to comment on the ENF. I've lived within hear-the-trains distance of the Lowell Line ROW for 20 years now, and have had much opportunity to observe the physical and social environment of the corridor. It is a community largely of people who are not well-to-do, who do not have direct access to transit, and whose lives are burdened by the many impacts of providing corridor space for freight trains, and for diesel-powered commuter trains that do not stop to provide service within the city of Somerville.

S-006-014 Many parts of my constituency have been identified as, or are adjacent to, Environmental Justice areas of concern. I would urge you to keep that consideration at the forefront of this review process. Until this project is completed, negative conditions will continue, and likely even worsen, in the community; we need to have confidence that this long-delayed project will be thoughtful and environmentally sensitive in its execution.

Respectfully submitted,

Denise Provost
State Representative, 27th Middlesex

officials and the Route 28 study showed that the City of Somerville is now calling for a greater density in the Brickbottom/Innerbelt area of Somerville than was previously considered. As such, new traffic volumes, which are somewhat higher than those previously considered, were used as a basis for the Green Line Extension future conditions traffic analysis (see Section 5.5, *Traffic* of the DEIR/EA for more details).

S-006-011

The impacts and mitigation measures for the various environmental concerns listed in this comment - noise, historic properties, visual, and air pollution - are addressed in Chapter 5, (Environmental Consequences) of this DEIR/EA.

S-006-012

The Project does not preclude the implementation of future electrification of the MBTA commuter rail line. However, the Green Line electrical system and the electrical system needed for a commuter rail line are quite different and do not share much compatible infrastructure. The Green Line uses a 600-volt direct current (DC) overhead catenary, while typical commuter/passenger railroad electrification (such as the Amtrak line from New Haven to Boston) uses a 25,000-volt alternating current (AC) supply. Substation and overhead wiring requirements also vary significantly between DC and AC systems. Since the required upgrades to the Green Line system do not overlap with the upgrades necessary for electrification of the commuter rail lines, the Project does not include infrastructure for commuter rail electrification.

S-006-013

The Green Line Extension Project's estimated time of completion is 2014, which is consistent with the current State Implementation Plan (SIP).

S-006-014

Potential benefits and impacts to environmental justice communities in Cambridge, Medford, and Somerville are assessed in Section 5.4, *Environmental Justice* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Sciortino, Carl - Rep. (HOU) [Carl.Sciortino@state.ma.us]
Sent: Sunday, November 26, 2006 5:06 PM
To: Buckley, Deirdre (ENV)
Subject: EOEA Project No. 13886

November 24, 2006

Secretary Robert W. Golledge Jr., EOEA

Attn: MEPA Analyst Deidre Buckley

RE: EOEA Project No. 13886

100 Cambridge St., Suite 900

Boston MA 02114

Dear Secretary Golledge:

First of all, I want to say thank you to the MEPA Office and EOEA for holding a second public scoping meeting in Medford, and for extending the public comment period, at the request of myself and other members of the State delegation, as well as members of the Medford City Council and Mayors Office. I felt it was critically important to make sure Medford residents were reached out to early in the planning process.

I am a strong proponent for improving pubic transportation, and in particular for the green line extension through Somerville and Medford. If done right, this project has amazing potential to help existing residents. The benefits of public transportation are clear: it helps take cars off our roads, it helps provide easier access to jobs for local residents, and it helps improve our environmental health and consequently our public health as the air we breathe improves.

S-007-001

My standard for judging the value of the project going forward is simple: How do we design the green line extension so that it brings the greatest benefit for local residents, while preserving the integrity and character of existing neighborhoods?

To that end, I want to encourage the creation of a citizen advisory committee. Such a committee should include a cross section of residents from the impacted neighborhoods, with specific outreach done to include members who are disabled and who can speak to the needs of the disability community. Additionally, it should include residents who fit the criteria for environmental justice communities. It will be crucial to have ongoing channels of communication between the planning agencies, the impacted neighborhoods, and local elected officials in both Medford and Somerville. Such communication and neighborhood input are necessary I believe at all stages of planning, including the environmental impact review stage. I believe an advisory committee can help achieve these goals.

1

S-007-001

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The Green Line Extension Project Advisory Group provides important guidance and input to EOT and the consultant team on a range of issues relating to the project. The work of the Advisory Committee is described in more detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

S-007-002 For the record, I also want to make a comment about the proposed station in the Ball Square area of Somerville. This station is also important also to Medford, as it would serve the South Medford neighborhood. I expect any review and planning of this potential station to also include Medford residents and officials, and careful consideration of South Medford impacts.

S-007-003 Additionally, I want to address the critically important question of the terminus. I am requesting the scope of the MEPA review be amended to go up to but not past Route 16. This location may present challenges as well, but because of the potential improved access for residents in the Medford Hillside, West Medford and West Somerville, I believe such a terminus merits additional study at this time.

S-007-004 Closely, related to the terminus, I am also requesting the MEPA review include the potential for alternative station locations at the end of the line. The Medford Greenline Neighborhood Alliance has put forward a draft proposal to place a single station on Boston Avenue between Winthrop and College Avenues. This would eliminate the Winthrop and College Ave stops, replacing it with a single station in the middle. The current proposal for separate stations at the College/Boston Ave intersection, with the possibility of going to Winthrop Street, presents challenges in neighborhood impact and design. I believe the project would benefit from a better understanding of station locations in this area.

Thank you,

Carl Sciortino

State Representative

34th Middlesex District

2

S-007-002

Your comment has been addressed. Planning of this and all of the station locations did involve residents and officials and is described in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

S-007-003

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

S-007-004

Specific station locations are described in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA. An evaluation of the various proposed station sites between College Avenue and Winthrop Street determined that a single station location is warranted. Details on this analysis can be found in Section 3.7.3, *Stations* and Appendix B of the DEIR/EA.

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December 1, 2006

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Green Line Extension
PROJECT MUNICIPALITY	: Cambridge, Medford and Somerville
PROJECT WATERSHED	: Boston Harbor
EOEA NUMBER	: 13886
PROJECT PROPONENT	: Executive Office of Transportation (EOT)
DATE NOTICED IN MONITOR	: October 10, 2006

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.03 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of an Environmental Impact Report (EIR).

This project is a hallmark of the Commonwealth's commitment to the principles and practice of smart growth. This significant investment in urban mass transit will provide important transportation, air quality and urban redevelopment benefits and will fulfill a longstanding commitment to incorporate transit projects as an integral element of the Central Artery/Tunnel Project (CA/T). It will significantly reduce regional emissions of nitrous oxides (NO_X) and volatile organic compounds (VOC), the chief precursors of smog, and of carbon dioxide, the principal greenhouse gas responsible for global warming. New public and private investments can revitalize the social and environmental fabric of the corridor. For this project to achieve its potential, however, the Executive Office of Transportation (EOT) and the Massachusetts Bay Transportation Authority (MBTA) must design the project carefully and coordinate proactively and effectively with state and city agencies, citizens, local businesses and other stakeholders during all aspects of the project – planning, design and construction.

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The project should be designed to maximize benefits for local residents while preserving the integrity and character of existing neighborhoods. This project has received significant public input including approximately 100 comment letters representing a range of views. I have received comment letters from elected officials and municipal representatives including U.S. Representative Michael Capuano, Senator Barrios, Senator Jehlen, Representative Provost, Representative Sciortino, Medford Mayor McGlynn, Somerville Mayor Joseph Curtatone and Cambridge City Manager Robert Healy. I have received comments from multiple city, state and regional agencies, from environmental, bicycle and pedestrian advocacy groups, from neighborhood groups, from groups that represent the disabled and from businesses and residents.

These comments reflect significant interest in the future of this corridor and range from full and wholehearted support of the project to complete opposition. Commenters want to protect and enhance the character and vitality of this corridor, its neighborhoods and business centers, although their perception of this project's ability to achieve these goals varies. Many of the issues traditionally associated with expanded transit are minimized by using an existing ROW; however, this ROW will be altered significantly and service (and associated impacts) will increase and need to be mitigated. Even the most committed supporters of this project identify the need for additional analysis, information and commitment to mitigation measures to ensure the success of this long-term improvement. The uncertainty expressed in some of the comment letters is associated with the conceptual design of the project at this stage. Enhanced land use planning, re-analysis of station locations, identification of land takings, mitigation of environmental impacts (noise, vibration, and stormwater), and development of good access for pedestrians, cyclists and the disabled have been identified as important issues. Coordination of bridge design and re-construction with local officials will be critical. Traffic management and development and enforcement of parking will be particularly important around the terminus of the line.

I am confident that EOT and the MBTA can and will address these issues responsibly and thoroughly. The key to the project's overall success will be proactive coordination with municipalities, neighborhoods and abutters to ensure that it balances appropriately the adequacy of transit access with mitigation. EOT has made a commitment to plan and develop the project in coordination with a Citizen's Advisory Committee (CAC) representing a broad range of public and private interests.

Project Description

As described in the Expanded Environmental Notification Form (ENF), the project will extend Green Rail service using light-rail vehicles from the relocated Lechmere Station through Cambridge and Somerville to Medford. As currently proposed, the project will extend service 3.8 miles along the ROW for the Lowell commuter rail to the College Avenue/Medford Hillside area. It will include a .6 mile spur to Union Square along the Fitchburg commuter rail ROW. The project will not alter any wetlands although the ROW will be modified significantly and vegetated banks will be replaced with concrete retaining walls in some locations. The project cost is estimated at $500 million (assuming no purchase of new light rail vehicles). EOT indicates that construction could begin in 2011 with a completion date of 2014. The Executive Office of Transportation (EOT) is managing the planning and environmental review for the project. The Massachusetts Bay Transportation Authority (MBTA) will own and operate the system.

The project includes construction of new tracks and stations, re-location of existing commuter rail tracks, relocation, removal and/or elimination of freight tracks and elimination of track rights, reconstruction of bridges, construction of a maintenance storage facility, construction of a concrete intrusion barrier between the shared commuter rail/light rail ROW and construction of retaining walls. The project will alter approximately 23,400 linear feet of bank or terrain. The EENF indicates that the project will include stations in the following areas: College Avenue/Medford Hillside (Medford), Broadway/Ball Square (Somerville), Lowell Street (Somerville), Medford Street/Gilman Square (Somerville), Washington Street (Somerville), Union Square (Somerville). In addition, the EENF indicates that extension of service to the Winthrop Street area will be studied. The stations are proposed as center stations with a minimum width of 81 feet 6 inches and a desired width of 101 feet 6 inches. In other areas, a minimum width of 61 feet is required and 81 feet is preferred. To address significant changes in grade between surface streets and proposed stations, stations will include stairways and ramps and/or elevators to provide access.

The project will extend through densely populated urban areas that contain a large base of commuters and transit users. It includes many underutilized sites with significant redevelopment potential. Area roadways and the public transit system experience congestion and delay during peak hours. Bus service is provided by approximately 15 routes throughout the project area. The ROW is approximately 80 feet in most locations and is adjacent to residences, institutions and businesses.

Jurisdiction and Permits

The project is subject to review and mandatory preparation of an EIR pursuant to Section 11.03 (1)(a)(1) and (6)(a)(5) of the MEPA regulations because it may require a state permit and will alter more than 50 acres of land and consists of a new rail or rapid transit line along a new, unused or abandoned right-of-way for transportation of passengers or freight. The project will require Access Permits from the Massachusetts Highway Department and may require Access Permits from the Department of Conservation and Recreation (DCR). It will require review by the Massachusetts Historical Commission (MHC). Also, it will require a National Pollutant Discharge Elimination System (NPDES) permit from the US Environmental Protection Agency.

Because the proponent is a state agency and will use state funding, MEPA jurisdiction extends to all aspects of the project that may cause significant Damage to the Environment including those issues that relate to stormwater, air quality, traffic and transportation, noise, vibration, open space, historic resources, hazardous waste/contaminated soils and construction period impacts.

DEIR Request

In accordance with Section 11.05 (7) of the MEPA regulations, the proponent has submitted an EENF with a request that I allow the proponent to fulfill its EIR obligations under MEPA with a Single EIR, rather than the usual process of a Draft and Final EIR. The EENF received an extended comment period pursuant to Section 11.06 (8) of the MEPA regulations, and the MBTA voluntarily extended the comment period until November 24, 2006 to provide

opportunities for further review and input. Section 11.06(8) of the MEPA regulations indicate that a Single EIR may be allowed provided that the EENF:

> (a) describes and analyzes all aspects of the Project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope;
> (b) provides a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and
> (c) demonstrates that the planning and design for the Project use all feasible means to avoid potential environmental impacts.

I have reviewed the proponent's request for a Single EIR in accordance with the MEPA regulations. While the EENF provides a detailed description of the project and project elements and summarizes previous analyses of alternative alignments and technologies, it does not provide baseline data from which to measure potential environmental impacts, quantify potential impacts or demonstrate how such impacts will be mitigated. The EENF does not include a baseline analysis of noise, vibration, traffic, air quality impacts or stormwater. Although the EENF notes that the project area includes environmental justice areas, it does not identify them or analyze how the project will avoid disproportionate impacts and fair distribution of benefits (including access and economic development opportunities). The EENF identifies the potential for limited land takings but specific areas are not identified. The EENF identifies the general area of proposed station locations but does not identify the criteria used to select these locations or evaluate how proposed locations meet thses criteria.

While there is strong support from many commenters for the restoration of light rail within this corridor, comment letters also underscore the need to evaluate alternatives to the proposed alignment, particularly for the Union Square spur and the terminus of the line, and to develop adequate mitigation that will minimize impacts to abutters. I strongly support this project for its potential to provide affordable transit access and important air quality benefits, and I recognize that this project will fulfill a long-term commitment by the Commonwealth. Thorough planning and analysis, within the context of MEPA review, coupled with proactive coordination with communities, will ultimately facilitate permitting and local review and accelerate the completion of this project. Therefore, I am requiring the proponent to prepare a DEIR in fulfillment of the requirements of Section 11.08 of the MEPA regulations. I note that the MEPA regulations do provide sufficient flexibility to streamline the review in the future. If the DEIR provides a reasonably complete and stand-alone description and analysis of the project, project alternatives and environmental impacts, and adequately addresses mitigation, the regulations allow the DEIR to be reviewed as a FEIR.

Given the recent settlement associated with the Central Artery/Tunnel project's transit mitigation commitments, in combination with MassDEP's promulgation of regulations related to these transit commitments, which establish both a public review process and timetable for completion of this project, I am confident that EOT and the MBTA will comprehensively address the Scope contained in this Certificate. Therefore, if the DEIR is thorough, as I expect it will be, then it is very likely that the DEIR will be deemed adequate to serve as the FEIR, after public review and comment.

SCOPE

General

The EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this scope. The EIR should include a copy of this Certificate.

Project Description and Permitting

S-008-001 The EIR should provide a detailed project description including a project schedule, project costs and funding sources. If EOT will pursue federal funding, it should coordinate the

S-008-002 and National Environmental Policy Act (NEPA) review process. The EIR should include an existing conditions plan illustrating resources and abutting land uses for the entire project area and a proposed conditions plan (or plans) illustrating proposed elevations, structures and stormwater management systems.

S-008-003 The EIR should describe designs for track locations, relocations and bridge replacements. It should provide detailed information on station locations, designs, lighting and access. The EIR should describe operating parameters for the service including the type and number of cars

S-008-004 required to provide service and headways. The EIR should also include a circulation plan

S-008-005 illustrating how motor vehicles, buses, pedestrians and cyclists will access each station. It should

S-008-006 detail requirements for the maintenance facility including parking. It should describe electrical systems including the catenary and support structures, substations and signal and communication

S-008-008 systems. The DEIR should identify temporary and permanent land takings. The DEIR should include plans, designs, renderings and, where appropriate, illustrations or photos.

S-008-009 The DEIR should include a list of required permits and approvals, demonstrate the project's consistency with regulatory standards and provide an update on the status of each permit and/or approval.

Smart Growth/Land Use

The overarching policy goal within MEPA review for the use and reuse of land as defined by the Office of Commonwealth Development's (OCD) Sustainable Design Principles and Executive Order 385 (Planning for Growth) is to direct public infrastructure investments to spur revitalization of previously developed urban sites over undeveloped Greenfield sites. MEPA and state agencies such as EOT must actively consider the consistency of their actions with local and regional growth management plans to avoid the distinction between state responsibility for transportation planning and local responsibility for land use planning. If this project is designed with the proactive participation of communities and based on solid land-use planning it will maximize economic development and long-term ridership potential.

S-008-010 As noted previously, EOT has committed to planning this project in conjunction with a CAC to facilitate effective and meaningful participation at the local level regarding all aspects of the project including land use, project alternatives, ridership and mitigation. The success of this project will be dependent not only on EOT's ability to plan effectively but the ability of Cambridge, Medford and Somerville to respond with appropriate zoning changes and

S-008-001

The Green Line Extension Project description and cost estimates for each alternative are found in Chapter 3, *Alternatives* of the DEIR/EA. The Project is currently anticipated to begin construction in July 2011 for completion by December, 2014. The costs for the various project alternatives can be found Section 1.2, *Project Summary;* in Section 3.6, *Build Alternatives;* and in Section 3.7.5, *Cost Estimate* of the DEIR/EA.

EOT is working with the FTA to apply for New Starts funds for the Project. As such the Project requires review under NEPA. Both the NEPA and MEPA processes have been coordinated. This DEIR/EA is intended to advance the Project through both processes at the same time.

S-008-002

Existing conditions are discussed in Chapter 4, (Affected Environment) of the DEIR/EA, which includes figures showing existing conditions, resources, and land use. Proposed conditions are presented and discussed in Chapter 3, (Alternatives). Additional details on proposed conditions and possible impacts can be found in Chapter 5, (Environmental Consequences) of the DEIR/EA.

S-008-003

Details on track modifications, station locations, bridge replacements, and proposed operating plans and requirements for the alternatives are provided in Chapter 3, (Alternatives) of the DEIR/EA.

S-008-004

Circulation plans for the proposed stations are described in Chapter 3, (Alternatives) and are shown in Volume 2 (Figures) of the DEIR/EA.

S-008-010 implementary regulations. The CAC should include representatives of regional planning agencies, local government, business interests, community groups, representatives of environmental justice areas and the disabled community, abutters, and bicyclist and pedestrian groups.

S-008-011 EOT should use its work with municipalities on the Urban Ring Project (EOEA #12565) as model for planning and coordination on this project. As the Conservation Law Foundation (CLF) and the Metropolitan Area Planning Council (MAPC) have indicated, EOT should build on the corridor planning work it has conducted to date and develop a more detailed corridor study to examine zoning, development opportunities (including the potential for air rights development to create open space and playing fields or affordable housing), the relationship of EJ communities to the project and potential and existing transit connections. The study should adequately account for near-term and long-term population projections and job growth in the entire corridor.

S-008-012 Commenters have written and spoken eloquently about the potential impacts of new transit access and identified concerns that the project could change the character of their communities, reduce housing affordability and reduce transit access for certain populations. The corridor study should by used to inform these issues and the DEIR should describe how communities can plan to address these issues.

S-008-013 EOT should also assess opportunities to minimize environmental impacts from the project such as use of solar for station lighting, and use of recycled materials. Retaining wall alternatives should be considered that incorporate materials and landscape plantings that could minimize adverse visual impacts, noise and stormwater.

Consistency and Coordination with Planning and Projects

S-008-014 The corridor study should be employed to evaluate the consistency of this project with previous and ongoing planning efforts and relevant transportation plans. As noted in the EENF, a tremendous amount of land use, zoning and environmental planning has been conducted in areas throughout and adjacent to the corridor. Coordination with ongoing and planned projects can support the effectiveness of all projects by creating economies of scale and maximizing access opportunities (and therefore development opportunities). Specific projects that should be carefully evaluated for implications on the Green Line Extension and planned in conjunction with it include: the Urban Ring, reconstruction of Route 28/McGrath Highway, the North Point development and relocation of Lechmere Station, the Community Path and the Minuteman to Mystic Valley Parkway Path.

S-008-015 The Community Path, in particular, will benefit from a coordinated approach. Designing and building it in conjunction with the Green Line is critical to its overall viability and will certainly reduce its overall cost. The Community Path, in turn, can provide good access to the Green Line Extension and boost ridership levels for the Green Line Extension. Therefore, I am directing EOT to work proactively with the proponents of the Community Path and to include conceptual designs in the DEIR. The DEIR should identify where the Path can be accommodated within the ROW, identify potential pinch points and obstacles to including it within the ROW and, where the ROW cannot accommodate the Community Path, evaluate alternatives (i.e. cantilevering the trail or identifying on-street routes). The DEIR should evaluate whether bridges (new and rebuilt) are wide enough to accommodate the path. The DEIR should provide cost

S-008-005

Requirements for the proposed maintenance facility are discussed in Section 3.3.2, *Maintenance Facility* of the DEIR/EA.

S-008-006

New electrical systems and support structures, including extended catenary lines and new signals, required for each alternative are identified in Section 3.6, *Build Alternatives* of the DEIR/EA.

S-008-007

Permanent land acquisitions are discussed in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA. Temporary easements for construction access will be identified in more detail as the Project progresses into preliminary engineering.

S-008-008

Plans and designs for proposed stations and the Project corridor are described in Chapter 3, (Alternatives) in Section 3.3.1, *Stations* and Section 3.7.3, *Stations* and are provided in Volume 2 (Figures) of the DEIR/EA.

S-008-009

The permits and approvals that the Green Line Extension Project is subject to are outlined in Section 1.3, *Permits and Approvals* and Section 6.5.3, *Related Permits and Approvals* of the DEIR/EA.

S-008-010

A Project Advisory Group was established, consisting of municipal officials, community representatives, and other interested individuals. The Advisory Group has provided guidance and input throughout the development of the Project. Details on the Project Advisory Group and

S-008-015 estimates of the project. Also, the DEIR should evaluate the viability of extending the Community Path to Route 16 to create a connection with the Mystic River Parkway.

Environmental Justice

Environmental justice principles lead EOEA and the proponent to ensure that no segment of the populations should be denied environmental benefits, or should bear a disproportionate burden of environmental impacts. This project is intended to provide transit service, along with
S-008-016 better access to jobs, housing and public services. The DEIR should identify EJ areas and other sensitive populations, provide relevant socio-economic data, describe how the project is designed to provide fair access to stations and economic development opportunities and avoid any disproportionate share of impacts. In particular, the station locations and siting of the storage and maintenance facility should be carefully considered and community impacts carefully assessed and mitigated. In addition, the land use study and planning should consider strategies for allowing housing affordability.

S-008-017 EOT should take affirmative measures to ensure full public participation in the MEPA process by all affected communities, particularly those with a high percentage of minority, low-income, non-English-speakers and the disabled. I encourage EOT to work with EOEA staff in developing appropriate protocols.

Alternatives Analysis

As described in the EENF, the Beyond Lechmere Northwest Corridor Study Major Investment Study (MIS)/Alternatives Analysis process screened a broad range of project alternatives, technologies (e.g. Bus Rapid Transit (BRT), light rail, commuter rail) and operating plans for improving service to the study area. An Advisory Group was created to assist with the development and review of this document. The study area was identified as the area underserved by fixed guideway transit service in Cambridge, Somerville and Medford. It included the area between Interstate-93 and the Orange Line to the East and the Red Line and Fitchburg commuter rail line to the west and south. The study explored 9 options that were reduced to 5 upon further evaluation. The five included:

- 1A - Green Line to West Medford
- 1C - Green Line to West Medford/Union Square
- 2B - BRT to West Medford and Green Line to Union Square
- 3A - Commuter Rail Shuttle to West Medford
- 3B - Commuter Rail Shuttle to Anderson RTC

In addition, a Transportation System Management (TSM) alternative that explored how to improve existing infrastructure and service was evaluated. This Study indicated that the Alternatives 1A, 1C and 2B provided the most benefit in terms of air quality and reduction in vehicle miles of travel (vmt). The Preferred Alternative included in the EENF is a variant of Alternative 1C - Green Line to West Medford (with a terminus at College Avenue)/Union Square. EOT indicated that it was willing to consider extending the project to Winthrop Street.

public outreach process are found in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

S-008-011

The Project has involved a long-term land use assessment that identifies foreseeable development projects in the local area in order to assess their possible effects on the Project and the region. Existing land uses along the corridor and in proximity to each proposed station site are discussed in Section 4.2, *Land Use* of the DEIR/EA. Existing socioeconomic conditions and regional growth are discussed in Section 4.3, *Socioeconomic Impacts* of the DEIR/EA. Changes in land use and socioeconomics under the alternatives are discussed in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA. Cumulative and long-term effects on development, employment, and land use under each alternative are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

S-008-012

The Project is expected to increase regional transit access and will increase transit access for environmental justice and disability populations specifically. Aside from the potential benefits of increased transit access, no substantial neighborhood effects are expected under the proposed alternatives. Potential community effects are discussed in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA. Interactions between the Project and future development are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

S-008-013

Environmentally-oriented design elements for the stations are discussed in Section 3.7.3, *Stations* of the DEIR/EA. Vegetation will be provided on

As noted previously, the extension of the Green Line to Medford Hillside remains a part of the Commonwealth's transit commitments developed through the CNT Project permitting. This commitment was codified in the DEP Transit System Improvement Regulations (310 CMR 7.36) in 1991 and is included as an element of the Commonwealth7sState Implementation Plan (SIP) for ozone. Revised Transit Regulations are being issued today and include a legal commitment for EOT to extend Green Line Service using light-rail vehicles from Lechmere Station to Medford Hillside and a spur to Union Square before December 31,2014. I note that the regulations do not specify the terminus of the line within Medford Hillside and final project designs will be dependent upon the attainment of specific emissions reductions. A broad approach to the alternatives analysis is important so that additional MEPA review will not be required should policy, regulations and/or funding opportunities change.

While many commenters object to any extension of the Green Line northward or its extension beyond certain locations, very few have requested additional analysis of previously explored alternatives (i.e. commuter rail or BRT). I have received numerous and thoughtful comments regarding the need for analyzing potential routing, station location and other variants on the Preferred Alternative. In addition, commenters have noted that EOT did not identify why the project has been limited to College Avenue rather than the original Alternative 1C and did not evaluate alternatives to the Fitchburg commuter rail alignment to Union Square.

S-008-018 Based on the alternatives analysis completed to date, the legal commitment requiring construction of this specific alignment and general support for the alignment and proposed technology, the DEIR should include analysis of the following alternatives:

- No Build
- Preferred Alternative – Green Line Extension to Medford Hillside and Spur to Union Square
- Route 16 Terminus Alternative
- Union Spur via McGrath/Somerville Avenue Alternative

S-008-019 The purpose of this analysis is to explore alternatives that will meet ridership goals and other project objectives while reducing potential impacts. I am cognizant of the fiscal constraints within which these projects are being planned and realize that all investment should be carefully analyzed to determine its benefits. The DEIR should describe benefits and drawbacks based on information on access, noise and air quality impacts and opportunities to minimize runoff. Information on baseline conditions – noise, vibration, air quality, traffic, access - will be critical for adequately comparing alternatives.

S-008-020 Some comment letters do not demonstrate public support for extending the Project across the Mystic River to the commuter rail station in West Medford Square although this terminus is the basis for ridership estimates of Alternative 1C. While I am not requiring EOT to evaluate this alternative further, the DEIR should identify the basis for selecting a variation of Alternative 1C and should consider other alternatives that could meet the goal of a connection between the Green Line Extension and the Lowell commuter rail including a rail stop at Tufts University or Gilman Square. I am directing EOT to evaluate the benefits and impacts of extending the project to Route 16.

S-008-021

and above the retaining walls (in addition to landscaping at stations) to minimize overall vegetation losses along the right-of-way. The retaining walls are discussed in Section 3.7.1, *Land Acquisitions and Easements* of the DEIR/EA. Further discussion of noise, visual, and stormwater impacts are provided in Chapter 5 (Environmental Consequences) of the DEIR/EA.

S-008-014

Coordination with these projects is discussed in Section 3.8, *Community Paths* and Section 3.9, *Coordination with Regional Projects* of the DEIR/EA.

S-008-015

The Community Path was considered throughout the design of the expanded rail corridor. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

S-008-016

Environmental justice populations are identified in Section 4.4, *Environmental Justice* of the DEIR/EA. The proportionality of possible benefits and impacts to these populations under the Project are discussed in Section 5.4, *Environmental Justice* of the DEIR/EA. Long-term effects on land use and planning are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

S-008-017

The Green Line Extension Project has involved a significant public participation process to date to engage residents and business owners of the affected communities. The process is defined in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

The EENF propose only one possible alignment for the Union Square Spur. A large number of commenters, including elected officials, have requested that an alternative be evaluated that will bring the rail line closer to the center of Union Square to improve overall accessibility, to provide better connections with bus routes and to avoid disruption associated with the rebuilding of Prospect and Webster Street bridges. In addition, they note the opportunity to coordinate this
S-008-022 alternative with reconstruction of McGrath Highway. The DEIR should consider alternatives that route the spur along the McGrath Highway and Somerville Avenue with a potential to loop back along the Fitchburg Line.

Maintenance and storage of Green Line vehicles are an integral part of this project. Many commenters have raised concern with the location of a maintenance facility at Yard 8 and suggested that expansion of the Boston Engine Terminal (BET) should be considered as an
S-008-023 alternative. The DEIR should analyze feasible alternatives to the Yard 8 site, including but not limited to the BET, and evaluate how impacts related to the Yard 8 site can be avoided, minimized and mitigated.

Impacts to Land/Stormwater

S-008-024 For each alternative, the DEIR should quantify the amount of land altered, the amount of earth work involved in meeting final grades and the amount of impervious surfaces created. The EIR should investigate all feasible methods of avoiding, reducing or minimizing impacts to land.
S-008-025 The DEIR should consider alternatives to construction of concrete retaining walls that could retain trees and vegetation while minimizing noise, vibration and stormwater impacts.

Although this project is taking place within a developed corridor and will increase impervious surfaces only by a modest amount, it will change the nature of the ROW and affords opportunities for improvement of the existing stormwater infrastructure and management system.
S-008-026 The DEIR should include an overall drainage plan and it should discuss the consistency of the post-development construction and drainage plan with the DEP Stormwater Management Policy. It should demonstrates that source controls, pollution prevention measures, erosion and sediment controls and the drainage system will comply with the DEP Stormwater Management Policy and standards for water quality and quantity both during construction and post-development. The EIR should include an operations and management plan to ensure the long-term effectiveness of the stormwater management system. The DEIR should identify any stormwater discharge points and
S-008-027 describe any drainage impacts associated with required off-site roadway improvements. The DEIR should investigate all feasible measures of reducing impervious surfaces.

Station Design and Locations

Station design and location is an important factor in the design of the project and will impact ridership, travel times, access, parking availability and congestion. The EENF describes general areas/intersections where stations will be proposed but does not identify specific locations or identify the criteria (i.e. distance between stations; even distribution of station stops; proximity to elderly housing, independent living and assisted living and/or low-income housing; proximity to high ridership bus stops; limiting impacts to abutters; and locations near institutions) used to
S-008-028 identify station locations. Corridor planning should inform the analysis of specific station locations and should consider near-term ridership opportunities as well as long-term growth

S-008-018

These alternatives are included in the alternatives analysis. Details on all alternatives are provided in Chapter 3 (Alternatives) of the DEIR/EA. Details of the impacts of each alternative are provided in Chapter 5 (Environmental Consequences) of the DEIR/EA.

S-008-019

The existing conditions of affected environmental resources are discussed in Chapter 4, (Affected Environment) of the DEIR/EA. The potential impacts and proposed mitigation of each alternative are discussed in Chapter 5, (Environmental Consequences) of the DEIR/EA.

S-008-020

Ridership can be increased substantially without a direct connection to the commuter rail. Numerous alternatives were considered, including a Bus Baseline Alternative that would increase transit access in the desired areas without extending the Green Line. The *Beyond Lechmere Northwest Corridor Study MIS* explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Meford, grade-crossing constraints, as well as historical, environmental, and park land impacts. The alternatives under consideration are discussed in Chapter 3 (Alternatives) of the DEIR/EA.

S-008-021

Alternatives 2, 4, and 5 all extend the Green Line to Mystic Valley Parkway/Route 16. The alternatives under consideration are discussed in Chapter 3, (Alternatives) of the DEIR/EA.

S-008-028
S-008-029 ppential. Because parking will not be provided, the ability to provide good pedestrian and bicycle access will be a critical factor in station locations and designs. Bus stops, drop-off areas and bike storage should be integrated into stations.

S-008-030 EOT should carefully consider comments provided on station locations and evaluate the feasibility and advisability of locating stations at Route 16, Winthrop Street, between Winthrop Street and College Avenue (as described by the Medford Green Line Neighborhood Alliance (MGNA) and supported by Tufts University) and to serve the Brickbottom/Twin Cities Plaza area.

S-008-031 The DEIR should propose specific station locations based on this analysis and describe how they support ridership goals and other objectives of the project. The DEIR should provide more detailed designs and renderings of the stations, describe amenities that will be provided (canopies, street furniture, lighting, vending machines, trash receptacles, etc.) and should consider measures to minimize impacts (combined lighting/electrical structures, use of solar for lighting, permeable pavement, etc.). It should identify how the station design will provide safe and efficient loading and unloading of passengers and its consistency with ADA and universal design principals. It should identify how access will be provided from street level to the stations, particularly where large grade changes are present. It should consider alternative to the proposed design such as integrating ramps into existing slopes.

Air Quality

According to the U.S. Environmental Protection Agency (EPA) Massachusetts is in moderate non-attainment for ozone, whose precursors are nitrogen oxides (NOx) and volatile organic compounds (VOCs). Ozone pollution causes a variety of health problems including aggravated asthma, reduced lung capacity and increased susceptibility to respiratory illnesses line pneumonia and bronchitis. A study by the Centers for Disease Control and Prevention revealed that Massachusetts has the highest rates of asthma for adults in the nation. Cars, trucks and buses, are the largest source of criteria air pollutants, air toxics and greenhouse gases in the state. Extension of the Green Line will reduce local air quality impacts by maximizing public transit service and replacing some diesel bus service with light rail service.

S-008-032 The DEIR should describe the air quality benefits associated with this project and describe its consistency with the State Implementation Plan (SIP) and MassDEP's Transit Regulations. The DEIR should include a mesoscale and a microscale air quality analysis. The analyses should analyze the following emissions: VOC, NOx, greenhouse gases, carbon monoxide, particulate matter (PM) and air toxics. The mesoscale analysis should examine the broad regional impacts of the project and predict total emission reductions. The microscale analysis should examine localized carbon monoxide (CO) conditions and identify hot spots related to traffic congestion
S-008-033 ear transit stations. EOT and the MBTA should consult with MassDEP regarding the development of the study protocols before initiating the study and submitting the DEIR.

S-008-034
S-008-035 The DEIR should respond to comments regarding the design of the electrification system to support long-term electrification of the commuter rail. In addition, it should evaluate benefits of reducing transit service provided by diesel buses.

S-008-022

Alternatives 3 and 4 would place the Union Square spur within McGrath Highway and Somerville Avenue. The alternatives under consideration are discussed in Chapter 3, (Alternatives) of the DEIR/EA.

S-008-023

The analysis of all sites considered for the maintenance facility are discussed in Section 3.3.2, *Maintenance Facility* of the DEIR/EA. Potential impacts from the facility are discussed along with all other Project impacts in Chapter 5, (Environmental Consequences), Section 5.4.3, *Maintenance Facility (All Build Alternatives)* of the DEIR/EA.

S-008-024

Earthwork and other land impacts are minimized by aligning the proposed extension whithin the existing MBTA Lowell Line and Fitchburg Line rights-of-way for the majority of the Project, avoiding larger acquisitions of buildings or open space. The precise volume of excavation is not available at this stage of design. The quantity of impervious surfaces created under each alternative is identified in Section 5.9, *Stormwater* of the DEIR/EA.

S-008-025

Retaining walls will be required in order to minimize land acquisition and impacts. The retaining walls will include vegetation on and above the walls to minimize the overall change in vegetation and visual character within the right-of-way. The retaining walls are discussed in greater detail in Section 3.7.1, *Land Acquisitions and Easements*, and Section 5.12, *Visual Environment* of the DEIR/EA.

S-008-026

Stormwater management techniques, discharge locations, and the

Transit Ridership

S-008-036 The air quality benefits of light rail restoration will vary depending on the ridership levels that can be generated by the project design and operating plan. The DEIR should propose a design and operating plan that generates the highest level of ridership possible while balancing the use of MBTA resources and community impacts. The MIS Alternative IC Extension to West Medford was projected to support 10,060 system-wide trips. This was based on a terminus in West Medford and assumed 5 minute headways to West Medford and 7 minute headways to Union Square.

S-008-037 Ridership and associated reduction in vehicle miles of travel (VMT) should be re-evaluated for all alternatives explored in the DEIR. The DEIR should describe the assumptions used to generate the ridership numbers (including the margin of error associated with the model) and the operating parameters necessary to achieve them such as number and type of vehicles, consist size, vehicle capacity, travel time and peak and off peak headways. The DEIR should specify whether VMT reductions are based on new or diverted trips.

S-008-038 The DEIR should include a discussion of impacts and/or benefits associated with achieving various ridership levels and benefits to/impacts on the central subway and Green Line operations. Also, the DEIR should also discuss how and what bus routes are likely to change in response to the service and how existing and new bus and shuttle routes can be designed to maximize transit ridership. Finally, the DEIR should describe how construction will be managed with operation of the Lowell commuter rail service. It should discuss any impacts to the service including whether shutdowns or reduction in service will be required.

S-008-039

Traffic and Transportation

This service will operate in a dense urban area and will affect traffic patterns and circulation. It will draw thousands of people to the transit stations that will be constructed near intersections already experiencing significant congestion. Its completion will require the

S-008-060 reconstruction of 6 to 11 roadway bridges and several railroad bridges. Comment letters express significant concern with temporary and long-term traffic impacts. Many citizens of Medford are particularly concerned with additional traffic and parking issues that could be generated at the terminus of the line. Although the project is intended to reduce vehicle traffic overall and will not incorporate parking at stations, there could be limited problems if it is not thoughtfully designed or constructed in conjunction with appropriate parking regulations and enforcement. Re-construction of bridges will need to be well-coordinated with the communities to minimize construction period impacts.

EOT should work with MHD, DCR, MAPC and local traffic department to develop the scope for the traffic study to address these concerns. The purpose of this analysis is not to hold EOT responsible for mitigating longstanding congestion problems but, rather, to identify the specific impacts and benefits of this project. This information will help state agencies and the Cities of Cambridge, Medford and Somerville to assess the consistency of this project with other planning efforts and projects in the area and facilitate exploration of design, infrastructure and operational changes to the corridor and regional traffic and transit network that could support this extension while improving traffic flow.

drainage design are discussed in Section 5.9, *Stormwater* of the DEIR/EA. The final stormwater design and maintenance requirements will be developed prior to construction.

S-008-027

The net increase in impervious surfaces has been substantially reduced by constructing the Green Line Extension in an urbanized area and largely within the existing right-of-way. The use of infiltration and detention structures to reduce stormwater runoff will offset the increased impervious area under each alternative. Impervious surfaces and stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

S-008-028

Station locations were selected based on a number of criteria, including transit operations, station access, land use compatibility, and cost. The station locations and the process for selecting these locations are discussed in Section 3.3.1, *Stations* of the DEIR/EA.

S-008-029

Pedestrian, bicycle, and bus access have been considered in the siting and design of each proposed station. Bicycle racks are proposed at all stations. Specific information for each station is provided in Section 3.7.3, *Stations* of the DEIR/EA.

S-008-030

Specific station locations are described in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA. Evaluation of the various proposed station sites between College Avenue and Winthrop Street determined that a single station location is warranted. The station site in the vicinity of College Avenue was found to be most beneficial to the

S-008-040 The DEIR should analyze traffic for existing, build and no build conditions to evaluate the implications of the project for intersection Level of Service (LOS) and pedestrian and bicycle circulation. It should address traffic circulation on all roadways adjacent to proposed locations. It should include mitigation for areas where the project will have a significant impact on traffic
S-008-041 operations. At a minimum, the traffic analysis should include the following areas:

- Mystic Valley Parkway and its intersections with Alewife Brook Parkway, Auburn Street and Winthrop Street
- Boston Avenue and its intersections with High Street, Mystic Valley Parkway, North Street, Winthrop Street and College Avenue
- Harvard Street/Boston Avenue
- Broadway/College Avenue/Powderhouse Boulevard/Warner Street
- Main Street/Riverside Avenue/Forest Street/Salem Street
- Main Street and its intersections with South Street, Mystic Avenue, Harvard Street
- Medford Street and its intersections with Broadway, Lowell Street, Central Street, School Street, Walnut Street, Highland Avenue and Somerville Avenue
- Highland Avenue and its intersections with Lowell Street, Central Street, School Street, McGrath Highway
- Washington Street and its intersections with Innerbelt Road, McGrath Highway, Somerville Avenue/Webster Street and Beacon Street
- Prospect Street and its intersections with Somerville Avenue, Webster Avenue, Cambridge Street and Hampshire Street

S-008-042 The DEIR should include strategies for mitigating traffic and parking impacts associated with proposed operations and station locations. EOT will be limited in terms of its ability to implement some of the mitigation (e.g. parking enforcement is a municipal responsibility) but it
S-008-043 will be useful to understand all approaches that are available to address issues in this corridor. The DEIR should identify proposed changes to bus routes that serve the corridor and incorporate these
S-008-044 assumptions into the transit operation and traffic modeling. As noted previously, it should address the relationship between this project and the Urban Ring and other transit improvements
S-008-045 planned for the area. It should identify bridges that must be re-constructed and include a commitment to coordinate design, scheduling and construction with city officials.

Freight Service

The project will remove and relocate freight rail tracks and may eliminate freight trackage
S-008-046 rights. The DEIR should identify what services will be affected and whether changes will result in increased truck traffic on local and regional roadways. The air quality and traffic analysis should address whether changes will affect air quality and/or traffic patterns. The DEIR should consider alternatives that would minimize or avoid the elimination of freight service.

project with least neighborhood impact.The stations considered for each alternative are discussed in Chapter 3, (Alternatives) of the DEIR/EA.

S-008-031

Details on specific station locations and designs are provided in Section 3.7.3, *Stations* of the DEIR/EA. Plans and elevations of each station are provided in Volume 2 (Figures), Figures 3.7-2 through 3.7-34 of the DEIR/EA.

S-008-032

The results of the air quality analysis, including both mesoscale and microscale analyses and compliance with both the State Implementation Plan (SIP) and regulations, are discussed in Section 5.6, *Air Quality* of the DEIR/EA. Conformance to the SIP is outlined in Section 5.6.8, *Metropolitan Planning and Air Quality Conformity* of the DEIR/EA.

S-008-033

The air quality study protocol was developed with guidance from the EPA and MassDEP pursuant to the 1990 Clean Air Act Amendments (CAAA) and SIP. The protocol is outlined in Section 4.7, *Air Quality* of the DEIR/EA.

S-008-034

The proposed extension will not preclude the ability to electrify the existing MBTA commuter rail line. Refer to Section 3.3.1, *Stations* of the DEIR/EA for a more detailed discussion.

S-008-035

The Project does not propose to reduce bus service or bus operations. However, the introduction of the Green Line Extension within the Project area will reduce traffic congestion, which will lead to improved bus reliability. The MBTA may consider modifications to bus routes and

Noise/Vibration

S-008-047 The DEIR should include an analysis of noise and vibration for existing and proposed conditions. These analyses should identify sensitive receptors such as homes, hospitals, schools and elderly housing where nighttime noise is a particular concern. The DEIR shall include a detailed noise assessment and vibration analysis for the corridor that is consistent with Federal Transit Administration (FTA) guidelines, and an assessment of the impact of service on the surrounding community. The DEIR should indicate areas where mitigation for noise and vibration is needed based on the impact assessment and identify the specific mitigation that will be proposed (e.g. use of ballast along the tracks, sound insulation, sound barriers, maintenance plans).

Open Space and Historic Resources

The project corridor includes several historic resources and properties located in the Massachusetts Historical Commission (MHC) Inventory of Historic and Archaeological Assets and open space resources including athletic fields, school parks, and regional parkland. These include the Susan Russell House, Trum Field, the Hoyt Sullivan Playground and potentially the Mystic River.

S-008-048 EOT should consult with the Massachusetts Historical Commission (MHC) to evaluate
S-008-049 impacts and develop appropriate mitigation. The DEIR should provide a Historic and Cultural Resource maps to identify historic resources and open spaces adjacent to the corridor and/or likely to be impacted by air quality, noise, vibration and stormwater impacts associated with the project. It should describe measures that will be employed to avoid, minimize and mitigate impacts to these resources.

Hazardous Waste/Contaminated Soils

The EENF identifies many locations of contaminated soil in the vicinity of the rail ROW and indicates that new reviews and potentially remediation of 21E sites will be needed as the project design progresses. Removal of contaminated soil, pumping contaminated groundwater or working in contaminated media must be done consistent with the provisions of MGL c.21E/21C and OSHA.

S-008-050 The DEIR should describe how contaminated soil will be evaluated, managed and disposed. The list of hazardous waste sites should be updated consistent with MassDEP comments and its database and Release Tracking Numbers (RTN) should be added to the list.
S-008-051 EOT should consult with MassDEP regarding the planning and implementation of demolition and the management of contaminated soil to ensure consistency with applicable regulations.

Construction Period Impacts

S-008-052 The EIR should include a discussion of construction phasing, evaluate potential impacts associated with construction activities and propose feasible measures to avoid or eliminate these
S-008-053 impacts. It should note whether any blasting will be required. The EIR should identify temporary
S-008-054 and permanent construction easements. The proponent must comply with DEP's Solid Waste and
S-008-055 Air Quality Control regulations during construction. The proponent should implement measures

service after the Green Line Extension is in place and shifts in ridership have occurred. Section 4.5.1.5, *Bus System Improvements* describes changes currently being implemented by the MBTA to improve service.

S-008-036

The selection of the Preferred Alternative is based on consideration of ridership, project costs, and community impacts. The ridership and costs for each alternative are discussed in Chapter 3, (Alternatives) of the DEIR/EA. Environmental impacts for each alternative are discussed in Chapter 5, (Environmental Consequences) of the DEIR/EA. The operating plan for each alternative is provided in Section 3.6, *Build Alternatives* for each alternative and in Section 3.7.4, *Operating Plan* for the Preferred Alternative.

S-008-037

The ridership, operating parameters and associated vehicle miles traveled (VMT) reductions are provided in Section 3.6, *Build Alternatives* for each alternative and in Section 3.7, *Project Description - Preferred Alternative* for the Preferred Alternative in the DEIR/EA. The ridership methodology is outlined in Section 3.4, *Ridership Methodology* of the DEIR/EA.

S-008-038

The Project impacts and benefits on existing Green Line operations, including the Central Subway, are discussed in Section 3.4, *Ridership Methodology* of the DEIR/EA. The Project does not propose to reduce bus service or bus operations. However, the introduction of the Green Line Extension within the Project area will reduce traffic congestion, which will lead to improved bus reliability. The MBTA may consider modifications to bus routes and service after the Green Line Extension is in place and shifts in ridership have occurred. Section 4.5.1.5, *Bus*

S-008-055 to alleviate dust, noise, and odor nuisance conditions (including rodent control), which may occur during construction.

S-008-056 The MBTA has developed a construction equipment retrofit program to reduce exposure to diesel exhaust fumes and particulate emissions for its construction projects. The MBTA must require contractors to retrofit construction equipment while working in this dense, urban corridor.

Mitigation

S-008-057 The DEIR should include a separate chapter on mitigation measures. This chapter should include proposed Section 61 Findings (in the form of a draft Letter of Commitment) for all state permits. It should provide a clear commitment to implement these measures, include a schedule for implementation and identify the responsible parties.

Response to Comments

S-008-058 The DEIR should include a copy of each comment received. The DEIR should respond to the substantive comments received. The EIR should present additional narrative and/or technical analysis as necessary to respond to the concerns raised.

Circulation

S-008-059 The proponent should circulate a hard copy of the DEIR to each state and city agency from which the proponent will seek permits or approvals and to each of the City agencies that submitted comments. The proponent should also circulate a copy of the DEIR to those submitting individual written comments. To save paper and other resources, the proponent may circulate the DEIR in CD-ROM format, although the proponent should make available a reasonable number of hard copies, to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The proponent should send a notice of availability of the DEIR (including relevant comment deadlines and appropriate addresses) to those who signed the petition and for which addresses are available. In addition, a copy of the DEIR should be made available for public review at the Cambridge, Medford and Somerville public libraries.

December 1, 2006
Date

Robert W. Golledge, Jr.

RWG/CDB/cdb

System Improvements describes changes currently being implemented by the MBTA to improve service.

S-008-039

Commuter rail operations is anticipated to be maintained at all times during construction. The construction sequencing for the Project is discussed in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

S-008-040

Analysis of existing traffic conditions is provided in Section 4.6, *Traffic* of the DEIR/EA. Analysis of proposed conditions and suggested mitigation measures are provided in Section 5.5, *Traffic* of the DEIR/EA. As the analysis shows, the Project is not anticipated to have a significant impact on traffic operations at any location. Mitigation measures are proposed to improve pedestrian access to and around the stations.

S-008-041

All of these intersections are included in the traffic analysis. The intersections analyzed are identified in Section 4.6.1, *Study Area* of the DEIR/EA.

S-008-042

Proposed mitigation for traffic and parking impacts is discussed in Section 5.5.4, *Mitigation Measures* of the DEIR/EA.

S-008-043

The Project does not propose to modify bus routes or bus operations under the Build Alternatives, as described in Setion 5.5.1.5, *Public Bus Transportation*. Changes to bus operations under the Baseline Alternative are discussed in Section 3.5, *Baseline Alternative* of the DEIR/EA.

EOEA# 13886 Expanded ENF Certificate December 1, 2006

Comments received:

11/13/06	Department of Conservation and Recreation (DCR)
11/9/06	Department of Environmental Protection (MassDEP)
11/24/06	Metropolitan Area Planning Council (MAPC)
10/26/06	U. S. Congressman Michael E. Capuano
11/13/06	Senator Jarrett T. Barrios
11/21/06	Senator Patricia Jehlen
11/22/06	Representative Denise Provost
11/24/06	Representative Carl Sciortino
11/22/06	City Manager Robert W. Healy, City of Cambridge
10/17/06	Mayor Michael J. McGlynn, City of Medford
11/25/06	Robert Maiocco, Medford City Council
11/21/06	Mayor Joseph A. Curtatone, City of Somerville
11/22/06	City of Somerville/Somerville Bicycle Committee
11/24/06	Arlington Transportation Advisory Committee
11/21/06	Conservation Law Foundation
11/30/06	Downtown North Association
11/22/06	East Somerville Main Streets Program
11/22/06	Green Line Community Forum
10/22/06	Groundworks Somerville
10/20/06	Mass Central Rail Trail Coalition
11/20/06	Medford Green Line Neighborhood Alliance (MGNA) Petition
10/17/06	MGNA Study
11/22/06	Tufts University
10/17/06	Union Square Main Streets
11/23/06	Walk Boston
11/22/06	Mary Anne Adducci
11/4/06	Ruth D. Alfasso
11/13/06	James A. and Christine M. Bennett
11/24/06	Melissa B. Bennett
11/3/06	Priscilla Chew
11/8/06	Cummings Foundation, Inc.
11/24/06	Susan Altman
11/19/06	Elisabeth Bayle
11/24/06	Sarah Bergstrom
11/24/06	Fred Berman and Lori Segall
11/18/06	Susan E. Brown
11/16/06	John J. Buckley
11/16/06	John F. Burckhardt
11/9/06	Natasha Burger and Jasper Vicenti
10/11/06	Roberta Cameron
11/24/06	Doug Carr
11/7/06	Theodora Clark
11/24/06	Sara Cohen
11/24/06	Stacy Colella
11/24/06	John F. Deacon

15

S-008-044

Coordination between the Green Line Extension Project and other regional projects is discussed in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA.

S-008-045

Bridges that will require reconstruction under the Preferred Alternative are identified in Section 3.7.2, *Affected Bridges* of the DEIR/EA. The reconstruction of these bridges will be coordinated with local municipal officials to minimize community impacts.

S-008-046

Existing freight service in the Project area is described in detail in Section 4.5.3, *Existing Freight Rail* of the DEIR/EA. As described in Section 3.3.2, *Maintenance Facility*, freight rail will not be reduced but will be relocated through the proposed maintenance facility location. Construction will be staged while maintaining existing freight service as outline in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

S-008-047

Noise and vibration impacts to sensitive receptors were assessed based on FTA methodology, and mitigation is proposed to prevent any moderate or severe impacts. Noise impacts and proposed mitigation are discussed in Section 5.7, *Noise*. Vibration impacts and proposed mitigation are discussed in Section 5.8, *Vibration* of the DEIR/EA. Existing noise and vibration conditions are identified in Section 4.8, *Noise* and Section 4.9, *Vibration* of the DEIR/EA.

S-008-048

The FTA and EOT will seek comments from the MHC, the Cambridge Historical Commission, the Somerville Historical Commission and the

10/19/06	Darlene Domain
10/21/06	Rita Donnelly
11/24/06	Catherine D'Urso
11/20/06	John Roland Elliott
11/24/06	Robert Feigin
11/29/06	James Feldman
10/30/06	Stephanie Groll, Nelson/Nygaard Consulting Associates
10/20/06	Lois Grossman
10/28/06	John Haroutunian
11/24/06	Joseph Jaquinta
11/16/06	R Kangas
11/24/06	Ken Krause
11/14/06	Jerry Lauretano
11/1/06	Scott Lever
11/29/06	Jeffrey R. Levine
11/19/06	Thomas W. Lincoln
11/27/06	Suzanne Lipsky
10/16/06	Joseph P. Lynch, Jr.
11/24/06	Ken Martin
11/21/06	Jean McCarvill
11/24/06	James A. McGinnis
11/22/06	Lynn McWhood
11/22/06	Peter Micheli
11/16/06	Barbara A. Monagle
11/22/06	Alan Moore
11/18/06	Steve Mulder
11/18/06	Angela Murphy
11/19/06	John J. O'Donoghue
11/12/06	Crispin Olson
11/26/06	Alan Peterson
10/16/06	David Phillips
11/1/06	Nancy E. Phillips
11/20/06	Ruth Piscitelli
10/30/06	Jeffrey J. Reese
11/21/06	Ellin Reisner
11/16/06	Barry M. Steinberg
11/2/06	Maura Swan and Ben Lavery
11/22/06	Charles Tolson
11/16/06	Pete Varga
11/20/06	Donald E. Walker and Victoria A. Halal
10/14/06	Lynn Wiles
11/15/06	Dr. William Wood, Carolyn Rosen, James Morse and Gwen Blackburn
10/13/06	Paula Woolley

Medford Historical Commission on the historic and archaeological resources identification, and evaluation and on potential impacts summarized in Section 4.15, *Historic and Archaeological Resources* and in Section 5.13, *Historical and Archaeological Resources* of the DEIR/EA.

S-008-049

Historic resources surrounding the Project Area are identified in Section 4.15, *Historic and Archaeological Resources* of the DEIR/EA. Potential impacts and proposed mitigation to these resources are discussed in Section 5.13, *Historic and Archaeological Resources* of the DEIR/EA.

S-008-050

Management and disposal of contaminated soil and groundwater remediation for each alternative is discussed in Section 5.14, *Hazardous Materials* of the DEIR/EA. Release Tracking Numbers have been added to the tables of potential hazardous material impacts.

S-008-051

EOT will consult with MassDEP prior to the disturbance of any contaminated sites or the demolition of any buildings containing hazardous materials to ensure consistency with the applicable regulations.

S-008-052

Construction phasing is discussed in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA. A comprehensive construction staging and sequencing plan will be included in the final construction contract documents. Construction impacts and mitigation are discussed in Chapter 5, (Environmental Consequences) of the DEIR/EA. No blasting is anticipated. Construction mitigation measures are

summarized in Section 6.4, *Construction Period Mitigation* of the DEIR/EA.

S-008-053

No blasting is anticipated. Permanent property acquisitions are identified for each alternative in Section 5.2, *Land Use* of the DEIR/EA. Temporary construction easements will be identified at a later stage of design.

S-008-054

DEP regulations for solid waste and air quality will be followed. A construction mitigation plan will be developed that will incorporate air quality mitigation measures such as requiring construction vehicles to be maintained, use ultra low-sulfur fuel, and measures to reduce dust and particulate pollutants. The mitigation measures are discussed for each alternative in Chapter 5 (Environmental Consequences) an Section 6.4, *Construction Period Mitigation* of the DEIR/EA.

S-008-055

Construction management plans will be developed that include dust, noise, and rodent control measures. The conceptual measures identified at this time are discussed in Section 3.7.6, *Construction Sequencing and Staging,* Section 5.6, *Air Quality*, Section 5.7, *Noise*, and Section 5.8, *Vibration* of the DEIR/EA.

S-008-056

The MBTA will continue implementing the construction equipment retrofit program with contractors. See Section 6.4, *Construction Period Mitigation* of the DIER/EA.

S-008-057

Mitigation commitments and proposed Section 61 Findings are

presented in Chapter 6, (Draft Section 61 Findings and Mitigation Commitments) of the DEIR/EA.

S-008-058
Responses to comment letters are included in Volume 3 of the DEIR/EA.

S-008-059
The Distribution List for circulation of the document is provided in Chapter 7 of the DEIR/EA. The DEIR was circulated to all permitting agencies and all commenters, along with Notices of Availability to known petitioners. Hard copies for public review are available at city libraries, and the document is available on the project website.

S-008-060
The extensive traffic analysis performed for the Green Line Extension Project includes fully documented existing traffic conditions for project area intersections and are described in Section 4.6, *Traffic*. The list of analyzed intersections was developed based on input from a variety of agencies including, EOT, CTPS, MEPA, the City of Cambridge, the City of Somerville, and the City of Medford.

The proposed 2030 traffic volume networks were developed by CTPS using its regional travel demand model. The model was run for each alternative for each of the Project area intersections. The traffic volumes generated are summarized for each alternative in Section 5.5, *Traffic.*

Pedestrian and vehicular mitigation in the form of traffic signal timing and phasing modifications; new traffic signal equipment; geometric modifications at intersections' new pavement markings; and pedestrian signal improvements were developed through traffic analyses at each location. The proposed mitigation measures are summarized in Section 5.5.4, *Mitigation Measures* of the DEIR/EA.

During the design phase of the Project, MHD, DCR, EOT, the City of Cambridge, the City of Somerville, and the City of Medford will be involved in reviewing the design of these measures to ensure conformance with relevant agency standards and regulations.

Construction traffic management plans and detour plans will be developed in close coordination with these agencies to address construction traffic, noise and air quality issues as defined in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

DB

CITY OF SOMERVILLE, MASSACHUSETTS
JOSEPH A. CURTATONE
MAYOR

RECEIVED
NOV 27 2006
MEPA

November 21, 2006

Secretary Robert W. Golledge, Jr.
Executive Office of Environmental Affairs
Attention: MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Ms. Buckley:

I am writing to offer my strong support for the Executive Office of Transportation's current plans to file a Single Environmental Impact Report (SEIR) associated with the Green Line extension through Somerville and Medford. Because of the clear mitigation requirements of the State Implementation Plan, the potential broad scope of the EIR, and the clear environmental, commercial, and social benefits associated with expanded public transportation, unnecessary obstacles should not be imposed upon this already delayed project.

State authorization for the Central Artery project included a legal obligation to extend the Green Line as an essential component of the State Implementation Plan for meeting Clean Air Act standards. Moreover, this balanced approach to transportation planning was designed to compensate surrounding communities for the construction and long-term impacts of the new highway. The state may only substitute alternative projects if the existing commitments are found infeasible and a different plan with greater or equal air quality benefits can be identified. Simply put, given the Green Line extension's practical nature and tremendous environmental benefits, there can be no alternative project.

L-001-001

While our priority remains the timely execution of this report, the proposed EIR can and should be made broad enough to encompass several variations on the Green Line extension. More specially, as work progresses, the following options should be considered in order to maximize the project's benefits:

- Additional Brickbottom Stop
- Route 16 terminus
- Coordination with the Route 28 planning process
- Alternate locations of the storage and maintenance facility
- Continued extension of the community path

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www.ci.somerville.ma.us

L-001-001

Each of the individual items in your letter has been addressed within Chapter 3 (Alternatives) of the DEIR/EA. The Brickbottom and Mystic Valley Parkway/Route 16 stations are discussed in Section 3.7.3, *Stations*. Coordination with the Route 28 planning process is discussed in Section 3.9, C*oordination with Regional Projects*. Alternate locations of the storage and maintenance facility is discussed in Section 3.3.2, *Maintenance Facility* and in Appendix C to the DEIR/EA. Finally, the conceptual design of the proposed Somerville Community Path is discussed in Section 3.8, *Community Paths*.

Thank you for taking the time to solicit public input on this critical project. Progress on this commitment has been a long time coming. Further delays will only increase costs and cast doubt on the future of the Green Line extension. Once again, I offer my strong support for a Single Environmental Impact Report. The entire Somerville community looks forward to witnessing as dramatic improvement in our existing transit service.

Please contact me with any questions regarding my testimony.

Sincerely,



Joseph A. Curtatone
Mayor

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DB

CITY OF CAMBRIDGE • EXECUTIVE DEPARTMENT

Robert W. Healy, City Manager *Richard C. Rossi, Deputy City Manager*

RECEIVED

NOV 27 2006

MEPA

November 22, 2006

Secretary Robert W. Golledge, Jr.
Executive Office of Environmental Affairs, MEPA Office
Attention: Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston, MA 02114-2524

Re: Green Line Expanded Environmental Notification Form – October 2006

Dear Secretary Golledge:

The City of Cambridge has advocated for the extension of the Green Line from its current terminus at Lechmere through Somerville to Medford for more than a decade and we are delighted to see that planning for the Green Line Extension is moving forward. This transit project is highly beneficial in terms of improving regional transportation access and mobility, air quality and opportunities for economic development.

The City applauds the Executive Office of Transportation (EOT) for advancing the planning of this project. However, the timeline proposed is not consistent with the State's Implementation Plan (SIP) for Clean Air, 310 CMR 7.36, as the proposed completion date is three years after the December 31, 2011 SIP deadline. EOT should pay high regard to this deadline and plan for this project accordingly. With this deadline in mind and in the interest of a timely commencement of extended Green Line service, we support the Executive Office of Transportation's (EOT) proposal to prepare a Single Environmental Impact Report (SEIR).

Regarding the Expanded Environmental Notification Form submitted by EOT in October of 2006, the City of Cambridge offers the following comments:

L-002-001 • Project analysis should include an assessment of the increased equipment needs (additional trains) required to serve the nearly four miles of additional track that is proposed. Without additional equipment the Green Line system could see an overall decrease in level of service post expansion.

L-002-002 • The Green Line extension should support and enhance the implementation of the Somerville Community Path and other regional bicycle connections to the North

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Voice: 617.349.4300 Fax: 617.349.4307 TTY: 617.349.4242 Web: www.ci.cambridge.ma.us

L-002-001

Equipment needs for each of the Project alternatives have been identified and are included in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.

L-002-002

Space for bicycle parking has been allocated at all proposed Green Line stations. Additionally, conceptual design of the proposed Somerville Community Path has been prepared as part of this project and opportunities to coordinate the community path with the Green Line Extension Project have been considered. Additional information on the proposed Somerville Community Path can be found in Section 3.8, *Comunity Paths* of the DEIR/EA.

L-002-002 Point Development in Cambridge and to points beyond. Proposed Green Line stations should be designed to accommodate direct and easy bicycle and pedestrian access and include welcoming bicycle parking.

L-002-003
- The Green Line Extension should utilize state-of-the art Intelligent Transportation System (ITS) technologies such as real-time travel information advising riders when the next train will arrive at stations and video monitoring equipment for pedestrian safety and security.

L-002-004
- The EENF indicated that the Green Line extension could result in a reduction in the number of buses required to serve radial transit trips, but it may also increase the number of buses for feeder service to the stations. The SEIR should conduct a comprehensive analysis of existing and potential new bus and shuttle routes to maximize transit ridership.

L-002-005
- The 2025 build out analysis for the Environmental Impact Report (EIR) should adequately account for population projections and job growth in the entire corridor. We notice that the Beyond Lechmere Northwest Corridor Study Major Investment Study/Alternatives Analysis (MIS/AA) description of the North Point development (section 3.8.1) only discusses Phase I elements of the project. When it is complete, by 2025, North Point will consist of 2,700 residential units and over 2.2 million square feet of commercial (office/lab) space.

L-002-006
- In consideration of the scope of this project and the requisite coordination of three separate municipalities, we urge the creation of a Citizens Advisory Committee (CAC) to facilitate effective and meaningful local level participation in the planning process. Further, we urge that EOT share the draft SEIR Scope with all communities and stakeholders for comments.

Project Terminus

L-002-007 The universe of variants studied in the Beyond Lechmere Northwest Corridor Study MIS/AA all provided service between Lechmere and the commuter rail station in West Medford. The MIS Tier 2 Alternative evaluations and modeling were all based on service to West Medford. Therefore it is not clear why the EENF prepared by EOT in October 2006 is based on a revised Alternative 1C that provides service only to Medford Hillside with a spur to Union Square.

L-002-003

The EOT has noted and considered your comment. EOT will continue to work with the MBTA to detail and design the latest appropriate ITS technologies for the stations and system as this Project progresses into the Preliminary Engineering phase of development.

L-002-004

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

L-002-005

Section 4.2, *Land Use*, of the DEIR/EA references population and employment projections for 2010 and 2030 by Transportation Analysis Zone (TAZ) developed by the Metropolitan Area Planning Council (MAPC) in December 2005. MAPC sent the initial projections to community representatives for review and specifically requested feedback on the amount of future growth and where that growth is expected to occur. It is assumed that the City of Cambridge provided input on the NorthPoint development at that time. Section 5.15, *Indirect and Cumulative Effects*, describes the full build-out of the NorthPoint development project, as well as the Charles E. Smith/Archstone residential development and the residential project at 22 Water Street proposed by Catamount Holdings.

L-002-007 The EIR should identify and examine in greater depth concerns that have been voiced regarding service to West Medford and examine options for mitigating negative impacts on the surrounding community. If after further study it is determined that service to West Medford, and a connection with the Commuter rail stop there, is not feasible at this time, then we request that a terminus at just south of Route 16 be analyzed instead. Service to the intersection of Mystic Valley Parkway/Route 16, which is an environmental justice area, offers potential for transit oriented development (TOD) opportunities not present in the more densely developed Medford Hillside area, thereby furthering the potential for increased ridership and user benefit. At a minimum, if service is not provided beyond Medford Hillside as part of a first phase of the Green Line Extension project, it is critical that the terminus of the Green Line be designed in a manner not to preclude future possibility of extending the service if deemed feasible in the future.

Thank you for the opportunity to comment on the Expanded Environmental Notification Form for the proposed Green Line Extension project.

Very Truly Yours,

Robert W. Healy
City Manager

L-002-006

For this Project, EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The Green Line Extension Project Advisory Group provides important guidance and input to EOT and the consultant team on a range of issues relating to the project. The work of the Advisory Group is described in more detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

L-002-007

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

Buckley, Deirdre (ENV)

From: RMaiocco@aol.com
Sent: Saturday, November 25, 2006 3:22 PM
To: Buckley, Deirdre (ENV)
Subject: (no subject)

L-003-001
L-003-003
L-003-002

Dear Deirdre, Regarding the EENF filed with the MEPA office in Oct. of 2006 re the Green line extension my position asA MEMBER OF THE MEDFORD CITY COUNCIL, serving as council President is as follows: the only stop should be at college and boston ave. where a former train stop was, no land taking of any commercial or residential property in the city of Medford that abuts this railroad bed and no increase or any financial burden imposed on the Medford taxpayer.
Regards , Robert A. Maiocco

11/28/2006

L-003-001

A station stop is proposed at College Avenue and is described in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA. Additionally, several of the alternatives in the DEIR/EA evaluated the Green Line Extension Project terminating at College Avenue. These alternatives are described in more detail in Section 3.6, *Build Alternatives*.

L-003-002

Conceptual designs for the project have attempted to minimize land takings within the Project area to the greatest extent possible. Although specific land acquisitions vary by alternative, no residential buildings will be taken for this Project. Most land acquisitions resulting from the extension of light rail service require small fractions of lots adjacent to the right-of-way and do not require the acquisition or demolition of existing buildings. The most substantial takings would be commmercial buildings only within the vicinity of the proposed stations. Additional information on property impacts of the Project are provided in Chapter 5 (Environmental Consequences) Section 5.2, *Land Use*.

L-003-003

No direct impacts to Medford taxpayers are anticipated, but municipal property tax revenues could fall slightly due to the acquisition of taxable land. Land acquisitions are discussed in Section 5.2, *Land Use*. Socioeconomic effects on each city are discussed in Section 5.3, *Socioeconomic Impacts*.

DB

City of Medford

Office of The Mayor
Rooms 202-204, City Hall
Medford, Massachusetts 02155
Telephone (781) 393-2408

RECEIVED
OCT 20 2006
MEPA

MICHAEL J. McGLYNN
MAYOR

FAX (781) 393-2514
TDD (781) 393-2516

October 17, 2006

Secretary Robert W. Golledge, Jr.
EOEA
Attn: MEPA Office, Deidra Buckley, Analyst
100 Cambridge Street, Suite 900
Boston MA 02114

RE: **ENF Green Line Extension Project # 13886**

Dear Secretary Golledge:

L-004-001

Please accept these comments on the Environmental Notification Form prepared for the Green Line Extension Project. I respectfully request that you require the Executive Office of Transportation to prepare and submit both detailed draft and final Environmental Impact reports. The history of flip flopping by the Governor's Office on this project and the continued inability or unwillingness of transportation authorities to give the citizens of the City of Medford accurate and detailed information on the scope and impacts of this proposed project necessitates an extensive evaluation of the projects impact on the environment, storm water systems, parking and traffic, lighting, pedestrian and bicycle access, bridges and most importantly neighborhoods in an open and public process.

When the MBTA prepared the Northwest Corridor study, the City asked for a complete review of Alternatives 1A and 1C which would analyze the feasibility of an extension of the Green Line to West Medford. Specific locations of stations had not been identified but given the anticipated impacts to the character of the West Medford Business Area, taking of private homes, and the need to span the Mystic River, the consensus expressed by residents to public officials was that alternatives should study terminating the extension at some point prior to reaching the Mystic River in a nonresidential area.

Since the completion of that study by the MBTA which did include the input of an advisory committee, the State has attempted to thwart efforts to complete the project at all and conversely as of this month, decided it was on a fast track and should be moved through as quickly as possible.

L-004-001

Based on the Secretary's Certificate on the EENF, a single DEIR is being prepared, with comprehensive analyses which evaluate impacts on environment, storm water systems, parking and traffic, lighting, pedestrian and bicycle access, and affected neighborhoods through continuous public involvement and agency coordination processes. Various environmental impacts and measures being proposed to mitigate them are discussed in Chapter 5 (Environmental Consequences), and the public involvement process is discussed in Chapter 1 (Introduction and Background), Section 1.5, *Public Involvement and Agency Coordination*.

L-004-002 Despite a year in passing since efforts were made by the State to possibly substitute projects for the Extension and the filing of the ENF, no effort has been made to include residents of the City of Medford or its public officials in meaningful dialogue about the project.

The ENF is a vague document that modifies the scope of the study area without recognition of the input of both the Medford citizen groups supportive of the extension and those who have concerns regarding impacts to their neighborhoods and homes. Accordingly, I respectfully request that you require the boundaries of the draft EIR to

L-004-003 terminate at the Mystic River and Route 16. The study should provide detailed information on location of stations including the proposed parcels to be taken by eminent domain to accommodate the rail, embankments, station platforms, location of utilities and

L-004-004 parking. The DEIR should fully assess parking and traffic impacts. The Northwest Corridor Study projected 10,000 new riders on this line. The ENF states all ridership will be by walkup and drop off. This is unrealistic. Impacts to traffic signals and major intersections should also be assessed. In Medford these signals should include Harvard Avenue and Boston Avenue, with particular regard to pedestrians using the St. Clement's School and Church. This intersection although recently upgraded, operates at capacity and has particular geometric challenges that limit it from accommodating local and regional traffic that will utilize it to get to proposed stations at Ball Square and College Avenue. The five legged intersection of Boston and College Avenue also presents unique challenges having a significant volume of students walking through the Tufts University Campus, high traffic counts and irregular turning movements. The difficulty of this location is exacerbated by the College Avenue Bridge directly feeding into the intersection. A station location in this area while being beneficial to the Tufts University campus, may create a dangerous situation that would be difficult to mitigate and must be fully assessed.

L-004-005 The Winthrop St. and Boston Avenue intersection another area proposed as a possible location for a station, is a small traffic intersection within the Hillside neighborhood district. It is densely developed with small business and housing. The traffic intersection operates at capacity currently and does not have the proper signalization to accommodate additional traffic volumes brought on by stations in the area. Having a station at or near the bridge in this area again does not seem feasible and the impacts should be fully assessed. Other signals that should be evaluated include North Street and Boston Avenue and the Mystic Valley Parkway and Boston Avenue.

L-004-002

Outreach efforts for local residents, including the Project Advisory Group and numerous public meetings, are discussed in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

L-004-003

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives* of the DEIR/EA. A full list of proposed station locations including Mystic Valley Parkway/Route 16 is provided in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA. Potential land impacts are identified in Chapter 3 (Alternatives), in Section 3.7.1, *Land Acquisitions and Easements of the DEIR/EA.*

L-004-004

A comprehensive traffic, parking, and pedestrian analysis was completed for each station area as part of the DEIR/EA. The results of these analyses can be found in Section 4.6 (Affected Environment) and Section 5.5 (Environmental Consequences).

L-004-005

The intersections noted in the comment have been included in the traffic analysis for the DEIR/EA. The project no longer includes a station at the intersection of Boston Avenue and Winthrop Street. The results of traffic analyses can be found in Section 4.6 (Affected Environment) and Section 5.5 (Environmental Consequences).

L-004-006 At each of the intersections in Medford, located before the Mystic Valley Parkway, the rail passes under a bridge. The bridges each feed into the intersections. The extension of the Green Line will have an impact on these bridges and in certain locations may require replacement. The ENF indicates that of particular concern is the Winthrop Street Bridge which has inadequate horizontal clearance to accommodate the expansion. The traffic study should also address overall traffic impacts in the corridor.

L-004-007 Due to its proximity to the railroad tracks, the Walking Court public housing development should be assessed and improvements made to mitigate any adverse impacts. Noise impacts should be assessed along the corridor and abatement required as part of the project. The same assessment should be done for lighting and its impact to adjoining properties. Of concern to many bus users is the elimination of routes or changes in bus service along the corridor. A full review of changes should be identified. Pedestrian and bicycle access should be reviewed along the corridor with improvements made as conditions of approval of this project. Finally, the EOTC should be required to perform a full corridor study which analyzes growth impacts and makes recommendations to preserve the character of the existing residential neighborhoods and identifies areas most likely to be redeveloped when the extension occurs. Your consideration of these comments is appreciated.

L-004-008
L-004-009
L-004-010
L-004-011
L-004-012

Very truly yours,

Michael J. McGlynn
Mayor

L-004-006

The overall traffic implications of the proposed project are documented as part of the DEIR/EA in Chapter 4 (Affected Environment) and Chapter 5 (Environmental Consequences), Sections 4.6 and 5.5, *Traffic* of the DEIR/EA. Traffic management and construction staging information is provided in Section 3.6.6, *Construction Sequencing and Staging* of the DEIR/EA. Additionally, bridge replacements necessary to support the extension are identified in Section 3.6, *Build Alternatives* and Section 3.7, *Project Description - Preferred Alternative* of the DEIR/EA.

L-004-007

Potential benefits and impacts to environmental justice communities in Cambridge, Medford, and Somerville are assessed in Section 5.4, *Environmental Justice* of the DEIR/EA. The evaluation of noise, vibration, air quality, property, etc. impacts and associated mitigation measures are identified in Chapter 5 (Environmental Consequences).

L-004-008

Potential noise and vibration impacts are assessed in Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA, which present proposed noise and vibration mitigation options. The noise assessment, impacts and mitigation are described in Section 5.7, *Noise* of the DEIR/EA.

L-004-009

Lighting will be provided at stations for safety and security. The lighting proposed for the stations is discussed in Section 3.7.3, *Stations* of the DEIR/EA. The Project is within an urbanized area that has many nighttime light sources. Off-site lighting impacts will be considered on a case-by-case basis to determine if mitigation measures are necessary.

L-004-010

None of the Build Alternatives would alter or eliminate existing bus

service through the study area as discussed in Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA. Temporary route or service changes may be required during construction and would be addressed during the design phase for specific components of the project.

L-004-011

A complete pedestrian and bicycle analysis is provided in Section 5.5, *Traffic* of the DEIR/EA. Available accesses and crossings in the station areas are discussed in Section 3.7.3, *Stations* of the DEIR/EA.

L-004-012

Area land use, and the effects that the Green Line Extension Project may have on it, have been evaluated as part of the DEIR/EA. Sections 4.2 and 5.2, *Land Use* of the DEIR/EA describes the existing land uses and character of development within a ½-mile radius of the proposed station sites. Chapter 5 (Environmental Consequences) Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA describes the potential for Transit-Oriented Development in the vicinity of each station site and identifies areas with the greatest potential for high-end redevelopment that could impact local housing costs and property values. EOT has been supportive of municipal planning efforts for areas surrounding the proposed station sites.

DJB

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CITY OF SOMERVILLE, MASSACHUSETTS
SOMERVILLE BICYCLE COMMITTEE

JOSEPH A. CURTATONE
MAYOR

November 22, 2006

Secretary Robert W. Golledge Jr.
EOEA
Attention MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge St.
Suite 900
Boston MA 02114

Re: Green Line Extension ENF

Dear Ms. Buckley:

The Somerville Bicycle Committee (SBC) would like to thank the Executive Office of Transportation for starting the Green Line extension planning process by submitting the MEPA ENF. We also thank the EOEA for holding the two scoping sessions and accepting comments from the community. This public project is very important for the City and the region and is an opportunity to bring many benefits to the citizens of Somerville. To help ensure that the project delivers these benefits, we offer the following important comments:

L-005-001

1. Inclusion of Community Path Extension to North Point, Cambridge

The Somerville Community Path presently ends at Cedar Street and its planned eastward extension to Cambridge has been progressing for many years. While the Green Line extension ENF mentions that its design and construction will not preclude the eastward extension of the Somerville Community Path and says the planning should be coordinated, it is extremely important that the language be changed so that the Green Line extension explicitly includes the planning and construction of the Community Path to North Point, Cambridge no later than during the Green Line extension construction. There are some sections of the Community Path which could be constructed sooner. If mitigation funds become available because of the delay in the Green Line extension construction, consideration should be given toward funding the construction of these sections of the Path.

L-005-002

Construction of the Community Path should also be discussed in the Economic Justice impact section of the ENF as another benefit of the Path will be adding important parkland and recreational opportunities to areas of Somerville where they are sorely lacking.

L-005-003

Separate from these benefits and the benefit of an off-road bicycle route (in fact, it is the planned eastern terminus of the 104 miles Mass Central Rail Trail from Northampton to Boston) through Somerville, the Path will provide pedestrian and bicyclist access to the

L-005-001

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

L-005-002

EOT is not able to fund the construction of the proposed Somerville Community Path within the scope of the Green Line Extension Project. However, EOT is committed to progressing the design of the Community Path in the next phase of project development. The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DIER/EA. Environmental benefits or impacts of the Community Path were not evaluated and are not included in this DEIR/EA.

L-005-003

EOT is not able to fund the construction of the proposed Somerville Community Path within the scope of the Green Line Extension Project. However, EOT is committed to progressing the design of the Community Path in the next phase of project development. The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DIER/EA.

L-005-003 new Green Line stations and transit oriented development along the line ~~and the stops~~. Therefore, the ENF and subsequent planning documents must acknowledge that the Green Line and Community Path extensions physically cannot and should not be constructed independently from each other.

L-005-004 2. Lowell St. area station

This is an important location for a Green Line stop, given its proximity to the Magoun Square commercial district and the point where the Community Path diverges from the route of the Green Line extension to Medford. Therefore this station location should remain in the plan.

L-005-005 3. Bicycle Parking: The plan should mention that bicycle parking must be provided at the stations.

L-005-006 4. "Brickbottom"/Inner Belt station needed

The "Brickbottom"/Inner Belt area of Somerville should include a station on the Green Line extension that accesses the Community Path here.

L-005-007 5. Yard 8:

Alternative locations to Yard 8 should be considered for any storage and maintenance of the light-rail vehicles. If Yard 8 must be used, sufficient width for the Community Path must be provided and the plan should state that such width be reserved for its construction.

Sincerely,

Alan Moore

Alan Moore
Chairperson

cc: EOT
MBTA
Somerville SPCD

L-005-004

Lowell Street Station is one of the proposed stations for this Project. Proposed stations are discussed in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternative* of the DEIR/EA.

L-005-005

Bicycle parking is proposed at all of the proposed Green Line stations. Space allocations for bicycles at each station are discussed in Section 5.5, *Traffic* of the DEIR/EA.

L-005-006

A station is being proposed in the vicinity of Brickbottom/Inner Belt and is described in more detail in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA. Figure 3.7-6 of the DEIR/EA illustrates the proposed Somerville Community Path alignment passing over Brickbottom Station just south of Washington Street.

L-005-007

As outlined in Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility* of the DEIR/EA, several sites were considered to support the new Green Line maintenance facility, including the Boston Engine Terminal (BET) and Yard 8. The analysis concluded that the Yard 8 site is the preferred location for the Project's maintenance facility. Conceptual design plans for the proposed Somerville Community Path considered the location of the maintenance facility in its design and are described in more detail in Section 3.8, *Community Paths*.

DB

CITY OF SOMERVILLE, MASSACHUSETTS
CONSERVATION COMMISSION
JOSEPH A. CURTATONE
MAYOR

November 16, 2006

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Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
Dierdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston MA 02114

Re: Green Line Extension: Somerville, Medford and Cambridge

Dear Secretary Golledge:

The Somerville Conservation Commission would like to express its support for the extension of the Green Line MBTA subway line to Somerville, Medford and Cambridge. The project will create significant benefits to Somerville by reducing the need for both single occupant motor vehicles and for MBTA buses that often emit diesel exhaust.

The Environmental Notification Form indicates that the project will not impact vegetated wetlands, due in part to the proposed terminus of the project at Winthrop Square in Medford. The Commission has also previously reviewed the wetland vegetation near Lowell Street in Somerville, and has concluded that this area does not constitute a Massachusetts regulated wetland due to the lack of a bordering body of water.

L-006-001 L-006-002 L-006-003 L-006-004 The Commission notes that there is strong community interest in extending the line up to the Mystic Valley Parkway (Route16). Therefore, the Commission suggests that the scope of the Environmental Impact Report include consideration of a station in Somerville on the Mystic Valley Parkway. The expanded scope should include an analysis of any impacts to wetlands along the Mystic River near such a station, both long-term and during construction. The analysis should also identify: any existing or new storm water discharge locations to the Mystic River; the volume of such discharges, both currently and after the project has been implemented; and Best Management Practices to ensure that increased discharges do not adversely impact the River. In addition, potential traffic impacts to the Mystic Valley Parkway, and the use and impacts of improved pathways within the Mystic River and Alewife Brook Parkways as a means to access a new station, should be considered.

L-006-005 The Commission notes that the existing "cut" through the center of Somerville will go through a significant number of existing trees along the slopes of the cut. The plans anticipate that these slopes will be replaced by retaining walls. As this proposal will not allow for one–to-one replacement of trees, whatever structure replaces the existing slope should be topped-off to allow for a green buffer and the Community Path, rather than simply a blank concrete wall.

93 Highland Avenue, Somerville MA 02148 617-625-6600 x2519

L-006-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

L-006-002

The Project will not impact any wetland areas. The project limits end south of the Mystic Valley Parkway. No work will occur within any wetlands or wetland buffer zones.

L-006-003

The stormwater management system for the Project will discharge to existing municipal stormwater systems and will not involve new discharge locations for any receiving waters or wetlands. The stormwater system will be designed to maintain existing peak flows into the municipal systems, thereby preventing any increase in discharge rates to receiving waters. The locations of the drainage connections, the areas draining to each receiving water, and the BMPs intended to control stormwater quality and flow rates are identified in Section 5.9, *Stormwater* of the DEIR/EA.

L-006-004

Potential impacts to the Mystic Valley Parkway and pedestrian access routes were assessed using the regional travel demand model to project transit, traffic, and pedestrian demands with the project. Section 5.5, *Traffic* of the DEIR/EA includes an analysis of access routes to the proposed stations based on projections from the travel demand model.

L-006-005

The Project will include vegetation in and above the retaining walls to maximize the vegetation within the Right-Of-Way. The use of vegetation

We look forward to participating in the review and development of this exciting project.

Sincerely yours,

Elizabeth M. Pyle

Elizabeth M. Pyle, Esq., Chairperson

cc: Lisa Lepore, City of Somerville

Stephen Winslow, City of Somerville

c/o Somerville City Hall, 93 Highland Avenue, Somerville MA 02143 617-625-6600 x2519

on the retaining walls is discussed in Section 5.10, *Fish, Wildlife, and Plants*, and in Section 5.12, *Visual Environment* of the DEIR/EA.

DB



ARLINGTON TRANSPORTATION ADVISORY COMMITTEE
7 Twin Circle Drive, Arlington, MA 02474

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Secretary Robert W. Golledge, Jr.
Executive Office of Environmental Affairs
100 Cambridge Street, suite 900
Boston, MA 02114
Attn: Deirdre Buckley

November 24, 2006

RE: Green Line Extension, EOEA No. 13886

Dear Secretary Golledge,

The Transportation Advisory Committee for the Town of Arlington has reviewed the Environmental Notification Form for the Green Line Extension. We feel this is an important project that could have a very positive impact on the residents of Arlington, and we strongly support the extension of the Green Line into Medford.

That being said, we want to make three comments on the plan as outlined in the ENF.

C-001-001

Our first comment regards the terminus of the proposed Green Line Extension. From Arlington's perspective, the best endpoint for the Green Line would be at or near Mystic Valley Parkway (Route 16) and Boston Avenue. Access to this area from Arlington is very good, by bus (Route 80), foot, and bicycle, and is far superior to the originally proposed Medford Hillside. The proposed endpoint, though only about a mile further from Arlington, would be along congested, non-bicycle friendly Boston Avenue and would add a substantial amount of inconvenience for Arlington bus riders, pedestrians, bicyclists, and drivers. The proposed endpoint could substantially reduce Arlington's residents ridership of the Green Line. We strongly support the suggestion of the Medford Green Line Neighborhood Alliance to place a station near the Mystic Valley Parkway (Route 16) between Boston Avenue and the Wild Oats grocery store.

Transportation Advisory Committee Members:
Joseph Cahill, Elisabeth Carr-Jones, Jeff Maxtutis, Howard Muise, Lt. James McHugh, Charles Pappas, Michael Rademacher, John Sanchez, Scott Smith, Edward Starr, and Laura Wiener
Web site: http://www/tac.arlington.ma.us/

C-001-001

Three of the six alternatives evaluated within the DEIR/EA for the Green Line Extension Project provide an evaluation for an extension to Mystic Valley Parkway/Route 16. Of the six alternatives evaluated Alternatives 2, 4, and 5 would provide Green Line service to Mystic Valley Parkway/Route 16 using the existing commuter rail right-of-way. Each alternative is described in detail in Chapter 3 (Alternatives) of the DEIR/EA.

C-001-002

Our second comment is to request that Arlington be given standing in this process. While the proposed Extension does not go through Arlington, the proposed terminus suggested above could be very significant for Arlington. Arlington is similar to Medford in that it is a densely populated area with significant transit use. Forty-four percent (44%) of Arlington's workers commute to Boston. Roughly 18% of Arlington's total workforce commutes to work on public transit, and 67% drive alone. The Transportation Advisory Committee has a strong interest in decreasing the number of people who drive to work, and we believe that extending the Green Line could be of great benefit. Our experience with the Alewife station indicates that many living in East Arlington are willing to walk considerably more than a mile for a high quality transit service, and believe that this would also be true for a properly placed Green Line terminus. The Green Line extension could be very important for Arlington, and we would like to represent that potential in the deliberations.

C-001-003

Our third comment is a request that greater emphasis be given to improve the connectivity between pedestrian, bicycle, bus and commuter rail. A practical connection should be made between the planned Department of Conservation and Recreation path along Alewife Brook and the Green Line Extension. Pedestrian and bicycle access should be designed so that Route 16 and the Mystic Valley Parkway do not act as barriers to accessing the service. This might offer a further opportunity to increase ridership by providing a feeder bus service from Arlington Center (along the route of the existing Route 80 bus). Finally, a good connection between the new service and the existing Lowell Line commuter rail may make both services more attractive for some travelers.

We thank you for the opportunity to comment on this very important project. We look forward to working with you on its planning and implementation.

Sincerely,

Edward Starr
Chair, Transportation Advisory Committee

Transportation Advisory Committee Members:
Joseph Cahill, Elisabeth Carr-Jones, Jeff Maxtutis, Howard Muise, Lt. James McHugh, Charles Pappas, Michael Rademacher, John Sanchez, Scott Smith, Edward Starr, and Laura Wiener
Web site: http://www/tac.arlington.ma.us/

C-001-002

Laura Wiener, from the Arlington Department of Planning and Community Development, is an Ex Officio member of the Green Line Extension Project Advisory Group. Additionally, Advisory Group and Public Meetings are open to the public and residents of Arlington have attended. Project team members also presented information about the project at an Arlington Town Meeting on March 26, 2008.

C-001-003

The design of Green Line Extension Project has been coordinated with the design of the proposed Somerville Community Path project for compatibility. In addition to the Somerville Community Path, the Green Line Extension Project has considered connections with the Mystic Valley Parkway Path at the proposed station at Mystic Valley Parkway/Route 16, which can help encourage safe and multi-modal access between these two uses. Pedestrian improvements within the vicinity of the Mystic Valley Parkway/Route 16 Station have also been considered in order to encourage better connectivity. Chapter 3 (Alternatives) of the DEIR/EA outlines the connections and opportunities for connectivity between the Green Line Extension and active pedestrian, bicycle and bus routes. The Station Figures in Chapter 3 illustrate the proximity of the stations to Community Paths, the local road network and MBTA bus stops.

DB

CONSERVATION LAW FOUNDATION

November 21, 2006

Robert W. Golledge, Jr
Secretary of Environmental Affairs
EOEA, Attn: MEPA Office
Deirdre Buckley, EOEA No. 13886
100 Cambridge St., Suite 900
Boston, MA 02114

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RE: Green Line Extension EENF

Dear Secretary Golledge:

The Conservation Law Foundation ("CLF") submits the following comments on the Expanded Environmental Notification Form ("EENF") for the Green Line Extension. In general, CLF supports the use of a Single Environmental Impact Report ("SEIR") for environmental review of this project. There are a number of important issues outstanding regarding the Green Line Extension that should be addressed in the SEIR and these issues should be thoroughly analyzed at this stage so that an additional environmental review document is not required and this project can proceed as expeditiously as possible.

CLF has the following specific concerns about this project: (1) this project does not comply with either the current or proposed Massachusetts State Implementation Plan; (2) a full range of alternative alignments for the Green Line Extension should be analyzed to ensure that this project provides maximum environmental benefit; (3) the impact on existing stations should be reviewed; (4) possible impacts of the timing of Lechmere station relocation should be assessed; (5) land use analysis should be undertaken concurrent with environmental review; and (6) a Citizens Advisory Committee should be created to assist with this project. The remainder of this letter describes these concerns in greater detail.

<u>The EENF does not comply with Massachusetts' State Implementation Plan</u>

C-002-001

The Green Line EENF does not comply with Massachusetts' State Implementation Plan ("SIP") because it schedules this project to be completed after the deadline in the SIP and it does not comply with the proposed amended SIP because it does not extend the Green Line to West Medford.

The current SIP, which is in effect, requires the Green Line to be extended to Medford

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NEW HAMPSHIRE: 27 North Main Street, Concord, New Hampshire 03301-4930 • Phone 603-225-3060 • Fax 603-225-3059
RHODE ISLAND: 55 Dorrance Street, Providence, Rhode Island 02903-2221 • Phone 401-351-1102 • Fax 401-351-1130
VERMONT: 15 East State Street, Suite 4, Montpelier, Vermont 05602-3010 • Phone 802-223-5992 • Fax 802-223-0060

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C-002-001

The Project's estimated time of completion is 2014, which is consistent with the current State Implementation Plan (SIP) approved by the U.S. Environmental Protection Agency on July 31, 2008. The alternatives evaluated in the DEIR/EA consider extending the Green Line to College Avenue Station (Medford Hillside) or Mystic Valley Parkway (Route 16) Station.

C-002-001 Hillside by 2011. The EENF includes a schedule under which construction would be commenced in November of 2011 at the earliest. This clearly will result in a violation of the current SIP.

The Commonwealth has proposed modifying the SIP to extend the deadline for the Green Line Extension to 2014. However, the proposed modification to the SIP not only delays the Green Line Project but also enlarges the project to include an extension from the Medford Hillside area to West Medford. If the SIP is revised as proposed by the Commonwealth, the EENF would not be consistent with the SIP because the project described in the EENF does not extend to West Medford. The extension to West Medford provides a large portion of the air quality benefits necessary to comply with the Clean Air Act.

If EOT is unable to provide a schedule that complies with the SIP requirement that the Green Line be completed by 2011, the SEIR should acknowledge this failure to comply with the SIP and describe mitigation that will be provided to offset the air quality impacts of delay. In addition, as a proposed SIP revision is being contemplated, the SEIR should include the alignment on the Green Line Extension described in the proposed SIP revision. All of the alignments being considered for this project should be addressed in the SEIR so that the environmental review process does not have to be re-opened at a later date if the SIP is revised and a new alignment is required.

The SEIR Should Include Analysis of Additional Routes

The Green Line Extension from Lechmere should provide a single seat ride from any point on the existing Green Line. There are a number of alignments that have been proposed by community members. CLF would like to highlight two of those alignments that we believe have great merit and that should be evaluated in the SEIR. Those alignments are (1) an extension beyond Winthrop Street, and (2) an alternative route to Union Square.

Extension Beyond Winthrop Street Should Be Evaluated

C-002-002 The EENF only contemplates extending the Green Line to Winthrop Street, south of the Mystic River. The Commonwealth had previously proposed extending the Green Line across the Mystic River to West Medford. Many residents of Medford have expressed strong support for the Green Line extending at least to Route 16, which would make the line accessible to more residents of Medford than an extension to Winthrop Street. An extension to Route 16 seems to be a reasonable alternative that would provide access to a larger number of residents than the proposed Winthrop Street terminus and therefore CLF recommends that this alternative be analyzed in the SEIR.

An Alternative Union Square Spur Alignment Should be Analyzed

C-002-003 The EENF proposes that the Union Square spur of the Green Line Extension should be located along the Fitchburg commuter rail line. With this alignment, the terminus of the Green Line Union Square spur will not actually be in Union Square. The heart of Union Square is a natural terminus for the Union Square spur. Union Square is a transportation hub, and several

C-002-002

Three of the six alternatives evaluated within the DEIR/EA for the Green Line Extension Project provide an evaluation for an extension to Mystic Valley Parkway/Route 16. Of the six alternatives evaluated, Alternatives 2, and 4 would provide Green Line service to Mystic Valley Parkway/Route 16 and Union Square using a two-branch operation. Alternatives that include Green Line Extension to Mystic Valley Parkway/Route 16 are discussed in Chapter 3 (Alternative) of the DEIR/EA.

C-002-003

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

C-002-003 bus routes pass through the center of Union Square. It is also a commercial center that would be well-served by direct transit. The area surrounding Union Square is primarily residential and would be less well suited to a terminus of the Green Line. The alternative of a Green Line spur alignment from Lechmere Station that travels along Monsignor Obrien Highway, McGrath Highway and then Somerville Avenue into Union Square should be analyzed in the SEIR. While the Fitchburg Line alignment presents certain advantages from a cost perspective, the relative merit of an alignment that would bring the Green Line right into Union Square should be evaluated at this stage of the project. CLF therefore requests that the SEIR include analysis of an alternative Union Square spur alignment along Monsignor Obrien Highway, McGrath Highway and Somerville Avenue.

Impact on Existing Stations Should be Analyzed

C-002-004 Extension of the Green Line to Winthrop Street or beyond and a spur to Union Square will have impacts on Green Line service along the current alignment. The Green Line Extension will increase usage of the current Green Line trains. This increased usage is likely to result in the need for new rolling stock to maintain service levels and headways, and new maintenance facilities. The SEIR should include a discussion of the impacts of the Green Line Extension on the current Green Line and describe necessary investments in additional vehicles and maintenance facilities.

Timing of the Relocation of Lechmere Station Should be Discussed in the SEIR

C-002-005 The Green Line Extension depends on the relocation of Lechmere Station. The relocation of Lechmere Station, however, is being addressed partially through a separate process. The SEIR should address the interaction of the Lechmere Station relocation project with the Green Line Extension project. The possibility of delay in Lechmere Station relocation should be discussed and coordination between the Lechmere Station relocation project and the Green Line Extension Project should be described.

Corridor and Land Use Study Should be Completed concurrently with Transportation and Environmental Analysis for this Project

C-002-006 The Commonwealth's draft 20 year plan, *A Framework for Thinking, A Plan for Action*, requires coordination of land use and transportation planning. This is a sensible requirement that can help maximize the benefit of transportation investments and address any potential adverse impacts, such as potential traffic impacts or resident displacement impacts, at an early stage. CLF strongly urges that coordinated land use and transportation planning be required for this project. We are aware that the City of Somerville is already making independent efforts to evaluate land uses around potential Green Line stations, for example at Union Square. This work may result in increased development of Union Square, supporting smart growth goals and potentially providing increased customers for the Green Line service. The Executive Office of Transportation should be engaged with the municipalities the Green Line will pass through in completing a corridor land use study. This study should be completed concurrent with the environmental review process, because land use decisions around the line will have direct effects on environmental consequences of the Green Line extension. The land use, transportation and

C-002-004

As discussed in Chapter 3 (Alternatives) of the DEIR/EA, the Green Line Extension is envisioned to operate on headways equal to that of the existing Green Line D and E branch services and is not envisioned to impact the Central Subway System. The extension will include a maintenance facility located in the Inner Belt area described in Section 3.3.2, *Maintenance Facility* of the DEIR/EA. Vehicle requirements have been identified for each alternative and are described in Sections 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternative* of the DEIR/EA.

C-002-005

Planning and design of the Lechmere Station Relocation Project has been added as part of the Green Line Extension Project. Although design and construction funding for the relocation of Lechmere Station was previously being financed primarily by private (NorthPoint development) and Federal funds, recent changes in the NorthPoint development project have left uncertain the future opening year of the relocated Lechmere Station. The alignment of the Green Line Extension Project would not be possible without the relocation of the station. Therefore, the Green Line Extension Project has extended its original limits to include the relocation of Lechmere station.

C-002-006

As noted by the commenter, the City of Somerville is in the process of evaluating land uses around several potential Green Line stations, with an emphasis on Union Square and Brickbottom Stations (reference Section 4.2.4, *Land Use Plans*of the DEIR/EA). Section 4.2.4 also describes planning studies by the City of Cambridge for the Lechmere Station area, and a community development plan by the City of Medford that references the proposed Mystic Valley Parkway/Route 16 Station. The City of Medford is considering conducting a master planning study to evaluate land uses and the potential for transit-oriented development

C-002-006 environmental planning processes should all be coordinated so that an informed and comprehensive vision is advanced for the Green Line Extension corridor that best serves the residents of that corridor.

A Citizens Advisory Committee Should Be Created for the Green Line Extension Project

C-002-007 A Citizens Advisory Committee should be created for the Green Line Extension Project. The Green Line Extension is a major project that will have a large impact on the communities it passes through. Citizen involvement should be an important part of moving forward with this project, completing the environmental review process, selecting a preferred alternative and addressing the various transportation, land use, environmental and other community issues that this project presents. CLF has very much appreciated the opportunity to serve on the Urban Ring Citizens Advisory Committee and has found that the Citizens Advisory Committee process is an effective way of engaging a large group of stakeholders. We request that a Citizens Advisory Committee be established for the Green Line Extension project. If a Citizens Advisory Committee is formed, CLF would very much appreciate an opportunity to serve on that committee.

Conclusion

CLF enthusiastically applauds the Commonwealth for beginning the environmental review process for this important project. The Green Line Extension project will provide significant environmental and mobility improvements for Cambridge, Somerville and Medford. While we support an accelerated process with an Single Environmental Impact Report to advance this project as close to the schedule required in the SIP as possible, we also believe it is important that the SEIR be comprehensive to ensure that the Green Line Extension Project is most beneficial to the communities it will serve.

Thank you for the opportunity to comment.

Sincerely,

Carrie Russell
Staff Attorney

surrounding the proposed Mystic Valley Parkway/Route 16 Station. The Executive Office of Transportation is aware of and supportive of these municipal planning efforts in particular if they overlap with the Green Line Extension Project.

C-002-007

The Green Line Extension Project has established a formal Working Group of which Conservation Law Foundation is an active member. This Working Group is described in detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Bob O'Brien [rbobrien@rbobrien.com]
Sent: Thursday, November 30, 2006 12:19 PM
To: Deirdre Buckley
Subject: DNA Comment Letter re: Proposed Green Line Extension
Attachments: dna comment on the green line extension.doc; dna 2006 2007 officers directors.xls

Robert B. O'Brien, Executive Director
Downtown North Association
rbobrien@rbobrien.com
617-461-6730

11/30/2006

C-003-001

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

downtown north association

November 30, 2006

Deirdre Buckley, Project Analyst
Executive Office of Environmental Affairs
100 Cambridge, 9th Floor
Boston, Massachusetts 02114

RE: Comments on the Green Line Extension

Dear Ms. Buckley,

Pleased be advised that the Downtown North Association (DNA) strongly supports your approval of the proposed extension of the MBTA Green Line north of its existing terminus at Lechmere Station to Somerville and Medford.

From a transportation perspective, the purpose of the Green Line extension project is completely consistent with our longstanding support for improvements to the capacity, functionality, accessibility and attractiveness of the Haymarket, North and Science Park Green Line stations, all of which are now either completed or recently approved.

From a development perspective, the Green Line extension is relevant to of our continuing efforts to redevelop the substantial elements of the Downtown North/West End community that have become available for redevelopment as a result of the CAT and MBTA North Station Improvements Projects. This particularly includes the Nashua Street Quadrant and Charles River shoreline areas, which will have important physical and functional; links to comparable commercial, residential, institutional and parkland redevelopment efforts to north of the Charles River into and beyond Lechmere Square.

In that context, the long-awaited Green Line extension to Somerville continues to warrant our support; and we encourage the EOEA approvals that will allow this worthy and timely project to move forward expeditiously.

Sincerely,

Robert B. O'Brien
Executive Director of the Downtown North Association

DOWNTOWN NORTH ASSOCIATION & COMMUNITY

The more than one hundred member organizations of the Downtown North Association represent a broad cross-section of the commercial, institutional, professional, recreational and residential interests in the northern tier of the City of Boston, between Beacon Hill and the North End, from City Hall Plaza to the Charles River. Bounded by New Sudbury Street on the south, Cambridge Street on the west, North Washington Street on the east, and the Charles River on the north, the Downtown North community encompasses a variety of major sub-districts including:

- *The West End residential neighborhood, including Charles River Park and new Charles River Plaza retail and office complex, Holiday Inn Select, a major professional building on Staniford Street, the West End Library, Old West Church and the Harrison Gray Otis House.*
- *The Bulfinch Triangle, immediately south of Causeway Street, which is home to most of the retail, bar, restaurant and hotel establishments and professional firms in the area and contains more than five acres of redevelopment parcels to be made available with the demolition of the CAT and Green Line elevated structures.*
- *The North Station Economic Development Area, immediately north of Causeway Street, which includes North Station itself, TD Banknorth Garden, the O'Neill Federal Building, the Causeway/Strada 234 and Lovejoy Wharf buildings, and the southern portal of the Zakim/Bunker Hill Bridge, as well as the major redevelopment parcels on the site of the old Boston Garden.*
- *The adjacent Nashua Street Quadrant, which includes Spaulding Rehabilitation Hospital, Nashua Street Jail, the new Nashua Street Residences Project and the new Nashua Meadows Park, as well as a number of important new development parcels.*
- *The medical sector, in the Cambridge Street/Charles Street area, which includes Massachusetts General Hospital, Massachusetts Eye & Ear Infirmary, Shiners Burns Hospital and the Scheppens Eye Research Institute.*
- *The northern portion of Government Center, which includes the new Edward Brooke Suffolk County Courthouse, the Lindemann Center and Hurley State Office Building, Government Center Garage, the Area A-1 Police Station, the New Chardon Street Post Office, Channel 7, One Bowdoin Place and One Bulfinch Place.*

Buckley, Deirdre (ENV)

From: Ellin Reisner [ereisner@rcn.com]
Sent: Thursday, November 23, 2006 12:53 AM
To: 'Buckley, Deirdre (ENV)'
Subject: EOEA Project No. 13886 - EENF - Green Line Extensions

East Somerville Main Streets
149 Broadway
Somerville, MA 02145

November 22, 2006

Secretary Robert W. Golledge Jr.
EOEA
Attention MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge St.
Suite 900
Boston MA 02114

Dear Ms. Buckley:

The East Somerville Main Streets Program is very supportive of the extensions of the Green Line to Union Square and Medford because it will improve access to good public transportation, will improve air quality in Somerville and reduce car traffic in East Somerville. We do however have some concerns about the EENF that was submitted by EOT. Specifically we:

C-004-001 ▪ are in support of the Union Square Main Streets program recommendation that the environmental review consider constructing the Green Line so that it runs directly into Union Square since no final decision about the alignment was made in the Beyond Lechmere Study. This would be the best alignment for economic development of Union Square.

C-004-002 ▪ urge that the environmental review be coordinated with the redesign and re-construction of McGrath and O'Brien Highway because of the relationship between the highway re-construction and the Union Square extension alignment and the need for safe access to the Green Line be East Somerville residents and businesses.

C-004-003 ▪ advocate that the design and construction of the new Lechmere station not be done in such a manner that it would preclude the best alignment for the Green Line branch to Union Square.

C-004-004 ▪ also recommend that the environmental review specifically ensure that design and construction includes the eastward extension of the Somerville Community Path to North Point in Cambridge as an integral component of the Green Line project.

The Community Path that serves Davis Square has demonstrated the high demand and use of pedestrians and bicyclists to access the Red Line rather than depending on cars and parking

11/28/2006

C-004-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

C-004-002

Based on information provided by the Massachusetts Department of Conservation and Recreation (DCR), there are currently no immediate plans to reconstruct Route 28/McGrath Highway. The only planned improvements along Route 28/McGrath Highway would be in the form of in-kind repairs with no plans to increase capacity or significantly modify the corridor.

C-004-003

Planning and design of the Lechmere Station Relocation Project has been added as part of the Green Line Extension Project. Although design and construction funding for the relocation of Lechmere Station was previously being financed primarily by private (NorthPoint development) and Federal funds, recent changes in the NorthPoint development project have left uncertain the future opening year of the

garages to get to the station.

C-004-005 st Somerville is an environmental justice community and we want to ensure that the environmental view carefully consider the environmental justice issues identified in the Beyond Lechmere study. uilding the Community Path extension as part of the Green Line meets environmental justice goals cause it will provide safe pedestrian and bicycle access to public transportation in both Winter Hill and st Somerville for commuters, children, workers in East Somerville and businesses by ensuring that ople do not need to cross McGrath Highway or Washington Street to gain access to stations.

C-004-006 cGrath O'Brien Highway in East Somerville is one of the most dangerous roads in Massachusetts cording to Mass Highways Top 1000 Crash Locations Report (1999-2001). The Community Path would rve as the main route for East Somerville residents to access the Green Line extension and would surely C-004-007 duce pedestrian/bike and vehicle accidents on McGrath-O'Brien Highway. We also hope that the een Line Advisory Committee can play a role in ensuring that the environmental review address vironmental justice concerns for our community.

C-004-008 cause the East Somerville Main Streets program focuses on enhancing economic development in our mmunity we strongly urge that the environmental review evaluate the use of the Boston Engine rminal land for storage and maintenance of the Green Line trolleys rather than using the Yard 8 commendation in the EENF. The Beyond Lechmere Study did not make a decision about where to cate the storage and maintenance facility and we believe that placing the facility in Yard 8 could pede the Community Path extension and negatively affect economic development in the Inner Belt ea.

C-004-009 e also strongly recommend that a citizen advisory committee be designated to work with MEPA and OT to successfully resolve the issues that need to be addressed to make the Green Line extensions most ccessful in expanding ridership, reducing auto use and improving air quality.

C-004-010 e Green Line extensions will improve public transportation and air quality in Somerville – both of hich are very needed and we strongly support this project. However, we want to ensure that the ncerns we are raising are addressed in the environmental review. The plan to expedite the review by ing an SEIR rather than a DEIR is a good decision as long as the issues we have raised can be dressed in an SEIR. If this is not possible then we would prefer that a DEIR be done to ensure that our ncerns are addressed.

ank you for consideration of the concerns of East Somerville Main Streets.

Sincerely,

Susan Fontano, President
Dorie Clark, Vice President
Cira Espinosa, Treasurer
Fred Caruso, Secretary
Peter Tsourianis, Board Member
Lynn Gervens, Board Member
Luis (Tony) Morales, Board Member
Ellin Reisner, Board Member
Linda Dyndiuk, Board Member

11/28/2006

relocated Lechmere Station. The alignment of the Green Line Extension Project would not be possible without the relocation of the station. Therefore, the Green Line Extension Project has extended its original limits to include the relocation of Lechmere Station. The Preferred Alternative of the Green Line Extension Project will provide service to Union Square and to Medford Hillside/College Avenue using a two-branch operation, both in existing commuter rail rights-of-way. The Union Square Branch would operate along the MBTA Fitchburg Line from relocated Lechmere Station into a terminus at Union Square in Somerville. This branch would begin at newly relocated Lechmere Station and head northwest, following the Fitchburg Line to the Union Square area.

C-004-004

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the proposed Somerville Community Path. Details on the design and coordination of the proposed Somerville Community Path in connection with the Green Line Extension Project are found in Section 3.8, *Community Paths*.

C-004-005

Details on the proposed Somerville Community Path's role in the Project are found in Section 3.8, *Community Paths* of the DIER/EA. Existing environmental justice populations are discussed in Chapter 4 (Affected Environment) Section 4.4, *Environmental Justice*, and the environmental justice impact analysis can be found in Chapter 5 (Environmental Consequences) Section 5.4, *Environmental Justice* of the DEIR/EA.

C-004-006

Details on the design and coordination of the proposed Somerville Community Path in connection with this Project are found in Section 3.8,

Ellin Reisner, Ph.D.
51 Mount Vernon Street
Somerville, MA 02145
617-776-1987
ereisner@rcn.com

11/28/2006

Community Paths of the DEIR/EA. Changes in traffic levels are discussed in Section 5.5, *Traffic* of the DEIR/EA.

C-004-007

An Advisory Group was established for the Green Line Extension Project, as described in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA. Additionally, existing environmental justice populations were evaluated and are discussed in Chapter 4 (Affected Environment) Section 4.4, *Environmental Justice.* The impact analysis of the Green Line Extension Project on environmental justice communities can be found in Chapter 5 (Environmental Consequences) Section 5.4, *Environmental Justice* of the DEIR/EA.

C-004-008

As requested, an extensive evaluation of a number of potential maintenance facility sites, including the Boston Engine Terminal area, was conducted as part of this Project. The details of this assessment are provided in Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility* and in Appendix C, *Green Line Support Facility Alternatives Analysis*, of the DEIR/EA.

C-004-009

The Green Line Extension Project has a Project Working Group, which is described in detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

C-004-010

All of the concerns that you have raised in your letter, in addition to air quality and transportation concerns which are specifically detailed in Chapter 5 (Environmental Consequence), Sections 5.5, *Traffic*, and 5.6, *Air Quality,* have been addressed in the single DEIR/EA document.

Buckley, Deirdre (ENV)

From: Ellin Reisner [ereisner@rcn.com]
Sent: Thursday, November 23, 2006 1:00 AM
To: 'Buckley, Deirdre (ENV)'
Cc: Joe Curtatone; Lisa Lepore; swinslow@ci.somerville.ma.us
Subject: EOEA Project No. 13886 - EENF - Green Line Extensions

Green Line Community Forum----------

---------- **51 Mount Vernon Street, Somerville, MA 02145**

November 22, 2006

Secretary Robert W. Golledge Jr.
EOEA
Attention MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge St.
Suite 900
Boston MA 02114

Dear Ms. Buckley:

On behalf of the Green Line Community Forum, we want to express our support for the EOT, MBTA, and MEPA moving forward with the Green Line extension to Somerville and Medford. As an association of non-profit organizations and community-based groups dedicated to promoting the extension of the Green Line and Community Path in Somerville, we believe this is a development that will meet our aims of encouraging physical activity, reducing auto use, improving air quality and increasing public transportation use in the city. We strongly support plans that fit stations into the existing scale of adjoining neighborhoods so that stations provide priority access to those on foot, bicycle, and transit. We are pleased that plans do not anticipate that stops will include passenger parking, although we would encourage provisions for safe drop-offs.

Davis Square serves as an excellent model of how to integrate a transit station into an existing commercial and residential neighborhood. Davis Square lacks dedicated areas for passenger parking *and for passenger vehicle drop offs*. The assumptions presented in the EENF over-emphasize passenger drop-offs and should focus more on accommodating pedestrians, bicyclists, and transit users. The existing portion of the Somerville Community Path brings **1000 pedestrians and bicyclists an hour** to the station. Well over 100 bicycles are regularly parked at Davis Square Station, exceeding the capacity of the bicycle parking there. Drop-off zones have been reserved for buses rather than autos.

C-005-001 The Forum particularly urges that the scope, all design alternatives, construction permits, and contracts consider and fully integrate the extension of the Community Path from Central Street in Somerville to the North Point Development in Cambridge. The EENF repeatedly states that the Green Line's design and construction will not *preclude* the eastward extension of the Somerville Community Path and that planning should be coordinated. The scope should be changed to explicitly include planning and construction of the Community Path to North Point, Cambridge as an integral component of the Green Line project. Just as the Southwest Corridor Park was constructed in conjunction with the extension of the Orange Line to Forest Hills, *the Community Path extension must be planned, designed, and completed in conjunction with the Green Line extension or it simply will not happen.*

We would like to draw attention to these additional considerations:

11/28/2006

C-005-001

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the proposed Somerville Community Path. Details on the design and coordination of the proposed Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

C-005-002
- The importance of making the Green Line accessible to the residents of Somerville through safe, convenient pedestrian and bicycle access.

C-005-003
- A 2006 engineering feasibility study conducted by the City of Somerville has shown that the Community Path is a viable undertaking. The feasibility study can be found at http://www.ci.somerville.ma.us/CoS_Content/documents/comm_path_071406.pdf. Studies have shown that even in the Yard 8/Brickbottom area, there is room for a twelve-foot Community Path.

C-005-004
- Locations for Green Line maintenance facilities that do not preclude a fully off-road extension of the Community Path past Brick Bottom must be considered. During the development of the 2001 Feasibility Study for the Path extension, the public expressed strong support for a fully off-road alternative and rejected several on-road alternatives for the Path. We strongly urge that MEPA consider using land on the Boston Engine Terminal property for the storage and maintenance facility for the Green Line extension to facilitate development of Yard 8 and to enable continuation of the Community Path through Somerville into North Point and then into Boston.

C-005-005
- The Community Path will make the Green Line project more responsive to environmental justice issues by improving pedestrian and bicycle access to public transportation and reducing auto use in low-income neighborhoods. Pedestrian and bicycle connections to East Somerville must ensure residents do not need to cross McGrath Highway or Washington Street to gain access to stations. The Community Path would serve as the main route for East Somerville residents to access the Green Line extension.
- The presence of the Community Path in Davis Square has led to higher than projected ridership of the Red Line and has the potential to do so for the Green Line as well, since over 30% of Somerville residents do not own cars and rely on the MBTA.
- The logistics and costs associated with designing and implementing the Community Path at a future date will be far more prohibitive than if they are included as part of the current process.
- The Green Line Community Path will complement the DCR's plan of extending the Minuteman Bike Path from Alewife to the Mystic River, paving the way for safe bicycle and pedestrian access all the way to Boston, not just for Somerville residents, but for the entire corridor. The 100+ mile Mass Central Rail Trail from Northampton to Boston will not be complete without the Community Path in Somerville.
- The Community Path will make a significant contribution to public health in Somerville by providing more citizens with the opportunity to engage in physical activity, including walking, jogging, skating, and biking and by reducing auto use. The existing path provides these opportunities for residents of West Somerville; the path extension will provide these benefits to East Somerville.
- The Community Path will increase the overall quality of life and economic development issues associated with the Green Line extension in Somerville. The Path will add important park land and recreational opportunities to areas of Somerville particularly in East Somerville where they are sorely lacking.

C-005-006
- The environmental review should be coordinated with other transportation projects in the corridor which include reconstruction of Route 28 and the relocation of the Lechmere Station in Cambridge. Both of these projects have direct impact on the configuration of the Green Line into Union Square, the decision about the location of the maintenance and storage facility as well as the Community Path.

Please note that there are some sections of the Community Path that could be constructed sooner than the Green Line itself. If mitigation funds are available because of the delay in the Green Line extension construction, consideration should be given toward funding these sections.

C-005-007 Inclusion of the Community Path represents an environmental justice benefit for the residents of Somerville, which is an environmental justice community. Thus, it is a high priority for the people of Somerville, and we thank you for giving it the attention it deserves in the environmental review.

Sincerely,
The Green Line Community Forum Secretariat

Ellin Reisner

11/28/2006

C-005-002

Identified in Section 5.5, *Traffic* of the DEIR/EA, bicycle and pedestrian accommodations are being planned at each of the proposed Green Line stations. This includes connections to the proposed Somerville Community Path and, upon construction, the NorthPoint multi-use path. Bicycle storage is also being planned at each station. See station Figures in Chapter 3 of the DEIR/EA for additional details.

C-005-003

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the proposed Somerville Community Path. Details on the design and coordination of the proposed Somerville Community Path in connection with the Green Line Extension Project are found in Section 3.8, *Community Paths*.

C-005-004

The proposed Somerville Community Path is included in the conceptual design of the Green Line Extension Project in order to ensure that the design provides a multi-use pathway connecting Somerville to the communities of Cambridge, Boston, Belmont, Arlington, Lexington, Bedford, Watertown, and Newton. The Community Path design provides a fully off-road path through or over Brickbottom Station where the path is intended to run along a future Inner Belt path, and across the proposed Urban Ring bridge to be constructed in the future to connect the Community Path to Boston. The maintenance facility selection process has been addressed in Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility* of the DEIR/EA.

C-005-005

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the proposed Somerville Community Path. Details on the design and coordination of the proposed

President, STEP
51 Mt. Vernon Street
Somerville, MA 02145

Alan Moore
Chairman, Somerville Bicycle Committee
23 Cherry Street
Somerville, MA 02143

Jessica Collins
Director, Somerville Health Agenda
Cambridge Health Alliance
230 Highland Avenue, SON 5th Floor
Somerville, MA 02143

11/28/2006

Somerville Community Path in connection with the Green Line Extension Project are found in Section 3.8, *Community Paths*.

C-005-006

The relocation of Lechmere Station is now a part of the Green Line Extension Project and is included in all of the Build Alternatives. Details on the alternatives can be found in Section 3.6, *Build Alternatives* of the DEIR/EA. Other transportation projects that were coordinated with the Green Line Extension Project are discussed in greater detail in Section 3.9, *Coordination With Regional Projects* of the DEIR/EA, including the relocation of Lechmere Station and the reconstruction of Route 28.

C-005-007

Details on the Community Path's role in the Project are found in Section 3.8, *Community Paths* of the DEIR/EA. Existing environmental justice populations are discussed in Chapter 4 (Affected Environment), Section 4.4, *Environmental Justice*, and the environmental justice impact analysis can be found in Chapter 5 (Environmental Consequences), Section 5.4, *Environmental Justice* of the DEIR/EA.

Groundwork SOMERVILLE

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Vilma Sullivan
Somerville Garden Club

Jessica Collins
Somerville Health
Agenda

Steve Mackey
Chamber of Commerce

October 22, 2006

To whom it may concern,

I am writing on behalf of Groundwork Somerville, a local non-profit organization that works extensively with the communities of Somerville, MA, specifically on environmental justice issues in and around Union Square, East Somerville and Winter Hill. We are a community-based organization designed to serve as a catalyst for reuse of former brownfields sites and for community revitalization in Somerville. Our mission espouses the importance of equitable and just development by asserting that: "Groundwork Somerville strives to bring about the sustained regeneration, improvement and management of the physical environment through the development of community-based partnerships which empower people, businesses and organizations to promote environmental, economic and social well-being." We currently develop community gardens throughout the city, work with other community groups to ensure there is extension of the community path through Somerville, advocate for equitable transit and development in the city and work extensively with the Somerville Public Schools to promote active and healthy living for youth, among other activities.

C-006-001

C-006-002

C-006-003

C-006-004

As you are aware, many areas of Somerville are recognized Environmental Justice communities. It is this fact that drives our comment. After years of being the forgotten communities of Somerville, in terms of equitable transit, just development of affordable housing and pursuit of community input in development plans (highway construction for one), EJ communities in the city finally have an opportunity to get back on track. We feel that it is of the utmost importance that any plan put forth for the development of the Green Line in Somerville takes into consideration the needs of the low- to moderate-income communities in the city. In our opinion, this entails ensuring that there is accurate green and open space; that the location and placement of the proposed "T" station would provide access, particularly to transit dependent residents of environmental justice communities to these commercial establishments and the neighborhoods just beyond; that alternative locations for storing the additional trolleys and employee parking be adequately researched before assuming that the Inner Belt is the appropriate area for such usage; and finally, that the Single Environmental Impact Review (SEIR) must include full investigation of the land use and the urban design context of the Green Line extensions to fully serve current and future people, transportation and land uses with careful regard for those it will serve.

Thank you for your time and your thoughtful consideration of these comments.

Sincerely,
Jennifer Lawrence
Executive Director
Groundwork Somerville

C-006-001

Environmental justice impacts of the Green Line Extension Project are addressed in Section 5.4, *Environmental Justice* of the DEIR/EA. The analysis includes an assessment of changes in transit access to environmental justice populations as well as noise impacts and the social and economic effects of land acquisitions.

C-006-002

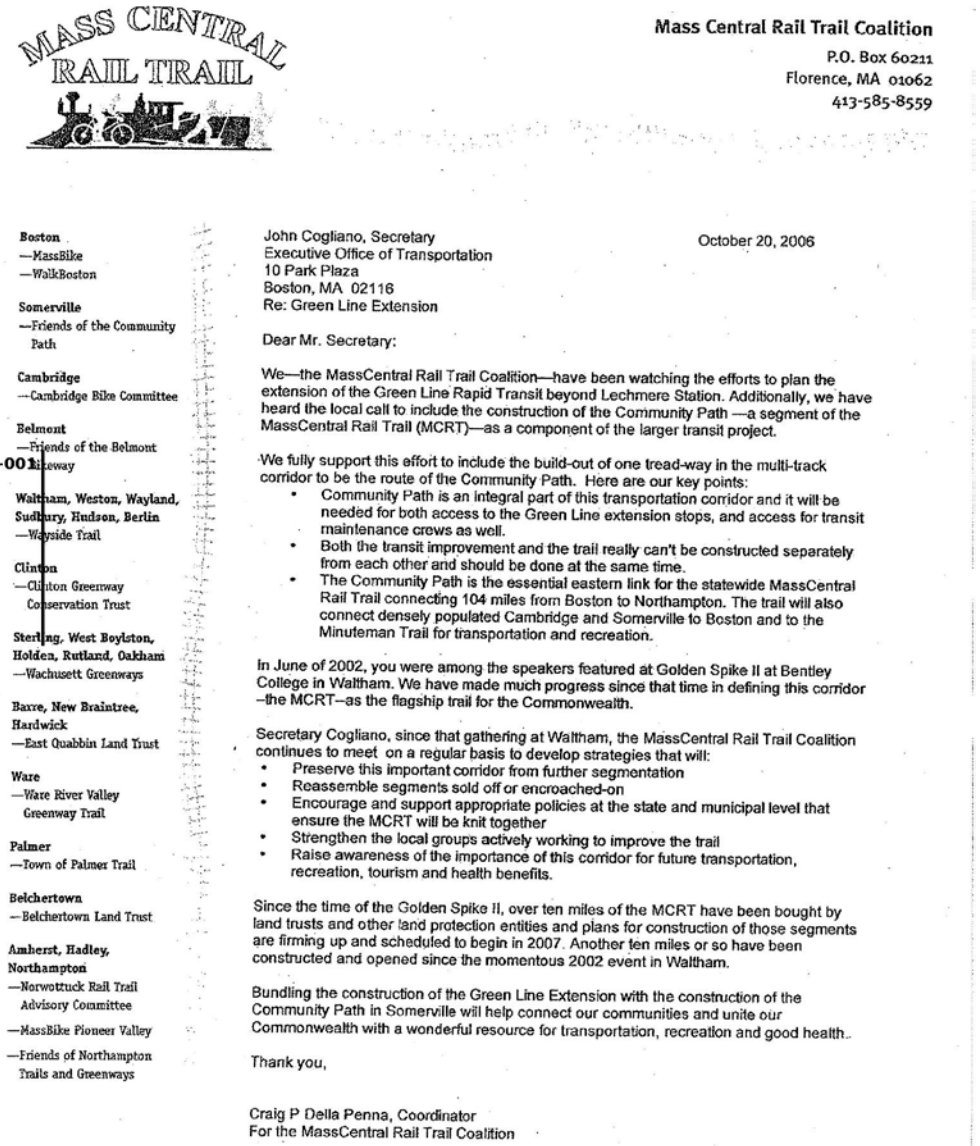
Proposed station site alternatives and the process by which the final station sites were evaluated for the Green line Extension Project were based on an evaluation that weighted the benefits and disadvantages of each station alternative, which included environmental justice impacts as a criterion. A summary of this analysis is provided in Appendix B of the DEIR/EA. Where opportunities exist, green and open space are provided within the Green Line Extension Project station areas and are described in more detail in Section 3.3, *Stations* of the DEIR/EA.

C-006-003

A comprehensive analysis of multiple locations for the proposed maintenance facility was conducted and is described in more detail in Section 3.3.2, *Maintenance Facility* and Appendix C of the DEIR/EA.

C-006-004

Section 4.2, *Land Use* of the DEIR/EA describes the existing land use and urban design context for each of the proposed station areas. Sections 4.3, *Socioeconomic Conditions*, and 4.4, *Environmental Justice*, address the socioeconomic context and environmental justice considerations. Section 5.15.5.2, *Property Values* of the DEIR/EA addresses impacts on property values and highlights the need for municipal planning to focus on housing affordability, particularly around the proposed Brickbottom and Union Square Stations.



MASS CENTRAL RAIL TRAIL

Mass Central Rail Trail Coalition
P.O. Box 60211
Florence, MA 01062
413-585-8559

Boston
—MassBike
—WalkBoston

Somerville
—Friends of the Community Path

Cambridge
—Cambridge Bike Committee

Belmont
—Friends of the Belmont Citizeway

Waltham, Weston, Wayland, Sudbury, Hudson, Berlin
—Wayside Trail

Clinton
—Clinton Greenway Conservation Trust

Sterling, West Boylston, Holden, Rutland, Oakham
—Wachusett Greenways

Barre, New Braintree, Hardwick
—East Quabbin Land Trust

Ware
—Ware River Valley Greenway Trail

Palmer
—Town of Palmer Trail

Belchertown
—Belchertown Land Trust

Amherst, Hadley, Northampton
—Norwottuck Rail Trail Advisory Committee
—MassBike Pioneer Valley
—Friends of Northampton Trails and Greenways

C-007-001

John Cogliano, Secretary
Executive Office of Transportation
10 Park Plaza
Boston, MA 02116
Re: Green Line Extension

October 20, 2006

Dear Mr. Secretary:

We—the MassCentral Rail Trail Coalition—have been watching the efforts to plan the extension of the Green Line Rapid Transit beyond Lechmere Station. Additionally, we have heard the local call to include the construction of the Community Path —a segment of the MassCentral Rail Trail (MCRT)—as a component of the larger transit project.

We fully support this effort to include the build-out of one tread-way in the multi-track corridor to be the route of the Community Path. Here are our key points:

- Community Path is an integral part of this transportation corridor and it will be needed for both access to the Green Line extension stops, and access for transit maintenance crews as well.
- Both the transit improvement and the trail really can't be constructed separately from each other and should be done at the same time.
- The Community Path is the essential eastern link for the statewide MassCentral Rail Trail connecting 104 miles from Boston to Northampton. The trail will also connect densely populated Cambridge and Somerville to Boston and to the Minuteman Trail for transportation and recreation.

In June of 2002, you were among the speakers featured at Golden Spike II at Bentley College in Waltham. We have made much progress since that time in defining this corridor –the MCRT–as the flagship trail for the Commonwealth.

Secretary Cogliano, since that gathering at Waltham, the MassCentral Rail Trail Coalition continues to meet on a regular basis to develop strategies that will:

- Preserve this important corridor from further segmentation
- Reassemble segments sold off or encroached-on
- Encourage and support appropriate policies at the state and municipal level that ensure the MCRT will be knit together
- Strengthen the local groups actively working to improve the trail
- Raise awareness of the importance of this corridor for future transportation, recreation, tourism and health benefits.

Since the time of the Golden Spike II, over ten miles of the MCRT have been bought by land trusts and other land protection entities and plans for construction of those segments are firming up and scheduled to begin in 2007. Another ten miles or so have been constructed and opened since the momentous 2002 event in Waltham.

Bundling the construction of the Green Line Extension with the construction of the Community Path in Somerville will help connect our communities and unite our Commonwealth with a wonderful resource for transportation, recreation and good health.

Thank you,

Craig P Della Penna, Coordinator
For the MassCentral Rail Trail Coalition

C-007-001

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

DB

165 Arlington St.
Medford, MA 02155
November 20, 2006

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston MA 02114

Dear Massachusetts Environmental Policy Office,

C-008-001

Enclosed please find the petition circulated by the Medford Green Line Neighborhood Alliance (MGNA) that is requesting that the scope of any study of the green line extension includes a station at Route 16/ Boston Avenue in Medford. You can find an electronic version of the petition here http://www.petitiononline.com/mgnagl/petition.html.

If you have any questions about the petition, please feel free to contact me at home 781.643.9286, or by email at jaredingersoll@yahoo.com. Thank you for you efforts in this process.

Sincerely,

Jared Ingersoll
MGNA

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NOV 22 2006
MEPA

C-008-001

A station in the vicinity of Mystic Valley Parkway/Route 16 has been evaluated in three of the six proposed alternatives in the DEIR/EA. Additional detail on this station is provided in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.



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Don't Short Change Medford!

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To: Massachusetts Environmental Policy Act Office, MA Executive Office of Transportation, the MBTA and Local and State Officials

The Executive Office of Transportation's MBTA Green Line Extension document proposes the last station at Winthrop Street. We believe the scope of any Study of the Green Line Extension should include a station at Route 16 / Boston Avenue in Medford. If you agree, please sign below:

Sincerely,

The Undersigned

Click Here to Sign Petition

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The Don't Short Change Medford! Petition to Massachusetts Environmental Policy Act Office, MA Executive Office of Transportation, the MBTA and Local and State Officials was **created by Medford Green Line Neighborhood Alliance and written by Jared Ingersoll** (medfordgreenline@yahoo.com). This petition is hosted here at www.PetitionOnline.com as a public service. There is no endorsement of this petition, express or implied, by Artifice, Inc. or our sponsors. For technical support please use our simple Petition Help form.

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dg

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Don't Short Change Medford!

We endorse the Don't Short Change Medford! Petition to Massachusetts Environmental Policy Act Office, MA Executive Office of Transportation, the MBTA and Local and State Officials.

Read the Don't Short Change Medford! Petition

Sign the Don't Short Change Medford! Petition

	Name	Address, City and Zip Code	Comments
225.	Margaret Carpenter	17 Hillsdale Rd Medford, MA 02155	Please go to Rt. 16
224.	Peter J. Ungaro	1 Monument Street, Medford, MA 02155	
223.	Jason Cluggish	14 6th St. Medford, MA 02155	
222.	Patricia Caya	1 Monument Street, Medford, MA 02155	this is critical. Medford deserves public transportation too
221.	rich cerasale	5 woodlawn ave billerica ma 01821	
220.	William Stevenson	20 Monument St Medford MA 02155	
219.	Mary L Stevenson	20 Monument St Medford MA 02155	

	218. John Roland Elliott	34 Emery Street, Medford, 02155-5307	Enthusiastic support for extending the Medford Green Line to route 60.
	217. Kevin Eibensteiner	845 East 5th St., Boston, MA	
C-008-002	216. Mimi Gordon	5 Ash St., Unit 2, Medford	In order to maximize use of subway extensions, there needs to be sufficient bus service to subway stops at off peak hours. Currently there is good bus service from Medford to the Orange and Green line subways during peak commuter hours. However, the bus schedules during weekends and off peak weekday hours severly limits realistic use of public transportation.
C-008-003	215. andrea diiorio	56 greenleaf ave medford 02155	I'm 100\% in favor of the Green Line extension, however the stop near the Tufts parking garage on Boston Ave is a" Bad Idea" for the many neighbors that have house on the other side of the proposed station.

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214. Patricia Silva	113 Yale Street, Medford MA 02155	
213. Dan Doherty	8 Albion St. #1, Malden, MA 02148	
212. Tim Condon	32 Chandler St, Somerville MA 02144	
211. Scott Smith	39 Amherst Street, Arlington 02474	
210. Ben Patterson	74 Orchard St, #1, Medford, MA 02155	
209. Jill Passano	22 Laurel St. #33, Somerville, MA 02143	
208. Peter Panagako	45 Irving Street Medford, MA	

C-008-002

Proposed Green Line Stations are located near existing MBTA bus services and/or within close walking distance of existing bus stops. Based on requests by the community as well as estimates developed by CTPS identifying future needs, it is not currently proposed to modify existing bus services in the Project study area as part of the Green Line Extension Project.

C-008-003

EOT has noted and considered your comment. Proposed station site alternatives and the process by which the final station sites were selected for the Green Line Extension Project were based on an evaluation that weighted the benefits and disadvantages of each station site. Evaluation criteria included, but were not limited to, station access, transit operations, land use compatibility, property impacts and project costs. The final station sites for the project were selected based this evaluation and details of the process are provided in Appendix B to the DEIR/EA. As a result of this evaluation, the preferred station site in the vicinity of Tufts was identified to be located in the vicinity of College Avenue, as described in 3.7.3, *Stations*.

207.	Nick Casolaro	209 Boston Ave, Medford, MA 02155	
206.	Ellin Reisner	51 Mt. Vernon St., Somerville, MA 02145	
205.	Padraic Shanley	290 Boston Ave, Medford 02155	
204.	Kimberley Shanley	290 Boston Ave #3, Medford, MA 02155	
203.	Tim Sirois	905 Broadway, Somerville 02144	
202.	Erica Evans	122 Sharon St Medford, MA 02155	
201.	Donna Laquidara-Carr	124 Boston Avenue, Medford, MA 02155	
200.	kosta tsioris	217 boston ave, medford 02155	
199.	L. S. Warhol	22 Stearns Ave., Medford 02155	
198.	Jill Richard	291 High Street, Medford, MA 02155	
197.	Judith Nierenberg	235 Woburn St.	
196.	Thomas Warhol	22 Stearns Ave., Medford 02155	
195.	Craig Della Penna	62 Chestnut St, Florence MA 01062	Also the project must build-out the adjacent Community Path at the same time as the build-out of the RR. The path is compellingly important in a state-wide sense. Don't shortchange the citizens of the commonwealth by a short sighted decision.
194.	Kay Seligson	18 Pine Ridge Road	

C-008-004

C-008-004

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

			Arlington, MA 02476	
	193.	Joseph P. Lynch, Jr.	10 Henderson Street, Somerville 02145	Your neighbors over the border in Magoun Square, Somerville are with you.
	192.	Ken Krause	50 Mystic Street	Extending the Green Line to at least Route 16 will maximize the environmental benefit of the project, which was its original intention (improving air quality in the corridor).
	191.	Rafael Moure-Eraso	40 Tesla Avenue, Medford MA 02155	
	190.	Laura Punnett	40 Tesla Avenue, Medford MA 02155	
	189.	Harry Bochner	25 Kilgore Ave., Medford, 02155	
C-008-005	188.	James McGinnis	26 Bow St, Somerville, MA 02143	Follow the Beyond Lechmere MIS recommendation
	187.	Maura McEnaney	50 Mystic Street, Medford, MA 02155	
C-008-006	186.	John Ellersick	11 Boston Ave, Medford, MA 02155	to west medford please....thx
	185.	Barbara Weir	62D Canal Street, Medford, MA 02155	
C-008-007	184.	Matthew Haberstroh	16 Sharon ST, Medford, 02155	Please extemd your studies to bring Green Line to W. Medford Square.
	183.	Adam Fisher	69 Ashcroft Road, Medford, MA, 02155	
	182.	Kristen Fortino	66 Ship Ave, Medford 02155	

C-008-005

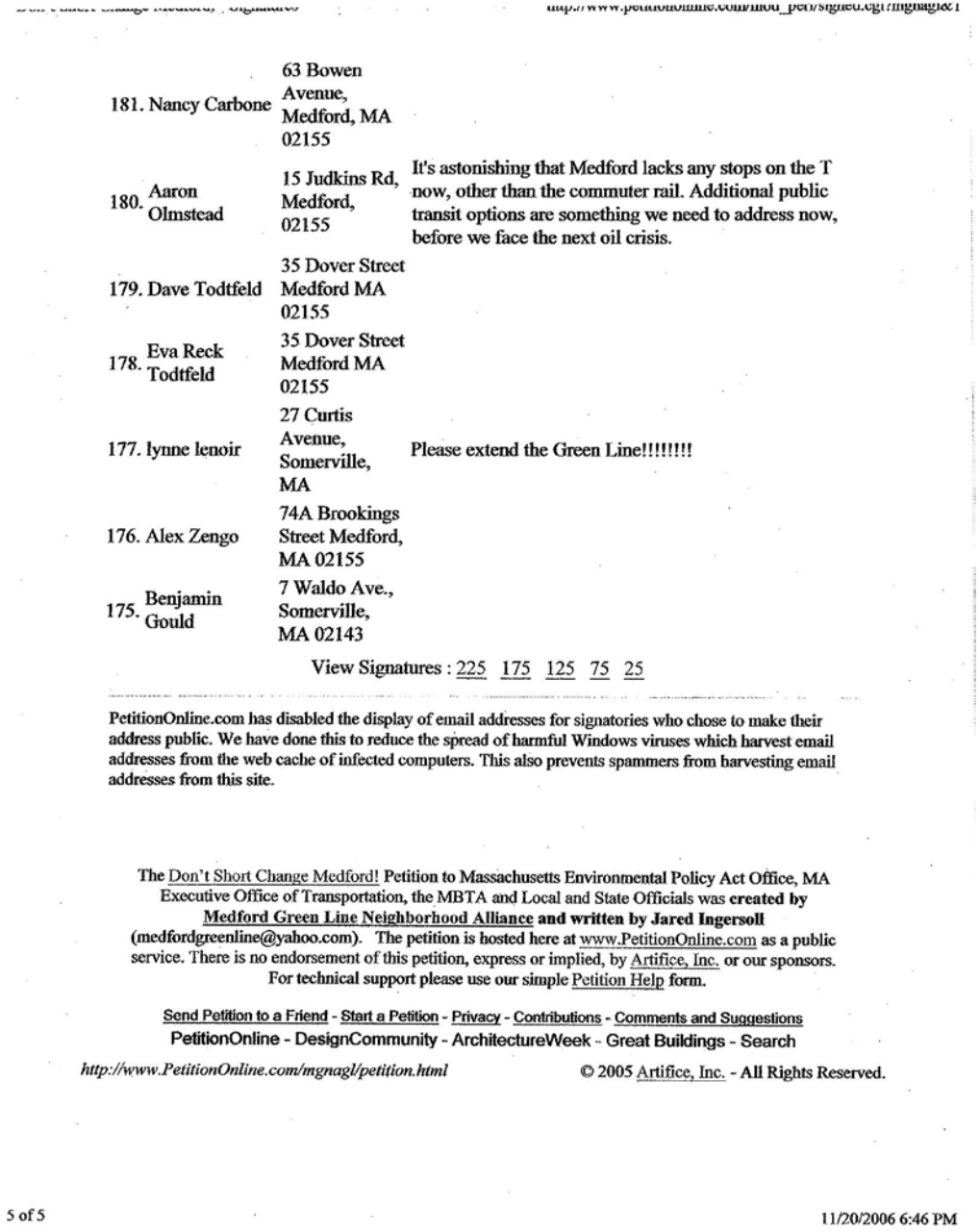
The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-006

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-007

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford



181.	Nancy Carbone	63 Bowen Avenue, Medford, MA 02155	
180.	Aaron Olmstead	15 Judkins Rd, Medford, 02155	It's astonishing that Medford lacks any stops on the T now, other than the commuter rail. Additional public transit options are something we need to address now, before we face the next oil crisis.
179.	Dave Todtfeld	35 Dover Street Medford MA 02155	
178.	Eva Reck Todtfeld	35 Dover Street Medford MA 02155	
177.	lynne lenoir	27 Curtis Avenue, Somerville, MA	Please extend the Green Line!!!!!!!!
176.	Alex Zengo	74A Brookings Street Medford, MA 02155	
175.	Benjamin Gould	7 Waldo Ave., Somerville, MA 02143	

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has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

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	Name	Address, City and Zip Code	Comments
	175. Benjamin Gould	7 Waldo Ave., Somerville, MA 02143	
	174. Deborah Jamiol	49 Stanley Ave, Medford 02155	
	173. Marc Rubin	109 dover Street, Medford, MA 02155	
	172. Josh Wardell	7 Orchard St. Newton, MA 02458	Would provide better access to medford's excellent downtown area
C-008-008	171. Ling Xiang	42 Whitney Road, Medford, MA 02155	Extend the Green Line to West Medford Commuter Train station.
C-008-009	170. Alan Phillips	42 Whitney Road, Medford, MA 02155	I would like to see the Green line extended to West Medford commuter rail station. That would be a great convenience to the residents of West Medford.
	169. Laurel Ruma	20 Hillsdale Rd. Medford, MA 02155	
	168. Joe Goss	99 Josephine Ave, Somerville MA 02144	
	167. Amy Piacitelli	622 Boston Ave. #8A Medford, 02155	
	166. Erick Crowell	Medford 02155	

C-008-008

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-009

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-010	165. Marc Verhagen	15 Austin Road, Medford 02155	Extending to route 16 would make a big difference.

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	164. Kateryna Cuddeback	47 Pitcher Ave, Medford 02155	
C-008-011	163. Kevin Cuddeback	47 Pitcher Ave, Medford 02155	An extension to near route 16 should make bus, bike and pedestrian connections much more effective, without increasing car trips
	162. Bruce Tsiknas	118 Allston St., Medford, MA 02155	Thanks
	161. Kate Lee	60 Brooks Street, Medford 02155	
	160. Beth Fuller	15 West St., Medford, 02155	
	159. Sarah Bergstrom	186 Woburn Street, Medford, MA, 02155	
	158. Jennifer M. Keller	33 Pinkert Street, Medford, MA 02155	
	157. Jennifer Cheng DesAutels	21 Knollwood Rd. Medford, MA 02155	
	156. Matt Gasbarro	143 George St, Medford, MA 02155	
	155. Christopher DesAutels	21 Knollwood Rd, Medford MA 02155	
	154. Dorothy Emerson	225 Arlington St, Medford, 02155	
	153. Jack A. Cole	27 Austin Road, Medford, MA 02155	Much needed
	152. Ellen Cantarow	27 Austin Road, Medford, MA 02155	
C-008-012	151. Alan Moore	23 Cherry St., Somerville, MA 02144	Extending to West Medford Sq. should also be considered, especially if there is not good pedestrian access and an interchange with the Lowell commuter trains at a Route 16 station
	150. russell robar	17 wesley park somerville ma 02143	
	149. Chris Addesa	94 Boston Ave #3 Medford, MA 02155	

C-008-010

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-011

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. Bus, bike and pedestrian connections at this station location have been evaluated as part of this DEIR/EA.

C-008-012

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

148. anna farrington	135 oxford street, cambridge, ma 02140	go green line!
147. Jason King	76 Boston Ave, Medford, MA 02155	
146. Steve Mulder	42 Stone Ave, Somerville, MA 02143	
145. Kristen Holmstrand	27 Fremont St., Arlington, MA 02474	
144. Fran DiLeo	139 Playstead Rd.	
143. Fran Rubin	109 Dover Street Medford, MA 02155	
142. Diane Noel	8 Wareham Street, Medford, MA	
141. Cornelia Davis	28 Butler Street, Medford, MA	Look at what the Red Line did for Davis Square. I think Medford deserves a train link to the rest of Boston.
140. Anthony Tappe	91 Winchester St.	
139. Marc Davidson	63 West St., Medford, 02155	
138. Katy Coughlin	Medford, MA 02155	
137. Gracelaw Simmons	112 Otis Street, Medford 02155	
136. John Lonergan	32 Lincoln Rd., Medford, MA 02155	
135. Penny Outlaw	542 High Street, Medford, MA 02155	
134. Dale Morrow	146 Forest St., Medford, MA 02155	
133. Michael Silvia	146 Forest St., Medford, MA 02155	
132. Jim Ospenson	97-B Boston Ave, Medford, MA 02155	
131. Joanne Valeriani	34 Summit Road, Medford 02155	
130. May Marquebreuck	Medford, MA 02155	
129. Maryann Langen	63 Madison Street, Medford 02155	
128. Gregory Sampson	19 Gorham Road, Medford MA 02155	

127.	Richard J.Leary	33 Washington Street #3 Medford,MA 02155
126.	Clementine Cummer-Nacco	49 Sharon Street, Medford, 02155
125.	Susie Nacco	49 Sharon Street, Medford, 02155 and connect it to the red line

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	Name	Address, City and Zip Code	Comments
	125. Susie Nacco	49 Sharon Street, Medford, 02155	and connect it to the red line
	124. Fintan Steele	195 Brooks St. Medford, MA 02155	
	123. Lisa Miller	28 Corey Street, Medford 02155	
	122. John J. Murphy	28 Woods Road, Medford, MA 02155	
C-008-013	121. Meryl Perlson	97B Boston Avenue	I'd like to see a thorough traffic impact study, in particular of the Boston Avenue corridor.
	120. Scott Beard	195 Brooks Street, Medford, MA 02155	
	119. Karen Molloy	Somerville, MA 02143	
	118. Ann Gallager	15 Austin Road, West Medford, Ma. 02155	
	117. Ardith Welwood	02144	
	116. Mary E. Hayes	7 Ashland Place, Medford, MA 02155	
	115. Paul Kissman	42 Quincy St., Medford, 02155	

C-008-013

A thorough traffic analysis for the entire Green Line Extension Project has been conducted as part of the DEIR/EA. Results of this analysis can be found in Chapter 4 (Affected Environment), Section 4.6, *Traffic* and in Chapter (Environmental Consequences), Section 5.5, *Traffic* of the DEIR/EA.

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	114. Olivier Karfis	11 Hillcroft Park Medford, MA 02155	The T would be the best thing to happen to West Medford
	113. Camille	11 hillcroft park, Medford 02155	
	112. Megan Allen	42 Quincy St., Medford 02155	
	111. Jennifer Gilbert	10 Tontine Street, Medford, MA 02155	
	110. Laura Geuss	611 Broadway, Somerville 02145	
	109. Martin W. Fraser	30 Ronaele Road	
	108. Krishna Govindarajan	59 Grove Street, West Medford, 02155	
	107. Heather Hurd	3 Hammond Place , Medford Ma 02155	
	106. Laura Adams	20 Circuit St. Medford MA 02155	
	105. Todd S. Horowitz	20 Circuit Street, Medford, 02115	I'm tired of being a 2nd-class transit user!
C-008-014	104. A. Callejas	6 Tontine st.	Please extend at least to rt. 16
	103. Michael Shailer	02156	West Medford residents and investors want the Green Line, politics should not "derail" it.
	102. Esther Wolk	542 Riverside Ave Medford 02155	
	101. Barry Ingber	9 Draper St., Medford 02155	
C-008-015	100. Ed Brown	8 Gleason St., Medford 02155	I am in general agreement with the principles espoused in the draft MGNA document and believe an open process actively (and formally) involving the different parties is essential to making good public policy--because this is what it is; not just a transportation decision by a semi-private actor. The goal should be to get people to USE public transportation; not to build it.
	99. DAVID J ATTELLA	53 Fellsway West Apt 20 Medford, MA 02155	
	98. Julie Abruzzio	167 Elm Street, Medford, 02155	

C-008-014

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-015

The public involvement process for the Green Line Extension Project is an open process that allows a variety of stakeholders with multiple points of view to express their ideas and thoughts on the project in a variety of forums. Please see Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for more details about this process.

C-008-016	97.	Laurie Gilburne	81 North St., Medford, MA 02155	Extend Green Line to WildOats at Rt. 16
	96.	Lisa Hodsdon	11 Lyman Avenue, Medford, 02155	
	95.	Nicole Guanzon	611 Broadway Somerville, MA 02145	This will a fantastic addition to Tufts University.
	94.	D. Quentin Miller	47 Gleason Street, Medford 02155	
	93.	Robert A. Augart	59 Clark Street, Medford, MA 021555	
C-008-017	92.	Bruce Kulik	168 Grove Street, Medford, MA 02155	ENF should extend all the way to High Street (Rt. 60).
C-008-018	91.	Susan Gerould	110 Allston Street Medford 02155	Bringing the Green Line to Route 16 would make it convenient for a lot more riders at relatively little difference in cost.
	90.	Astrid Lambert	91 George Str., Medford, MA	Boston needs a much better public transportation system. The extension of the green line should connect as many people as possible to the subway. I think much more is needed, but at least run the green line to route 16.
	89.	James Feldman	02155	
	88.	David Winkler	203 School Street #2, Somerville, MA, 02145	Somerville needs this extension to improve the air quality, the dense population and the greater access to Somerville culture
	87.	Rebecca Feldman	4 boylston ter, Medford, 02155	
	86.	David A. Rose	11 Quincy Street, Medford 02155	
	85.	Jonathan Dowse	23 Burget Ave, Medford	
	84.	Elizabeth Burgess	28 Ronaele Road Medford, MA 02155	
	83.	Bethany Morris	34 Kilgore Street, Medford, MA 02155	
	82.	K. Costello	34 Kilgore Avenue, Medford 02155	Add me to the MGNA listserve please! Extend it to Rt. 16!
	81.	Robert Paine	15 West Street, Medford, MA 02155	
	80.	Dan Bybell	40 Warren Street, Medford, 02155	
	79.	Andrea von Dietrich	109 Brooks St., Medford, MA, 02155	

C-008-016

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C-008-017

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C-008-018

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

	78.	Ulrich Herken	109 Brooks Street, Medford, MA 02155	
	77.	Milva McDonald	61 Monument St. Medford MA 02155	
	76.	Shirley Newell	3 Osgood St., Medford, 02155	I wonder about traffic.
C-008-019	75.	Donald Gropman	155 Allston Street, Medford,MA,02155	I can not understand the logic of NOT continuing the Green Line to Route 16 (the U-Haul site) because the payoff would be so considerable.

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C-008-019

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

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	Name	Address, City and Zip Code	Comments
75.	Donald Gropman	155 Allston Street, Medford,MA,02155	I can not understand the logic of NOT continuing the Green Line to Route 16 (the U-Haul site) because the payoff would be so considerable.
C-008-020			
74.	Peter Micheli	117 Brooks St., Medford, MA 02155	Every effort should be made to extend the Green Line to West Medford Square, a logical termination point given the cluster of businesses and residences there. If this isn't possible, it needs to go to at least Route 16.
73.	Denise A. Parker	30 Roberts Rd. Medford 02155	
72.	Michael Lambert	91 George Street, Medford, MA 02155	
71.	Diane Trask-McCue	20 Fellsview Ave Medford 02155	It's a step in the right direction for our environment.
70.	Wendy Cook	68 Magoun Avenue, Medford	I am the Director of the Kurukulla Center for Tibetan Buddhist Studies
69.	Audrey Stanwood	36 Mystic Street, Medford MA 02155	
68.	William Tenney	110 Allston Street, Medford 02155	
67.	Julie Nash	47 Gleason St., Medford, MA 02155	
66.	Rob Lee	60 Brooks Street, Medford 02155	

C-008-020

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	65. Anne Thompson	23 Lincoln Street, Medford 02155	

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	64. dori wolfson	54 Gleason Street, Medford, 02155	
	63. Edward Kuh	146 Allston Street, Meford MA 02155	
	62. Gabrielle Gropman	155 Allston Street, Medford 02155	
	61. Susan Altman	201 Winthrop Street, Medford, MA 02155	
	60. Vincent Mase	14 Mason St Medford MA	
C-008-021	59. Scott Bickerton	117 Harvard Avenue, Medford 02155	Rt 16 makes so much sense as the final destination, adding so many more neighborhoods to be in reach of the subway.
	58. Lisa Tang Liu	8 King Ave #2, Medford, MA 02155	
	57. Susan Spector	8 Gleason St. Medford 02155	
	56. Casey Germann	26 Bailey St, Medford, 02155	
	55. Andrew V. Griswold	8 Whitman Road, Medford, MA (Wd 6 Pct 2)	
	54. Paul Lehrman	98 Brooks St., Medford, MA 02155	
	53. Jason Toppan	54 Century St Apt #2 Medford MA 02155	
	52. Joanna Watson	54 Century Street Apt. 2 02155	
	51. Erin Sands	Medford, MA 02155	
	50. Amanda C. O'Loughlin	34 Warren Street, Medford, 02155	
C-008-022	49. Caroline Jacques	2 Chester Ave	This is going to be a parking and traffic nightmare for our neighborhood!!
	48. Andrea Martinez	20 Joyce Road, Medford, MA 02155	
C-008-023	47. Henry G Turner	2 Woburn St, Medford, MA 02155	Get Medford on the map - extend to Route 16

C-008-021

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-022

Traffic and parking impacts and their mitigation measures at each station location are discussed in Section 5.5, *Traffic* of the DEIR/EA.

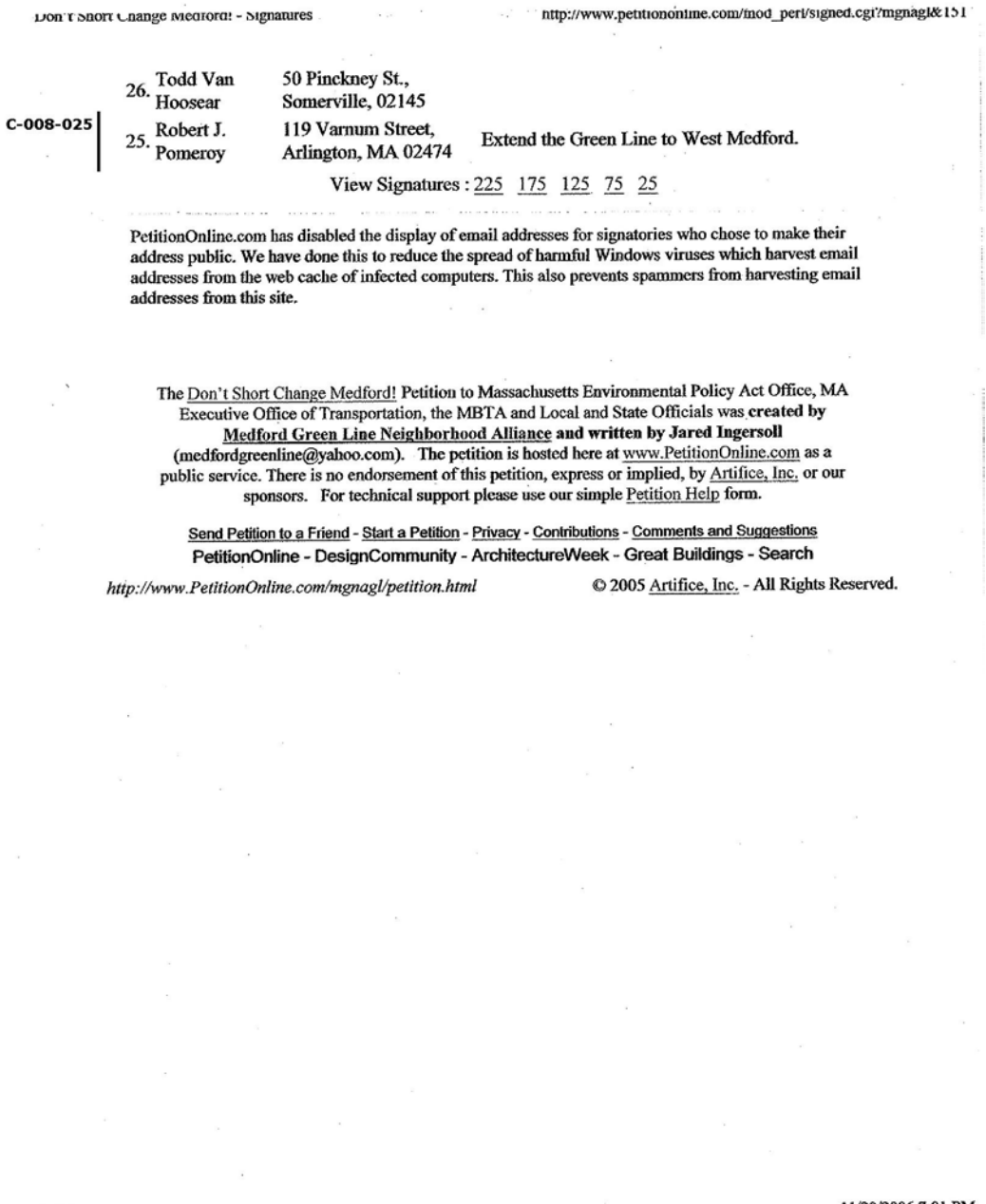
C-008-023

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

	46. Lisa Kuh	146 Allston St., Medford MA 02155	
	45. Mary Werowinski	118 Allston St, Medford, 02155-3456	
	44. Jan Nicholson	85 Edward St., Medford, MA 02155	
	43. Peggy LaPrise	72 Quincy Street Medford, Ma 02155	
	42. Alexa Mase	14 Mason St. Medford, MA 02155	I sign what Sharon signs.
	41. Kathryn Vitiello	72 Woburn Street, Medford, MA 02155	
	40. Alia-Anor Akaeze	59 Prescott Street, Medford 02155-3615	
	39. Kim Leonard	112 Allston Street, Medford, 02155	
	38. Kenneth Busch	71 Kenmere Rd, Medford, MA 02155	
	37. Anita Nackel	1 Vernon Street, Medford, MA 02155	
	36. Margaret Weigel	82 Mystic Street, Medford, MA 02155	
	35. Jonathan Chines	64 Forest Street #338, Medford, MA 02155	
	34. Lois Grossman	33 West St Medford 02155	I like the ideas the Medford Green Line Organization has put forward. I hope you'll give their proposals serious consideration.
	33. Steven DePalma	39 Woodbine Rd., Medford, MA 02155	
	32. Marc Gurton	101 Wyman St, Medford, MA 02155	
	31. Thomas W. Lincoln	27 Gleason Street, Medford, MA 02155	
C-008-024	30. Stephen Stroud	53 Tesla Ave., Medford	It makes little sense to terminate at Winthrop St. Rt. 16 makes so much more sense - you reach the W. Medford area by doing this.
	29. Martin Fraser	30 Ronaele Rd, Medford 02155	
	28. Jeff Levine	31 Curtis Ave, Somerville, MA 02144	
	27. David Orens	14 Holton St. #2, Medford, MA 02155	

C-008-024

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.



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	26.	Todd Van Hoosear	50 Pinckney St., Somerville, 02145	
C-008-025	25.	Robert J. Pomeroy	119 Varnum Street, Arlington, MA 02474	Extend the Green Line to West Medford.

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C-008-025

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

Don't Short Change Medford!

We endorse the Don't Short Change Medford! Petition to Massachusetts Environmental Policy Act Office, MA Executive Office of Transportation, the MBTA and Local and State Officials.

Read the Don't Short Change Medford! Petition

Sign the Don't Short Change Medford! Petition

		Name	Address, City and Zip Code	Comments
C-008-026	25.	Robert J. Pomeroy	119 Varnum Street, Arlington, MA 02474	Extend the Green Line to West Medford.
C-008-027	24.	Kevin Becker	87 College Ave, Medford 02155	A T station to College Ave would be enough for me but I think it should end at a major road such as route 16.
	23.	Vicki Halal	02155	
C-008-028	22.	Leonard Tower Jr.	36 Porter Street, Somerville, MA 02143	Please study to and past route 60!
	21.	David Phillips	186 Woburn St, Medford, 02155	
	20.	David G. Adams	21 Blaisdell Rd. Medford, MA 02155	
	19.	Sharon Guzik	10 Manning St, Medford, MA 02155	
	18.	Crispin Olson	95 N Union St, Arlington 02474	
	17.	Charles Olson	80 Prichard Ave, Somerville MA 02144	

C-008-026

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-027

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-028

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-029	16. Jim Kiely	101 Wyman Street, Medford, MA 02155	The 15-minute walk to the Route 16 stop would utterly change my sit-in-the-traffic commute to and from Boston and beyond. Superlative idea!
	15. Roberta Cameron	12 North Street #2	

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	14. Alisa Wolf	80 Harvard Ave., Medford, MA 02155	
	13. Catherine D'Urso	25 Corey Street, Medford, MA 02155	
	12. Deborah Silva	25 Corey Street, Medford, MA 02155	
	11. Michael McLaughlin	32 Stearns Ave. Medford, MA 02122	
C-008-030	10. John W Anderson	102 Brooks St, Medford, MA	Extend AT LEAST to the Rt 16 River crossing with bike/pedestrian access to W. Medford Sq.
C-008-031	9. Joseph Jaquinta	111 George Street, Medford MA, 02155	The change to the area of study was done without public input. They should stick to what they said they were going to do.
	8. Braddlee, Ph.D.	28 Hancock St. #2 Medford MA 02155	
	7. Brendan Shea	02155	
	6. Lori Gardinier	165 Arlington St., Medford, MA 02155	
	5. Melissa Bennett	1526 Mystic Valley Parkway, Medford 02155	
	4. Stacy Colella	111 George St Medford, MA 02155	
C-008-032	3. Stephanie Geuns-Meyer	54 Whitney Rd Medford, MA 02155-2427	All effort should be made to put a Green Line station near the West Medford Commuter Rail stop. Allow Lowell Line commuters access to Somerville and the Lechmere area without forcing them to go all the way in to North Station.

C-008-033

2. Doug Carr — 124 Boston Avenue Medford MA 02155 — Bring Green Line to Mystic River

1. Jared Ingersoll — 165 Arlington St, Medford, 02155

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C-008-029

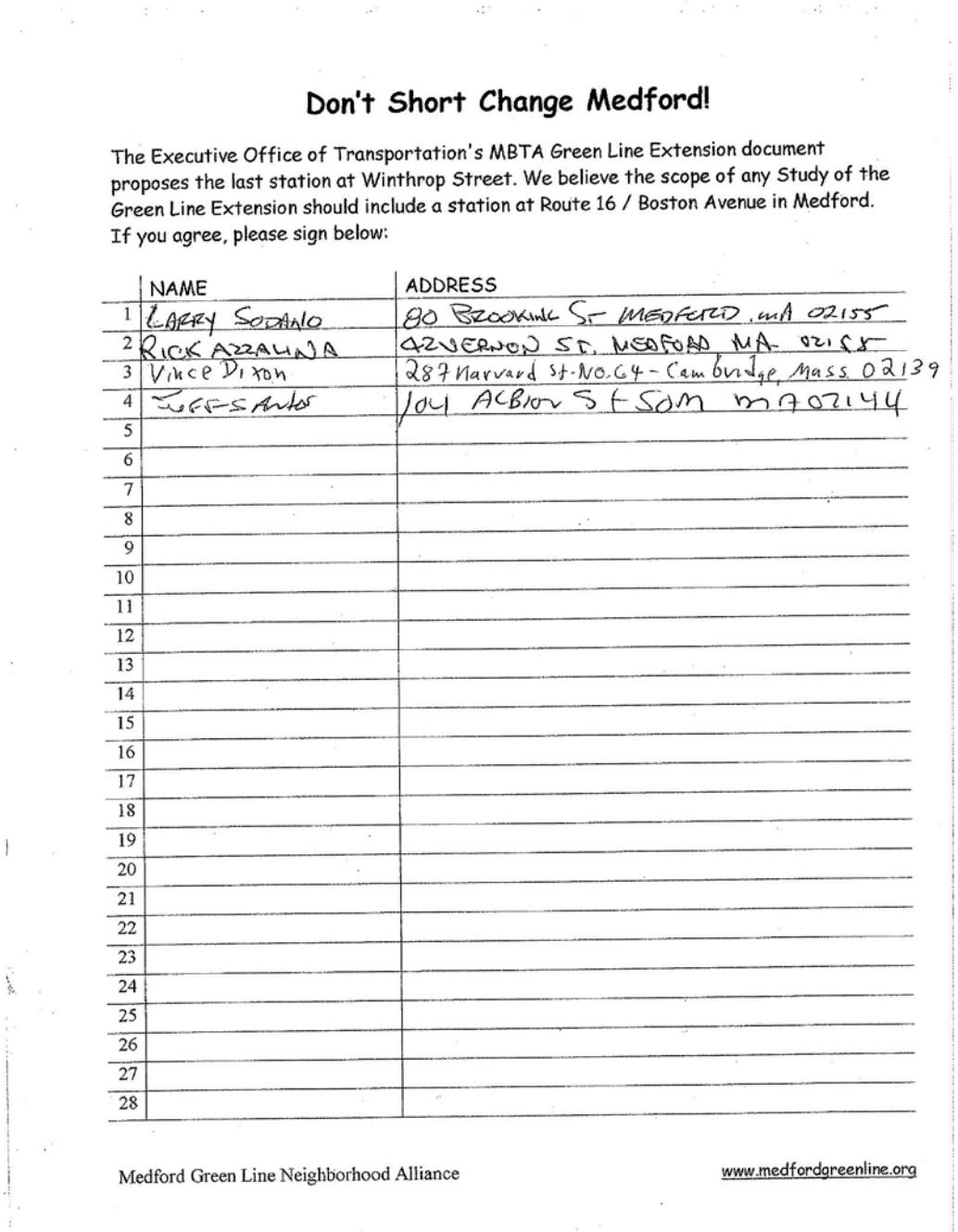
As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-030

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. Bicycle and pedestrian accommodations are being proposed at all proposed Green Line stations.

C-008-031

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. Additionally,



Don't Short Change Medford!

The Executive Office of Transportation's MBTA Green Line Extension document proposes the last station at Winthrop Street. We believe the scope of any Study of the Green Line Extension should include a station at Route 16 / Boston Avenue in Medford. If you agree, please sign below:

	NAME	ADDRESS
1	LARRY SODANO	80 BROOKLINE ST MEDFORD, MA 02155
2	RICK AZZALINA	42 VERNON ST. MEDFORD MA 02155
3	Vince Dixon	287 Harvard St-No.64-Cambridge, Mass 02139
4	JEFF SANTOS	104 ACTON ST SOM MA 02144
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Medford Green Line Neighborhood Alliance www.medfordgreenline.org

numerous public meetings and input sessions have been held throughout this Project. Details on public outreach and coordination can be found in Section 1.5, *Public Involvement and Agency Cooridnation* of the DEIR/EA.

C-008-032

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-008-033

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

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The Executive Office of Transportation's MBTA Green Line Extension document proposes the last station at Winthrop Street. We believe the scope of any Study of the Green Line Extension should include a station at Route 16 / Boston Avenue in Medford. If you agree, please sign below:

Sincerely,

The Undersigned

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We endorse the Don't Short Change Medford! Petition to Massachusetts Environmental Policy Act Office, MA Executive Office of Transportation, the MBTA and Local and State Officials.

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	Name	Address, City and Zip Code	Comments
225.	Margaret Carpenter	17 Hillsdale Rd Medford, MA 02155	Please go to Rt. 16
224.	Peter J. Ungaro	1 Monument Street, Medford, MA 02155	
223.	Jason Cluggish	14 6th St. Medford, MA 02155	
222.	Patricia Caya	1 Monument Street, Medford, MA 02155	this is critical. Medford deserves public transportation too
221.	rich cerasale	5 woodlawn ave billerica ma 01821	
220.	William Stevenson	20 Monument St Medford MA 02155	
219.	Mary L Stevenson	20 Monument St Medford MA 02155	

218.	John Roland Elliott	34 Emery Street, Medford, 02155-5307	Enthusiastic support for extending the Medford Green Line to route 60.
217.	Kevin Eibensteiner	845 East 5th St., Boston, MA	
216.	Mimi Gordon	5 Ash St., Unit 2, Medford	In order to maximize use of subway extensions, there needs to be sufficient bus service to subway stops at off peak hours. Currently there is good bus service from Medford to the Orange and Green line subways during peak commuter hours. However, the bus schedules during weekends and off peak weekday hours severly limits realistic use of public transportation.
215.	andrea diiorio	56 greenleaf ave medford 02155	I'm 100\% in favor of the Green Line extension, however the stop near the Tufts parking garage on Boston Ave is a" Bad Idea" for the many neighbors that have house on the other side of the proposed station.

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214.	Patricia Silva	113 Yale Street, Medford MA 02155	
213.	Dan Doherty	8 Albion St. #1, Malden, MA 02148	
212.	Tim Condon	32 Chandler St, Somerville MA 02144	
211.	Scott Smith	39 Amherst Street, Arlington 02474	
210.	Ben Patterson	74 Orchard St, #1, Medford, MA 02155	
209.	Jill Passano	22 Laurel St. #33, Somerville, MA 02143	
208.	Peter Panagako	45 Irving Street Medford, MA	

207.	Nick Casolaro	209 Boston Ave, Medford, MA 02155	
206.	Ellin Reisner	51 Mt. Vernon St., Somerville, MA 02145	
205.	Padraic Shanley	290 Boston Ave, Medford 02155	
204.	Kimberley Shanley	290 Boston Ave #3, Medford, MA 02155	
203.	Tim Sirois	905 Broadway, Somerville 02144	
202.	Erica Evans	122 Sharon St Medford, MA 02155	
201.	Donna Laquidara-Carr	124 Boston Avenue, Medford, MA 02155	
200.	kosta tsioris	217 boston ave, medford 02155	
199.	L. S. Warhol	22 Stearns Ave., Medford 02155	
198.	Jill Richard	291 High Street, Medford, MA 02155	
197.	Judith Nierenberg	235 Woburn St.	
196.	Thomas Warhol	22 Stearns Ave., Medford 02155	
195.	Craig Della Penna	62 Chestnut St, Florence MA 01062	Also the project must build-out the adjacent Community Path at the same time as the build-out of the RR. The path is compellingly important in a state-wide sense. Don't shortchange the citizens of the commonwealth by a short sighted decision.
194.	Kay Seligson	18 Pine Ridge Road	

		Arlington, MA 02476	
193.	Joseph P. Lynch, Jr.	10 Henderson Street, Somerville 02145	Your neighbors over the border in Magoun Square, Somerville are with you.
192.	Ken Krause	50 Mystic Street	Extending the Green Line to at least Route 16 will maximize the environmental benefit of the project, which was its original intention (improving air quality in the corridor).
191.	Rafael Moure-Eraso	40 Tesla Avenue, Medford MA 02155	
190.	Laura Punnett	40 Tesla Avenue, Medford MA 02155	
189.	Harry Bochner	25 Kilgore Ave., Medford, 02155	
188.	James McGinnis	26 Bow St, Somerville, MA 02143	Follow the Beyond Lechmere MIS recommendation
187.	Maura McEnaney	50 Mystic Street, Medford, MA 02155	
186.	John Ellersick	11 Boston Ave, Medford, MA 02155	to west medford please....thx
185.	Barbara Weir	62D Canal Street, Medford, MA 02155	
184.	Matthew Haberstroh	16 Sharon ST, Medford, 02155	Please extemd your studies to bring Green Line to W. Medford Square.
183.	Adam Fisher	69 Ashcroft Road, Medford, MA, 02155	
182.	Kristen Fortino	66 Ship Ave, Medford 02155	

181.	Nancy Carbone	63 Bowen Avenue, Medford, MA 02155	
180.	Aaron Olmstead	15 Judkins Rd, Medford, 02155	It's astonishing that Medford lacks any stops on the T now, other than the commuter rail. Additional public transit options are something we need to address now, before we face the next oil crisis.
179.	Dave Todtfeld	35 Dover Street Medford MA 02155	
178.	Eva Reck Todtfeld	35 Dover Street Medford MA 02155	
177.	lynne lenoir	27 Curtis Avenue, Somerville, MA	Please extend the Green Line!!!!!!!!
176.	Alex Zengo	74A Brookings Street Medford, MA 02155	
175.	Benjamin Gould	7 Waldo Ave., Somerville, MA 02143	

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Name	Address, City and Zip Code	Comments
175. Benjamin Gould	7 Waldo Ave., Somerville, MA 02143	
174. Deborah Jamiol	49 Stanley Ave, Medford 02155	
173. Marc Rubin	109 dover Street, Medford, MA 02155	
172. Josh Wardell	7 Orchard St. Newton, MA 02458	Would provide better access to medford's excellent downtown area
171. Ling Xiang	42 Whitney Road, Medford, MA 02155	Extend the Green Line to West Medford Commuter Train station.
170. Alan Phillips	42 Whitney Road, Medford, MA 02155	I would like to see the Green line extended to West Medford commuter rail station. That would be a great convenience to the residents of West Medford.
169. Laurel Ruma	20 Hillsdale Rd. Medford, MA 02155	
168. Joe Goss	99 Josephine Ave, Somerville MA 02144	
167. Amy Piacitelli	622 Boston Ave. #8A Medford, 02155	
166. Erick Crowell	Medford 02155	

165. Marc Verhagen	15 Austin Road, Medford 02155	Extending to route 16 would make a big difference.

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164. Kateryna Cuddeback	47 Pitcher Ave, Medford 02155	
163. Kevin Cuddeback	47 Pitcher Ave, Medford 02155	An extension to near route 16 should make bus, bike and pedestrian connections much more effective, without increasing car trips
162. Bruce Tsiknas	118 Allston St., Medford, MA 02155	Thanks
161. Kate Lee	60 Brooks Street, Medford 02155	
160. Beth Fuller	15 West St., Medford, 02155	
159. Sarah Bergstrom	186 Woburn Street, Medford, MA, 02155	
158. Jennifer M. Keller	33 Pinkert Street, Medford, MA 02155	
157. Jennifer Cheng DesAutels	21 Knollwood Rd. Medford, MA 02155	
156. Matt Gasbarro	143 George St, Medford, MA 02155	
155. Christopher DesAutels	21 Knollwood Rd, Medford MA 02155	
154. Dorothy Emerson	225 Arlington St, Medford, 02155	
153. Jack A. Cole	27 Austin Road, Medford, MA 02155	Much needed
152. Ellen Cantarow	27 Austin Road, Medford, MA 02155	
151. Alan Moore	23 Cherry St., Somerville, MA 02144	Extending to West Medford Sq. should also be considered, especially if there is not good pedestrian access and an interchange with the Lowell commuter trains at a Route 16 station
150. russell robar	17 wesley park somerville ma 02143	
149. Chris Addesa	94 Boston Ave #3 Medford, MA 02155	

148. anna farrington	135 oxford street, cambridge, ma 02140	go green line!
147. Jason King	76 Boston Ave, Medford, MA 02155	
146. Steve Mulder	42 Stone Ave, Somerville, MA 02143	
145. Kristen Holmstrand	27 Fremont St., Arlington, MA 02474	
144. Fran DiLeo	139 Playstead Rd.	
143. Fran Rubin	109 Dover Street Medford, MA 02155	
142. Diane Noel	8 Wareham Street, Medford, MA	
141. Cornelia Davis	28 Butler Street, Medford, MA	Look at what the Red Line did for Davis Square. I think Medford deserves a train link to the rest of Boston.
140. Anthony Tappe	91 Winchester St.	
139. Marc Davidson	63 West St., Medford, 02155	
138. Katy Coughlin	Medford, MA 02155	
137. Gracelaw Simmons	112 Otis Street, Medford 02155	
136. John Lonergan	32 Lincoln Rd., Medford, MA 02155	
135. Penny Outlaw	542 High Street, Medford, MA 02155	
134. Dale Morrow	146 Forest St., Medford, MA 02155	
133. Michael Silvia	146 Forest St., Medford, MA 02155	
132. Jim Ospenson	97-B Boston Ave, Medford, MA 02155	
131. Joanne Valeriani	34 Summit Road, Medford 02155	
130. May Marquebreuck	Medford, MA 02155	
129. Maryann Langen	63 Madison Street, Medford 02155	
128. Gregory Sampson	19 Gorham Road, Medford MA 02155	

127.	Richard J.Leary	33 Washington Street #3 Medford,MA 02155
126.	Clementine Cummer-Nacco	49 Sharon Street, Medford, 02155
125.	Susie Nacco	49 Sharon Street, Medford, 02155 and connect it to the red line

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Buckley, Deirdre (ENV)

From: Jared Ingersoll [medfordjared@yahoo.com]
Sent: Tuesday, October 17, 2006 4:20 PM
To: Buckley, Deirdre (ENV)
Cc: jaredingersoll@yahoo.com
Subject: MGNA Study for EOEA No. 13886

Attachments: 3711096139-MGNAStationStudy.pdf



MGNAStationStudy.
pdf (2 MB)

Dear Ms. Buckley,

On behalf of our community group, I am submitting the attached Medford station study produced by the Medford Green Line Neighborhood Alliance (MGNA) entitled "Green Line Extension to Medford: Proposed Medford Green Line Station Study- Draft" (MGNAstationstudy.pdf).

The MGNA, formed in early 2006, is a group of citizens who support the Green Line extension and who advocate for proactive involvement from the city, its residents and all stakeholders to ensure that the project is completed in a manner that is most beneficial to the community.

The group, which includes professionals in the transportation, architecture and landscape architecture fields, spent several months studying the area along the Lowell commuter rail where the Green Line extension is to be built. Taking into consideration the community's concerns and issues related to the project, the MGNA analyzed the proposed station locations identified in the MBTA's 2005 Beyond Lechmere Northwest Corridor study.

If you have any questions, please feel free to contact me via email, or on my cell phone 617.304.0053.

Thank you for your time.

Sincerely,

Jared Ingersoll on behalf of
Medford Green Line Neighborhood Alliance http://www.medfordgreenline.org

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Green Line Extension to Medford

Proposed Medford Green Line Station Study - Draft

10 October 2006

Prepared by Medford Green Line Neighborhood Alliance (MGNA)

Green Line Extension to Medford
Proposed Medford Green Line Station Study – 10/10/06 Draft
Prepared by MGNA

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B. Why Do We Need the Green Line Extension to Medford?

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D. MGNA Project Assumptions and Objectives

E. Parking and Traffic

F. Proposed Green Line Station Sites
   1. West Medford Square/Mystic River Area
   2. Winthrop Street/Boston Avenue (Hillside)
   3. College Avenue/Boston Avenue (Tufts)

G. Conclusion & Next Steps

Appendix – Excerpts from MBTA 2005 *Beyond Lechmere Northwest Corridor Study*

Green Line Extension to Medford
Proposed Medford Green Line Station Study – 10/10/06 Draft
Prepared by MGNA

Executive Summary

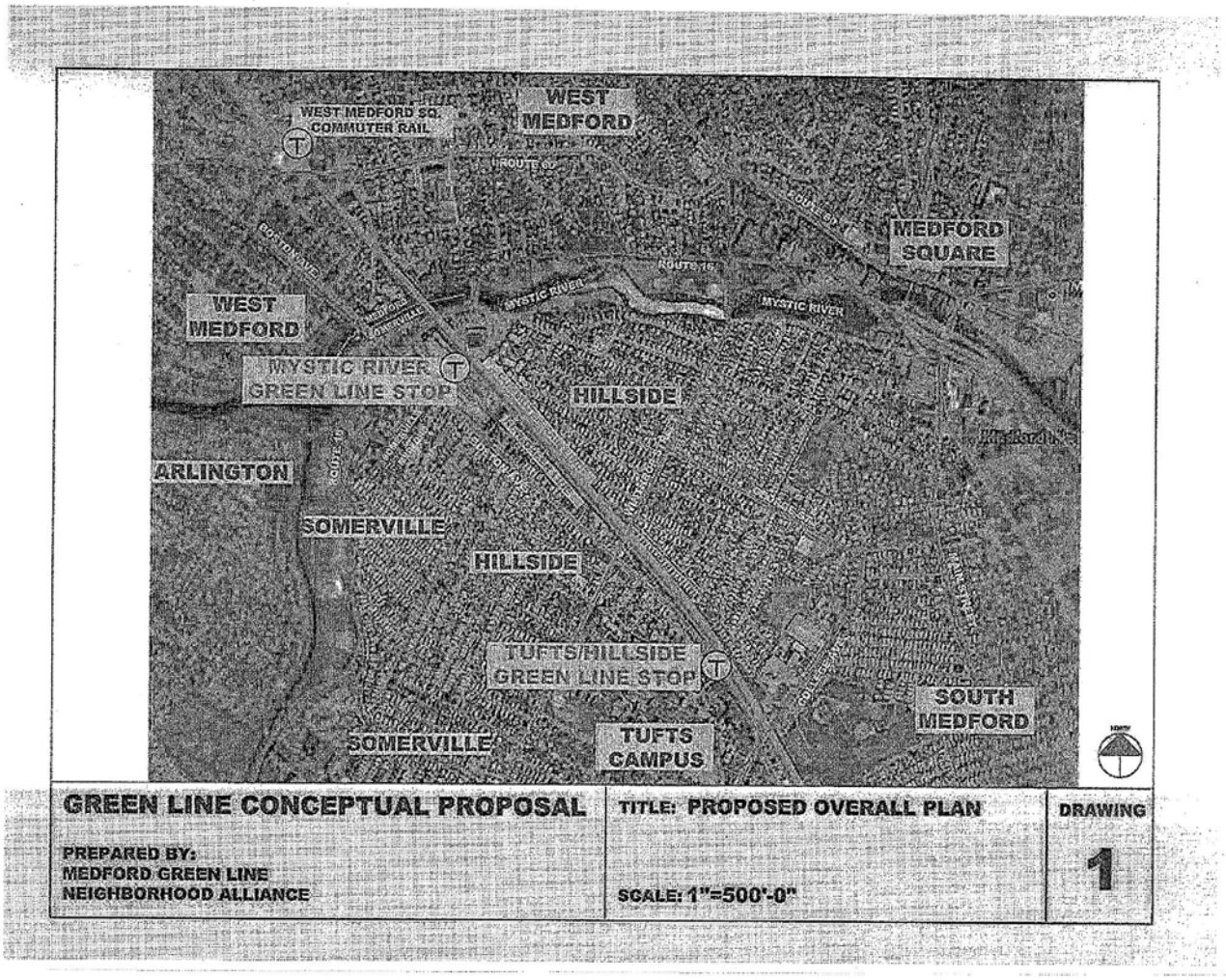
The Medford Green Line Neighborhood Alliance (MGNA) is a group of citizens who support the proposed Green Line extension to Medford, and who advocate for proactive involvement from the city, its residents and all stakeholders to ensure that the extension is completed in a manner that is most beneficial to the community. MGNA has written this document, *Proposed Medford Green Line Station Study*, to fill the void we see in the planning process by state transportation agencies and the City of Medford.

For more than a year since the Enhanced Green Line Extension Project was endorsed by state transportation officials and publicly announced, there has been little specific information and a lot of speculation and mis-information about where a potential Green Line extension to Medford might go, how it might look and what its impact might be on our neighborhoods and businesses. Taking these concerns into account and studying how to maximize the extension's benefits, MGNA spent several weeks independently analyzing and evaluating potential Green Line stops in Medford so they would achieve the following objectives:

- Provide the maximum number of Medford residents an alternative means of transportation
- Retain the character, look and feel of neighborhoods the extension will service – South Medford, Tufts University, Hillside and West Medford.
- Do no harm; the Green Line Extension Project must be a net benefit to the city as a whole and improve – not worsen - existing problems such as parking and traffic.

Guided by these objectives, MGNA now proposes the following **(See MGNA Drawing 1)**:

- Extend the Green Line only as far as Route 16. This way the terminating station would be situated south of the Mystic River and the Green Line would *not* cross the river and into West Medford Square.
- Connect West Medford Square to the terminating station by a path for pedestrians and bicyclists.
- Combine the MBTA's two proposed stations at the intersection of Boston Avenue / Winthrop Street and Boston Avenue / College Avenue into a *single* station located approximately halfway between the two points. The resulting station would be located opposite the Tufts parking garage so as to avoid existing congestion at either the Winthrop Street or College Avenue intersections, resolve safety issues and provide commuters with direct access to the Tufts campus.
- Take *no* Medford house or business by eminent domain.
- Build *no* parking garage for MBTA commuters. Medford does not have the capacity or the infrastructure to accommodate an Alewife-type parking garage or the traffic it would attract.
- Do *not* design a system that would encourage the use of cars. Instead construct all stations so they serve Medford neighborhoods well and attract pedestrians, bicyclists and passengers of existing buses.


WEST MEDFORD SQ. COMMUTER RAIL
WEST MEDFORD
ROUTE 60
MEDFORD SQUARE
BOSTON AVE
ROUTE 16
MYSTIC RIVER
WEST MEDFORD
MYSTIC RIVER GREEN LINE STOP
HILLSIDE
ARLINGTON
ROUTE 16
SOMERVILLE
HILLSIDE
TUFTS/HILLSIDE GREEN LINE STOP
SOUTH MEDFORD
SOMERVILLE
TUFTS CAMPUS
GREEN LINE CONCEPTUAL PROPOSAL
PREPARED BY:
MEDFORD GREEN LINE
NEIGHBORHOOD ALLIANCE
TITLE: PROPOSED OVERALL PLAN
SCALE: 1"=500'-0"
DRAWING
1

An important final point: this proposal is a draft. MGNA fully understands that our recommendations will be just one component considered once an extensive design process begins. This proposal will evolve as more information becomes available and more input is attained from city officials, neighborhood residents, abutters, businesses and the MBTA. We welcome and encourage this input.

MGNA believes in bringing the Green Line as far as possible into Medford so that it benefits the maximum number of people without compromising the character of our neighborhoods. We believe the system envisioned by this proposal strikes that delicate balance.

Medford Green Line Neighborhood Alliance

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October 2006

A. Introduction

The Green Line extension to Medford represents a once-in-a-generation opportunity for Medford residents to gain a major piece of transportation infrastructure. If executed properly, the Green Line would provide thousands of Medford residents with an environmentally friendly alternative to automobile use; provide better access to Somerville, Cambridge, Boston and beyond; raise property values; and make Medford overall a better place to live, work and visit.

However, as Medford residents, we cannot passively wait for the MBTA, the state's Executive Office of Transportation or any other group to present us with a finished design for the Green Line extension. We must get ahead of the process and decide for ourselves what we want the extension to be. This raises important questions, particularly on where stations should be located, how they should look and what their impact should be on surrounding neighborhoods.

The Green Line project is just at the beginning of a multi-year planning process. It is still early enough in the process for local residents to have a significant effect on major project decisions. For a summary of the MBTA's planning process to date, please refer to Section C of this study.

B. Why Do We Need the Green Line to Medford?

The question is vital, and it deserves a thorough answer. According to the MBTA's 2005 *Beyond Lechmere Northwest Corridor Study*, the purpose of the extension is:

> "to develop the most appropriate transit strategy for improving mobility and regional access for residents in the Northwest Corridor communities of Cambridge, Somerville and Medford. Traffic congestion, mode transfer and service delays hamper access from the study area to Downtown Boston and to employment and services from the study area."

In addition, the MBTA's study mentions five specific factors that create the need for transportation improvement. They are:

- enhanced transit access and citizen mobility
- increased transit capacity
- improved air quality
- implementation of sustainable development goals (Smart Growth)
- service to Environmental Justice target communities

It is clear from the MBTA's study that Medford's traffic woes are part of a larger regional problem that requires a regional solution. Looking at the study's demographics, which were derived from the 2000 census, a few key Medford commuting facts are noteworthy:

- 25% of Medford's resident labor force works in Boston
- 11% of Medford's resident labor force works in Cambridge
- 6% of Medford's resident labor force works in Somerville
- 17% of Medford's resident labor force works in Medford

According to the MBTA's study, 58% of Medford residents work within the study area, yet only 20% of Medford residents rely on public transit to get to work. Because a whopping 62% of Medford residents now rely on the automobile for commuting trips, the city's potential for Green Line

ridership is enormous. Extending the Green Line to Medford will give residents an alternative to driving and actually take cars *off* of our streets. Existing modes of transit are *not* doing the job. Traffic and congestion prevent buses from operating on schedule, reducing their reliability and thus demand. In fact, according to the MBTA, only *one* of the 15 bus lines that run in the study area currently meets the MBTA's own performance requirements. Commuter rail service from West Medford to Boston is too infrequent – other than during peak weekday hours – to make it convenient for many riders, and it also does not service Somerville or Cambridge, as the Green Line would. The solution is to get people out of their cars and into rapid transit trains. The Green Line extension would do exactly that.

Environmental Justice is another important factor in the Green Line project. The MBTA's 2005 study focuses on improving the environment in underserved communities, specifically minority and low-income communities, by providing access to higher-quality transportation and job opportunities. Medford's diverse demographics and population density along the Green Line corridor means the Green Line extension would have a significant, positive effect on the quality of life of many Medford residents.

C. Existing Process to Date

The origin of the Green Line extension project came in the early 1990s when a series of legal commitments were made by state policy makers to improve the regional transit system as mitigation for the Central Artery project commonly known as the Big Dig. This was the result of a lawsuit brought by the Conservation Law Foundation. One of these mitigation commitments was extending the Green Line through Somerville to Medford by 2011.

In 2004, the MBTA created an Advisory Committee made up of appointed citizens from Medford, Somerville and Cambridge to advise the MBTA on the planning process and establish the study area for a Green Line Extension. In late 2004, the MBTA released a publication titled *Beyond Lechmere Northwest Corridor Major Improvement Study/Alternatives Analysis* "to define the most appropriate transit investment strategy for improving mobility and regional access for residents in the northwest corridor communities of Cambridge, Somerville and Medford." After studying all possible modes of transit and ridership, traffic mitigation, pollution reduction, construction costs and costs per rider, the MBTA concluded that a Green Line extension through Somerville to Medford would have the greatest overall positive impact on the region's transportation system.

In May 2005, the MBTA and the Commonwealth of Massachusetts announced their endorsement of enhancing Green Line access through Somerville to West Medford with a spur line in Somerville to Union Square. The announcement, replete with front-page newspaper graphics showing possible station locations in Medford, caught many people in the community by surprise and sparked wild speculation about the project's detrimental effects to local neighborhoods. The MBTA proposal siting Medford stations on College Avenue and Winthrop Street and in West Medford was written without first getting input from the community at large or discussing any potential problems that the stations could create. This error was the source of much of the criticism the project initially received in Medford.

In August 2005, the MBTA officially issued its Draft *Beyond Lechmere Northwest Corridor Study*.

Subsequently, the Boston Metropolitan Planning Organization announced its support for enhancing the Green Line, but it proposed pushing the target completion date out to 2014 in order to address the many complex issues related to the project. This timeframe was based on an aggressive but realistic schedule for the planning, design and construction of the extension.

Since December 2005, the Green Line Extension project has been under review by the state Department of Environmental Protection. The project requires approval by the Department of Environmental Protection (DEP), the federal Environmental Protection Agency (EPA) and again by the Boston Metropolitan Planning Organization. Following approval, a detailed planning process would begin with the drafting of an environmental impact statement/report, which would take approximately 18 months to complete. It would be the responsibility of a consortium of state and federal agencies and legislators to take part in the planning process and to obtain funding for an eventual extension of the Green Line.

Clearly several years of planning, environmental review and engineering will pass before anything is built. Now is the time to get involved as a community and determine what we want to get out of the Green Line extension project.

D. Project Assumptions and Objectives

In analyzing possible station sites, we have used the MBTA's 2005 *Beyond Lechmere Northwest Corridor Study* as our foundation document. The entire planning document is available online at www.mbta.com/projects_underway/beyond_lechmere_planning. Several of the figures from the study are attached as an appendix to this document. We have adopted the basic assumptions of the 2005 MBTA proposal. They are that:

- The Green Line will be extended through Somerville to Medford
- The Green Line will run within the existing Lowell Line Commuter Rail right-of-way (the existing right-of-way appears to be wide enough to fit two additional tracks for the Green Line without takings of land or property - to be confirmed by the MBTA).
- The existing Lowell Line Commuter Rail tracks will be shifted to the north side of the right-of way (Wild Oats side), while the new Green Line tracks and stations will be placed on the south side of the right-of-way (Boston Avenue/Tufts University Main Campus side).

We have *not* considered the 2005 study's proposed Green Line stations on College Avenue and Winthrop Street and in West Medford as foregone conclusions. Instead we have attempted to evaluate them in line with a set of objectives that we believe any proposal extending the Green Line must meet. The objectives are as follows.

- Provide the maximum number of residents with convenient access to the Green Line without the need of a car.
- Accessibility: all new Green Line stations must be fully compliant with the Federal Americans with Disabilities Act (ADA) and Mass. Architectural Access Board (MAAB).
- Respect the character and scale of the surrounding community neighborhoods.
- Feature stations that are pedestrian- and neighborhood-oriented, not car-oriented.
- Provide well-designed and convenient connections to existing bus routes at all stations.
- Connect both sides of any Green Line station with its surrounding neighborhood.

- Create safe, welcoming transportation environments with high-quality station design.
- Connect all stations to existing and planned pedestrian and bike paths.
- Exclude the construction of any parking garage.
- Do no harm. Existing traffic and parking issues must be dealt with and not made worse.
- Take *no* Medford residence or business by eminent domain.
- If new development occurs near the stations, it must be Transit-Oriented Development in line with Massachusetts Smart Growth polices.

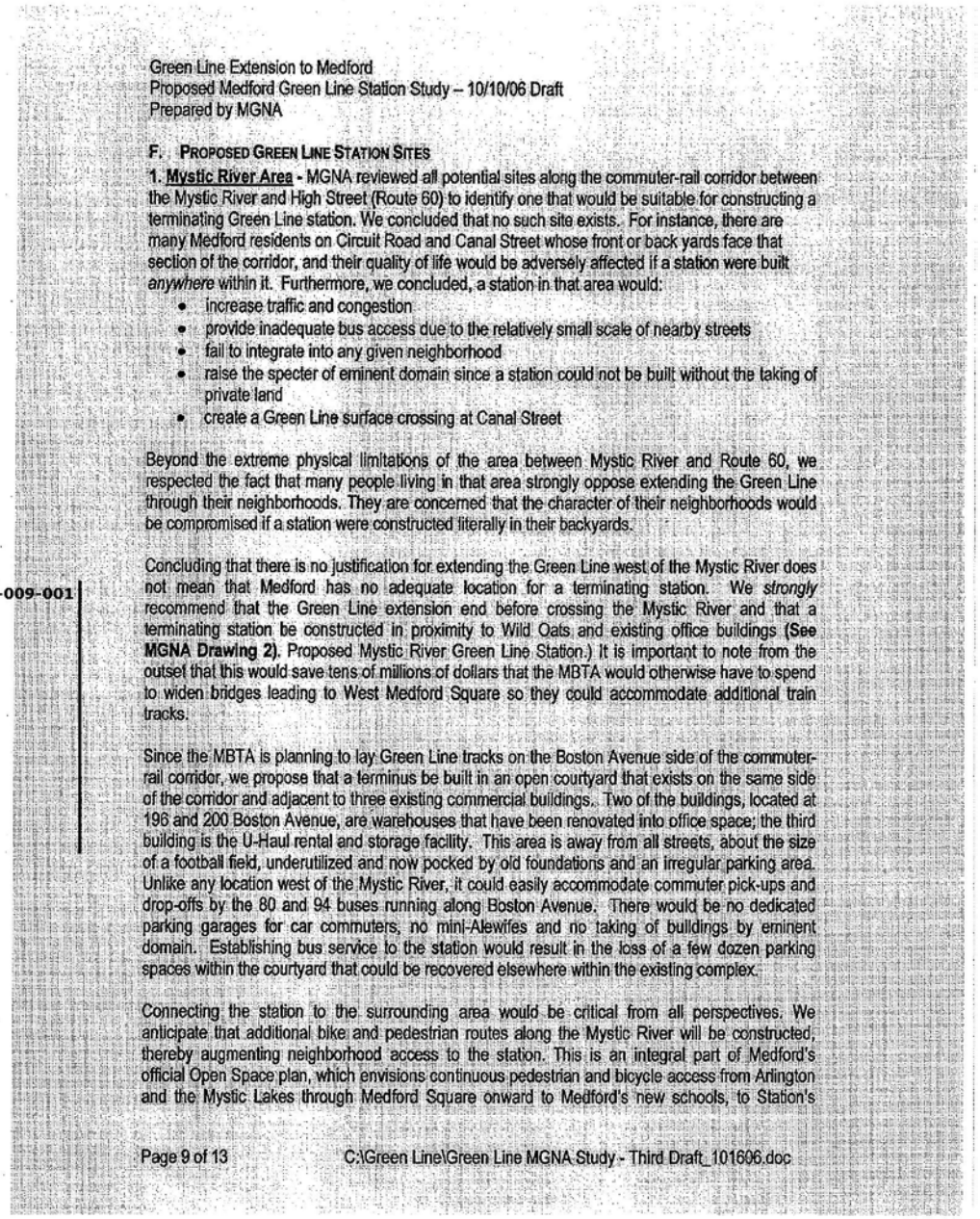
Using these guidelines, we now consider the Green Line extension to Medford. To begin we offer a brief discussion of parking and traffic.

E. PARKING AND TRAFFIC

The MBTA has a history of adhering to citizen demands that no parking structures be erected at neighborhood train stations. When the MBTA decided to extend the Red Line to Porter Square, Davis Square and Alewife in the early 1980s, a large parking garage and high-rise office building were proposed for the heart of Davis Square. Residents vehemently opposed this, believing the structures would wreak havoc in their neighborhood and worsen their own traffic and parking problems. They did not want to become a car-commuter destination. The garage and office tower ideas were ultimately rejected and replaced with a senior housing development, and Davis Square is better for it. The lesson learned from this is that if the community gets involved and makes its wishes heard, a better project will result. The people in Davis Square who opposed parking garages and more traffic did not kill the entire project but guided it in a direction that would mitigate problems and improve their overall quality of life. Medford needs to do the same.

Today our city's parking and traffic problems are acute, and they should be of central concern to any planning process. That is certainly the case here. One of the primary rationales for extending the Green Line to Medford is that it would help improve the city's parking and traffic problems by offering residents an affordable alternative to automobile use. Properly executed, the extension would be the only local transportation project in a generation that has been designed specifically to take cars *off* of Medford's roads. We fully recognize that some Medford residents are opposed or neutral to the Green Line for fear that it would exacerbate parking and traffic problems. However, good site selection and station design can bring the Green Line deep into Medford without that ill result. We therefore support construction of pedestrian-oriented Green Line stations - not stations with garages that would serve as automobile magnets.

Some may argue that, even without garages, the Green Line extension would add to Medford's problems by encouraging people to drive to Medford from surrounding communities and park illegally on the street to gain access to the train. The issue of illegal commuter parking already exists in portions of Medford. If the Green Line were to be extended to Medford, the problem could worsen, but only if the city's ineffective parking rules and lax enforcement were to remain unchanged. The solution to this is not to reject the Green Line; it is to fix the existing problem *now* with a long-overdue parking enforcement system across the city. Simply put, people will not park their cars illegally in Medford if they are ticketed daily.



Green Line Extension to Medford
Proposed Medford Green Line Station Study – 10/10/06 Draft
Prepared by MGNA

F. PROPOSED GREEN LINE STATION SITES

1. **Mystic River Area** - MGNA reviewed all potential sites along the commuter-rail corridor between the Mystic River and High Street (Route 60) to identify one that would be suitable for constructing a terminating Green Line station. We concluded that no such site exists. For instance, there are many Medford residents on Circuit Road and Canal Street whose front or back yards face that section of the corridor, and their quality of life would be adversely affected if a station were built *anywhere* within it. Furthermore, we concluded, a station in that area would:

- increase traffic and congestion
- provide inadequate bus access due to the relatively small scale of nearby streets
- fail to integrate into any given neighborhood
- raise the specter of eminent domain since a station could not be built without the taking of private land
- create a Green Line surface crossing at Canal Street

Beyond the extreme physical limitations of the area between Mystic River and Route 60, we respected the fact that many people living in that area strongly oppose extending the Green Line through their neighborhoods. They are concerned that the character of their neighborhoods would be compromised if a station were constructed literally in their backyards.

C-009-001

Concluding that there is no justification for extending the Green Line west of the Mystic River does not mean that Medford has no adequate location for a terminating station. We *strongly* recommend that the Green Line extension end before crossing the Mystic River and that a terminating station be constructed in proximity to Wild Oats and existing office buildings **(See MGNA Drawing 2).** Proposed Mystic River Green Line Station.) It is important to note from the outset that this would save tens of millions of dollars that the MBTA would otherwise have to spend to widen bridges leading to West Medford Square so they could accommodate additional train tracks.

Since the MBTA is planning to lay Green Line tracks on the Boston Avenue side of the commuter-rail corridor, we propose that a terminus be built in an open courtyard that exists on the same side of the corridor and adjacent to three existing commercial buildings. Two of the buildings, located at 196 and 200 Boston Avenue, are warehouses that have been renovated into office space; the third building is the U-Haul rental and storage facility. This area is away from all streets, about the size of a football field, underutilized and now pocked by old foundations and an irregular parking area. Unlike any location west of the Mystic River, it could easily accommodate commuter pick-ups and drop-offs by the 80 and 94 buses running along Boston Avenue. There would be no dedicated parking garages for car commuters, no mini-Alewifes and no taking of buildings by eminent domain. Establishing bus service to the station would result in the loss of a few dozen parking spaces within the courtyard that could be recovered elsewhere within the existing complex.

Connecting the station to the surrounding area would be critical from all perspectives. We anticipate that additional bike and pedestrian routes along the Mystic River will be constructed, thereby augmenting neighborhood access to the station. This is an integral part of Medford's official Open Space plan, which envisions continuous pedestrian and bicycle access from Arlington and the Mystic Lakes through Medford Square onward to Medford's new schools, to Station's

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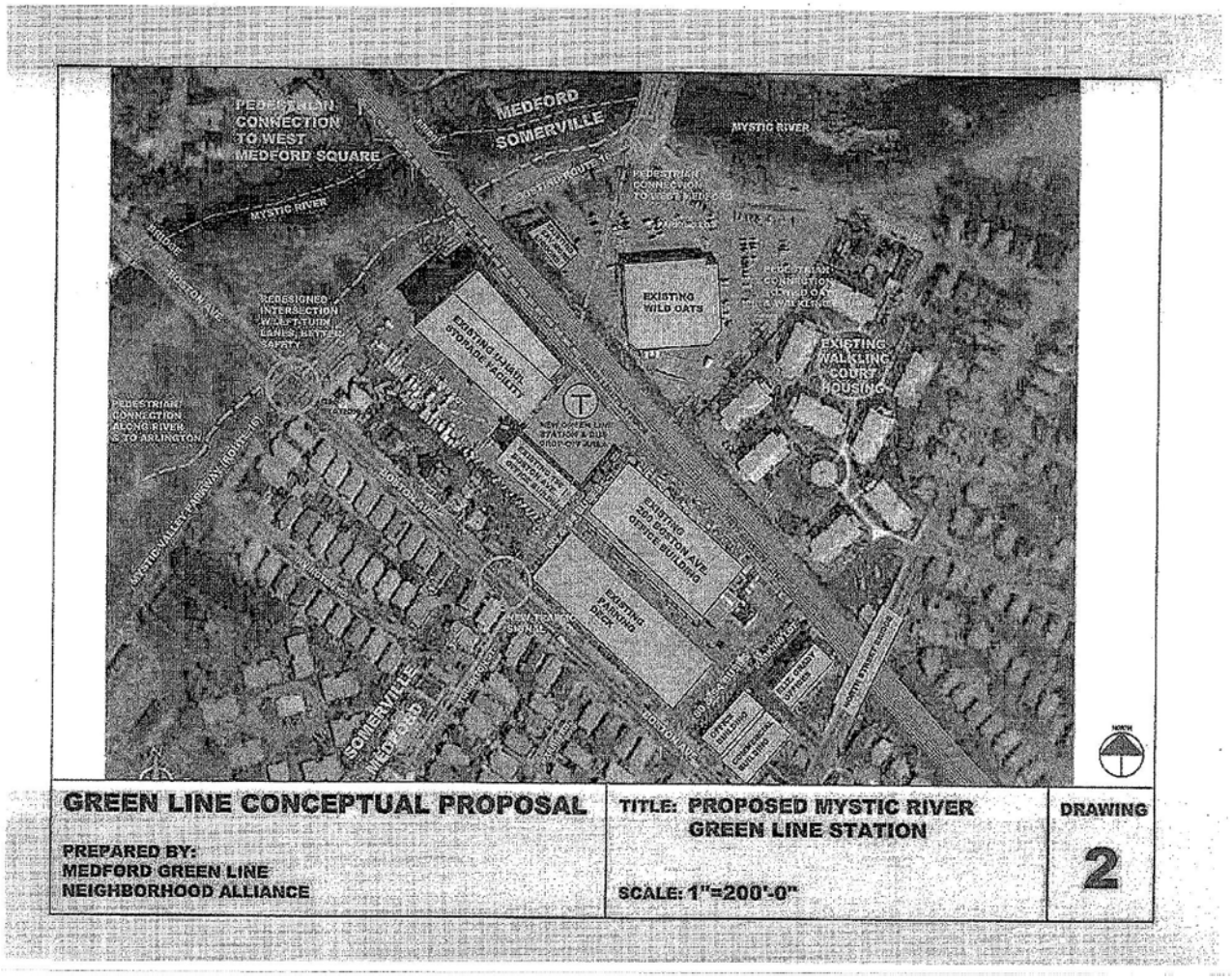
C-009-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.


PEDESTRIAN CONNECTION TO WEST MEDFORD SQUARE
MEDFORD
SOMERVILLE
MYSTIC RIVER
MYSTIC RIVER
EXISTING WILD OATS
EXISTING WALKING COURT HOUSING
REDESIGNED INTERSECTION W/ LEFT-TURN LANES, BETTER SAFETY
PEDESTRIAN CONNECTION ALONG RIVER TO ARLINGTON
EXISTING 360 BOSTON AVE OFFICE BUILDING
EXISTING PARKING DECK
SOMERVILLE
MEDFORD
GREEN LINE CONCEPTUAL PROPOSAL
PREPARED BY:
MEDFORD GREEN LINE
NEIGHBORHOOD ALLIANCE
TITLE: PROPOSED MYSTIC RIVER GREEN LINE STATION
SCALE: 1"=200'-0"
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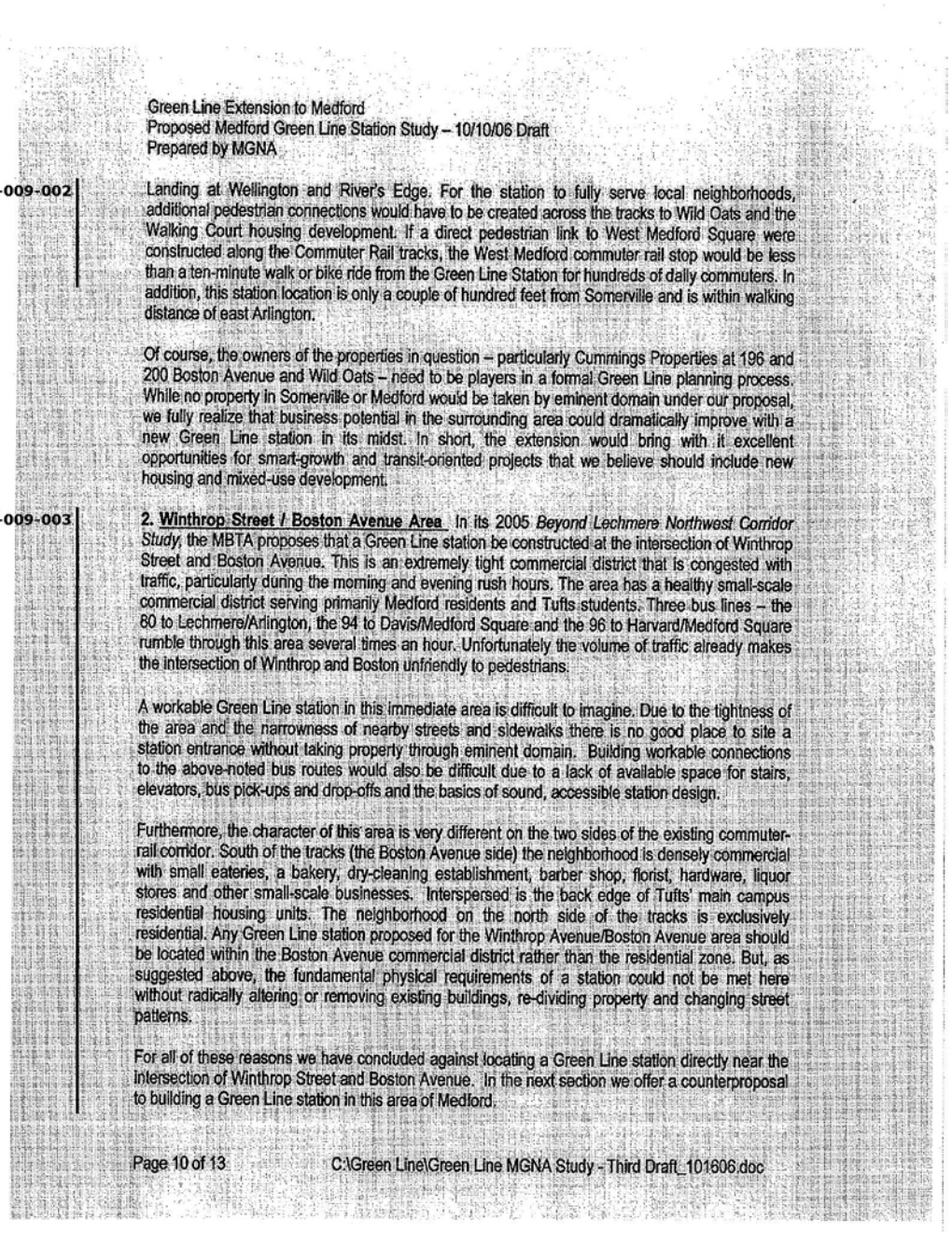

Green Line Extension to Medford
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Prepared by MGNA

C-009-002

Landing at Wellington and River's Edge. For the station to fully serve local neighborhoods, additional pedestrian connections would have to be created across the tracks to Wild Oats and the Walking Court housing development. If a direct pedestrian link to West Medford Square were constructed along the Commuter Rail tracks, the West Medford commuter rail stop would be less than a ten-minute walk or bike ride from the Green Line Station for hundreds of daily commuters. In addition, this station location is only a couple of hundred feet from Somerville and is within walking distance of east Arlington.

Of course, the owners of the properties in question – particularly Cummings Properties at 196 and 200 Boston Avenue and Wild Oats – need to be players in a formal Green Line planning process. While no property in Somerville or Medford would be taken by eminent domain under our proposal, we fully realize that business potential in the surrounding area could dramatically improve with a new Green Line station in its midst. In short, the extension would bring with it excellent opportunities for smart-growth and transit-oriented projects that we believe should include new housing and mixed-use development.

C-009-003

2. Winthrop Street / Boston Avenue Area In its 2005 *Beyond Lechmere Northwest Corridor Study*, the MBTA proposes that a Green Line station be constructed at the intersection of Winthrop Street and Boston Avenue. This is an extremely tight commercial district that is congested with traffic, particularly during the morning and evening rush hours. The area has a healthy small-scale commercial district serving primarily Medford residents and Tufts students. Three bus lines – the 80 to Lechmere/Arlington, the 94 to Davis/Medford Square and the 96 to Harvard/Medford Square rumble through this area several times an hour. Unfortunately the volume of traffic already makes the intersection of Winthrop and Boston unfriendly to pedestrians.

A workable Green Line station in this immediate area is difficult to imagine. Due to the tightness of the area and the narrowness of nearby streets and sidewalks there is no good place to site a station entrance without taking property through eminent domain. Building workable connections to the above-noted bus routes would also be difficult due to a lack of available space for stairs, elevators, bus pick-ups and drop-offs and the basics of sound, accessible station design.

Furthermore, the character of this area is very different on the two sides of the existing commuter-rail corridor. South of the tracks (the Boston Avenue side) the neighborhood is densely commercial with small eateries, a bakery, dry-cleaning establishment, barber shop, florist, hardware, liquor stores and other small-scale businesses. Interspersed is the back edge of Tufts' main campus residential housing units. The neighborhood on the north side of the tracks is exclusively residential. Any Green Line station proposed for the Winthrop Avenue/Boston Avenue area should be located within the Boston Avenue commercial district rather than the residential zone. But, as suggested above, the fundamental physical requirements of a station could not be met here without radically altering or removing existing buildings, re-dividing property and changing street patterns.

For all of these reasons we have concluded against locating a Green Line station directly near the intersection of Winthrop Street and Boston Avenue. In the next section we offer a counterproposal to building a Green Line station in this area of Medford.

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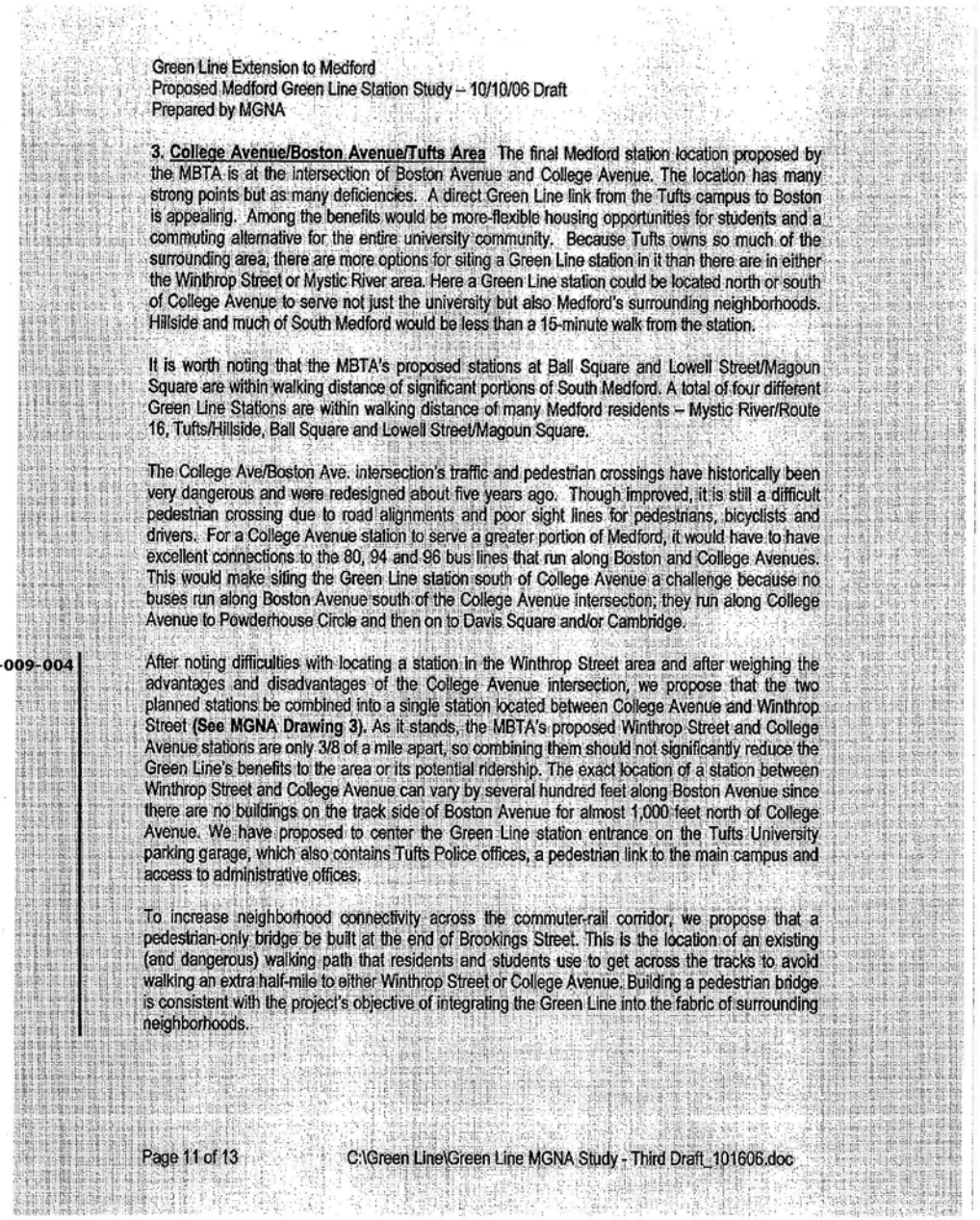
C-009-002

The Mystic Valley Parkway/Route 16 Station has been designed to be fully accessible and to serve the local neighborhoods. Bicycle accommodations will be provided and pedestrian improvements in and around the area are being recommended. Pedestrian connections from the east side of the railroad tracks (from the former Wild Oats/now Whole Foods side and the Walking Court housing development) will be made from existing sidewalks along Mystic Valley Parkway/Route 16. It is cost-prohibitive to the project at this time to construct a pedestrian tunnel under the railroad for direct access to the station from the east. Additionally, it is cost-prohibitive at this time to construct a pedestrian bridge over the Mystic River to directly connect West Medford with the Mystic Valley Parkway/Route 16 Station. More details on the station and on the traffic and pedestrian improvements can be found in Section 3.7.3, *Stations* and in Section 5.5, *Traffic* of the DEIR/EA.

C-009-003

As detailed in Section 3.3.1, *Stations* and in Appendix B of the DEIR/EA, the intersection of Winthrop Street and Boston Avenue is no longer a proposed station location for the Green Line Extension Project.



Green Line Extension to Medford
Proposed Medford Green Line Station Study – 10/10/06 Draft
Prepared by MGNA

3. **College Avenue/Boston Avenue/Tufts Area** The final Medford station location proposed by the MBTA is at the intersection of Boston Avenue and College Avenue. The location has many strong points but as many deficiencies. A direct Green Line link from the Tufts campus to Boston is appealing. Among the benefits would be more-flexible housing opportunities for students and a commuting alternative for the entire university community. Because Tufts owns so much of the surrounding area, there are more options for siting a Green Line station in it than there are in either the Winthrop Street or Mystic River area. Here a Green Line station could be located north or south of College Avenue to serve not just the university but also Medford's surrounding neighborhoods. Hillside and much of South Medford would be less than a 15-minute walk from the station.

It is worth noting that the MBTA's proposed stations at Ball Square and Lowell Street/Magoun Square are within walking distance of significant portions of South Medford. A total of four different Green Line Stations are within walking distance of many Medford residents – Mystic River/Route 16, Tufts/Hillside, Ball Square and Lowell Street/Magoun Square.

The College Ave/Boston Ave. intersection's traffic and pedestrian crossings have historically been very dangerous and were redesigned about five years ago. Though improved, it is still a difficult pedestrian crossing due to road alignments and poor sight lines for pedestrians, bicyclists and drivers. For a College Avenue station to serve a greater portion of Medford, it would have to have excellent connections to the 80, 94 and 96 bus lines that run along Boston and College Avenues. This would make siting the Green Line station south of College Avenue a challenge because no buses run along Boston Avenue south of the College Avenue intersection; they run along College Avenue to Powderhouse Circle and then on to Davis Square and/or Cambridge.

C-009-004

After noting difficulties with locating a station in the Winthrop Street area and after weighing the advantages and disadvantages of the College Avenue intersection, we propose that the two planned stations be combined into a single station located between College Avenue and Winthrop Street **(See MGNA Drawing 3).** As it stands, the MBTA's proposed Winthrop Street and College Avenue stations are only 3/8 of a mile apart, so combining them should not significantly reduce the Green Line's benefits to the area or its potential ridership. The exact location of a station between Winthrop Street and College Avenue can vary by several hundred feet along Boston Avenue since there are no buildings on the track side of Boston Avenue for almost 1,000 feet north of College Avenue. We have proposed to center the Green Line station entrance on the Tufts University parking garage, which also contains Tufts Police offices, a pedestrian link to the main campus and access to administrative offices.

To increase neighborhood connectivity across the commuter-rail corridor, we propose that a pedestrian-only bridge be built at the end of Brookings Street. This is the location of an existing (and dangerous) walking path that residents and students use to get across the tracks to avoid walking an extra half-mile to either Winthrop Street or College Avenue. Building a pedestrian bridge is consistent with the project's objective of integrating the Green Line into the fabric of surrounding neighborhoods.

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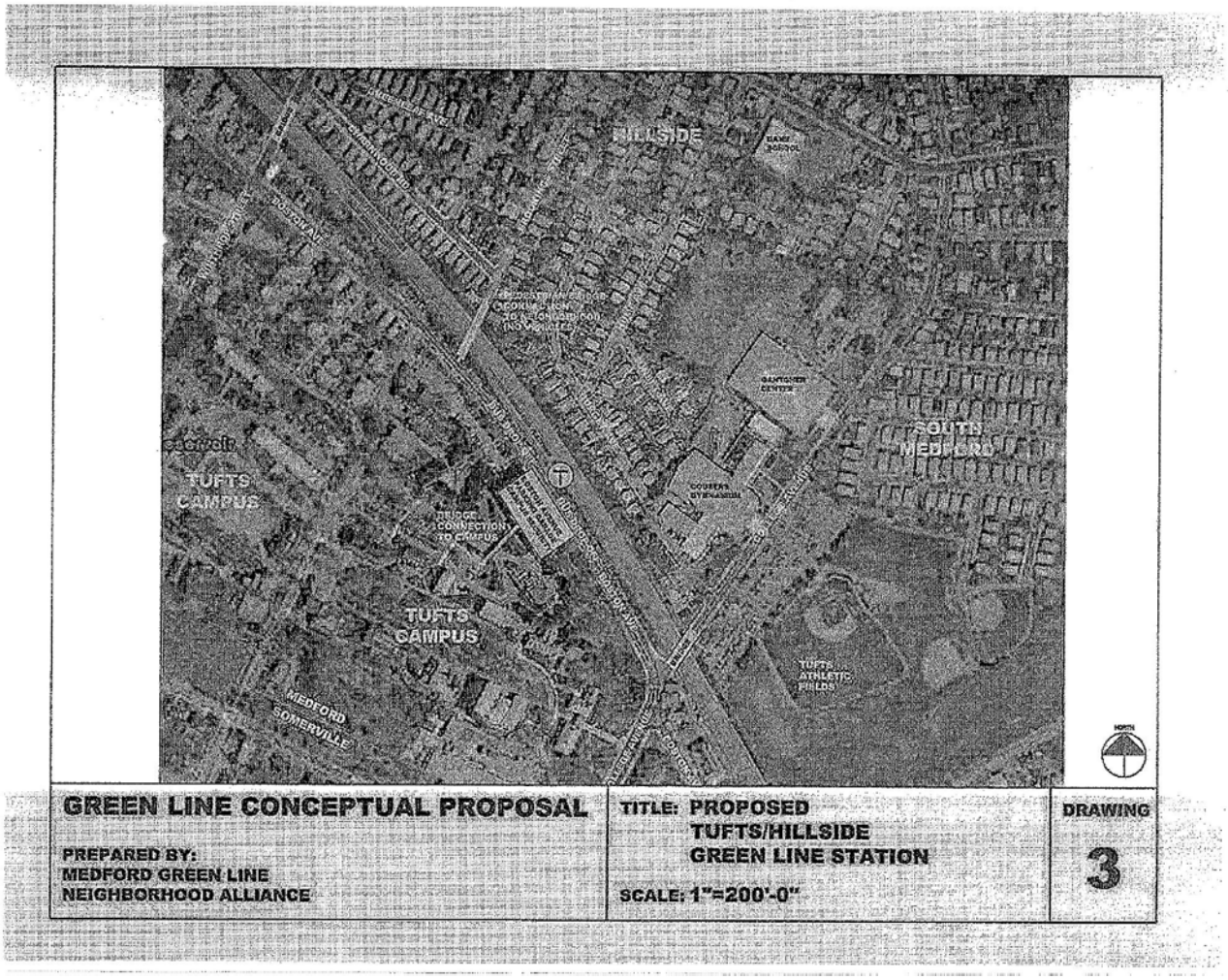
C-009-004

As required by the Secretary's Certificate on the EENF, a combined station location between Winthrop Street and College Avenue was evaluated as part of the DEIR/EA. As described in Section 3.3.1, *Stations* and in Appendix B of the DEIR/EA, locating a station between Winthrop Street and College Avenue is no longer a consideration for the Green Line Extension Project. Rather, a single station at College Avenue has been recommended and is described in more detail in Section 3.7.3, *Stations* of the DEIR/EA.

To minimize pedestrian crossings of the tracks within the vicinity of Brookings Street, a noise barrier will be constructed along the railroad right-of-way, which will prevent unsafe crossings of the tracks in this area. Additionally, an inter-track fence will also be installed between the commuter rail tracks and the proposed Green Line tracks to further prevent pedestrians from crossing the right-of-way. A pedestrian bridge is not proposed at this location as part of the Green Line Extension.


HILLSIDE
TUFTS CAMPUS
BRIDGE CONNECTION TO CAMPUS
TUFTS CAMPUS
SOUTH MEDFORD
TUFTS ATHLETIC FIELDS
MEDFORD
SOMERVILLE
GREEN LINE CONCEPTUAL PROPOSAL
PREPARED BY:
MEDFORD GREEN LINE
NEIGHBORHOOD ALLIANCE
TITLE: PROPOSED
TUFTS/HILLSIDE
GREEN LINE STATION
SCALE: 1"=200'-0"
DRAWING
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G. Conclusion and Next Steps

This document is a draft proposal. It is intended to define and respond to important community issues that have arisen since the Green Line extension through Somerville to Medford was proposed. We believe it satisfactorily addresses community concerns that have arisen in the past year and illustrates ways in which the Green Line could be extended into Medford to serve the greatest number of people in the most productive manner.

We fully understand that the proposal is one component of what will be a long design process. It could evolve as more information becomes available and more input is received from city officials, neighborhood residents and the local business and university community – not to mention the MBTA and state agencies. We welcome and encourage this input. An electronic version of this document can be found at **http://medfordgreenline.org/docs/stationstudy** There is a place on the site for comments on the plan. Any plan can be improved with constructive criticism.

There is still much planning to be done at the MBTA, state and federal levels. We strongly urge the City of Medford to begin to address the Green Line extension and the issues it involves in a proactive manner. We also encourage the mayor to appoint a Green Line committee as soon as possible and with representation from all neighborhoods, businesses, abutters and interested parties.

In closing, we of MGNA would like to reiterate our belief that the Green Line extension to Medford represents a historic opportunity to improve our city's infrastructure without sacrificing anyone's quality of life. Indeed that quality of life would be improved by a well-planned system that would serve thousands of Medford residents, reduce automobile use and offer people an efficient and environmentally friendly mode of transportation.

Thank you for taking the time to read this proposal.

Medford Green Line Neighborhood Alliance

APPENDIX

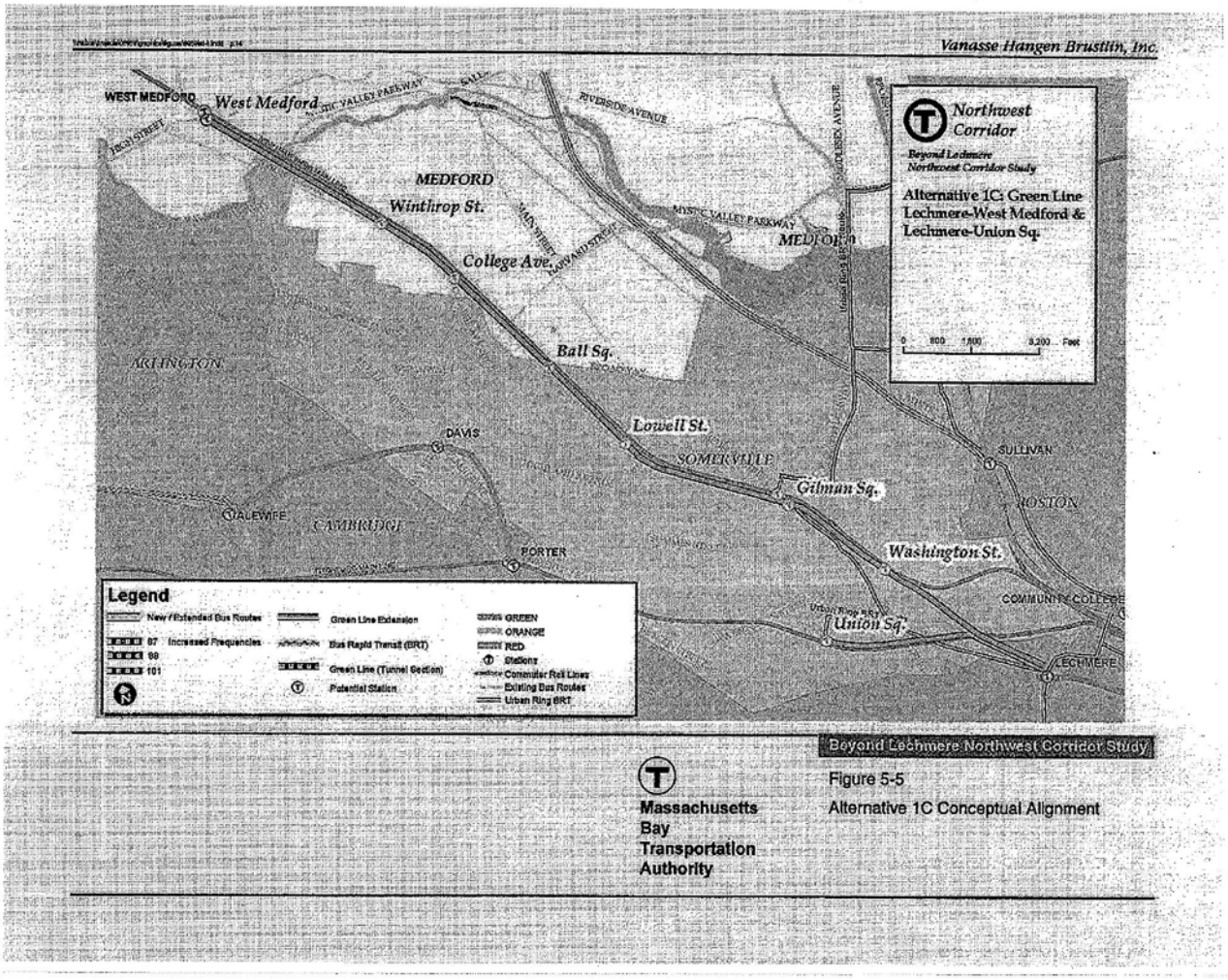
The following are selected drawings and diagrams from the MBTA's 2005 *Beyond Lechmere Northwest Corridor Study.*

- **Figure 5-5 – Alternative 1-C Conceptual Alignment.** MGNA Notes: This plan diagram shows the MBTA's original design for extending the Green Line along the existing Commuter Rail right-of-way through Somerville to Medford, with Medford stations at College Avenue, Winthrop Street and West Medford. MGNA proposes different Green Line station locations in Medford.

- **Figure 5-2 – Typical Section: Proposed LRT with Commuter Rail.** MGNA Notes: The new Green Line tracks are on the left-hand side of the diagram (Boston Avenue side) while the relocated Commuter Rail tracks are on the right side (the Wild Oats side), separated by a 2-feet thick concrete wall. This section diagram applies throughout the length of the Green Line Extension except where the Green Line stations are located.

- **Figure 5-3 – Typical LRT Station Plan and Elevation.** MGNA Notes: As you can see the dimensional requirement at a station is wider than the typical right-of-way width because the station platform is in-between the tracks. The diagram calls for a lengthy ramp to access the platform for a pedestrian cross-over. We strongly endorse the use of an elevator to a lengthy ramp system.

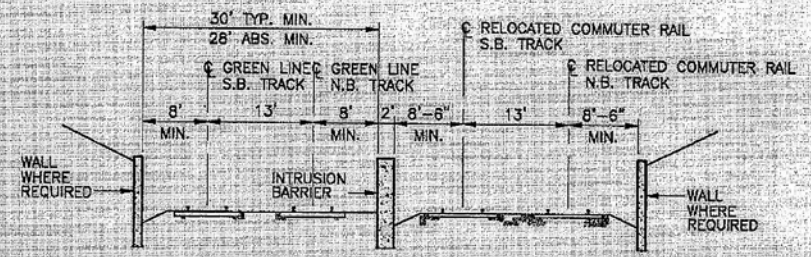
- **Figure 5-4 – Typical LRT Station Section.** MGNA Notes: This diagram is a companion to Figure 5-3 showing in more detail the configuration of the Green Line platform in relation to the Commuter Rail tracks that pass by unchanged. It is also worth comparing this figure to Figure 5-2, which shows the same configuration at a typical non-station section of the track.



Massachusetts Bay Transportation Authority

Figure 5-5
Alternative 1C Conceptual Alignment

Vanasse Hangen Brustlin, Inc.

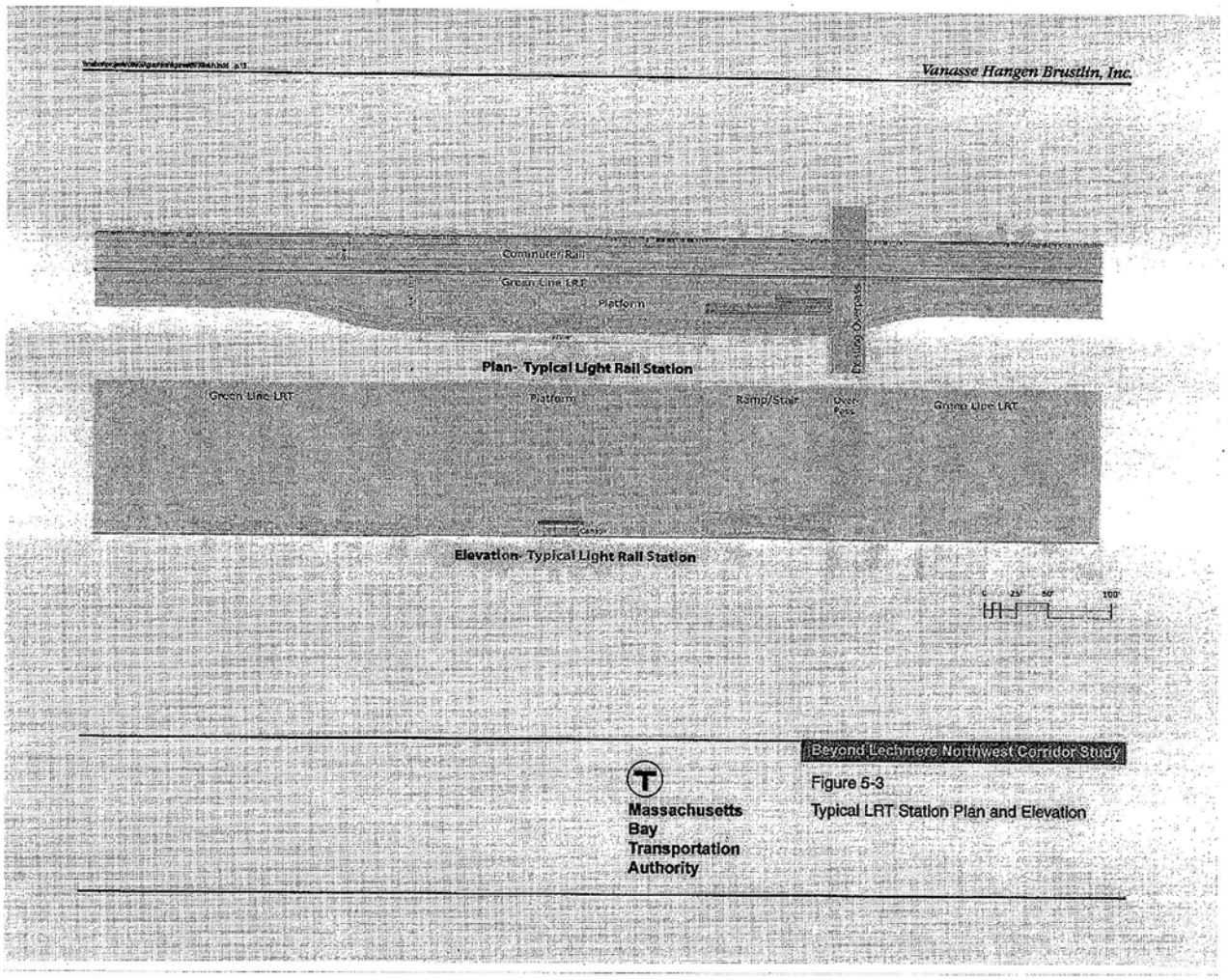


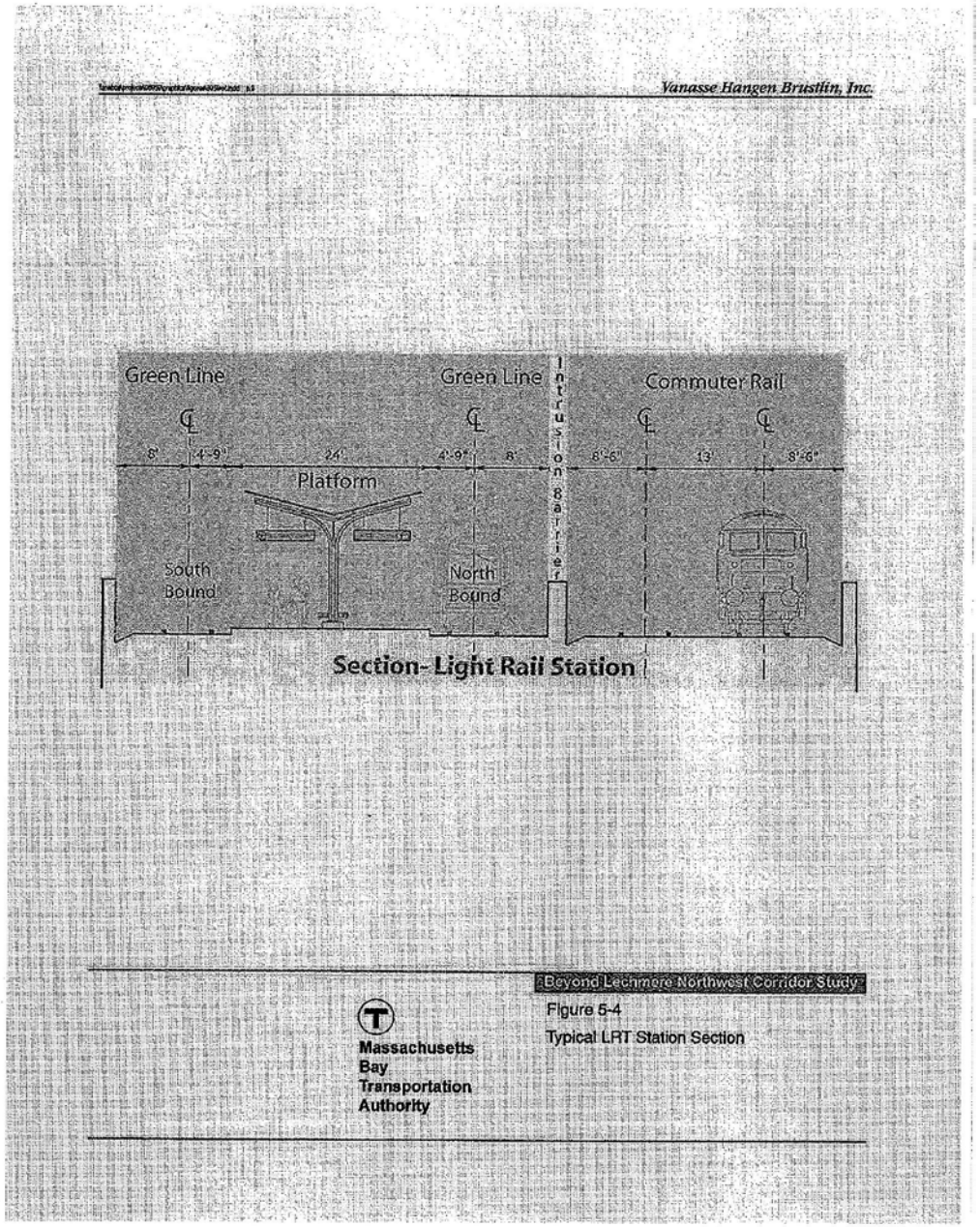
Beyond Lechmere Northwest Corridor Study

Figure 5-2

Typical Section: Proposed LRT with Commuter Rail

Massachusetts Bay Transportation Authority


Vanasse Hangen Brustlin, Inc.
Commuter Rail
Green Line LRT
Platform
Existing Overpass
Plan- Typical Light Rail Station
Green Line LRT
Platform
Ramp/Stair
Over-Pass
Green Line LRT
Elevation- Typical Light Rail Station
0
25'
50'
100'
Beyond Lechmere Northwest Corridor Study
Massachusetts Bay Transportation Authority
Figure 5-3
Typical LRT Station Plan and Elevation


Vanasse Hangen Brustlin, Inc.
Green Line
Green Line
Commuter Rail
Platform
South Bound
North Bound
Section- Light Rail Station
Beyond Lechmere Northwest Corridor Study
Figure 5-4
Typical LRT Station Section
Massachusetts Bay Transportation Authority

#13886 DB

TUFTS UNIVERSITY

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NOV 27 2006
MEPA

Office of the President

November 22, 2006

Mr. John Cogliano
Secretary of Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
Attn: MEPA Office

RE: Green Line Extension

Dear Secretary Cogliano:

On behalf of Tufts University, I want to thank you for the opportunity to comment on the Green Line Extension Project ("Project") which is an important link to improved public transportation services and air quality in the communities of Medford and Somerville. I have previously written to express the support of Tufts University for the Project.

I write to bring to your attention several concerns that arose with the publication of the Expanded Environmental Notification Form (EENF).

Draft Environmental Impact Report and Final Environmental Impact Report

C-010-001

At the scoping sessions held in Somerville and Medford, a number of residents and officials requested that a process for a Draft Environmental Impact Report (DEIR) and a Final Environmental Impact Report (FEIR) be adopted. I support that request and urge you to incorporate both EIRs into your decision. Establishing a thorough EIR process will further a more in-depth examination of the many aspects of the project, allowing for consideration of alternatives, more public involvement and should result in a Project that is more responsive and effective.

College Avenue Station

C-010-002

The EENF recommends a station, and possibly the terminus, at the intersection of Boston and College Avenues. I share the concerns expressed by Mayor McGlynn in locating a station at this site. While I support the prospect of having rapid public transit serving our community, I would like to see a careful examination of that intersection as it is already very congested with pedestrian and vehicular traffic. There are numerous residents, students, faculty and staff who cross this intersection on foot on a regular basis and I would be concerned about the safety of all pedestrians with the increased traffic flow resulting from a new MBTA station. Placement of a station there requires careful planning and further consideration of traffic management in the intersection.

Medford, Massachusetts 02155
Tel: 617-627-3300
Fax: 617-627-3555
Email: bacow@tufts.edu

C-010-001

Upon submission of the EENF, MEPA reviewed the EOT's request for a Single EIR in accordance with the MEPA regulations and determined that if the DEIR is thorough, that it was likely that the DEIR would be deemed adequate to serve as the FEIR, after public review and comment. In accordance with MEPA regulations Section 11.06(8), this DEIR provides a reasonably complete and stand-alone description and analysis of the project, project alternatives and environmental impacts, and should adequately address mitigation, which would allow the DEIR to be reviewed as a FEIR.

Since the October 2006 EENF, the EOT has hosted numerous public involvement events to receive and respond to public concerns and interests. These public involvement events include Project Advisory Group meetings, public meetings, station workshops and briefings for elected officials, public agencies and neighborhood groups and institutions, as discussed in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

C-010-002

The DEIR/EA includes a detailed traffic and pedestrian analysis in the Project area throughout Medford, Somerville, and Cambridge, including the intersection of Boston Avenue and College Avenue. This analysis and impact assessment for study area intersections can be found in Section 5.5, *Traffic* of the DEIR/EA. Proposed traffic or pedestrian mitigation measures are discussed in detail in Section 5.5.4 of the DEIR/EA.

Mr. John Cogliano
November 22, 2006
Page Two

Traffic and Parking

C-010-003 Boston and College Avenues as well as the side streets leading into them already bear considerable vehicular traffic, especially during morning and evening rush hours. I want to join with our neighbors to request that a thorough traffic and parking study of the proposed extension be conducted as part of the DEIR, generating recommendations for mitigating their impacts on the neighborhood and the campus.

Noise and Vibration

C-010-004 I would also support a closer examination of the issues of noise impacts and their mitigation. I would like to request a vibration study since there are several university buildings adjacent to the tracks that are already negatively affected by the vibration caused by the commuter rail trains.

Extend Study to Route 16

C-010-005 At the conclusion of the "Beyond Lechmere" feasibility phase of the project, it was my understanding that officials were committed to considering the extension of the line to West Medford. There is now considerable consensus for locating the terminus at Route 16, before the Mystic River. This solution has the benefit of saving the considerable expense of crossing the river and sparing fragile environmental areas from negative impacts. While there are many issues that need to be resolved with any terminus site, I strongly urge you to extend the study area to Route 16. I agree with many residents of the impacted neighborhoods that it is important to fully explore the potential of this site.

Finally, I join with Mayors Curtatone and McGlynn in believing that the extension of the Green Line to Somerville and Medford will create an extraordinary opportunity for improved transportation access for thousands of people and have far reaching positive effects. I also share their desire to ensure that the planning for the Project be conducted with a careful consideration of the impacted populations.

I want to thank you for your consideration of the views of Tufts University and look forward to working with you on the successful conclusion of this Project.

Sincerely,

Lawrence S. Bacow
President
Tufts University

Cc: Mayor Joseph Curtatone, City of Somerville
Mayor Michael McGlynn, City of Medford

C-010-003

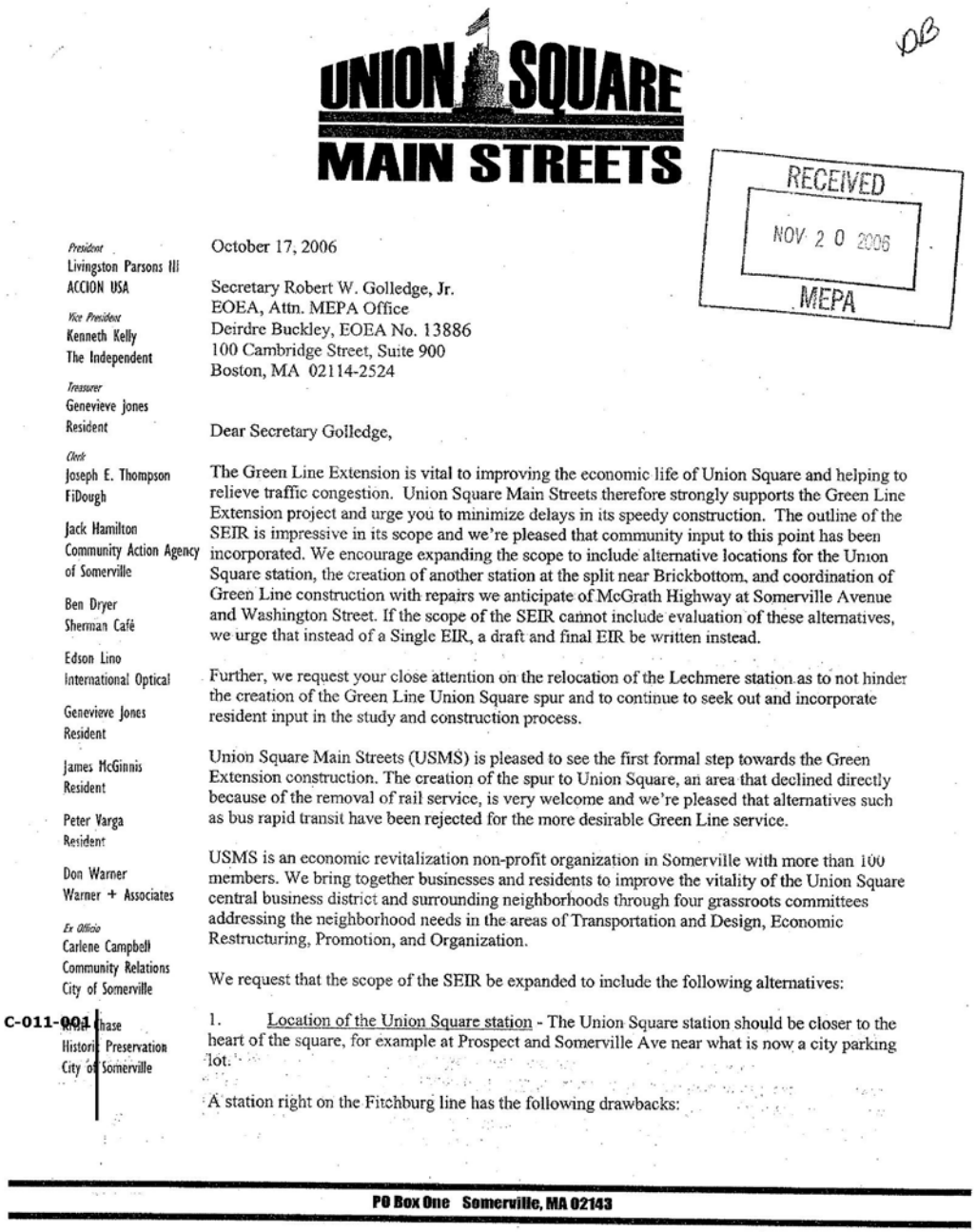
Traffic and parking at each station location were thoroughly evaluated for the Green Line Extension Project and are discussed in Chapter 4 (Affected Environment) Section 4.6, *Traffic* and in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA.

C-010-004

Noise and vibration impact have been thoroughly assessed in accordance with the requirements of the FTA's Noise and Vibration Guidance Manual. Details on the analysis are provided in Chapter 4 (Affected Environment) Sections 4.8, *Noise* and 4.9, *Vibration* of the DEIR/EA and potential mitigation recommendations are presented in Chapter 5 (Environmental Consequences) Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA.

C-010-005

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. The results of the environmental analysis for all alternatives are summarized in Chapter 5 (Environmental Consequences) of the DEIR/EA.



UNION SQUARE MAIN STREETS

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President
Livingston Parsons III
ACCION USA

Vice President
Kenneth Kelly
The Independent

Treasurer
Genevieve Jones
Resident

Clerk
Joseph E. Thompson
FiDough

Jack Hamilton
Community Action Agency
of Somerville

Ben Dryer
Sherman Café

Edson Lino
International Optical

Genevieve Jones
Resident

James McGinnis
Resident

Peter Varga
Resident

Don Warner
Warner + Associates

Ex Officio
Carlene Campbell
Community Relations
City of Somerville

C-011-001 Chase
Historic Preservation
City of Somerville

October 17, 2006

Secretary Robert W. Golledge, Jr.
EOEA, Attn. MEPA Office
Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston, MA 02114-2524

Dear Secretary Golledge,

The Green Line Extension is vital to improving the economic life of Union Square and helping to relieve traffic congestion. Union Square Main Streets therefore strongly supports the Green Line Extension project and urge you to minimize delays in its speedy construction. The outline of the SEIR is impressive in its scope and we're pleased that community input to this point has been incorporated. We encourage expanding the scope to include alternative locations for the Union Square station, the creation of another station at the split near Brickbottom, and coordination of Green Line construction with repairs we anticipate of McGrath Highway at Somerville Avenue and Washington Street. If the scope of the SEIR cannot include evaluation of these alternatives, we urge that instead of a Single EIR, a draft and final EIR be written instead.

Further, we request your close attention on the relocation of the Lechmere station as to not hinder the creation of the Green Line Union Square spur and to continue to seek out and incorporate resident input in the study and construction process.

Union Square Main Streets (USMS) is pleased to see the first formal step towards the Green Extension construction. The creation of the spur to Union Square, an area that declined directly because of the removal of rail service, is very welcome and we're pleased that alternatives such as bus rapid transit have been rejected for the more desirable Green Line service.

USMS is an economic revitalization non-profit organization in Somerville with more than 100 members. We bring together businesses and residents to improve the vitality of the Union Square central business district and surrounding neighborhoods through four grassroots committees addressing the neighborhood needs in the areas of Transportation and Design, Economic Restructuring, Promotion, and Organization.

We request that the scope of the SEIR be expanded to include the following alternatives:

1. Location of the Union Square station - The Union Square station should be closer to the heart of the square, for example at Prospect and Somerville Ave near what is now a city parking lot.

A station right on the Fitchburg line has the following drawbacks:

PO Box One Somerville, MA 02143

C-011-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. The Preferred Alternative for the Union Square spur would operate within the existing Fitchburg commuter rail line right-of-way and would parallel the existing track with the platform located on the north side of the Fitchburg commuter rail line, just east of Prospect Street. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

C-011-001

- 200 yards from Somerville Ave which impedes connecting to Union Square's central business district
- poor accessibility due to barriers created by the elevated bridges and their approaches and the rail right of way itself
- poor integration with major bus routes going to Sullivan, Davis, and Harvard squares that don't travel on Prospect St
- needless disruption of traffic from rebuilding either or both Prospect and Webster bridges

C-011-002

2. Creation of a station near the split of the Union Square and Medford Branches – Placement of a station on the Union Square branch near Somerville Ave and Medford or at Brickbottom would fill a large gap in the northern Green Line. This has a substantial economic justice population that has long been underserved by the T. It is also an area ripe for redevelopment, allowing the T to maximize this area's potential.

C-011-003

3. Evaluate the Msgr. McGrath Hwy between the Fitchburg line and Washington St - The elevated section of this highway is deteriorated and will have to be reconstructed within roughly the same time frame as Green Line construction. Green Line Extension planning therefore must be coordinated with this project. Considering this overpass as part of the project addresses two issues. One, the reconstruction may permit the Union Square branch to go straight up McGrath/O'Brien and then up Somerville Ave to the center of the Square using either a cut-and-cover tunnel, a central reservation or (on Somerville Ave) street-running. Second, the overpass currently poses serious safety and mobility problems. Eliminating or reducing the elevated roadway could resolve these issues and allow better pedestrian access.

We have three concerns we wish MEPA to positively influence.

C-011-004

1. The redesign of Lechmere Station - The alignment of the Green Line at NorthPoint will directly affect the construction of the Green Line Extension, particularly for the alignment for the Union Square branch. We are concerned that there has not been adequate consideration of the coordinated alignment and see that EOT and DEP may need to require NorthPoint developers to take this into account.

C-011-005

2. Include input from citizen advisory committees – Citizens have made valuable contributions to the Green Line Extension planning process. The SEIR should draw on the ideas and local knowledge of those affected, and in fact, Federal and state EJ regulations require such involvement throughout the entire process. Union Square Main Streets would be pleased to contribute to this effort.

C-011-006

3. Minimize and mitigate project delays - USMS is disappointed by the Green Line Extension's 3-year delay until 2014, the latest in a long series of delays for this project. It is important that this delay be absolutely minimized to adhere to the current commitment to operate in 2011. If this commitment cannot be met, then suitable mitigation should be instituted.

Sincerely,

Livingston Parsons
President, Board of Directors

C-011-002

A station in the vicinity of Brickbottom is being proposed for the mainline branch of the Green Line Extension Project. A second station on the Union Square Branch in the vicinity of Medford Street was not found to be warranted based on demand projections in the area. However, should future demand warrant it and funds become available, a second station in this vicinity would not be precluded in the future.

C-011-003

Based on information provided by the Massachusetts Department of Conservation and Recreation (DCR), there are currently no immediate plans to reconstruct Route 28/McGrath Highway. The only planned improvements along Route 28/McGrath Highway would be in the form of in-kind repairs with no plans to increase capacity or significantly modify the corridor.

C-011-004

Planning and design of the Lechmere Station Relocation Project has been added as part of the Green Line Extension Project. Although design and construction funding for the relocation of Lechmere Station was previously being financed primarily by private (NorthPoint development) and Federal funds, recent changes in the NorthPoint development project have left uncertain the future opening year of the relocated Lechmere Station. The alignment of the Green Line Extension Project would not be possible without the relocation of the station. Therefore, the Green Line Extension Project has extended its original limits to include the relocation of Lechmere Station. The Preferred Alternative of the Green Line Extension Project will provide service to Union Square and to Medford Hillside/College Avenue using a two-branch operation, both in existing commuter rail rights-of-way. The Union Square Branch would operate along the MBTA Fitchburg Line from relocated Lechmere Station into a terminus at Union Square in Somerville. This branch would begin at newly relocated Lechmere

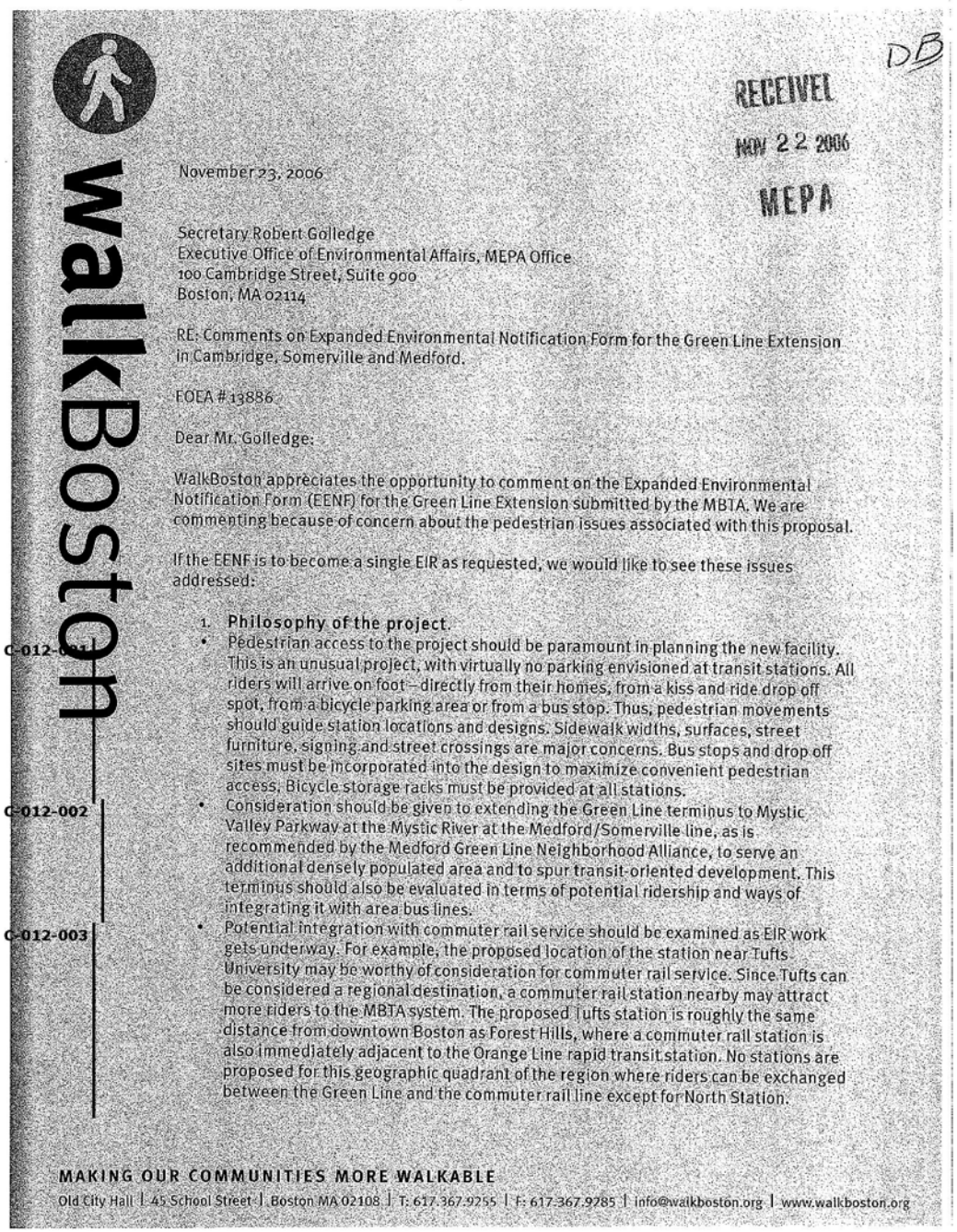
Station and head northwest, following the Fitchburg Line to the Union Square area.

C-011-005

The Green Line Extension Project has a Project Advisory Group, which is described in detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA. Union Square Main Streets has a representative on this committee.

C-011-006

The Project is on schedule to be operational in 2014 as currently required by the State Implementation Plan.



WalkBoston

DB

RECEIVED
NOV 22 2006
MEPA

November 23, 2006

Secretary Robert Golledge
Executive Office of Environmental Affairs, MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Comments on Expanded Environmental Notification Form for the Green Line Extension in Cambridge, Somerville and Medford.

EOEA # 13886

Dear Mr. Golledge:

WalkBoston appreciates the opportunity to comment on the Expanded Environmental Notification Form (EENF) for the Green Line Extension submitted by the MBTA. We are commenting because of concern about the pedestrian issues associated with this proposal.

If the EENF is to become a single EIR as requested, we would like to see these issues addressed:

1. **Philosophy of the project.**

C-012-001
- Pedestrian access to the project should be paramount in planning the new facility. This is an unusual project, with virtually no parking envisioned at transit stations. All riders will arrive on foot—directly from their homes, from a kiss and ride drop off spot, from a bicycle parking area or from a bus stop. Thus, pedestrian movements should guide station locations and designs. Sidewalk widths, surfaces, street furniture, signing and street crossings are major concerns. Bus stops and drop off sites must be incorporated into the design to maximize convenient pedestrian access. Bicycle storage racks must be provided at all stations.

C-012-002
- Consideration should be given to extending the Green Line terminus to Mystic Valley Parkway at the Mystic River at the Medford/Somerville line, as is recommended by the Medford Green Line Neighborhood Alliance, to serve an additional densely populated area and to spur transit-oriented development. This terminus should also be evaluated in terms of potential ridership and ways of integrating it with area bus lines.

C-012-003
- Potential integration with commuter rail service should be examined as EIR work gets underway. For example, the proposed location of the station near Tufts University may be worthy of consideration for commuter rail service. Since Tufts can be considered a regional destination, a commuter rail station nearby may attract more riders to the MBTA system. The proposed Tufts station is roughly the same distance from downtown Boston as Forest Hills, where a commuter rail station is also immediately adjacent to the Orange Line rapid transit station. No stations are proposed for this geographic quadrant of the region where riders can be exchanged between the Green Line and the commuter rail line except for North Station.

MAKING OUR COMMUNITIES MORE WALKABLE

Old City Hall | 45 School Street | Boston MA 02108 | T: 617.367.9255 | F: 617.367.9285 | info@walkboston.org | www.walkboston.org

C-012-001

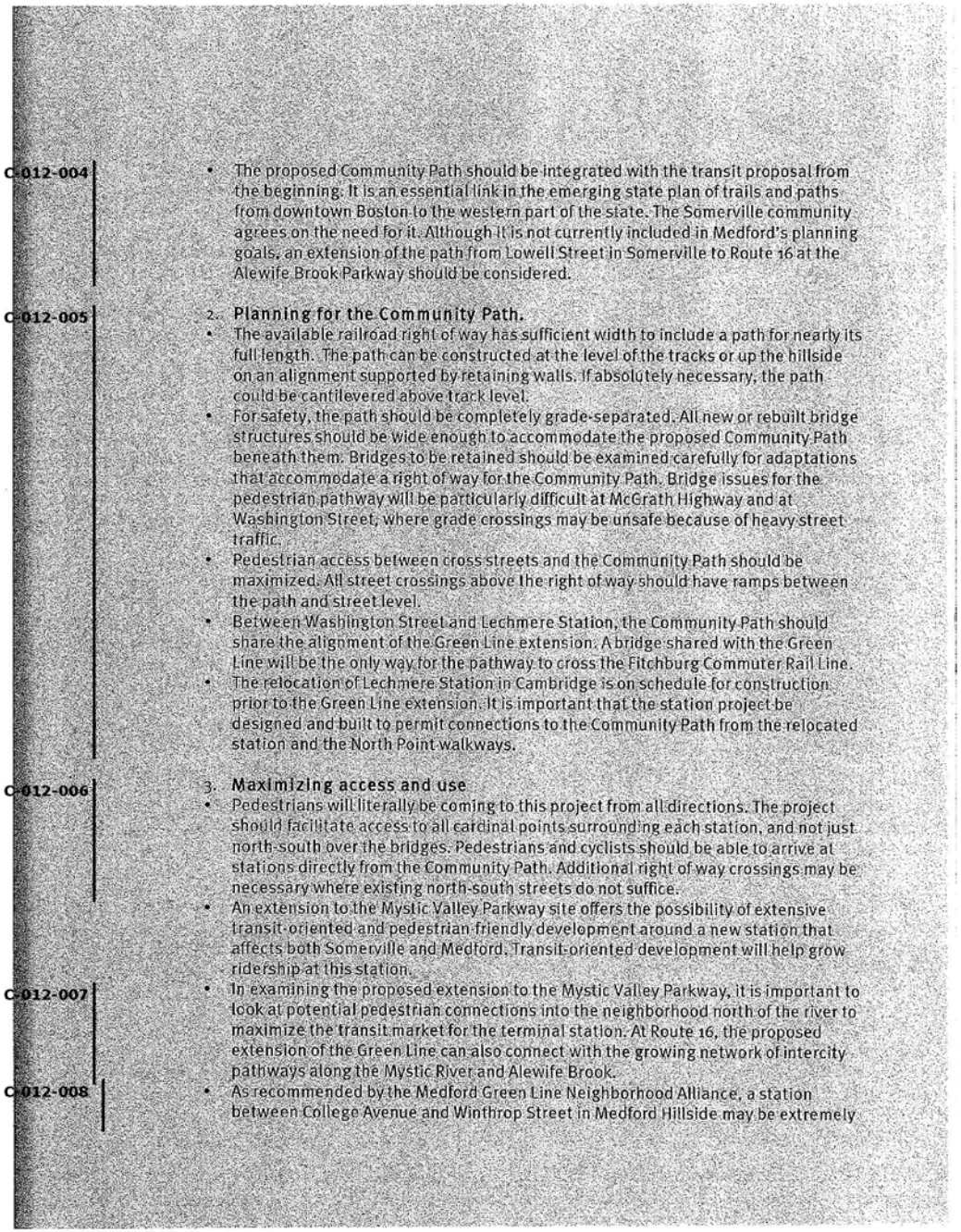
Providing non-motorized access to each of the Green Line Extension stations is of prime importance. Station design and elements were determined based on guidance from public workshops and city officials. For instance, station design will provide connections to existing pedestrian networks and, where available, the Somerville Community Path will be integrated into the exterior design of the stations. In addition, all stations will provide bike racks to encourage users to use the alternate mode. Vehicle access is envisioned by means of designated pick-up/drop-off locations, where possible. All stations are located within close proximity of existing MBTA Bus Routes, which provides connectivity to alternate transit modes. More specific station connectivity and amenities are provided in each station description in Chapter 3 (Alternatives), Sections 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternative* of the DEIR/EA.

C-012-002

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

C-012-003

As required by the Secretary's Certificate on the EENF, the feasibility of providing a joint commuter rail and light rail station at various locations (including at Tufts and Gilman Square) along the Green Line Extension was evaluated. Due to the physical and operational requirements for a joint station and its supporting infrastructure, the impacts on the neighboring properties would outweight the potential benefits of providing a commuter rail and light rail connection. Although the Project does not provide a new connection between the Green Line and commuter rail, a connection does currently exist at North Station and



C-012-004
- The proposed Community Path should be integrated with the transit proposal from the beginning. It is an essential link in the emerging state plan of trails and paths from downtown Boston to the western part of the state. The Somerville community agrees on the need for it. Although it is not currently included in Medford's planning goals, an extension of the path from Lowell Street in Somerville to Route 16 at the Alewife Brook Parkway should be considered.

C-012-005
2. Planning for the Community Path.
- The available railroad right of way has sufficient width to include a path for nearly its full length. The path can be constructed at the level of the tracks or up the hillside on an alignment supported by retaining walls. If absolutely necessary, the path could be cantilevered above track level.
- For safety, the path should be completely grade-separated. All new or rebuilt bridge structures should be wide enough to accommodate the proposed Community Path beneath them. Bridges to be retained should be examined carefully for adaptations that accommodate a right of way for the Community Path. Bridge issues for the pedestrian pathway will be particularly difficult at McGrath Highway and at Washington Street, where grade crossings may be unsafe because of heavy street traffic.
- Pedestrian access between cross streets and the Community Path should be maximized. All street crossings above the right of way should have ramps between the path and street level.
- Between Washington Street and Lechmere Station, the Community Path should share the alignment of the Green Line extension. A bridge shared with the Green Line will be the only way for the pathway to cross the Fitchburg Commuter Rail Line.
- The relocation of Lechmere Station in Cambridge is on schedule for construction prior to the Green Line extension. It is important that the station project be designed and built to permit connections to the Community Path from the relocated station and the North Point walkways.

C-012-006
3. Maximizing access and use
- Pedestrians will literally be coming to this project from all directions. The project should facilitate access to all cardinal points surrounding each station, and not just north-south over the bridges. Pedestrians and cyclists should be able to arrive at stations directly from the Community Path. Additional right of way crossings may be necessary where existing north-south streets do not suffice.
- An extension to the Mystic Valley Parkway site offers the possibility of extensive transit-oriented and pedestrian-friendly development around a new station that affects both Somerville and Medford. Transit-oriented development will help grow ridership at this station.

C-012-007
- In examining the proposed extension to the Mystic Valley Parkway, it is important to look at potential pedestrian connections into the neighborhood north of the river to maximize the transit market for the terminal station. At Route 16, the proposed extension of the Green Line can also connect with the growing network of intercity pathways along the Mystic River and Alewife Brook.

C-012-008
- As recommended by the Medford Green Line Neighborhood Alliance, a station between College Avenue and Winthrop Street in Medford Hillside may be extremely

would continue to be available. Additional details are provided in Section 3.3.1, *Stations* and Appendix B of the DEIR/EA.

C-012-004

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA. A path connection from Lowell Street to Route 16 was evaluated and determined not feasible. A detailed discussion is also included in Section 3.8, *Community Paths* of the DEIR/EA.

C-012-005

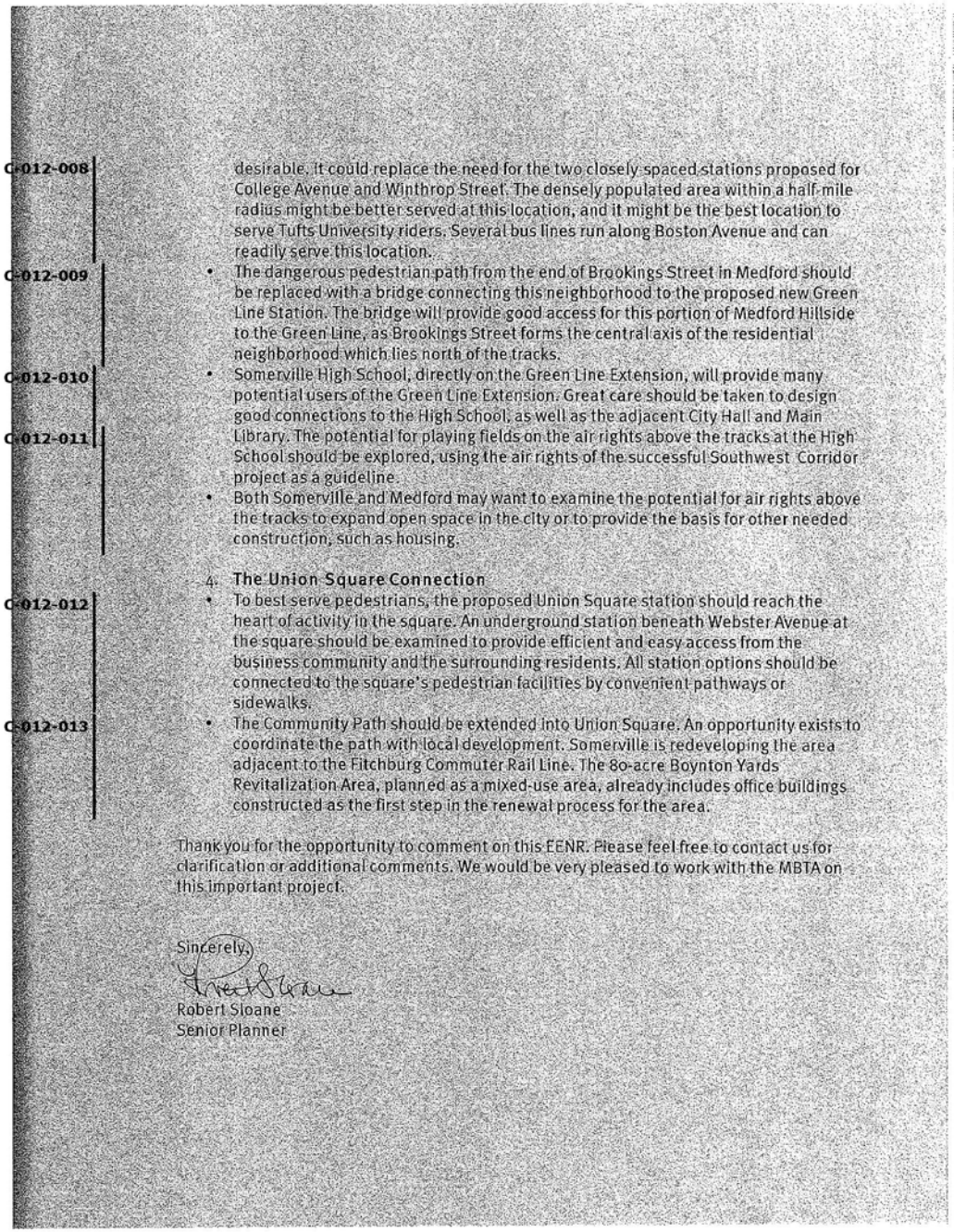
The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

C-012-006

All proposed Green Line Stations are located where there at existing roadway crossings over the railroad tracks. A full pedestrian analysis is presented in Section 5.5, *Traffic* of the DEIR/EA. Connections to the proposed Somerville Community Path have also been considered and pedestrians and bicyclists accommodations are being made at each of the stations.

C-012-007

A full pedestrian analysis was completed for each station location. The distribution of pedestrians and their likely origin is based on the regional travel demand model provided by the Central Transportation Planning



C-012-008 desirable. It could replace the need for the two closely spaced stations proposed for College Avenue and Winthrop Street. The densely populated area within a half-mile radius might be better served at this location, and it might be the best location to serve Tufts University riders. Several bus lines run along Boston Avenue and can readily serve this location.

C-012-009 • The dangerous pedestrian path from the end of Brookings Street in Medford should be replaced with a bridge connecting this neighborhood to the proposed new Green Line Station. The bridge will provide good access for this portion of Medford Hillside to the Green Line, as Brookings Street forms the central axis of the residential neighborhood which lies north of the tracks.

C-012-010 • Somerville High School, directly on the Green Line Extension, will provide many potential users of the Green Line Extension. Great care should be taken to design good connections to the High School, as well as the adjacent City Hall and Main Library. The potential for playing fields on the air rights above the tracks at the High School should be explored, using the air rights of the successful Southwest Corridor project as a guideline.

C-012-011 • Both Somerville and Medford may want to examine the potential for air rights above the tracks to expand open space in the city or to provide the basis for other needed construction, such as housing.

4. **The Union Square Connection**

C-012-012 • To best serve pedestrians, the proposed Union Square station should reach the heart of activity in the square. An underground station beneath Webster Avenue at the square should be examined to provide efficient and easy access from the business community and the surrounding residents. All station options should be connected to the square's pedestrian facilities by convenient pathways or sidewalks.

C-012-013 • The Community Path should be extended into Union Square. An opportunity exists to coordinate the path with local development. Somerville is redeveloping the area adjacent to the Fitchburg Commuter Rail Line. The 80-acre Boynton Yards Revitalization Area, planned as a mixed-use area, already includes office buildings constructed as the first step in the renewal process for the area.

Thank you for the opportunity to comment on this EENR. Please feel free to contact us for clarification or additional comments. We would be very pleased to work with the MBTA on this important project.

Sincerely,

Robert Sloane
Senior Planner

Staff (CTPS). The model indicates that pedestrians north of the River would use each of the three river crossings that are near the Mystic Valley Parkway /Route 16Station (Boston Avenue, Auburn Street, and Winthrop Street). Section 5.5.4, *Mitigation Measures* of the DEIR/EA discusses the pedestrian mitigation proposed at these river crossings.

C-012-008

As required by the Secretary's Certificate on the EENF, a combined station location between Winthrop Street and College Avenue was evaluated as part of the DEIR/EA. As described in Section 3.3.1, *Stations* and in Appendix B of the DEIR/EA, locating a station between Winthrop Street and College Avenue is no longer a consideration for the Green Line Extension Project. Rather, a single station at College Avenue has been recommended and is described in more detail in Section 3.7.3, *Stations* of the DEIR/EA.

C-012-009

As currently envisioned, the proposed station would be located at the northwest corner of the intersection of Boston Avenue and College Avenue. Access would be provided from each of these roadways. The appropriate pathway to this station from the area west of College Avenue and north of the tracks would be via existing College Avenue or Winthrop Street bridges.

The station at College Avenue is in no way related to unauthorized crossings that may be occurring at Brookings Street. As part of the proposed project, right-of-way fencing and sound barriers would be installed/repaired to eliminate this possibility. The proposed project does not include a new pedestrian bridge at this location.

C-012-010

The DEIR/EA includes an analysis of walking routes to each station,

based on the origin patterns provided by the Central Transportation Planning Staff (CTPS). The analysis highlights locations that are insufficient to handle the projected pedestrian demands and makes recommendations for improvements. Riders originating from or destined to the high school, City Hall, etc. would have direct connections to the proposed Gilman Square station via Medford and School Streets.

Additionally, to support the proposed Gilman Square station, traffic signal improvements are proposed at School Street and Medford Street and a new traffic signal is proposed at Pearl Street and Medford Street. Both of these proposed mitigation measures would improve pedestrian circulation through the neighborhood, including students and City Staff who may not make use of the extension. Proposed mitigation measures are further discussed in Section 5.5, *Traffic* of the DEIR/EA.

Assessing the potential for playing fields on the air rights above the tracks is outside the scope of this study.

C-012-011

Potential development of air rights is considered in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA. There is potential for air rights development near several stations, including Brickbottom Station, Gilman Square Station, and Ball Square Station. Please see Sections 5.15.5 and 5.15.6 of the DEIR/EA for more details.

C-012-012

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-

track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

C-012-013

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. However, the current path design does not include extending the path directly into Union Square. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

#13886 DE

200 West Cummings Park • Woburn, MA 01801 • 781-935-8000 • fax 781-935-1990

November 8, 2006

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B-001-001

Secretary of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA 02114
Attention: MEPA Office

RECEIVED
NOV 9 2006
MEPA

Re: Green Line Extension

Dear Sir or Madam:

Regarding the EENF filed with the MEPA Office in October 2006 by the Massachusetts EOT (Project Name: Green Line Extension), Cummings Foundation, Inc. (CFI), a Massachusetts Not-For-Profit corporation is the effective owner of the properties at 196 and 200 Boston Avenue, Medford. CFI comments as follows:

1. CFI supports the project, an initiative of the EOT and the MBTA, to implement enhancements to the Green Line transit service. More specifically, CFI supports the project's proposed extension of the Green Line service from the outer limit of a relocated Lechmere Station along the Lowell commuter rail line corridor to a terminus station at either College Avenue or, if further study shows it to be feasible, Winthrop Street in Medford; and

2. Though not contemplated by the EENF as filed, CFI would not oppose, in principle, a longer extension of the Green Line to either the vicinity of Route 16 on the south side of the Mystic River, West Medford Station on the north side of the river, Winchester Center Station, or to Mishawum Station, Woburn. This lack of opposition, however, would be predicated on final plans for the project not siting a station in the rail line corridor between Winthrop Street and Route 16 behind 196 and/or 200 Boston Avenue.

CFI submits that the area behind (east of) 196 and 200 Boston Avenue and west of the rail line corridor, presumably including a tiny triangular undeveloped parcel owned by others, would be a poor location for a station site because:

B-001-001

The Secretary's Certificate required that a terminus station at Mystic Valley Parkway/Route 16 be considered. The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Element* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts.

Proposed station site alternatives and the process by which the final station sites were selected for the Green Line Extension Project were based on an evaluation that weighted the benefits and disadvantages of each station alternatives, as described in Appendix B to the DEIR/EA. As such, based on the conceptual station designs, the properties at 196 and 200 Boston Avenue would potentially be impacted by this proposed station location. Land impacts of each alternative are summarized in Section 5.2, *Land Use* of the DEIR/EA. However, as this project moves into preliminary engineering, opportunities to minimize property impacts will be evaluated. With regard to the access between 196 and 200 Boston Avenue, access will be for the proposed pick-up/drop-off for passenger vehicles only. Buses will not utilize this driveway and will not be rerouted as part of this Project. A traffic analysis for this driveway has been evaluated and is provided in Section 5.5, *Traffic* of the DEIR/EA.

B-001-001

1. That location would be an inconvenient one for the transit riders the project is being designed to serve. The nearest roadway bridge over the tracks from which access to this location could be provided via a stairway and accessible switchback ramp lies approximately 500 feet to the south of this location at North Street. This would be a very inconvenient point of entry to the corridor for all riders whether they arrive on foot or by bus or automobile drop-off. Alternatively, use of an existing easement over 200 Boston Avenue to reach the area behind 196 and 200 Boston Avenue by the expected number of pedestrian transit riders and transit riders being dropped off or picked up by buses and automobiles on a daily basis would greatly overburden the existing easement there, with deleterious consequences for the abutting neighbors; and

B-001-002

2. If a station within the rail corridor (or adjacent to the rail corridor) were deemed desirable in this general area south of Route 16, despite its distance from the North Street overpass, then siting the point of entry for such a station within the rail corridor (or the station itself if adjacent to the rail corridor) on the east side of the rail corridor on the parking area of the Wild Oats supermarket parcel would provide much more convenient access to the transit riders. If such a station were also to be the terminus station, then this location would provide the most direct access to riders crossing the Mystic River from West Medford Station to the north. Furthermore, an easement for station access over the Wild Oats parking lot would appear to have far less of a negative impact on Wild Oats and the abutting properties than use of the existing easement over the parking lot at 200 Boston Avenue for access from the west side of the rail corridor would have on users of 200 Boston Avenue and its neighboring properties.

If you should have any questions concerning the above comment, please contact the undersigned. Thank you for your attention to this matter.

Sincerely,

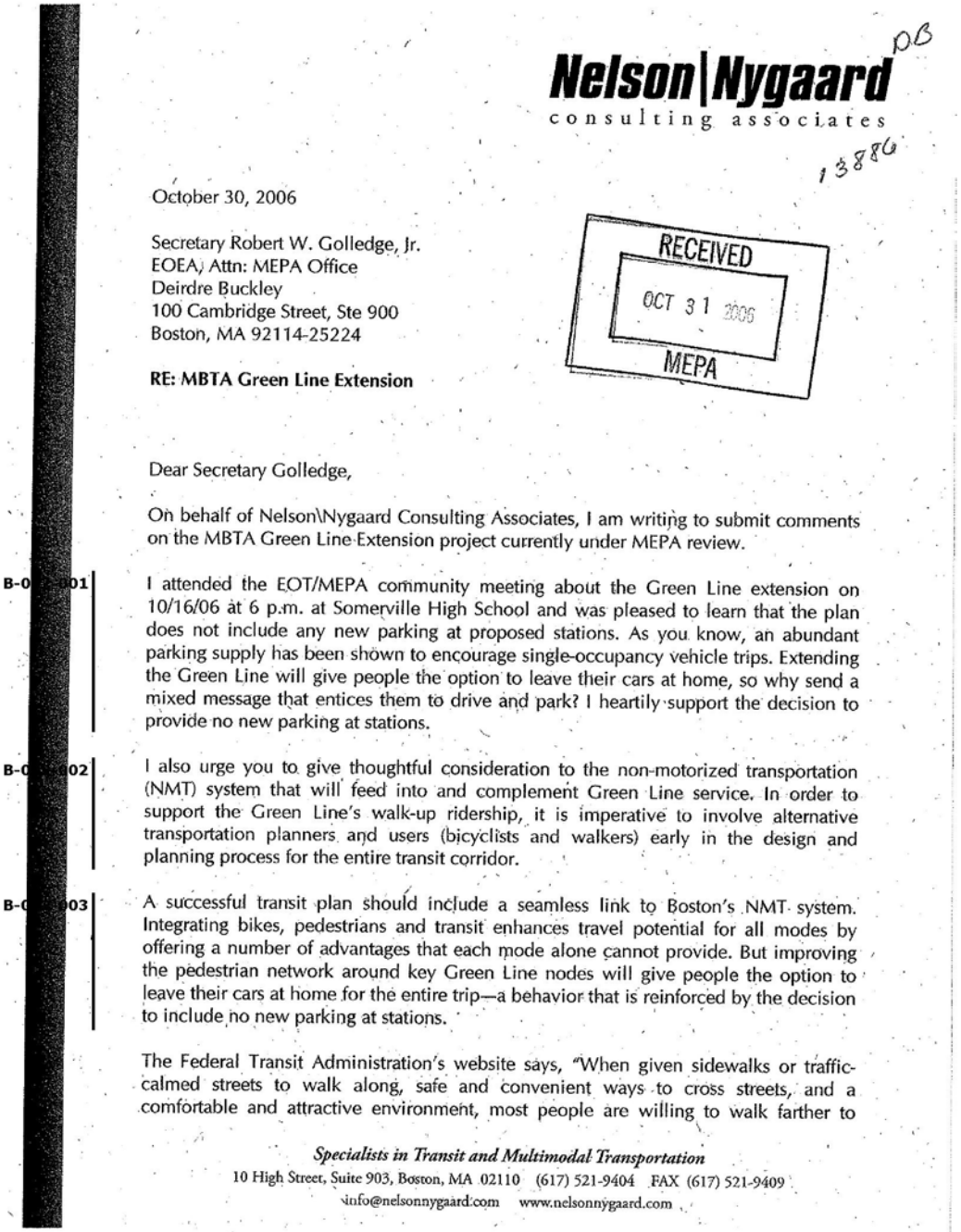
CUMMINGS FOUNDATION, INC.

Joel B. Swets
Executive Director

\\CPL-FP\ACCOUNTING\LEGAL\SWETS\MBTA LH.DOT

B-001-002

Pedestrian, bicycle, and vehicular access to Mystic Valley Parkway/Route 16 Station will be provided from Boston Avenue and Mystic Valley Parkway/Route 16. In order to provide access from the Whole Foods parking lot on the east side of the railroad tracks, the abutment to the historic bridge would have to be modified and a tunnel provided. Although tunneling access is cost prohibitive at this point in the project, future plans of providing access from the Whole Foods parking lot have not been expelled. Further discussion on stations can be found in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.



Nelson|Nygaard
consulting associates

DB

13886

October 30, 2006

RECEIVED
OCT 31 2006
MEPA

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
Deirdre Buckley
100 Cambridge Street, Ste 900
Boston, MA 92114-25224

RE: MBTA Green Line Extension

Dear Secretary Golledge,

On behalf of Nelson\Nygaard Consulting Associates, I am writing to submit comments on the MBTA Green Line Extension project currently under MEPA review.

B-002-001 I attended the EOT/MEPA community meeting about the Green Line extension on 10/16/06 at 6 p.m. at Somerville High School and was pleased to learn that the plan does not include any new parking at proposed stations. As you know, an abundant parking supply has been shown to encourage single-occupancy vehicle trips. Extending the Green Line will give people the option to leave their cars at home, so why send a mixed message that entices them to drive and park? I heartily support the decision to provide no new parking at stations.

B-002-002 I also urge you to give thoughtful consideration to the non-motorized transportation (NMT) system that will feed into and complement Green Line service. In order to support the Green Line's walk-up ridership, it is imperative to involve alternative transportation planners and users (bicyclists and walkers) early in the design and planning process for the entire transit corridor.

B-002-003 A successful transit plan should include a seamless link to Boston's NMT system. Integrating bikes, pedestrians and transit enhances travel potential for all modes by offering a number of advantages that each mode alone cannot provide. But improving the pedestrian network around key Green Line nodes will give people the option to leave their cars at home for the entire trip—a behavior that is reinforced by the decision to include no new parking at stations.

The Federal Transit Administration's website says, "When given sidewalks or traffic-calmed streets to walk along, safe and convenient ways to cross streets, and a comfortable and attractive environment, most people are willing to walk farther to

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B-002-001

Parking will not be included at any of the new Green Line Extension stations. Replacement parking only will be provided at the relocated Lechmere station, as it does today.

B-002-002

Providing non-motorized access to each of the Green Line Extension stations is of prime importance. Station design and elements were determined based on guidance from public workshops and city officials. For instance, station design will provide connections to existing pedestrian networks and, where available, to the proposed Somerville Community Path. In addition, all stations will provide bike racks to encourage users to use the alternate mode. More specific station connectivity and amenities are provided in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

B-002-003

As part of the DEIR/EA, bicycle and pedestrian accommodations are being planned at each of the proposed Green Line stations. This includes connections to the Somerville Community Path and, upon construction, the NorthPoint multi-use path. Bicycle storage is also being planned.

B-002-004

reach public transportation." In addition, improving bike facilities (travel lanes, station parking and on-transit bike racks) will make the Green Line accessible to travelers who are beyond walking distances from the proposed transit stations. In particular, the Somerville Community Path should be included as an integral piece of the Green Line extension planning process.

The benefits of a seamless connection flow in the other direction too. Improved transit accessibility allows people to go farther and faster than they could on foot or on bike. By providing bike-on-transit services, riders can get to recreational destinations without a car and during off-peak periods (which can increase overall transit ridership and increase efficient use of capacity).

Thank you for the opportunity to comment on this exciting transit project; if done well, it will improve residents' quality of life and Greater Boston's economic success.

Best regards,

Stephanie Groll

B-002-004

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the proposed Somerville Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths*.

November 22, 2006

RECEIVED
NOV 27 2006
MEPA

DB

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office,
Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston MA 02114-2524

Dear Sir/Madam:

I-001-001 I have lived at 2 North Street, Medford since 1957, and attended the 10/16/06 (Somerville) and 11/15/06 (Medford) Green Line Extension meetings. I feel strongly that with an estimated cost of $550 million taxpayer dollars at stake, the proposals presented at the noted two meetings need more specificity, need further study, and need to be reassessed before a final decision on this plan is made. I strongly recommend that other options be explored to determine whether other alternatives, or other collective combinations of alternatives would better accomplish the "Big Dig" objectives that mandate the Green Line Extension. In this regard I offer the following comments for your consideration.

I-001-002 1. It seems redundant to be considering any proposal that recommends putting a train beside an existing train! (i.e. using the same railbed for both the existing commuter rail train and the planned Green Line Extension). Some might see this as being obscurely discriminatory (in fostering the "side-by-side" creation of two classes of commuters: the more affluent suburbanites who get faster service via better commuter rail trains versus the poorer inner city residents who are relegated to the slower less comfortable trolleys.) I am therefore recommending that an alternative route for the Green Line Extension be explored, as I will address further in #2 below. The means to otherwise provide rapid public transportation into Boston for those who live near the Medford, Somerville, and Cambridge commuter rail tracks already exists and could be easily and inexpensively achieved by reactivating previously discontinued commuter rail stops (like the old College Avenue stop) and/or by instituting one (or more) new commuter rail stops in Somerville and Cambridge as appropriate. These additional commuter rail stops would only require the construction of new platforms, access to these new platforms from the street, and would be functional within a matter of months!

I-001-003 2. As noted above, I feel other alternative routes for the Green Line Extension need to be explored and considered beyond those mentioned in the current proposal. I feel that the path of the Green Line Extension should run through sections of Medford and Somerville that are not already serviced by, or that could easily be serviced by existing commuter rail access, as noted in #1 above. In my view the most visually acceptable, environmentally friendly, and least disruptive way to do this (beyond the Cambridge boundary) would be to put major portions of the Green Line Extension underground. As a Medford resident, I would like to see an underground Green Line stop in Medford Square, and the terminus to be located near the Medford/Stoneham boundary within close proximity to Rt. 93

1

I-001-001

Chapter 3 (Alternatives) of the DEIR/EA provides a detailed evaluation of the alternatives considered for the study area. Specifically, Section 3.2, *No-Build Alternative* of the DEIR/EA provides a discussion of the No-Build Alternative, which demonstrates future conditions with all committed transportation improvement project in place but without the proposed Green Line Extension Project. Section 3.5, *Baseline Alternative*, provides a Baseline Alternative discussion in accordance with FTA requirements to identify the best option for meeting the transportation needs of the study area with smaller capital investments than are proposed in the Build Alternatives. Section 3.6, *Build Alternatives,* and Section 3.7, *Project Description - Preferred Alternative,* offer a detailed analysis of the Project Build Alternatives to identify the best scenario for meeting the transportation needs of the study area.

I-001-002

Federal Railroad Administration (FRA) regulations state that use of both commuter rail and light rail on the same tracks is incompatible. Therefore, providing Green Line service on commuter rail tracks would not be possible. An alternative to provide commuter rail stops along the MBTA's Lowell Line, such as at College Avenue, as you suggested, was evaluated as part of the Beyond Lechmere Major Investment Study (MIS) in August 2005. The results of that study concluded that this alternative would provide relatively low ridership. The commuter rail alternative would also adversely affect the existing MBTA Lowell Line commuter rail service by increasing delays at a new station and, therefore, increasing travel times along the line. It was concluded that low ridership and an adverse impact to existing MBTA Lowell Line service was not a practicable option for this area. Additionally, providing new commuter rail stops only within the project study area would not meet the requirements of the State Implementation Plan.

I-001-003 where a parking facility may be feasible if some undeveloped land can be found. As the morning traffic reports on the radio attest each day: "the traffic into Boston on Rt. 93 is backed-up to..." either Montvale Ave., Roosevelt Circle, Medford Square, or Assembly Square so there is a real need to provide more rapid transit into Boston from all Medford locations adjacent to Rt. 93. For several decades the City of Medford has been trying to devise ways to attract new businesses in order to revitalize Medford Square; but, I don't think this will ever happen unless the traffic that now empties into the Square from Rt. 93 is either diverted elsewhere or decreased. At present, Medford Square is not a very pedestrian friendly place; but with a proposed Green Line underground stop, and less exiting Rt. 93 traffic, this may open-up some real possibilities to revitalize Medford Square, like the Red Line underground stop did for Davis Square in Somerville.

I-001-004 3. I live in close proximity (7 houses away) to Rt. 16 in Medford where the Green Line Extension terminus is currently being considered (Rt. 16/Boston Ave. juncture). Having been here for 50 years, I have 24/7 knowledge of the traffic problems in this area; and, the congestion on Rt. 16 (weekdays & weekends) is horrible due to heavy traffic going to and from the three Medford Rt. 93 exits (Roosevelt Circle, Medford Square, and Route 16). Most of this Rt. 93 traffic just passes-through Medford via Rt. 16 and goes onto other destinations. It may be informative to determine whether some of these cars continue on to the Red Line Alewife Parking Garage which is only a couple of miles away from my location at the Rt. 16 and Rt. 2 juncture. I am confident in saying that if the Green Line terminus were located at Rt. 16/Boston Ave, the Route 16 traffic problems would be compounded and would severely burden my neighborhood. The convience of a terminus adjacent to Rt. 16 would stimulate more drivers to travel this route to either drop-off commuters, or to personally get onto the Green Line themselves, after they park in our residental streets or park in local business parking lots for extended periods of time. Illegal parking would inevitably happen here even if the terminus is set-up for walk-up access only. (We've had a taste of this non-resident parking problem about 12-15 years ago when overflow parking from a 24-hour grocery store, that occupied the Wild Oats site on Route 16, overtook our streets!). I would be strongly opposed, if a parking facility was ever proposed in the future for a Rt. 16/Boston Ave Green Line terminus as it would encourage more and more cars onto a road that can barely handle the current traffic levels, and one that is an unlikely candidate for widening. As a FYI, someone I know at the State agency that's responsible for highway planning advised me that their agency is against any increase in traffic on Rt. 16, and want NO provision made in the Green Line Plans for any drop-offs/ pick-ups, nor for buses at the Rt. 16/Boston Ave location!

I-001-005 4. You should be aware that the State is in the final stages of establishing my neighborhood (including the Rt.16/Boston Ave area) as a Historical District on the National Register because the Middlesex Canal (1806-1859) was located here. (FYI a Middlesex Canal Monument is located on Boston Avenue just before the bridge that crosses the Mystic River.) On 12/13/06 the State will be holding a meeting at the State Archives Building in Dorchester to finalize the status of this Historical District. Since it's

2

I-001-003

Requests to evaluate the possibility of a tunnel to provide the extension of Green Line service were received throughout the project planning process. As a result of these requests, a study analyzing tunnel alternatives was developed and is found in Appendix B of the DEIR/EA. The conclusions of this study indicate that although a tunnel could reduce construction and noise and visual impacts, the impacts of the currently proposed surface Green Line Extension Project can be mitigated. Therefore, the additional costs associated with a tunnel alternative are not warranted and become cost-prohibitive to the Project.

I-001-004

There are likely a number of vehicles that currently travel Route 16 westbound through Medford to access the Alewife Red Line station. Some of these drivers are destined to locations served only by the Red Line while others may be avoiding crowded conditions at Wellington Station. The analysis presented in the DEIR/EA diverts some of these trips to the Mystic Valley Parkway/Route 16 Green Line station as appropriate. The impacts of this diversion on traffic are analyzed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. Traffic was evaluated both with and without a parking garage at the Mystic Valley Parkway/Route 16 Station, but ultimately was not recommended for this location. EOT will work closely with local municipalities to develop a parking enforcement plan to prevent parkings in residential areas. Bus routes will not be altered as part of the Green Line Extension Project.

I-001-005

The historic and archaeologically-sensitive areas around the former Middlesex Canal have been identified and included in the Project's assessment of potential impacts. Potential impacts to this and other archaeologically-sensitive areas are discussed in Section 5.13, *Historic and Archaeological Resources* of the DEIR/EA.

I-001-005 location involves areas of the Rt. 16/Boston Ave site where a proposed Green Line terminus is being considered you should be aware of this historical designation and factor this into any decisions that are made about construction or excavations in this area. Mr. Thomas Raphael, Chairman of the Middlesex Canal Commission advised me he would be writing to you to advise you that any work done in the vacinity of the Canal would require archaeological study before-hand, and archaeological oversight during construction.

I-001-006 5. Slide # 19 of the EIR distributed at the 10/16/06 and 11/15/06 Public Scoping Session says the proposed Green Line Extension (via a shared commuter rail/Green Line roadbed) will result in an estimated reduction of 9,600 vehicle trips a day. I feel this 9,600 figure is significantly overstated and grossly inflated given the proposal, as currently presented, does not include any parking facilities at either the new Green Line stops or at it's terminus. In fact I submit that without a parking facility very few vehicle trips would be eliminated under the current plan because everyone along the route of the proposed Green Line Extension already has access to another form of public transportaion and are probably taking public transportation, unless they want, or like the convience of a car. In other words, those that would have access to, and would most likely be taking the Green Line Extension, as currently proposed, would only be swapping one form of public transportaion for another (i.e. subsituting local or express buses, commuter rail, red or orange line trains for a green line trolley). Driving is and will continue to be the preferred commuting method for some, even if the Green Line is convient to them, so I think the number of vehicle trips will be much lower than 9,600 a day. If the path of the Green Line Extension followed another route, as noted in #3 above, then there would be a significant reduction in vehicle trips a day and would align with the "Big Dig" objectives.

I-001-007 6. If the Green Line Extension remains as currently proposed (via a shared commuter rail/Green Line railbed) it should not go any further than a College Ave. stop given the drainage, environmental, bridge, and resident concerns that would need to be addressed if the Green Line were to pass through the Hillside section of Medford. Logistically speaking, the distance between a Rt. 16 and a College Ave. terminus is so inconsequentially short, I don't think it's worth all the extra time, money, and work involved in bringing the Green Line beyond College Ave., when the distance can be walked in about 15 minutes! Therefore those who are advocating for a Rt. 16 terminus can still be serviced by a College Ave. terminus as it isn't all that inconvient to walk this distance if bus service is not available. Alternatively, if those who can get to Rt. 16 and don't want to walk 15 minutes to College Ave., can walk 7-8 minutes in the opposite direction and get-on a commuter rail train at the West Medford stop. For most of the public, walking these distances are doable. (i.e. I am 60 years old and I generally walk from North Street to the Davis Square Red Line in about a half an hour and this is twice the distance from Rt. 16 to College Ave.!) Where the terminus ends-up shouldn't be a big concern for the bicyclists because if the extra distance is doable for walkers it should also be doable for bikers. The disabled or elderly in this area also have alternative transportation available to them via SCM

van service, or the MBTA's "The Ride".

I-001-008 7. Noise pollution is a big concern to me, especially if the proposed Green Line Extension goes beyond a College Ave. terminus. Although I live 10 houses away from the foot of the North Street bridge, I can constantly hear the passing commuter rail trains throughout the day, night, and into the over-night hours. Even though my doors and windows are closed at this time of the year, the noise level is actually worse because there are no leaves on the trees to absorb the sound. I anticipate that the noise level would get a lot worse, if the more frequent Green Line trolleys also passed under the North Street bridge, coupled with fact that the sound-absorbing embankment vegetation would have been removed to accomodate the addition of the Green Line track and noise barrier walls. The resident abutters in my neighborhood will be forced to constantly endure an unbearable amount of noise and vibration along this rail-bed as they stare ata barrier wall at their backdoors! This is not a very pleasant prospect!

8. I am confident that the recently announced MBTA fare increases will cause future ridership on all forms of public transportation to drop because in some cases it will be cheaper and more convient to drive. For example, with validated parking, it was cheaper for me to drive into Boston last week for a medical appointment, rather than taking the T, and the fares haven't even gone up yet! Therefore, it is very important that lots of thought goes into the proposed Green Line Extension because it has to be developed along a route that attracts many potential riders by offering them something that's worth more the additional cost of the fares. In this regard, I think a transportation method that gives people a savings on their commuting time would be worth the extra cost of higher MBTA fares. I think the most receptive target audience would be the people that are frequently stuck and delayed while

I-001-009 driving into Boston via Rt. 93. So, to me, the most effective way to satisfy the "Big Dig" objective of reducing the number of vehicles that come into Boston each day would be to re-consider the path of the proposed Green Line Extension and locate the terminus in an area that would attract Rt. 93 commuters. There is too much money at stake here, and it would be wasteful not to develop a transportation system that gives us the "biggest bang for our buck". Although Somerville has approved the Green Line Extension to Ball Square via the expanded commuter railbed, I hope it's not too late for the appropriate authorities to intervene here and say we need to step back and study this further to determine the best "big picture" route for this Green Line Extension.

In summary I think the October 2006 EENF needs to be rejected as it doesn't provide enough information upon which to make a decision; and, I feel other routes for the Green Line Extension need to be explored as well. After the next set of Environmental Reports are developed and made available there should be another comment period and meetings for the public. This process should be repeated for each successive round of environmental reports issued to keep the public informed and allow them to comment as appropriate. If you need to discuss any of the above in more detail please feel free to contact me at 781-396-5138. Thank you for your time and for listening to my comments.

4

I-001-006

Trip reduction estimates have been revised since 2006 to account for changes in the proposed Project. These trip reductions are discussed in Section 5.5, *Traffic* of the DEIR/EA and are, in fact, lower than the previously estimated 9,600 daily vehicle trips.

I-001-007

A Project terminus at both Mystic Valley Parkway/Route 16 and at Medford Hillside/College Avenue were evaluated within the DEIR/EA. For additional information on these alternatives, refer to Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.

Sincerely,

Mary Anne Adduci

Mary Anne Adduci
2 North Street
Medford, MA 02155-4319
Phone: 781-396-5138

cc: Medford Mayor Michael J. McGlynn
Medford City Council President Robert A. Maiocco
Medford City Councillor Fred Dello Russo
State Representative Paul J. Donato
State Senator Patricia Jehlen
Governor Elect Deval Patrick
Congressman Edward J. Markey
Senator John F. Kerry
Senator Edward M. Kennedy

I-001-008

Potential noise and vibration impacts have been assessed and mitigation options are recommended in Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA, respectively. This assessment takes into account any changes to the existing terrain and recommends mitigation measures such as noise walls and/or ballast mats to alleviate impacts.

I-001-009

A number of alternatives for extension of the Green Line have been developed in order to maximize the opportunity to utilize existing available MBTA commuter rail rights-of-way and minimize impacts on the community. These alternatives, however, are limited to alignments within the MBTA Lowell and Fitchburg Line rights-of-way, as defined by the Secretary's Certificate on the EENF. A full discussion of the alternatives that were considered are provided in Chapter 3 (Alternatives) of the DEIR/EA.

229
Signatures

pB

Ruth D. Alfasso
45 Marion Street
Medford, MA 02155

Deirdre Buckley
MEPA Office
Executive Office of Environmental Affairs
100 Cambridge Street, Suite 900
Boston MA 02114

RECEIVED
NOV 6 2006
MEPA

RE: EOEA #13886

November 4, 2006

Dear Ms. Buckley:

I-002-001 I am writing regarding the Expanded Environmental notification for the proposed Green Line Extension. I appreciate the attention the state is paying on moving this project forward. I am hoping that you and the MBTA will reconsider the scope of this study. At this stage of the project we should not be limiting the proposal to the Tufts University and Winthrop Street areas alone. I am encouraging you to consider proposals that will bring the Green Line to the Route16 area, and even further into Medford. This is the appropriate time in the project to evaluate these alternatives. If the feasibility analyses show that the project should be more limited in scope, then the decision can be made based on current and accurate information.

I am a proponent of public transportation in general, and I currently access my job in Downtown Boston via a one-mnile walk to the Red Line in Davis Sq. Given where I live, the limited Green Line expansion proposal would serve my current residence regardless, however, I think my friends and others who live and work in other areas of Medford, Arlington and Somerville that could be accessed by the expanded project would also enjoy a one-seat light-rail access to

I-002-002 downtown. The expanded project may also increase commerical development in Medford, as well as spurring transit-oriented development and accessibility for those who cannot or choose not to drive.

I would also like to express my gratitude for the open and active process that is taking place, with the extension of the public comment period and a public meeting to be held in Medford. I hope to be there as well. Keep up the good work!

Sincerely,

Ruth D. Alfasso

I-002-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-002-002

Section 5.15.5.1, *Transit-Oriented Development* of the DEIR/EA notes potential for transit-oriented development throughout the Project. The City of Medford is considering conducting a master planning study to evaluate the potential for transit-oriented development in the vicinity of the Mystic Valley Parkway/Route 16 Station. A terminal station at this location could be a catalyst for new commercial development in Medford that would be accessible for those who cannot or choose not to drive.

Secretary of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA, 02114
Attention: MEPA Office
Re: Project #13886

I reside at 201 Winthrop Street, Medford, one block before Route 16 passes Medford Square and merges into Route 93. I am a strong supporter of public transportation and of the Green Line extension to Medford, for a diversity of reasons including air pollution, greenhouse gas emissions, long-term traffic issues, quality of life in our community, and personal convenience.

Having lived at this location for 17 years, however, I have experienced daily the traffic congestion of both Winthrop Street and Route 16, as cars head for 93 during rush hour. Both streets are already far beyond capacity from 4 to 7 pm, and Route 16 South is beyond capacity during the morning rush hour as well, becoming backed up by 7:30 pm and not clearing until about 9:30 am. Frustration at delays results in significant and frequent road rage incidents, as well as distracted driving, resulting in multiple fatalities at and adjacent to the Route 16/Winthrop Street intersection. Being a pedestrian or bicyclist here requires a strong dose of courage!

I-003-001 Closing or limiting traffic on Winthrop Street, to allow the Winthrop Street/Boston Avenue bridge to be rebuilt for the Green Line, will divert all the Route 93 traffic onto Route 16 and Boston Avenue, which simply cannot absorb more traffic.

I-003-002 In addition, the No. 96 bus will not be able to take its usual route encompassing George Street, Winthrop Street, and Boston Avenue. Although this bus is notorious for unreliability (as you already know from another rider who spoke at the Medford hearing), for most of us it is better than not having a bus at all, especially when snow and ice make walking treacherous.

I-003-003 I urge the Green Line Extension planning team to adequately plan for alternate methods of handling traffic (cars, bicycles, and pedestrians), during the several years it might take to rebuild the Winthrop Street bridge. I would particularly encourage the development of a very inexpensive shuttle bus service between Medford Square and Boston Avenue and between West Medford Square and Boston Avenue. Also, try very hard not to have both the Winthrop Street and College Avenue bridges closed at the same time.

I-003-004 It would be a very good idea to develop a series of strong incentives to divert car traffic from Medford altogether, with a combination of incentives for walking, biking, and taking buses, as well as incentives for car-pooling to be targeted at area commuters.

Thank you for taking the time to listen to the thoughts and concerns of Medford community members as you develop this milestone project.

Sincerely,

I-003-001

The DEIR/EA proposes that construction to the Winthrop Avenue bridge be phased with an appropriate work zone safety plan in place. Closures and detours, if necessary, would be limited in duration and occur during non-commuting hours. Construction impacts for each alternative are discussed in Section 5.5, *Traffic* of the DEIR/EA.

I-003-002

As necessary, provisions to detour traffic, including transit buses, will be made during construction. There are no current plans to eliminate bus service during construction.

I-003-003

Construction detours and work zone management are included in the DEIR/EA at the appropriate level of detail for this stage of the planning process. This includes the proposed staging of bridge reconstruction. Refer to Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA for further details. The bridge construction will be completed in two phases. The construction of the Winthrop Street Bridge will occur in Phase 1 and the construction of the College Avenue Bridge will occur in Phase 2.

I-003-004

The restriction of parking and the inclusion of bicycle and pedestrian amenities at each of the stations encourages the use of non-motorized transportation to each station. System-wide MBTA incentives to promote the use of transit over the automobile would apply to users of the Green Line, including reduced fares and free transfers through the Charlie Card program and the ability for pre-tax purchase of passes through Corporate programs.

While EOT and the MBTA are committed to reducing the use of

Susan Altman
201 Winthrop Street
Medford, MA 02155
781-395-4664

automobiles to the stations, it is outside the scope of this project to suggest or implement measures which address an area-wide travel demand management program within Medford.

DB

November 13, 2006

Secretary Robert W. Golledge, Jr.
EOEA, Attention: MEPA Office
Deidre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston, MA 02114-2524
617-626-1044

RECEIVED
NOV 15 2006
MEPA

Stephen Woelfe
Manager of State Wide Transit Planning
Ten Park Plaza, Suite 4150
Boston, MA 02116-3973
617-973-7474

To Whom It May Concern:

RE: Public Comments on Expanded Environmental Notification Form #13886

As life long residents of Medford, we have utilized the variety of transportation afforded us; the Orange Line, the Red Line (just over the Medford line), the commuter rail, and the Lechmere bus, which took us directly to the Green line. We use the Red Line on a daily basis to get to work (not to the downtown area, but to get across the Charles River to the Longwood Medical area. Taking the Green line would add about 15 minutes to one half hour to our commute), and our children use it to get to school. Therefore, we feel justified in our comments regarding public transportation.

Once the Conservation Law Foundation sued the state contending that it had failed to keep all of its commitments (in 1990 the state promised to expand and modernize the Boston area's transit system to offset the pollution caused by the Big Dig and congestion resulting from its construction) full discussions began in May of 2005, in relation to the Green Line extension, specifically targeting the Somerville area. According to Senator Jarrett T. Barrios, who represents Somerville, "This is the best transit project on the drawing board in Massachusetts and will serve the densest community currently underserved by mass transit." There was no mention of Medford, nor a comparison of the two cities.

I-004-001

According to the minutes of the "Beyond Lechmere Northwest Corridor Planning Project Public Meeting" which was held ***on October 27th, 2004*** at Somerville High School, in Somerville, MA, a full project overview was given. When reviewing these minutes, along with the cities represented (Cambridge, Somerville, Belmont, Tufts University, Goodtime Emporium, etc.,) with a few listings of 'advisory groups,' I felt it important to note that ***there is not one elected official or representative of Medford specifically listed in attendance sheet, yet there were nine conceptual alternatives for potential transit service in the corridor.*** Medford was in a majority of those alternatives, with the West

I-004-001

In addition to the October 24, 2004 Somerville meeting, the Beyond Lechmere Northwest Corridor Project held meetings in Cambridge (10/13/04) and Medford (11/3/04). In addition, the Beyond Lechmere Project had an Advisory Group, with eight representatives from the City of Medford. A public involvement summary from the Beyond Lechmere Project is available on the Green Line Extension project website in the following Archive section.
http://www.greenlineextension.org/archive.asp?area=arc

Medford commuter rail station, as well as 'beyond' the Medford Hillside being specifically addressed, yet this was not discussed openly until approximately May of 2005.

In June of 2005, plans by the MBTA to bring the Green Line to Medford and Somerville were discussed. It was stated back then *Boston Globe "Green Line extension still open for debate" June 5, 2005*, that people in Medford did not know enough about the project. Representative Jim Marzilli Jr., stated that he attended a meeting with stated and MBTA officials who he said, "have committed to involving Medford residents in the decision making process.

Even as recently as July 3, 2005, when the plans to extend the MBTA Green Line were discussed, an owner of the West Medford funeral home said it all, "It's so far down the line," he said of the proposal, which is in its very early planning stages. "By the time it comes—if it comes—it'll be awhile." ***Boston Globe "In Medford, residents alert to Green Line rumblings" July 3, 2005***

On October 16, 2006, we had the opportunity to attend the Environmental Impact Report Public Scoping Session held at Somerville High School. At this meeting, a large amount of Medford Residents as well as City Council Members spoke publicly for the first time to voice their dismay at the lack of opportunity for Medford residents to provide their view on the Green Line Extension plan. It was the first occasion to fully understand the implications profiled by EOT in describing College Avenue, Winthrop St. and Route 16. Our home is in short distance from the areas described, and witnessing the traffic and congestion already within the area from residents traveling to other areas of Medford (students, local workers, etc.), I find it unfathomable to place any further burden to the area.

Full details need to be discussed PRIOR to any planning stages. Some very specific concerns are as follows:

I-004-002

A. What would happen to the current bus routes in that area?
   a. Would the schedules change?
   b. Fewer buses provided to those riders who currently utilize the #96, #94, and the #80?
   c. Would the routes be shortened, thereby not taking riders to their final destination, leaving only the Green Line option?

I-004-003

B. Full details of land takings, either public or private, and the full implications of such.
   a. Discussions of taking a part of Walkling Court?
   b. Widening access of the train bed to place retaining walls, and perhaps placing more rails?
   c. Questions of decreased parking in the area due to land being taken?

I-004-004

C. What would the impact of building in the area be?
   a. Water overflow?
   b. Storm and sewer issues?

I-004-002

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

I-004-003

Proposed land acquisitions for the rail corridor and stations are discussed in Section 3.6, *Build Alternatives*, Section 3.7, *Project Description - Preferred Alternative*, and in Section 5.2, *Land Use* of the DEIR/EA. The indirect effects on land use and neighborhoods, including parking issues, are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

I-004-004

Changes in impervious cover and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-004-005 c. Rats?

I-004-006 D. Increasing traffic within the city.
a. .Parking problems in the general vicinity. To state that this would not happen is an injustice and an unreality.
b. Recognize that many of our traffic issues are directly related to the massive changes that have already occurred within the city of Medford. Through the consolidation of 11 elementary schools to 4, lack of supermarkets within various parts of Medford, and the change in polling places. Not all traffic is traveling to Boston.

I-004-007 E. Lack of objective electrical, gas, and water table studies to determine the full cost of what this project would encompass. How much of these costs will be part of the MBTA, or will these costs perhaps city wide as well?

F. Recognizing that the specific area of the Medford Hillside may contain many transient people (students and interim proffesors), but also many Medford families who chose to either live in Medford, or continued to live in Medford. Many of these families DO NOT believe that the Green Line extension should go any further than the College Ave/Boston Ave. corridor. Many people DO NOT believe that there is any need for the Green Line extension at all.

I-004-008 There appears to be a lack of objectivity within the discussions of the Green Line Extension. A great deal of the data appears to be subjective. Depending on which MBTA study you believe, it will induce between 3,540 and 14,000 people to switch from cars to transit. The state calculates that the three outstanding transit projects will result in 6,490 people switching from cars to transit. Several reviews of rail transit projects built in the last two decades have found that projections regularly underestimate the projects' costs

I-004-009 and overestimate their ridership perhaps we should be looking more toward cleaner buses, building bus lanes, clearly delineated bike lanes that travel throughout the city, continuing to strive to provide a better public transportation service. It is our belief that Medford has had the opportunity for a full variety of public transportation, and would prefer to see an better and more frequent bus services throughout the city, with the opinion that monies spent in that venue would service more citizens of Medford far better than the proposed Green Line extension.

Sincerely

James A. Bennett

Christine M. Bennett

Christine M. Bennett
19 Martin Street
Medford, MA 02155

I-004-005

The construction management plans for the Project will include rodent control measures. Construction staging and sequencing are discussed in Section 3.7.6, *Construction Staging and Sequencing* of the DEIR/EA.

I-004-006

The traffic and parking impact of the proposed project are discussed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. As is standard practice, these impacts are measured against a "No Build" condition which forecasts traffic conditions within Medford without the Green Line Extension but with known or planned projects identified by the City. The traffic analysis for this project is inclusive of all components of traffic and does not solely focus on traffic destined to Boston. EOT will assist Medford, Somerville and Cambridge in the development of a parking enforcement program to address parking issues in the vicinity of the stations.

I-004-007

The costs related to utility relocation and drainage improvements will be borne by the Project or the respective utility owner. As the Project moves into preliminary engineering, more detailed utility relocation and drainage plans will be developed. During the next phase of engineering, an extensive program will be carried out to provide detailed soils and groundwater information for design.

I-004-008

Increases in transit ridership vary by alternative, ranging from 2,800 new passengers under the Bus Baseline Alternative to 10,500 new passengers under Alternative 5. The estimates of ridership were developed by CTPS using standard transportation planning methods, and the traffic analysis included substantial efforts to collect accurate information on existing traffic conditions. Up-to-date ridership estimates

are provided for each alternative in Section 3.6, *Build Alternatives* of the DEIR/EA. Section 5.5, *Traffic* of the DEIR/EA discusses the specific changes in vehicular traffic and transit ridership expected under each alternative. Cost estimates have been and will continue to be developed in close coordination with FTA to ensure construction costs are reasonable and accurate.

I-004-009

Several improvements to bicycle facilities are discussed in the DEIR/EA Section 3.8, *Community Paths* of the DEIR/EA. The potential for Enhanced Bus improvements are discussed in Section 3.5, *Baseline Alternative* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Melissa Bennett [bennettm@comcast.net]
Sent: Sunday, November 26, 2006 10:54 PM
To: Buckley, Deirdre (ENV)
Subject: EENF Green Line Extension to Medford Hillside

November 24, 2006

Deidre Buckley
c/o Secretary of Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
Attention: MEPA Office
Re: Project # 13886

Ms. Buckley:

As you are aware, commitment to the Green Line extension was made in 1991 when legislators first approved the Central Artery / Third Harbor Tunnel project, which included a number of measures to reduce pollution from the road. As part of this project, the state promised to have the Green Line extended by Dec. 31, 2011. One of the 27 initiatives aimed at this goal was the proposed extension of the MBTA's Green Line into Medford Hillside through Somerville. The current timeframe proposed is that the extension will be open to the public in 2014 after a 3 year construction period.

As a West Medford resident of 20 years, a commuter to Boston, and an architect, I served on the MBTA's Citizen Advisory Committee for the Northwest Corridor Beyond Lechmere Study in 2004. During the feasibility study process the MBTA determined that greater economic justice benefits would accrue if the extension of the Green Line went well beyond Ball Square (the first stop in Medford Hillside, and on the Somerville border) to Union Square and to West Medford. The communities of Somerville and Medford welcomed the extension into their communities for several purposes: to take more commuters off their roads, to bring public transportation to a greater percentage of their population, and to advance a scale of economic development which would bring goods and services to the underserved areas that would now be adjacent to public transportation. An excellent example of the benefits of adjacency to public transit can be seen along the Red Line at Porter and Davis Squares and the Orange Line's stations in Jamaica Plain. In addition, this project can help Medford obtain environmental objectives in the city's own Open Space and Climate Action Plans.

I-005-001 As a member of the newly formed Medford Green Line Neighborhood Alliance and as a resident, I strongly urge MEPA to consider studying the full benefits of the extension to Route 16 (Mystic Valley Parkway), with a terminus at that location. The state and the community will mutually benefit in the increase in ridership and the rise in the quality of the neighborhoods served.

Sincerely,

11/28/2006

I-005-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

Melissa B. Bennett, AIA

1526 Mystic Valley Parkway

Medford, MA 02155

781 / 483-3323

11/28/2006

DB

November 3, 2006

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MEPA

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114-2524

Dear Mr. Golledge,

I-006-001 I-006-002 In reference to project #13886, I fully support the Green Line Extension in the form of a light rail mode, in exclusion of alternatives, i.e. Bus rapid-transit option. The terminus should be weighed with the Medford residents' input. In addition, I support a spur directly to Union Square, preferable over using the Fitchburg rail line. This would enhance the benefits to the commercial and residential zone of Union Square. Most importantly, please consider working with the Friends of the Community Path. Because the Green Line Extension is a major public works project that would fundamentally change the social and economic character of the area surrounding the transit line, in addition to enhancing the public health of the residents; encouraging use of the Green Line by making it accessible by foot or bicycle could potentially reap benefits beyond what the feasibility or impact studies can quantify. This transit line can serve more than just the neighboring residents. With the extension of the Minuteman, the path can serve as powerful incentive for more transit use for the many who would otherwise consider it inaccessible, or inconvenient. The rationale for a direct line to Union Square and the inclusion of the Community Path; one only has to look at Davis Square and it's transformation since the opening of the Red Line. The square is vibrant with cultural activities and commerce. The bicycle racks are full every day, and the homes nearby have been reinvested, and of course the increased tax base for the city cannot be dismissed. The Red line is one part of the factor in Davis Square's revitalization but the Minuteman path is the complement. On the east side of the path which ends on Cedar St, I've cycled past pedestrians walking along this short segment and I can only imagine the continuation of the path to Lechmere with activity along the path that signals a community. I'm sure many are hoping for this to happen soon. The proposed number of eliminating 9,600 daily car trips could be a very conservative estimate, but it is really just one measure of the improved quality of life for the community along the transit line.

I-006-003 On a more prosaic note, one member of the audience in the last meeting at Somerville High School mentioned something that I could relate from my experience. Please include in the budget, funds for rodent control. The road in front of my house which extents for a couple of blocks has been torn up for the laying of new gas lines. This disruption has caused rats to migrate into my and my neighbors' homes and backyards. One can only imagine what the Green Line extension with the construction could do to other neighborhoods.

Cordially,
Priscilla Chew
Resident of Somerville

I-006-001

A spur to Union Square via the MBTA Fitchburg Line and the Medford terminus options have been evaluated and are discussed in Section 3.6, *Build Alternatives* of the DEIR/EA. Comprehensive community involvement has been included throughout the project process as described in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-006-002

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

I-006-003

The construction management plans for the Project will include rodent control measures. Details on possible measures and information on construction staging and sequencing are provided in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

November 19, 2006

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MEPA

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office,
Deirdre Buckley, EOEA No 13886
100 Cambridge St., Suite 900
Boston, MA 02144-2524

Dear Secretary Golledge:

I am writing to state that I am *adamantly in favor* of the Green Line Extension, as far as it can go – preferably to West Medford, or even beyond. I use the word "adamantly," because it seems that a vocal opposition (a portion of which is going under the name "Medford RAGE") has gotten so much attention. If there is to be outrage, let it be on both sides: I am outraged that some belligerent people are standing in the way of my benefiting from the Green Line Extension.

I attended the public meeting at the McGlynn school in Medford on November 15. I was extremely disappointed that the Mayor of Medford and three of its City Councilors spoke only about the possible negative effects of the Green Line Extension on Medford. I do not agree with them, and will be communicating this to each of them. If they believe they are representing the citizens of Medford, it is only because some highly vocal, vitriolic people have claimed their attention.

I don't know how you are going to make the decision about where the Extension stops (and I don't know why the idea of continuing it to West Medford seems to have been dismissed), but I do hope you are *not* going to make the decision according to who is loudest and bitterest. Many, many more people stand to benefit by this public transportation project than will be harmed by it.

I would like to address some of the objections I heard at the November 15 meeting:

I-007-001

1. **Disruption to roads and bridges caused by construction** – There is no doubt that the Green Line Extension will cause significant disruption to parts of Medford while it and its related components (expanding bridges, etc.) are being completed. But the result will be well worth the wait and the disruption. We are short-sighted if we use this as an excuse not to do the project, or to shorten the length of the Extension.

I-007-002

2. **Traffic and parking problems** – There seems to be a consensus among the opposition that the Extension will draw *more* cars, rather than lessen the number of cars on the road. I don't believe this, but it would help us all if you could publicize how you arrived at the calculations of how many car trips would be eliminated, along with how this number would be influenced if the Extension stops at College Ave., or Winthrop St., or Rt. 16, or West Medford square. It would also help if you could contrast the traffic and pollution caused by buses with the reduction that would be achieved by the Extension. Buses cause significant traffic congestion in Medford (for

I-007-001

Thank you for your comment. Construction impacts and scheduling are discussed in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

I-007-002

The methodology for the traffic analysis, expected changes in traffic volumes, and associated Air Quality implications for each of the alternatives analyzed can be found in Chapter 5, (Environmental Consequences), in both the Traffic and Air Quality sections (Sections 5.5 and 5.6, respectively). EOT will work with Medford, Somerville, and Cambridge to develop a parking enforcement program around the proposed stations.

I-007-002

example, at the intersection of Winthrop St. and Boston Ave.), and presumably some of this would be alleviated by lessening the need for buses along these congested routes. Medford definitely does need more vigilant and effective parking enforcement, and following Somerville's example here could result in significant new revenue to the city while helping to retrain people who routinely park illegally on Medford's residential streets. Perhaps Mayor McGlynn could be made to see the potential upside of this and take some leadership on the issue. Some education on this issue from Somerville on how much it spends on parking enforcement and how much it takes in could help to refute the ridiculous proposition made at the meeting that "it takes in $6 million but maybe it spends $6 million to collect it."

I-007-003

3. **Land taking** – Of course people who might lose land are understandably upset. I suggest that you bring to any future public meetings wall-sized maps (preferably more than one set) that can be mounted at the meeting place so people can see exactly where the existing right of way is too small, and exactly where properties would be affected under the different scenarios for stations. An explanation of what kind of noise mitigation, financial compensation, and other benefits that abutters could accrue might lessen their objections.

I-007-004

4. **Concern about residents of Walking Court** – I heard some outrageous claims made about how the Extension will harm these residents, but not one of these complaints came from a resident or any legitimate spokesperson for the residents. Unsubstantiated claims should at least be investigated before they are taken seriously.

There were many more concerns expressed but I'll stop there. The bottom line is that we need to think beyond ourselves. Other people will live in our houses after we do. We should not be short-sighted and deprive ourselves and them of this significant improvement to public transportation because we don't have enough imagination, open-mindedness, and public spirit to come up with creative solutions to any possible negative effects of the project.

I believe that the Green Line Extension, especially if it reaches the West Medford commuter rail stop, has the possibility to help struggling businesses, significantly improve the lives of Medford citizens, and transform Medford for the better.

If you can publicize information about how similar public transportation projects have benefited other communities, more people might understand the potential.

Thank you for your consideration.

Sincerely,

Elisabeth Bayle
34 Emery St.
Medford, MA 02155

I-007-003

Proposed land acquisitions for the rail corridor and stations are discussed in Section 3.6, *Build Alternatives*, Section 3.7, *Project Description - Preferred Alternative*, and in Section 5.2, *Land Use* of the DEIR/EA. The indirect effects on land use and neighborhoods, including parking issues, are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

Potential noise and vibration impacts have been assessed and mitigation options are recommended in Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA, respectively. This assessment takes into account any changes to the existing terrain.

I-007-004

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

Buckley, Deirdre (ENV)

From: Sarah Bergstrom [sbergst1@alum.swarthmore.edu]
Sent: Friday, November 24, 2006 7:23 PM
To: Buckley, Deirdre (ENV)
Subject: Green Line extension comments

First, let me express my appreciation for scheduling a second meeting in Medford. (I attempted to attend it, but was unable to locate the school since the directions I had were incorrect.)

I-008-001 As a West Medford resident, who was drawn to the community partly due to the current and future T service, I deeply hope the extension to West Medford will remain under consideration. Surely there must be some way to continue working through alternatives and community outreach while moving forward on the Union Square and Somerville sections. (I used to live in Union Square, so I sympathize with the residents there who are upset at delays.)

I-008-002 The one major comment I had is that, nowhere in the study, was there any description of how bus service would alter to funnel ridership to the new green line, and how this would impact those of us who currently take the buses.

Sarah Bergstrom
186 Woburn Street
Medford, MA, 02155

1

I-008-001

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-008-002

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Fred Berman [fredlori@rcn.com]
Sent: Friday, November 24, 2006 8:29 AM
To: Buckley, Deirdre (ENV)
Cc: 'Ellin Reisner Ph. D.'
Subject: Testimony on Green Line Extension

Secretary Robert W. Golledge Jr.,
Executive Office of Environmental Affairs
Attention MEPA Analyst Deidre Buckley
100 Cambridge St., Suite 900
Boston MA 02114.

Re: EOEA Project No. 13886

Dear Secretary Gollege and Ms. Buckley,

Lori Segall and Fred Berman, 10-year residents of 25 Cherry Street in Somerville, are strong supporters of the Green Line extension, to as far west as possible, and, as such, we wish to acknowledge and thank the Executive Office of Transportation and the MBTA for your recent support in moving the project forward.

I-009-001 In your environmental review, we encourage you to examine and highlight the benefit of fixed rail public transportation in providing a viable alternative to driving, and therefore in getting Somerville and Medford residents out of their cars. The more directly the extended Green Line serves important destinations and sources of traffic – like Union Square, Medford Square, Ball Square, Teele Square, etc., and the better the connection with other transportation nodes – like Sullivan Square and Davis Square – the more people will be willing to leave their cars at home.

I-009-002 To the extent that the absence of reliable public transit has not been available in that corridor – and, as you heard from so many people who testified at the various hearings, bus transportation is not a good enough alternative to anyone who has the option of driving – the result has been increased congestion on the various arterial roads – Routes 16, 28, and 38 and, of course I-93. To the extent that so much of that traffic winds up on I-93, it becomes an environmental justice issue, given the demographics of the Somerville neighborhoods bisected by the highway as it approaches Boston.

I-009-003 To the extent that a direct line into Union Square could result in a higher utilization of transit to and from that increasingly important urban center (a lot of transit oriented development is planned for Union Square, as you know), we hope you will consider the value of such a direct line as compared with the convenience of running the train along the Fitchburg line, as per the Beyond Lechmere feasibility study.

I-009-004 Likewise in your study, we encourage you to find consider the environmental value of locating stations at other likely destinations, such as Brickbottom or Twin Cities, thereby incentivizing the use of transit. Direct access by T is clearly more likely to produce ridership than the need to walk another 5-6 blocks from a shopping or residential location.

I-009-005 Common sense and fiscal considerations -- as well as concern about minimizing the environmental impact of construction -- dictate that the construction of the T be coordinated with the re-design and reconstruction of McGrath and O'Brien Highway, which must happen soon because of failing columns. This is an opportunity to make sure that the line is routed in such a way as to address the needs of as many people as possible, both now, and as likely future residential and economic development takes place. Your environmental analysis should look at the potential of propitiously located T stops to avert future use of automobiles by the residents/workers/shoppers that these future developments will bring to the area.

I-009-006

I-009-007 There is word that an elevated train track is planned for at least a portion of the route. To the extent that such an elevated structure can be avoided, we could avoid some of the same issues that were raised by the elevated Orange Line not that many years ago. Why build something that we will have to later tear down and replace?

11/28/2006

I-009-001

The expected transportation benefits and potential impacts of the proposed Project to each of the major areas noted is provided in Section 5.5, *Traffic* of the DEIR/EA.

I-009-002

Environmental justice impacts are addressed in Section 5.4, *Environmental Justice* of the DEIR/EA. The analysis includes an assessment of changes in transit access to environmental justice populations. Traffic effects are discussed in Section 5.5, *Traffic* of the DEIR/EA.

I-009-003

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-009-008 Finally, as you know, East Cambridge and eastern Somerville are designated environmental justice areas, and as such, are entitled to fully participate in the Lechmere Station relocation decisions and Green Line extension planning and implementation. Lori and Fred echo Somerville STEP's advocacy for the appointment of a citizen advisory committee to work with EOT and MEPA to ensure that this happens during the corridor planning and environmental permitting process over the next two years.

I-009-009

Thanks for your support and attention to these matters.

Fred Berman / Lori Segall 25 Cherry St. Somerville, MA 02144 617-776-0503 fredlori@rcn.com

11/28/2006

I-009-004

A detailed station siting evaluation was conducted and is included in Appendix B to the DEIR/EA. The area between Brickbottom and Washington Street was evaluated as part of this work. It was concluded that one station in this area is warranted. The distance from Lechmere Station to the proposed location of the Brickbottom Station is approximately 3/4 of a mile, which provides adequate coverage of this area. Providing an additional station in the vicinity of Twin Cities Shopping Center would not be warranted at this time, and could slow travel times along the line, which would adversely affect service and ridership along these lines without providing significant ridership increases at the additional station.

I-009-005

Based on information provided by the Massachusetts Department of Conservation and Recreation (DCR), there are currently no immediate plans to reconstruct Route 28/McGrath Highway. The only planned improvements along Route 28/McGrath Highway would be in the form of in-kind repairs with no plans to increase capacity or significantly modify the corridor.

I-009-006

Section 5.15.7.2, *Present and Reasonably Foreseeable Actions* of the DEIR/EA, lists 24 planned and proposed projects within easy walking distance of the proposed Green Line stations. The proposed station sites have been selected to capture ridership from areas with high potential for transit-oriented development (i.e. Union Square, Brickbottom/Inner Belt area, NorthPoint, and Mystic Valley Parkway/Route 16) as well as areas with high existing and planned residential densities. The proposed stations location are defined in Sections 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternative* of the DEIR/EA.

I-009-007

Elevated tracks for the Green Line Extension project will be avoided wherever possible. A short section of elevated structure is currently proposed at Lechmere Station to just west of the station at Water Street in order to accommodate elevation variance in the area and be able to connect to existing viaduct as part of the relocation of Lechmere Station. No other sections of the currently proposed extension will require elevated track.

I-009-008

A Project Advisory Group was established to provide community input throughout the Project development process. Details on public coordination and outreach are provided in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-009-009

The Green Line Extension Project has established a Project Advisory Group, which is described in detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

November 18, 2006

DB

Dear Ms. Buckley,

I am writing to you concerning the green line extension project. I did attend the meeting on November 15. I am not a member of any group, other than a concerned citize

I live along the Lowell Line in West Medford Squa My husband and I are greatly relieved the extension crossing the Mystic River is no longer a concern. Boston Ave is a major thoroughfare for my family by car and bus. Four of my six family members have monthly T passes.

I-010-001 My current concerns are who will pay for the project. I am not willing to pay one cent!

Boston Ave is busy enough without hoards of passengers!

I-010-002 I agree with one of the speakers: people will park their car on side streets, even with permit parking only, they may drive from another part of Medford.

The primarily proposed stop at Ball Square is a good location. It is passed by with buses # 80, 89. # 94 and 96 travels through Powderhouse circle (as does 8 so people could get off there and walk the short distanc to Ball Square.

I-010-003 I hope this green line extension will be a direct line into Boston and not a shuttle service.

I-010-004 The Ball Square train tracks area looks blighted, and some Landscaping is needed. There are also many shops in this vibrant spot. It seems a natural fit.

My final concern is the train and buses running on time. I hope all involved in this project ride the buses, commuter rail, and subway. There is no substitute

I-010-001

The Project will be funded using a combination of Transportation dollars appropriated by the State and by funds that EOT is seeking through the FTA New Starts program.

I-010-002

EOT will assist Medford in the development of a parking enforcement program to address parking issues in the vicinity of the stations.

I-010-003

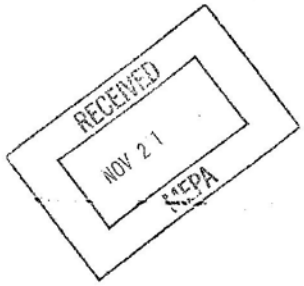
A goal of the Green Extension Project is to provide a one-seat ride for light rail transit riders to travel to downtown Boston. More details on the proposed operating plans for the various alternatives can be found in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.

I-010-004

The new Ball Square Station will be designed with the appropriate landscaping and other amenities in keeping with the urban context of the urban area.

for experience!

Sincerely,
Susan E. Brown
38 Bower St.
West Medford



DB

John J. Buckley
19 Suffolk Street
Medford, MA. 02155
(781-391-0545 home)

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MEPA

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
Deirdre Buckley, EOEA 13886
100 Cambridge Street, Suite 900
Boston, MA. 02114-2524
(FAX: 617-626-1181)

RE: EOEA # 13886
Green Line Extension

November 16, 2006

Dear Secretary Golledge,

I am writing this letter to urge you to reject EOEA # 13886. Quite honestly, the proposal to "extend the green line to Medford" appears to be based on the same "poor planning" concept that has plagued a large number of municipal projects, most notably the Big Dig. More specifically, there appears to be no real understanding of the impact of this project to the Medford Hillside and the Route 16 areas of our city. The recommendation by your office for a Single Environmental Impact Report (SEIR) provides evidence of this fact.

I-011-001

Apart from the significant traffic impacts, the EOT is assuming that if they build it, they (riders) will come. The question is: where are they coming from and where do they park? Can any serious rail proposal of this type suggest that the city of Medford doesn't need enhanced parking because all users will walk to the system?

I-011-002

I have lived in Medford for all of my life and at one time resided at 76 Orchard Street. The rail system virtually ran through my back yard. I know first hand the impact of poorly planned rail transit and improper sound mitigation. The Green Line Extension appears to offer a "back to the future" design/build concept. One example of this approach: it was stated at the McGlynn School meeting (11/15/06) that the embankment areas (elevated rails) will be replaced by poured in place concrete retaining walls. Perhaps you should personally view the poured in place concrete walls that hold up the Route 93 section along Mystic Avenue Somerville. Most individuals that I know, view this stretch of Somerville and Medford as one of the most unattractive areas in Greater Boston. Another example is the MBTA concrete walls at the end of Fourth Street. These have been problems for the neighbors for years. Vandalism and litter abound. The MBTA does not properly maintain this area at present. A review of the existing MBTA bus stop locations will reveal that the MBTA does not properly maintain these areas. No shelter (i.e.: rain, snow, etc.) improvements or replacements have been performed in years. Is this the "aesthetic" future that EOT plans for the Hillside-Route 16 areas of Medford?

11/17/2006 12:41 7813967159 BUCKLEY PAGE 01

I-011-001

As currently proposed, no parking will be provided at new Green Line Extension Project stations. Parking will only be provided at relocated Lechmere Station to replace the approximately 300 existing parking spaces. Transit ridership varies by alternative based on estimates of ridership developed by CTPS using a widely recognized transportation planning model. Existing traffic data was obtained and combined with traffic data from future area development. Up-to-date ridership estimates are provided for each alternative in Section 3.6, *Build Alternatives* of the DEIR/EA. Section 5.5, *Traffic* of the DEIR/EA outlines the specific changes in vehicular traffic and transit ridership expected and proposed mitigation to accommodate the changes.

I-011-002

The existing visual character of the Project Area is discussed in Chapter 4 (Affected Environment) Section 4.14, *Visual Environment* of the DEIR/EA. Possible changes to the visual character of the affected areas are discussed in Chapter 5 (Environmental Consequences) Section 5.12, *Visual Environment* of the DEIR/EA.

The proposed retaining walls and noise barriers have not been designed beyond a 10% level of design. The proposed materials utilized can be a variety of types. The goal will be to maximize aesthetics with function and minimize maintenance. Some examples are provided in Figure 5.7-7 of the DEIR/EA.

Additionally, I was the Project Manager for the New Schools Building Project in the City of Medford. This project ($111 million dollars) was finished on time and on budget. The entire Medford community was involved from the outset and we planned for successful project implementation. The residents of Medford were partners in progress in every step of the process: from school assessment to implementation and finalization process. Our Mayor, state representatives, Medford City Council, Medford School Committee and Building the Future committee members understood the need to solicit information, listen intently, question intelligently and plan accordingly. Contrast our (Medford Schools) collaborative approach to the current process being used for EOEA #13886. The current Green Line Extension review process has the appearance of fast tracking. More specifically, a very narrow project focus that was meant to culminate with a "neighborhood" meeting at Somerville High School in October.

I-011-003

It is also important to note that as part of our (Medford schools) process, we had to prepare a "draft" EIR (EOEA # 11947), traffic impact report, an ENF, submit for a Waterways License (#8523), title examination and sundry other items for the Hormel site. The appropriate public comment periods were observed. Another point of information is that Secretary of Environmental Affairs Robert Durand visited the site to see the conditions firsthand. Once again, why the SEIR approach for the Green Line Extension? As referenced on your SEIR Alternatives slide (Page 7) and based on the manner that this project has been presented to the City of Medford, I would select **Option 1- No Action.** If the City of Somerville supports the extension, then the Green Line would properly truncate at Ball Square, Somerville. If Tufts University has already factored a rail stop (i.e. Plaza) into their Tufts University Master Plan, then perhaps the rail extension would stop at that point and Tufts property should be used for the required train turnarounds. No City of Medford or residential land takings would be required in this approach.

I-011-004

I for one would like assurances that an Imminent Hazard Evaluation will be performed. Consider for a moment, the history of this rail bed area and the probability that certain hazards may exist. The North Street -Medford Hillside area was the home of Banta Coal Company (coal delivery & silo storage). What will tests pits reveal and (if required), what would be the suggested method of remediation? If required, what would be the projected costs?

In closing, why the SEIR approach on this project at a time when caution and a clearly detailed strategic planning approach is required?

Sincerely,

John J. Buckley
Resident of Medford

11/17/2006 12:41 7813967159 BUCKLEY PAGE 02

I-011-003

The Green Line Extension Project has had a long history of public involvement, including public meetings and Advisory Group meetings in each of the impacted communities - Somerville, Cambridge and Medford. Additionally, the Project Advisory Group has also included eight representatives from Medford. A summary of the public process can be found in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-011-004

Hazardous materials research was performed in order to identify possible contamination in soil and groundwater that may be exposed or encountered during the construction of the Project. These investigations did not identify the Banta Coal Company site as a potential source of contaminants for the Project. Proper handling, treatment, and disposal procedures for hazardous materials will be in place to address both known and unexpected contamination encountered during construction. Prior to construction, extensive subsurface investigations will be performed throughout the corridor on all areas of expected soil disturbance to identify any additional areas of contamination. The hazardous sites identified so far are discussed in Chapter 4 (Affected Environment)Section 4.16, *Hazardous Materials*, and potential impacts to these contaminated sites under each alternative are discussed in Chapter 5 (Environmental Consequences) Section 5.14, *Hazardous Materials* of the DEIR/EA.

DB

1429 Cambridge Street #1
Cambridge, MA 02139
November 16, 2006

Secretary Robert W. Golledge, Jr.
Executive Office of Environmental Affairs, Attn: MEPA Office
Attention: Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston, MA 02114



RE: Executive Office of Transportation
Green Line Northwest Extension
Expanded Environmental Notification Form
October 2006

Dear Secretary Golledge:

Thank you for the opportunity to comment on the Expanded Environmental Notification Form (EENF) for the Green Line Extension Project. I have attended the two recent public meetings in Somerville and Medford and would like to summarize my perspective on certain aspects of what I believe would be a comprehensive scope for the Environmental Impact Report (EIR).

Before I begin, I should note that I have been involved with earlier stages of this project and other related projects in the corridor. As a civil engineer, I worked on the consultant team for the MBTA Beyond Lechmere Study, the design of the new Lechmere Station, and for the earlier (1990s) MBTA New Hampshire Mainline Rehabilitation Project (in particular, the Somerville Drainage Improvement Project) which involved the Lowell commuter rail corridor. In addition, in my role on the volunteer Cambridge Bicycle Committee, I acted as a liaison and occasional technical advisor for the Somerville Community Path Feasibility Study.

My comments have been organized by topics.

Overview of Issues
Clearly, the issues in Somerville and Medford are different. This much appears clear:

- Somerville (residents and officials) are clear about the mainline alignment. What remains is the finalization of the station locations.
- For the Union Square branch, there is ongoing discussion over a street alignment via Somerville Avenue in lieu of the EOT alignment via the Fitchburg rail line.
- Medford (residents and officials) are not yet sure what they want, but are in clearly migrating to one of two camps:
    - Those who favor the extension to the Mystic River
    - Those who favor the extension ending at College Avenue/Tufts campus area (with a subgroup who question the need for the project at all)

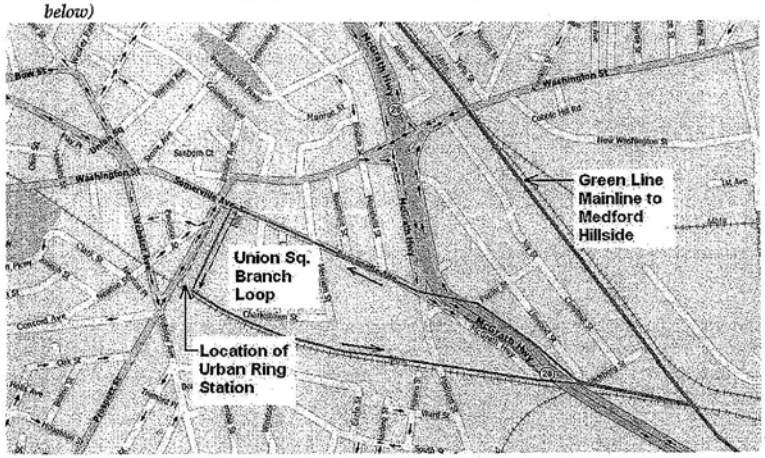
Alternatives Analysis

I-012-001 While EOT proposes only two alternatives (Proposed Project and No Build), there are clearly alignment alternatives that need further study to reach consensus. In addition, residents of Medford mentioned the need for better bus service. Taking this into consideration, I would suggest the following alternatives:

1. Green Line to College Avenue (or vicinity) with branch to Union Square
2. Green Line to Mystic River (or vicinity) with branch to Union Square
3. Green Line to College Avenue (or vicinity) with branch to Union Square with improved bus service in Medford (a hybrid alternative of LRT with TSM in Medford)
4. No Build

I-012-002 The Union Square Branch needs its own set of Alternatives, which may need to be expanded during the early public process stages:

a. Union Square via Fitchburg rail line
b. Union Square via dedicated median in Somerville Avenue *(dedicated median would be like the Green Line in Commonwealth Avenue or Huntington Avenue)*
c. Union Square loop entering the square via Somerville Avenue, looping to the Fitchburg rail line via the location proposed by the Urban Ring for its Union Square station *(see below)*



I-012-003 In addition to the alignment alternatives, consideration must be given to alternative stations locations including:

I-012-001

Consistent with the Secretary's Certificate on the EENF, a number of alternatives were considered for extending the Green Line service to Medford. These alternatives included a No-Build Alternative; alignments that considered terminations of the Medford Branch mainline at Medford Hillside/College Avenue and at Mystic Valley Parkway/Route 16; and alternative alignments for the Union Square Branch. Each of these alternatives are described in detail in Section 3.6, *Build Alternatives* of the DEIR/EA.

I-012-002

Consistent with the Secretary's Certificate on the EENF, a number of alternatives were considered for extending the Green Line service to Union Square. Each of the alternatives that you proposed were considered and are described in detail in Section 3.3.1, *Stations*, Section 3.6 *Build Alternatives* and Appendix B of the DEIR/EA.

I-012-003

Consistent with the Secretary's Certificate on the EENF, a number of station locations were evaluated as part of this Project. Working with the community at station workshops, station locations were identified and evaluated. Section 3.3.1, *Stations* and Appendix B of the DEIR/EA describe the process by which the stations were evaluated and final station locations were selected.

I-012-003

- Brickbottom
- Washington Street/East Somerville
- Gilman Square/Medford Street
- Central or Lowell Street
- Somerville DPW
- Ball Square/Broadway
- College Avenue
- Boston Avenue between College Avenue and Winthrop Avenue
- Winthrop Avenue
- Mystic Valley Parkway/Route 16
- Others as proposed early in the public process

I-012-004

For the Union Square branch, the station locations alternatives should include:

- Prospect Street in Fitchburg rail right-of-way (EOT location)
- Prospect Street and Somerville Avenue (Urban Ring's proposed station location)
- Other location further into Union Square
- Others as proposed early in the public process

Public Process

I-012-005

Since the issues in each community differ, I believe "one size" won't fit all. While an overall Citizens Advisory Committee (CAC) is still essential for the big picture, it is clear there needs to be subcommittees for each community focusing on these issues:

- Medford terminus alternatives
- Medford station locations
- Ball Square Station (representatives of both communities)
- Somerville station locations
- Union Square Branch alignment alternatives and station location

I-012-006

Other key aspects of the process:

- CAC meetings need to alternate between West Medford (i.e., not east of the Mystic River) and Somerville
- Subcommittees should meet as near as possible to their respective study area
- Subcommittees meetings should include field trips to view existing conditions and envision the impacts of the proposed project.
- Station Subcommittees should take field trips to view the light rail stations along the Riverside Line in Brookline and Newton as well as the stations of the Mattapan-Ashmont High Speed Line in Dorchester, Milton and Mattapan. *(Many of the Mattapan-Ashmont line stations are similar to the Riverside Line.)*
- Include representatives from Cambridge on the CAC, which is the origin of the extension and is within walking distance of other stations, particularly Union Square.

I-012-004

Consistent with the Secretary's Certificate on the EENF, a number of station locations were evaluated as part of this Project. Working with the community at station workshops, station locations were identified and evaluated. Section 3.3.1, *Stations* and Appendix B of the DEIR/EA describe the process by which the stations were evaluated and final station locations were selected.

I-012-005

In addition to the work of the Project Advisory Group, EOT held a series of station workshop meetings during Project planning process to discuss the proposed stations in more detail. Details about these workshops can be found in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-012-006

Green Line Extension Project meetings have been held in Cambridge, Somerville and Medford. Station workshop meetings were held as close to the impacted neighborhoods as possible. EOT has also conducted project tutorials with Advisory Group members, which have included a field trip to the Riverside maintenance facility. There is a Cambridge representative on the Project Advisory Group. Details about the workshops can be found in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

Secretary Robert W. Golledge, Jr.
Green Line Extension EOEA #13886
November 16, 2006
Page 4

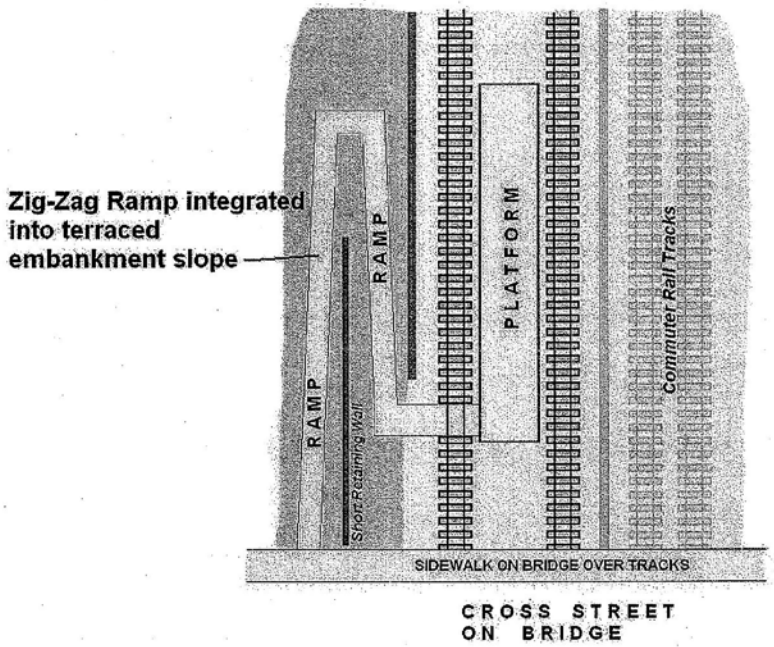
Technical/Engineering Issues

I-012-007

Station Access

Better design is needed. The EOT proposed "ramps from bridges" will result in long, ugly ramps, not unlike the one at Anderson RTC in Woburn. There is an incredible opportunity to design *with* the topography along the right-of-way. Note that at the Riverside and Mattapan-Ashmont lines often include ramps that are integrated into the sideslopes of the right-of-way side slopes. Such designs would be *less expensive*, more aesthetic, and result in shorter length ramps.

To meet this requirement, the MBTA has to permit access to the station to cross the inbound track at grade to reach the island platform, which is normative at all the Riverside and Mattapan-Ashmont stations. The schematic below show my recommendation for a better design for the access ramp.



I-012-007

Due to safety concerns, the current policy for the Green Line Extension Project is to not implement any at-grade pedestrian crossings of the light rail tracks. Also, in the interest of accessibility and minimizing right-of-way impacts, the stations have been designed to have access directly from the bridge structures with access to the platform level being provided by elevators, escalators and stairs. Section 3.3.1, *Stations* of the DEIR/EA described the layout for the proposed Green Line stations.

I-012-007

Mention was made of adding **elevators and/or escalators** to improve access to the stations. While the use of these mechanical vertical transport systems at unstaffed stations is contrary to MBTA policy, there may be opportunities for other parties to "sponsor" such devices – that is, for an abutter to take responsibility for maintenance and operation of the elevators or escalators. There is precedent for this at some MBTA stations (e.g., Downtown Crossing [Red Line, east end] and Chinatown [outbound]). Here are some possibilities:

- Gilman Square (Somerville City Hall and High School are adjacent – perhaps City of Somerville may be interested in sponsoring an elevator to provide vertical access between the station and the elevation of City Hall.
- College Avenue (Tufts University is adjacent – perhaps Tufts may be interested in sponsoring an elevator between College Ave./Boston Ave. and the station.)

I-012-008

Minimum Operating Segment (MOS)

Often transit projects are implemented over time with an initial segment or Minimum Operation Segment (MOS) identified as the first phase of the project.

Given the following:

- Widespread support for the mainline to at least Ball Square or College Avenue
- Uncertainty on the northern terminus
- Uncertainty on the alignment and station location on the Union Square Branch

I would recommend that the MOS be **Lechmere to Ball Square** or **College Avenue.**

I-012-009

Retaining Wall Options

There are options for retaining walls in lieu of the typical concrete walls that we have used in this rail corridor. On the east side of the corridor between School Street and Central Street in Somerville, the MBTA Somerville Drainage Improvement Project installed a wall system known as "evergreen wall." This is a "bin" type wall that steps up the slope. The bins allow vegetation to be planted. The results are a wall with fewer impacts on the neighborhood:

- the stepped wall reduces reflected noise
- vegetation planted in the bins make a more naturalist esthetic compared to vertical concrete
- the bins also allow rainwater infiltration

Since these are a vendor-designed product, the engineering costs are less, as there is no need to pay the design consultant to perform the structural design of the wall. It should also be noted that the use of this type of wall was suggested by the contractor, as it is easier and cheaper to construct when compared with concrete walls.

I-012-008

The EOT has noted and considered your comment. Sections 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternative* of the DEIR/EA provides details of the alternatives considered and a description of the phasing of the Preferred Alternative.

I-012-009

The Project will include vegetation in and above the retaining walls to maximize the vegetation within the Right-Of-Way. The use of vegetation on the retaining walls is discussed in Section 3.6, *Build Alternatives* as well as in Section 5.10, *Fish, Wildlife, and Plants*, and in Section 5.12, *Visual Environment* of the DEIR/EA. The specific types of walls used will be determined in the preliminary design phase.

Stormwater Management

I-012-010 The EENF missed the big picture regarding rail transit and stormwater management. That is, rail transit with its pervious ballasted trackbed is inherently superior in terms of stormwater management when compared to other modes, particularly bus rapid transit (BRT). Whereas new BRT busways create new impervious pavements and add to the sediment and pollutant loadings on the receiving drainage systems, LRT's ballast allows infiltration and creates far less runoff volumes per route mile or per passenger mile. LRT and other rail transit is therefore significantly more in line with DEP Stormwater Management Policy then BRT.

I-012-011 During the construction of the MBTA Somerville Drainage Improvements in the early 1990s, a new storm drainage trunkline with inlets was installed from New Washington Street to Cedar Street in Somerville, with ditch improvements nearly to the bridge at Broadway. These improvements ended chronic track flooding at Cross Street and Cedar Street. This system was designed for the 50-year storm with the Green Line extension in mind. The capacity of the line is adequate for the Green Line project.

I-012-012 The key issues for stormwater management are the Medford Hillside cut (as noted in the EENF) and also the maintenance facility, which will create the greatest amount of new impervious pavement due to parking, paved paths to access the rail cars in the yard, the roofs of the maintenance building and related support facilities for the operating supervisor staff and the light rail operators themselves.

I-012-018 I am also working on a major railyard improvement project in New Haven, CT where the owner (Connecticut Department of Transportation – ConnDOT) and operator (Metro North Railroad – MNRR) have agreed with an approach to minimize direct impervious runoff though the following measures (which I recommend are considered by the MBTA and EOT for the design of Yard 8 Green Line Storage and Maintenance Facilities):

- Except for handicapped parking, all employee parking is on gravel pavement to allow infiltration. (Unpaved parking areas are more normative for railroad operating staff then for transit operating staff, but with parking for as many as 100 employees, a pervious parking lot would greatly reduce runoff volume.
- Paved impervious service roads and walkways in the yard drain into the track ballast so that infiltration is the first means of handling site runoff.
- Only in a few locations where the buildup of surface ponding would hinder operations are site catch basins provided. These are in ballasted areas, so that ponding only occurs when the ground is saturated so that no further infiltration can occur and therefore direct discharge to the storm water system only occurs when the ground is saturated.
- Underdrains are provided to drain the ballast after storms.

I-012-013 From my work on the MBTA Somerville Drainage Improvement Project, I know there is limited capacity in the municipal and MBTA storm drainage systems in the vicinity of Yard 8. In particular, the adjacent area under now-demolished "Red Bridge" over the Fitchburg line used

I-012-010

Changes in impervious cover and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-012-011

The drainage system will make use of existing trunk lines where capacity allows. Techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-012-012

The stations themselves would result in minor increases in impervious cover, and new track areas would have pervious ballast to minimize the amount of stormwater runoff. The maintenance facility would be built on an existing disturbed site and, therefore, would cause a relatively small increase in impervious area. The drainage systems for the stations, tracks, and maintenance facilities would be designed with detention and/or infiltration systems to maintain existing peak flows into the municipal drainage systems, which would prevent any increase in flood risk. Changes in impervious cover and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-012-013

Changes in impervious cover and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-012-013 to experience significant flooding over the rails. Therefore, careful consideration of stormwater management for the Yard 8 facilities is critical.

Coordination with Multi-Use Paths

I-012-014 As noted in the EENF, the Green Line Extension will be designed in coordination with the design of the Somerville Community Path. This path can serve as a feeder facility connecting
I-012-015 the stations with the community. The stations should include bicycle parking.

I-012-016 If the line reaches the Mystic River, the terminal station should be coordinated with DCR's proposed Minuteman to Mystic pathway system.

Conclusion

I believe this is an important project that will serve a large urban area, resulting in many environmental and quality of life benefits. The project should be implemented as soon as possible.

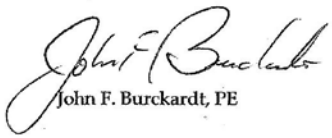
I-012-017 **However, it is key that the proponent listens to the specific needs and opinions of each community.** In particular, the terminus of the line in Medford should follow from an adequate public process whereby that community achieves its own consensus on this issue. While this issue may take several years to work out, the trunk line through Somerville is widely supported and the *environmental benefits should not be unduly delayed to the citizens of Somerville*.

Therefore, I would recommend:

- Phase I waiver for the Lechmere to Ball Square (or College Ave.) MOS that would allow the start of bridge reconstruction in Somerville following the DEIR Certificate.
- The Medford issues (alignment, terminus and station locations) require a longer process including at least a FEIR following the common DEIR. *(If the Medford consensus is Green Line to College Ave. with bus improvements in Medford, the people should get what they want, even if it differs from the EOT/DEP Artery agreement.)*
- Similarly, the Union Square Branch may benefit the longer public process that would come from a FEIR following the common DEIR.

Thank you for the opportunity to present my views on the project.

Sincerely,



John F. Burckardt, PE

I-012-014

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the proposed Somerville Community Path. Details on the design and coordination of the proposed Somerville Community Path in connection with the Green Line Extension Project are found in Section 3.8, *Community Paths*.

I-012-015

Space for bicycle parking has been allocated at all stations as discussed in Section 5.5, *Traffic* of the DEIR/EA.

I-012-016

The Green Line Extension Project has been coordinating with the proposed Mystic Valley Parkway Path with the proposed station at Mystic Valley Parkway/Route 16, which can help encourage safe and multi-modal access between these two uses.

I-012-017

Numerous public meetings and input sessions have been held throughout the Project. Details on public outreach and coordination can be found in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-012-018

Changes in impervious cover and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Natasha Burger [natasha.burger@gmail.com]
Sent: Thursday, November 09, 2006 4:50 PM
To: Buckley, Deirdre (ENV)
Subject: Comments Regarding EOEA Project No. 13886

Dear MEPA Analyst Deidre Buckley,

I am writing in regards to Project No. 13886, the extension of the Green Line to Somerville and Medford. Jasper and Iare Somerville residents and we attended the meeting on October 16, 2006, as well as a meeting in 2005. I am writing now to submit my comments on the project for the record.

When doing your SEIR I would like you to consider the following issues:

I-013-001 1. Location of Green Line stations: Please place the Union Square stop centrally in Union Square (along Somerville Avenue). It would be a huge catalyst for Union Square and the Eastern part of Somerville to have the Green Line directly in Union Square. If
I-013-002 placed on the outskirts of the square, I think this opportunity would be squandered. Please also extend the Green Line to Medford, but I will leave it to the Medford residents to speak for themselves on this issue as they are the experts on Medford.

I-013-003 2. Construction of platforms/stations: Please seriously consider the sound and environmental impacts of the stations and make every effort to mitigate the negative sound and detrimental environmental impacts that building the platforms may create. The negative impacts might include: the concrete walls that need to go on the sides of the tracks may amplify the noise. Please consider keeping and adding as many trees as possible to the proposed track area. Trees would not only visually soften the view of
I-013-004 the tracks but also absorb some of the noise. As for the actual platform/stops, please make these fully accessible to all T users but also design them with Green Building principles in mind. These principles include: incorporate some kind of passive or active solar techniques to help power any lights on the platforms, use recycled materials if at all possible in constructing the platforms, and add some kind of rooftop garden feature to the tops of the platforms. These gardens would help mitigate the negative effects of adding more impermeable hardscape which will have to be a part of the design (for ramps/stairs etc). Incorporating Green Building techniques into the design and construction of the platforms can actually be good business in the short and long term.

I-013-005 3. Connecting with Community Path: When planning the route of the Green Line, please be sure to connect it with the extension of the Community Path. I'm sure that other people more knowledgeable about the bike/walk path will be writing you as well and please heed their comments.

I-013-006 4. Union Square Extension: Please study the possibility of extending the Union Square spur of the Green Line to Porter Square in Cambridge. Linking the Green and Red lines would greatly increase ridership, accessibility and the overall positive impact of the Green line. It will also help to mitigate the anticipated increase in traffic at Park Street in Boston. It would also help to decentralize the subway system, in the interest of National Security.

I-013-007 5. Mitigate Transit Delays: Please reconsider the number of trains that will run on the Green Line track. As I understand it now, you are not planning on adding any additional Green Line trains with this extension. This will cause long delays in service and by not adding more trains your setting the project up to fail, or at least not meet the ridership goals.

I-013-008 6. Platform Design: Please solicit extensive neighborhood input on the design of the platforms and form at least one Platform Committee to allow anyone who might be interested in participating to give feedback on platform designs. Also, since you are not building actual stations, it is necessary to make sure that the platforms are suitable for the winter months and rainy, cold and windy New England days. The platforms need to provide riders with a comfortable and safe place to wait for the train.

Thank you for your consideration on all these issue.

Natasha Burger and Jasper Vicenti

9 Gilson Terrace #1

Somerville MA 02143

natasha.burger@gmail.com

11/28/2006

I-013-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-013-002

The EOT has noted and considered your comment. Thank you for your interest in the Medford Branch of the Green Line Extension Project.

I-013-003

The noise and vibration impacts are addressed in Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA. These sections also address how construction impacts will be dealt with. Construction activities will be carried out in compliance with all applicable local regulations. Noise from proposed stations has been included in the impact assessment. The effect of particular design details will be considered in the final design of the stations. While trees can provide a visual barrier to the transit system, it is a common misconception that they provide significant acoustical benefit. The typical depth of trees between the trains and

noise-sensitive land use on the proposed Green Line extension does not provide significant reduction of noise.

I-013-004

Specifics on station design, including sustainable features, are discussed in Section 3.7.3, *Stations* of the DEIR/EA.

I-013-005

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the proposed Somerville Community Path. Details on the design and coordination of the proposed Somerville Community Path in connection with the Green Line Extension Project are found in Section 3.8, *Community Paths*.

I-013-006

Although extending the Union Square spur beyond Prospect Street is not contemplated as part of the Project at this time, the preferred routing for the Union Square Branch would not preclude a possible extension in the future.

I-013-007

Additional trains will be required to operate the extension of Green Line service, the number of which vary depending upon the alternative. Ridership estimates, rail operating plans, vehicle requirements, and frequency between trains are discussed in Section 3.6, *Build Alternatives*, and Section 3.7, *Project Description - Preferred Alternative* of the DEIR/EA.

I-013-008

The MBTA has specific requirements in the design of the new Green Line station platforms. These design standards are necessary for the operation of the trains, as well for safety. However, public input has

been solicited in the siting of the station in neighborhood workshops and will continue as the design of the stations are further developed. Amenities such as canopies, benches and shelters will be provided and are described in more detail in Section 3.7.3, *Stations* of the DEIR/EA.

#13886 DB

RECEIVED
NOV 17 2006
MEPA

October 11, 2006

Secretary of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA, 02114
Attention: MEPA Office
Re: Green Line Extension

To Whom It May Concern:

I-014-001 I am writing to comment about the proposed Green Line Extension into Medford. I took part in a team which studied the locations of potential stations in Medford, and agree strongly with their conclusions that a terminus at Route 16 is ideal.

- This location has outstanding potential for intermodal connections: pedestrian and bicycle access to the West Medford Train Station and to Medford Square, and East Arlington (with the potential for trail improvements along the Mystic River and rail line), as well as the space for an accessible bus station at grade with the train platform, and can provide more safe and convenient options for private vehicle drop-off away from residential neighborhood roads. The location is in walking distance to neighborhoods within Medford, Arlington, and Somerville which are currently under-served by public transportation.

I-014-002

- This location also has tremendous potential as a transit-oriented smart growth node, adjacent to two existing multifamily developments, three sizeable office buildings and additional businesses on Boston Avenue, as well as a large former mill building (UHAUL), a supermarket, and a gas station, which are underutilized in their present states, and could be redeveloped for multifamily and/or mixed use.

I-014-003

- Beyond the parcels that immediately abut the Route 16 location, this site is also close walking distance to a public school (especially if a walking connection is made into West Medford Square), and could provide an alternative for the families of over 500 children to access public transportation in conjunction with dropping their children off.

I-014-004

- Public housing and multifamily development in Arlington is located approximately ½ mile from the site, and could be directly connected to the station via improved pedestrian trails along the Mystic River.

I-014-005

- The width of the rail right-of-way and the configuration of the relatively large, mostly commercial properties which abut the site would minimize, if not eliminate the need to use eminent domain to create a station at this site or to undertake unwieldy changes to the site's infrastructure.

I-014-006 In our study, the group identified a number of problems with the location of a station at Winthrop Street because of the steep hill side, the narrow right of way, the location of the Winthrop Street Bridge, and the configuration of small residential and commercial parcels adjacent to the track on

I-014-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-014-002

Section 5.15.5.1, *Transit-Oriented Development* of the DEIR/EA notes that the Mystic Valley Parkway/Route 16 Station area has a high potential for transit-oriented development. The City of Medford is considering conducting a master planning study to evaluate the potential for transit-oriented development in the vicinity of the proposed station. A terminal station at Mystic Valley Parkway/Route 16 could be a catalyst for new mixed-use development.

I-014-003

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-014-004

Alternatives 2, 4, and 5 include a terminal station at Mystic Valley Parkway/Route 16 , adjacent to both Arlington and the Mystic River Reservation. Pedestrian access to this station is discussed in Section 3.6, *Build Alternatives* of the DEIR/EA.

I-014-005

Land acquisitions required for the proposed station sites are discussed in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-014-006

Locating a station at Winthrop Street is no longer a consideration for the

either side. While it may be possible to overcome these barriers to place a station at this site (or better still, in between Winthrop Street and College Avenue), this site would be less advantageous for a terminus because it does not allow as many options for access.

- There are no connections to exclusive pedestrian pathways, so that riders will be limited to walkers from the immediate neighborhood, to bus passengers, or those who are dropped off in private vehicles.

- Traffic at the Boston Avenue/Winthrop street intersection is more problematic, as both of the roads are narrow at this point, and already cannot handle the volume of traffic that they carry during rush hour. Unlike Route at 16, these are the only through streets in the vicinity, providing few alternatives for people traveling to and from different directions.

- Adding private-vehicle drop-off to the mix of transportation activities that takes place here will create a more chaotic situation, and will encourage the use of small residential roads to carry commuter traffic. A non-terminal station at this location will not attract drop-off traffic, and will thus have less of a traffic impact.

The Winthrop Street location also has very limited potential for redevelopment that could follow improved transportation infrastructure. Terminating the Green Line at Hillside would miss a tremendous opportunity for generating new private investment in "smart growth" development or for creating a regional pedestrian-transit link.

As a resident (and landlord) who would live within ¼ mile of a potential Route 16 terminus, I am very excited at the idea of having green line access in my neighborhood. I look forward to having, at last, a one-seat ride to my job in Brookline, eliminating the need for me to drive in my car during rush hour. I can only imagine that many other residents and employees in the immediate neighborhood could also utilize public transportation and improved pedestrian connections, which would offset any traffic generated by the train station. Although I can only speak for myself, I believe that many of my neighbors – especially those who live in the public housing development at Walking Court, most of whom do not have cars – would also enjoy the benefit of improved public transportation access.

I am not worried about traffic or neighborhood impacts because my neighborhood is already characterized by mixed use development, and through-traffic on relatively wide streets. I do not feel that a Green Line station in this neighborhood will significantly change these conditions. Parking is also not an issue in our neighborhood; there is ample on- and off- street parking for every resident on my street, even when a seasonal parking restriction limits parking to one-side of the street over the winter months.

I have been aware of negative responses from Medford community members about a station in West Medford. I would like to underscore that a Route 16 terminus avoids almost all of the concrete issues and disadvantages that concern those who live in the neighborhood that lies between the Mystic River and West Medford Station. I hope that the State will look at this location independently from any analysis of West Medford, and that too much weight is not given to the political challenges that

Green Line Extension Project. The evaluation process for selecting the final station locations is discussed in Section 3.3.1, *Stations* and Appendix B of the DEIR/EA. Specific station locations are identified in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-014-007

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-014-008

The traffic impacts of each alternative on the intersection of Boston Avenue and Winthrop Street are provided in Chapter 5, (Environmental Consequences) of the DEIR/EA. The analysis includes modifications to signals and crossings to safely accommodate the anticipated pedestrian access to the College Avenue Station.

I-014-009

For the purposes of this analysis, pick-up and drop-off traffic is proposed at each station. This traffic, while expected to be minimal, is included to determine whether there is any impact to traffic operations that can be directly attributed to pick-up/drop off activity. Pick-up and drop-off locations are not provided at Gilman Square and Ball Square.

I-014-010

Locating a station at Winthrop Street is no longer a consideration for the Green Line Extension Project. The evaluation process for selecting the final station locations is discussed in Section 3.3.1, *Stations* and Appendix B of the DEIR/EA. Specific station locations are identified in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-014-011

Environmental justice impacts are addressed in Section 5.4,

I-014-012

come from those who live beyond the study area for this site. I am especially concerned that the opinions of a minority of residents who may not even live in this area by the time the Green Line extension is completed do not stifle the development of a resource that a quiet majority may wish for, and which will attract new investment and a demographic shift in favor of improved transit access.

Over all, I feel that a green line station at Route 16 would enhance and strengthen our neighborhood, providing a community resource that fits with the neighborhood character, with benefits that would far outweigh any negative impacts. The arguments for placing a terminus at this site include outstanding intermodal access from many directions, the potential to create a highly functional transit-oriented node, and the fact that the site is well-configured to accommodate a station without generating undue political or infrastructural challenges. I hope that you will take these arguments into consideration as you evaluate the design of the Green Line expansion.

Sincerely yours,

Roberta Cameron, AICP

Homeowner
12 North Street #2
Medford, MA 02155

Environmental Justice of the DEIR/EA. The analysis includes an assessment of changes in transit access to environmental justice populations as well as noise impacts and the social and economic effects of land acquisitions.

I-014-012

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

November 24, 2006

To: Ms. Deidre Buckley
The Executive Office of Transportation
10 Park Plaza, Suite 3170
Boston, MA 02116
deirdre.buckley@state.ma.us

From: Doug Carr
124 Boston Avenue
Medford, MA 02155
781-488-9166 home
617-850-6576 work
donndougcarr@comcast.net home
dcarr@bhplus.com work

Re: Written Comments on the Green Line Extension to Somerville & Medford

Ms. Buckley:

Thank you for this opportunity to comment on the proposed Green Line extension to Medford.

I have been involved in the Green Line planning process for several years, first as a Medford representative on the MBTA *Beyond Lechmere Northwest Corridor Study* Advisory Committee and, for the past year as a private citizen through the Medford Green Line Neighborhood Alliance (MGNA). The EOT has received our Draft Station Study document analyzing the many issues that need to be addressed when the Green Line extension is built. As you know, MGNA is calling for a terminus station at the Mystic River/Route 16 and a combined station between College Avenue and Winthrop Street in Medford. The full Study document is available at www.medfordgreenline.org/stationstudy. I believe you have also received our Petition, where 225 individuals have signed supporting extending the Study Area to include Route 16 / Mystic River area.

I-015-001

I am a strong proponent of bringing the Green Line as deep as possible into Medford to serve the largest number of people. To this end, I strongly urge the EOT to extend the study area to the Route 16 / Mystic River area. There is a growing consensus in Medford that this is the best termination point for the Green Line. Located directly on the Medford/Somerville line, this Green Line station location will:

- Have excellent connections to buses 80 (Arlington Center) and 94 (Medford Square), increasing its capacity
- Serve much of West Medford (which is within a 10-15 minute walk from this location)
- Serve the westernmost neighborhoods of Somerville, which has few non-car transportation options
- Serve portions of East Arlington (also within a 10-15 minute walk from this location)
- Make strong connections to existing and planned bike/walking trails along the Mystic River
- Not require the eminent domain takings of any residential house or property
- Be consistent with the State's Smart Growth policies (the cluster of existing commercial buildings in this area have great Smart-Growth, Transit-Oriented Development Possibilities)

To not extend the study area to Route 16 / Mystic River would greatly limit ridership, the environmental benefits, and transportation access by Environmental Justice Communities. Extending the Green Line to

C:\Documents and Settings\WoelfelS\Local Settings\Temporary Internet Files\OLK336\Green Line Letter to EOT 112406.doc

I-015-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-015-001

Route 16 / Mystic River provides the largest number of people with an alternative form of transportation that a terminus station at either Winthrop Street or College Avenue does not. As you can see in our Station Study, both the Winthrop Street and College Avenue sites have many site challenges.

I would like to note for the record that at the November 15th meeting, many of the Medford residents who had concerns about the Green Line primarily expressed fears of increased traffic and parking. But, I believe that the Green Line should not be held hostage by the City of Medford's inability to deal with basic planning and parking/traffic issues. Medford clearly needs to get its house in order when it comes to existing traffic and parking problems so that the Green Line makes these problems better, not worse. Luckily, we have eight long years to fix this existing problem before the Green Line comes on-line.

Finally, I wish to personally thank you for holding the November 15th meeting in Medford. It was a long night, but it was important to finally give residents a forum to ask questions and raise issues. Thanks again.

Regards,

Doug Carr

Buckley, Deirdre (ENV)

From: Dorie Clark [dorie@dorieclark.com]
Sent: Tuesday, November 07, 2006 8:56 AM
To: Buckley, Deirdre (ENV)
Subject: comments regarding EOEA Project No. 13886

I-016-001 Dear Mr. Golledge and Ms. Buckley, I am an East Somerville resident writing in support of the Green Line in Somerville. Specifically, I would like to urge you to extend the Green Line fully into Union Square, which will make it far more convenient for residents and visitors and help spur much-needed development in the area. Thank you.

Sincerely,

Theodora (Dorie) Clark
39 Franklin St. #4
Somerville, MA 02145

Dorie Clark
Clark Strategic Communications
617-359-7486
www.dorieclark.com

11/14/2006

I-016-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

Buckley, Deirdre (ENV)

From: Sara Cohen [scohen@cohenpr.com]
Sent: Friday, November 24, 2006 11:37 AM
To: Buckley, Deirdre (ENV)
Subject: Green Line Extension to Union Square

Dear Deirdre,

Thank you for coming to our neighborhood last month to talk about plans at the T, and for making such a comprehensive presentation at the Somerville High School.

I have lived in Union Square for almost two years, and moved to this area from Newton because of its great location and historic neighborhood. Recently, I was voted onto the condo association Board of Trustees for my building, one of the largest and most historic in the city. I have invested in this neighborhood and believe that this city has much to offer, but I have found public transportation sorely lacking. Bus service into Harvard Square is not frequent enough for city living, and T service is non-existent. We desperately need much better connections into the city. And, in my opinion, this can't come soon enough!

I am also a member of the Union Square Economic Restructuring Committee and am working with our team to bring more businesses to the Square. Unfortunately, our work is greatly hampered by the lack of population needed to support the kind of businesses that we desire. Population growth will only happen when we have dependable and frequent public transportation to bring shoppers, office workers and residents to our neighborhood, and attract development that will create a thriving residential and business community.

While one can feel all the positive changes that are on the verge of happening, help is needed from public policy makers in order for the vision put forth by the Mayor and others to become a reality. PLEASE make the following modifications to your plans so that we can reach our goals for a better business environment and cleaner, more inviting neighborhood that connects easily to other parts of the Greater Boston community.

I-017-001 | 1. Speed up the timeline—2014 is too far off. This neighborhood shouldn't have to wait that long to see positive changes.

I-017-002 | 2. Most importantly, please bring the T directly into the Square, down Somerville Avenue, where the shops and restaurants are, rather than along the Fitchburg line. This will help speed up growth of business, and make it much easier for people from other parts of Greater Boston to find us. Remember, we have many nice ethnic restaurants which could be a wonderful destination for diners, but NOT if folks have to walk several long blocks —especially at night - to the various eateries.

I-017-003 | 3. Please add more bus service into Harvard Square. Once an hour after 9 pm is ridiculous. To say that there aren't enough people using buses is no argument at all. Who would use the buses with that kind of service, especially in the winter!

Looking forward to improved public transportation to Union Square. Thank you for your part.

Sincerely,

Sara Cohen

373 Somerville Avenue, Unit E • Somerville, MA 02143
Tel: 617-776-3939 or cell: 617-281-9825

11/28/2006

I-017-001

The Project is on schedule to be operational in 2014 as currently required by the State Implementation Plan.

I-017-002

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-017-003

The provision of additional bus service between Union Square and Harvard Square is outside of the scope of this study. No changes in bus service are proposed as part of this Project.

Buckley, Deirdre (ENV)

From: Stacy Colella [stacy@111george.com]
Sent: Friday, November 24, 2006 10:14 PM
To: Buckley, Deirdre (ENV)
Subject: Project 1388

I-018-001 I support the extension of the Green Line to Medford.
I would like it to go to Route 16 and to preserve the character of the surrounding area.

Thank you

Sincerely

Stacy Colella
111 George St
Medford, MA 02155

1

I-018-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. Additionally, the impacts and associated mitigation resulting from the Project are described in Chapter 5 (Environmental Consequences) of the DEIR/EA.

Buckley, Deirdre (ENV)

From: NSRailLink@aol.com
Sent: Friday, November 24, 2006 11:31 PM
To: Buckley, Deirdre (ENV)
Cc: NSRailLink@aol.com
Subject: Green Line Extension Expanded Environmental Notification Form - EOEA No. 13886
Attachments: GREENL~1.ZIP

Ms. Buckley:

Attached as both a PDF and word file you will find my comments on the Green Line Extension Expanded Environmental Notification Form - EOEA No. 13886. Please call me at 781.391.2652 if there are any problems with this submission.

Is it possible to send a confirmation to me at nsraillink@aol.com ?

Thank you!

John F. Deacon

11/28/2006

John F. Deacon
128 Brookings Street
Medford, MA 02155-5447
Telephone: 781.391.2652/e-mail: nsraillink@aol.com

Secretary Robert W. Golledge, Jr.
Executive Office of Environmental Affairs
Attn: MEPA Office
Deirdre Buckley, EOEA No. 13886
Suite 900
100 Cambridge Street
Boston, MA 02144-2524

November 24, 2006

Re: Green Line Extension Expanded Environmental Notification Form No. 13886

The State Implementation Plan (SIP) originally called for an extension of the MBTA's Green Line, alongside the MBTA's Lowell Branch commuter rail line, beyond Lechmere Station in Cambridge to Medford Hillside in Medford.

The proposed terminus of this extension had been defined as being located at the intersection of College and Boston Avenues in Medford, an area largely defined by large athletic fields, institutional and commercial activities. Even at this location significant work would have been necessary to survey, document, and review the environmental impacts resulting from such a project. Even more importantly a plan to develop enforceable mitigation commitments to become permit conditions for the project, if and when it is permitted, has never been presented.

Moreover, this project is now envisioned as being composed of two branches – an extension of the main line to Medford and a spur line to Union Square, Somerville. Additionally, the Executive Office of Transportation (EOT) is proposing to examine the feasibility of extending the proposed Green Line extension beyond Medford Hillside (College Avenue) "to a station to be located in the vicinity of Winthrop Avenue in Medford."

It must be noted that the designation "Medford Hillside" not only applies to the intersection of College and Boston Avenues, but also is used for that section of Medford lying alongside Boston Avenue and extending to the vicinity of the Mystic Valley Parkway.

Within Medford, there is considerable debate as to the preferred terminus for this extension, as well as disagreement over potential station locations, resulting from the very vague description by EOT of an extension beyond the original terminus at College Avenue. One proposal would extend the project boundaries to the vicinity of Route 16 (Mystic Valley Parkway) and Boston Avenue. Interestingly, this could mean that the terminus of the Green Line would fall partially within the boundaries of Somerville, as well as Medford.

John F. Deacon 2

I-019-001 Given the very sparse information supplied by the project proponent (EOT); the complexity of the proposed project, even if only to College Avenue; the lack of a of a comprehensive public participation process with little or no notice to abutters; and no process in place to even begin to define what a project extension beyond College Avenue would look like, it's clear that EOT's request for a SEIR (Single Environmental Impact Report) is unrealistic at this point.

I-019-002 What is also clear is that a comprehensive public review process for this project is not in place for the City of Medford, nor have abutters to this project, beyond the original terminus of College Avenue, been adequately informed of possible impacts or potential mitigation to be expected from the proposed extension of the project boundaries to the Mystic Valley Parkway.

The costly, rancorous, and time consuming process leading up to the restoration of MBTA commuter rail to Greenbush on the South Shore is an example of how important it is to actively engage in an open and comprehensive public process before setting a budget or commencing construction.

"Seven months from opening, the long-fought Greenbush commuter rail line could cost an additional $18 million, in part because of changes to mollify community opponents.
A project official familiar with a recent risk assessment done by the MBTA said the T estimates the price tag could rise from $497million now to between $512 million and $515 million, once lawsuits from landowners along the 18-mile line are settled." (Late concessions could add $18m to Greenbush cost – Mac Daniel, The Boston Globe, November 17, 2006).

I-019-003 To further a better outcome for the proposed Green Line extension beyond Lechmere Station in Cambridge to both Somerville and Medford, the Secretary might be well advised to take the following action on the EENF submitted by EOT:

- Either reject the submitted EENF or accept it as a simple ENF.
- Reject EOT's request for a SEIR (Single Environmental Impact Report).
- Require the project proponent to submit both a DEIR (Draft Environmental Impact Report) and a final FEIR (Final Environmental Impact Report).
- Establish a Citizens Advisory Committee (CAC) representing all interests, both public and private, that would be impacted by this project.
  Special care should be taken to fully involve and inform all abutters by both print and electronic means (newsletter, webpage, etc.).
- Determine if the proposed action meets MEPA criteria for a Major and Complicated Project.
- Hold a separate public scoping session on the impacts of an extension of the project boundaries beyond College Avenue in Medford.

Additionally, the Secretary should include the following in establishing a future scope for the environmental review of the proposed action.

I-019-004
I-019-005
- No Eminent Domain takings of private residential properties should be allowed.
- If the project is to be extended beyond College Avenue, the restoration or replication of the existing linear greenway extending much of the way to North Street must be made an enforceable mitigation requirement for any future permitting of this project. Because rail usage along this stretch has historically only used a portion of the available right of way, a greenway

I-019-001

The DEIR/EA has been developed to provide a reasonably complete and stand-alone description and analysis of the project, project alternatives, and environmental impacts, adequately addresses mitigation, such that the DEIR/EA may be reviewed as, and be deemed adequate by the Massachusetts Environmental Policy Act office as a Final EIR for the project.

Since the 2006 release of the Expanded Environmental Notification Form for the Green Line Extension Project, the EOT has developed and implemented a robust Civic Engagement Process to inform and involve interested stakeholders. This public process, which includes an active Project Advisory Group, is described in more detail in DEIR Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-019-002

The Green Line Extension Project has been engaged in a full and comprehensive public process for citizens in each of the affected communities. Please see the Public Involvement Summary in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-019-003

Upon submission of the EENF, MEPA reviewed the EOT's request for a Single EIR in accordance with the MEPA regulations and determined that if the DEIR is thorough, that it was likely that the DEIR would be deemed adequate to serve as the FEIR, after public review and comment. MEPA did not identify the proposed action as a Major and Complicated Project.

Since the issuance of the December 1, 2006 MEPA Certificate (EOEA

I-019-005 and tree belt has developed over the years. This greenway acts both as a noise and light shield from the both the road and railway. In the summer it provides shade and, in all seasons, it provides habitat for numerous bird species and many small woodland creatures.

I-019-006 • If the project is to be extended beyond College Avenue, a way to preserve and enhance the benefits of the existing earthen walls in reducing noise pollution impacts not only just for the immediate abutters, but for an extended distance in all directions. The substitution of a hard impervious surface for this earthen support structure may lead to a significant decrease in the quality of life for many residents of both Somerville and Medford.

I-019-007 • If the project is to be extended beyond College Avenue, the serious drainage deficiencies now present along portions of the existing rail right of way need to be corrected, especially in and around the Winthrop Street Bridge in Medford. Commuter rail service has been negatively impacted by flooding in the past and adjacent properties affected.

I-019-008 • All issues relating to security and maintenance responsibilities for the completed project must be resolved prior to this project moving forward for final permitting. Who's responsible for what, and how will it be funded?

I-019-009 • In order to reduce demand for automobile commuter parking at, or near, proposed station locations, a substantial commitment must be made to facilitate both bicycle and pedestrian access to these stations. This commitment must not end at the project boundaries but extend to adjacent roadways, paths, and intersections, and include funding to update street lighting, traffic signals and additional infrastructure as needed. Sufficient and secure storage for bicycles must also be included as part of this effort.

I-019-010 • The proposed project should not preclude the future electrification of the MBTA's commuter rail system through Somerville and Medford. Increasing health concerns over the impacts of very small particulate matter (pmt) from sources such as diesel engines would appear to favor the eventual electrification of the increasingly busy Lowell Line. Since the end of October, three additional rush hour trips in both directions have been added between Woburn and North Station along this corridor.

I-019-011 • Lacking the obvious symbolism of a massive power plant complete with towering smokestacks, the very real negative health impacts of large number of diesel powered vehicles, especially in densely populated urban areas, may be underestimated. As more research is done on the effects of small particulate matter on human health, it's becoming increasingly clear that existing concentrations of this material, in addition to other pollutants, may well be above acceptable levels. Concentrations of various pollutants inside buses are of equal concern to those released outside of the vehicle.
As a precondition for future permitting for this project, the MBTA must significantly reduce diesel bus usage in the Somerville and Medford communities.
Much of this reduction in diesel bus usage could be achieved by mandating that any replacement facility for the MBTA's Salem Street garage be designed for alternative fueled vehicles utilizing fuels other than diesel.

I-019-012 • Any proposed Green Line extension to Somerville and Medford must be operated into and through the Green Line system in downtown Boston. It can't be operated as a shuttle service terminating at either Lechmere Station or Government Center. It's necessary to include this requirement due to past attempts by the MBTA to substitute one project for another.

I-019-013 • Any changes to existing bus routes resulting from the proposed action must take into account long established transit markets which will still need to be served. Both MBTA routes 94 and 96 connect Medford and Somerville to the Red Line corridor through Davis Square in

#13886), the EOT has planned and developed the project in coordination with a Project Advisory Group, which represents a broad range of public and private interests.

Although the EOT did not hold a separate public scoping session on the impacts of an extension of the project boundaries beyond College Avenue in Medford, the EOT has hosted numerous public involvement events to receive and respond to public concerns and interests since that time. These public involvement events include Project Advisory Group meetings, public meetings, station workshops and briefings for elected officials, public agencies and neighborhood groups and institutions. Details are provided in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-019-004

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-019-005

Impacts to wildlife habitat are discussed in Section 5.10, *Fish, Wildlife, and Plants* of the DEIR/EA.

I-019-006

Your comment has been addressed in the appropriate DEIR/EA Section(s). Specifically noise impacts and mitigation can be found in Section 5.7, *Noise* of the DIER/EA.

I-019-007

Techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA. Also, the MBTA has recently raised the

I-019-013 Somerville. Route 96 continues through Davis to both Porter and Harvard Squares in Cambridge, and has probably contributed to Medford's recent popularity as place to live for many younger residents priced out of the Cambridge housing market.

I-019-014 Finally, if the project is to be extended beyond College Avenue, a tunnel option for the Green Line beyond College Avenue should be studied.

I-019-015 At a point near the Winthrop Street Bridge the Green Line right of way will begin to diverge from the commuter rail alignment which will continue to access the existing bridge over the Mystic Valley Parkway. The grade differences between the two rail lines as they approach Route 16 will necessitate a fairly complex and substantial structure being constructed to serve both lines.

I-019-016 Although a tunnel might initially appear to be a more expensive option than a surface alternative, such an option would allow for better mitigation of the project's impacts on adjacent neighborhoods, as well as provide greater flexibility in the design and location of stations. Future extensions of the Green Line to either Medford Square or West Medford, alternatives which would be precluded by a surface alignment, could also be considered.

In the final analysis, a tunnel option may prove to be the better investment.

Thank you.

John F. Deacon

track profile from Brookings Street to North Street to address the drainage problems identified.

I-019-008

The EOT has noted and considered your comment. The MBTA will be responsible for all issues related to security and maintenance of the proposed extension.

I-019-009

Space for bicycle parking has been allocated at all stations as discussed in Section 5.5, *Traffic* of the DEIR/EA. Additionally, motorized and non-motorized connections to stations have been analyzed and improvements recommended were necessary. There is also an opportunity to coordinate the proposed Somerville Community Path's neighborhood connections with the Green Line Extension stations. The Green Line Extension Project design has been developed in coordination with the proposed Somerville Community Path and Mystic Valley Parkway Path project for compatibility. Further discussion on the Community Paths are found in Section 3.8, *Community Paths* of the DEIR/EA. Improvements to area roadways and intersections are defined in Section 5.5, *Traffic* of the DEIR/EA.

I-019-010

The Project does not preclude the implementation of future electrification of the MBTA commuter rail line. However, the Green Line electrical system and the electrical system needed for a commuter rail line are quite different and do not share much compatible infrastructure. The Green Line uses a 600-volt direct current (DC) overhead catenary, while typical railroad electrification (such as the Amtrak line from New Haven to Boston) uses a 25,000-volt alternating current (AC) supply. Substation and overhead wiring requirements also vary significantly between DC and AC systems. Since the required upgrades to the Green Line system

do not overlap with the upgrades necessary for electrification of the commuter rail lines, the Project does not include infrastructure for commuter rail electrification.

I-019-011

Particulate matter (PM) analysis was conducted in the mesoscale (regional) air quality analysis. The results of these analyses indicate that the PM is reduced with the implementation of any of the alternatives assessed in the DEIR/EA for the Green Line Extension Project. With the MBTA's future plans to introduce alternative fuel buses, improvements to air quality in the region will continue to improve. Further discussion can be found in Section 5.6, *Air Quality* of the DEIR/EA.

I-019-012

The new Green Line service will extend existing branches of the Green Line into Somerville and Medford, therefore providing a one-seat ride from the Project study area to downtown Boston. Transfers at Lechmere Station will not be required as in a shuttle operation. Section 3.6, *Build Alternatives* of the DEIR/EA describes the proposed operating plan for each of the alternatives.

I-019-013

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

I-019-014

Requests to evaluate the possibility of a tunnel to provide the extension of Green Line service were received throughout the project planning process. As a result of these requests, a study analyzing tunnel alternatives was developed and is found in Appendix B of the DEIR/EA. The conclusions of this study indicate that although a tunnel could reduce construction and noise and visual impacts, the impacts of the currently proposed surface Green Line Extension Project can be mitigated. Therefore, the additional costs associated with a tunnel alternative are not warranted and become cost-prohibitive to the Project.

I-019-015

In the area south of Mystic Valley Parkway/Route 16, it is envisioned that the Green Line Extension Project will utilize the existing commuter rail elevated section to accommodate both the Green Line and the commuter rail tracks. The profile of the Green Line will match the commuter rail track profile throughout the corridor. Retaining walls are propose to accommodate the Green Line tracks. The Mystic Valley Parkway/Route 16 Station will provide access to the center platform from beneath the tracks.

I-019-016

Requests to evaluate the possibility of a tunnel to provide the extension of Green Line service were received throughout the project planning process. As a result of these requests, a study analyzing tunnel alternatives was developed and is found in Appendix B of the DEIR/EA. The conclusions of this study indicate that although a tunnel could reduce construction and noise and visual impacts, the impacts of the currently proposed surface Green Line Extension Project can be mitigated. Therefore, the additional costs associated with a tunnel alternative are not warranted and become cost-prohibitive to the Project.

Buckley, Deirdre (ENV)

From: Darlene Domian [ddomian@unica.com]
Sent: Thursday, October 19, 2006 11:08 AM
To: deirdre.buckley@state.ma.us.
Subject: Attention MEPA analyst Deidre Buckley

As a Somerville resident since 2001 I am writing to you in support of the proposed bike path extensions.

I have been an active member of path friends for several years and strongly believe this is an important agenda for quality of life improvement for Boston and surrounding areas.

Thank you,
Darlene Domian
6 Henry Avenue
Somerville, MA 02144
617-776-7241

11/14/2006

I-020-001

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs connecting the Green Line Extension Project to the Community Path. Details on the design and coordination of the Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

Woelfel, Steve (EOT)

From: Radonnelly28@aol.com
Sent: Saturday, October 21, 2006 9:13 AM
To: Sciortino, Carl - Rep. (HOU)
Cc: Woelfel, Steve (EOT)
Subject: EOEA No.13886 -Green Line Extension

Hello Carl:

Rita Donnelly, 35 Charnwood Road, Medford, MA 02155

Please read to the end I do have a solution.

I-021-001 I hope you haven't forgotten me, you were going to come to my back yard to see how wide the train corridor is behind my house to see if taking the 15 feet of embankment would support 4 rail lines, the concrete wall between the two lines and a station at Boston Ave and Winthrop Street.

I want you to know I am losing sleep over this, I can not have the state take my house by eminent domain. I have worked to hard to get this little house. I think that Medford is already well served by the MBTA. We have the green line buses that go from Lechmere to Arlington Center. We have the Red Line bus that goes from Harvard Square to Medford Square via Davis Square. We have the Commuter Rail that goes from North Station to Lowell. We have the Orange Line in the Wellington Area of Medford that goes from Oak Grove to God know where, I have only taken it to North Station, Park Street and Dartmouth. We have the Orange Line Bus that goes from Wellington to Woburn. We have a bus that goes from Medford Square to Government Center. I have no problem getting to where I need to go. My son, Andrew takes the train in Davis Square every morning to get to school, Benjamin Franklin Institute of Technology, Berkeley Street, Boston, Orange Line - Dartmouth Station. It takes him approximately 1/2 hour. Andrew also took summer courses at Salem State, he took the train from Wellington into North Station and then the Commuter Rail to Salem everyday. My son Brian currently attends Salem State and he takes the Commuter Rail to North Station and then the train to Wellington to get home. We have taken the train from Wellington to attend Celtic and Bruins games. Andrew takes the Downeaster from North Station to visit his friends at UNH. As you can see we are no strangers to public transportation, we are not bus/subway snobs.

I-021-002 To say that this is not going to impact my (and yours) neighborhood negatively is naive. West Medford has had problems for years with people coming and parking on their streets to take the commuter rail. We already have to put up with the Tufts students drinking and partying, in the Fall and Spring when I have windows open you can hear them until 2:00 or 3:00 in the morning. When the winter parking regulations go into effect they are parking on my street. I do not have permit parking on my street.

I-021-003 **Now to my solution**, I think that we should stop the commuter rail in Woburn and have the green line run on the commuter rail tracks from North Station to Woburn. You could have a stop at Tufts (College Ave and Boston Ave) and one at Route 16 and Boston Ave. Hopefully you would not have to take any land at Wild Oats or 200 Boston Ave because we wouldn't need the turnaround and the garage at 200 Boston Ave could rent a certain number of parking spaces for commuters. You could then have additional stops in Winchester and Woburn if the neighborhoods are willing. There are parking spaces at the Anderson Station in Woburn and with the right Ad Campaign I am sure you could persuade commuters on Rte 93 and 128 that this is a better alternative than sitting at a dead stop for hours.

I will be submitting this email to MEPA.

Thank you for your time.

Regards,
Rita Donnelly
35 Charnwood Road

10/25/2006

I-021-001

The properties and buildings to be acquired vary depending on the alternative selected. None of the alternatives include property acquisition on Charnwood Road or of any residential home within the project area. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-021-002

The proposed station sites are located in areas with moderate to high concentrations of residents and employees within easy walking distance. Although parking will not be provided at any of the new Green Line stations, the affected municipalities should consider parking policies to discourage or prohibit commuter parking in residential areas surrounding the stations. EOT will work with Medford, Somerville, and Cambridge to develop a parking enforcement program in the vicinity of each of the station areas.

I-021-003

The Federal Railroad Administration (FRA) regulations do not permit the use of commuter rail and light rail trains on the same tracks, as they are incompatible. As such, additional tracks within the proposed right-of-way will be required for the Green Line trains. The terminal stations will utilize "tail tracks" and crossovers at the end of the line, not a "loop" type track, for trains to make the return trip back to Boston, minimizing property impacts at the end of the line. Station graphics in Volume 2 of the DEIR/EA show the track configurations for the terminal station options. As identified during the EENF process, an extension of Green Line service beyond the Mystic Valley River would result in high costs and environmental and historic impacts and, therefore, has been removed from further consideration.

Medford, MA 02155
Tel. 781-391-4601
Work: 781-970-6243
email: radonnelly28@aol.com

10/25/2006

Buckley, Deirdre (ENV)

From: Silvadurso [silvadurso@verizon.net]
Sent: Friday, November 24, 2006 3:40 PM
To: Buckley, Deirdre (ENV)
Cc: silvadurso@verizon.net

November 24, 2006

Executive Office of Environmental Affairs
100 Cambridge Street
Suite 900
Boston, MA 02114

Attention: MEPA Office, Re: Project # 13886

Dear Ms. Buckley:

We are writing to strongly support the expansion of the MBTA Green line into Medford. Living in the Hillside area of Medford, and working in Boston, the expansion of the Green line into our area would personally benefit us with a more convenient commute into Boston. Our current commute is extremely unpredictable given the unreliable bus schedule that leaves us waiting for up to 45 minutes for a bus at certain times during the day. Rather than taking the bus into Davis Square, we will be able to directly walk to the Green line to commute into Boston. Where we are occasionally forced to drive into Boston currently, we will be able to rely on a predictable commute by train, and leave our cars at home. The environmental benefits of this project will be significant with many more people leaving their cars at home and commuting to Boston by train.

We believe that if the Green line expansion is designed correctly, it will bring great benefit to local residents while not detracting from the character of existing neighborhoods. Rather than having a negative impact on Medford neighborhoods, we feel that the Green line expansion project has the potential to revitalize neighborhoods, in the way that train has revitalized other areas by attracting interesting restaurants, shops and foot traffic.

I-022-001 We are requesting that the scope of the project include review of placing a terminus near Rt. 16, in the vicinity of the Wild Oats supermarket. A terminus in this location, with stops on Boston Avenue, would serve residents in West Medford, West Somerville, and the Medford Hillside neighborhoods.

I-022-002 Finally, we encourage you to create a method for local residents and representatives to be involved in the planning and design of this important project. Local resident and representative input will ensure the success of this project. We are confident that the Green line extension will become an exciting bridge to the future of Somerville and Medford.

Sincerely,

Catherine D'Urso
Deborah Silva
25 Corey Street

11/28/2006

I-022-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-022-002

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The team has met with community groups on an ongoing basis throughout the process, including: Advisory Group meetings, public meetings, station workshops, neighborhood group briefings, and briefings with elected officials. Please see the Public Involvement Summary in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for more details.

Medford, MA 02155
(781) 393-1915

11/28/2006

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MEPA

20 November 2006

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office,
Deirdre Buckley, EOEA No 13886
100 Cambridge St., Suite 900
Boston, MA 02144-2524

Dear Secretary Golledge:

I am John Roland Elliott, 34 Emery Street, Medford, a twenty-year resident of the Medford Hillside. I am writing to express my wholehearted and enthusiastic support for extending the MBTA Green Line to the Medford Hillside and beyond. I encourage you make every effort to
I-023-001 maximize the reach of this important undertaking. I advocate including Winthrop Street and Mystic Valley Parkway station stops and urge you to reconsider West Medford (Route 60) as you plan locations for station stops.

I believe that the addition of convenient, economical, environmentally-responsible mass transit will improve the overall quality of life for the residents of the Hillside and the City of Medford and give Medford residents an opportunity to demonstrate our acceptance of our civic responsibility to improve the world's air quality. I recognize and acknowledge that the arrival of the Green Line will put pressure on Hillside neighborhood's parking and traffic conditions. I am certain that, with creative and conscientious efforts of city officials and police, the problems are manageable. I consider this project to be sufficiently important that I, personally, am reluctant but willing to sacrifice some of the neighborhood's character.

My neighbors have raised some understandable concerns and reservations and a vocal contingent was heard at the 15-November meeting. I am optimistic that with overwhelming and irrefutable evidence and arguments it may be possible for even them to realize that this is a good thing. As the process progresses, please treat the following matters with special attention:

Roadway traffic

I-023-002 It is my opinion that the current sub-optimal traffic conditions on Boston Avenue at the Winthrop Street and College Avenue intersections are testimony to the ineffectiveness and neglect of the City of Medford. I can imagine that with comprehensive and thoughtful consideration of prevailing and predictable traffic, the situation can be improved by the Green Line project rather than exacerbated. I hope that my trust in the design process is not misplaced. Some consideration/provisions must be made for cars dropping off Green Line riders and loitering to pick them up.

Foot traffic and litter

I-023-003 In addition to the complications from increases in motorized traffic, foot traffic will increase in the areas surrounding the station stops (if this isn't true, the project has failed.) The foot traffic in crosswalks (and out of them) will further congest the intersections at the station stops and will doubtless result in compounding the problem of
I-023-004 litter. In addition to the waste receptacles on the platform, I will expect the MBTA to
I-023-005 provide and service receptacles at street level. Likewise, when the trains bring hoards of drunken Tufts students back to the neighborhood after some sports function, I will expect

I-023-001

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. Also as described in Section 3.3, *Project Elements* and in Appendix B of the DEIR/EA, a station stop was considered at Winthrop Street but eliminated from consideration.

I-023-002

The station proposals include pick-up and drop-off activity at each station location. The traffic analysis completed for each of the proposed alternatives assumes that the traffic signal timings along all study area corridors would be optimized to accommodate vehicular demand. EOT and the MBTA are committed to working with the Department of Conservation and Recreation (DCR) and the Cities of Medford, Somerville, and Cambridge to ensure proper traffic mitigation including revised signal timing and phasing is put in place. Section 5.5, *Traffic* of the DEIR/EA provides additional details.

I-023-003

A pedestrian analysis was preformed to determine the conditions for pedestrians accessing each station. The results of this analysis are provided in Section 5.5, *Traffic* of the DEIR/EA. The traffic signal timings

I-023-005 | the MBTA (when a train is about to disgorge its rowdy cargo) at least to alert the Tufts Police and Medford Police that a disturbance is imminent in the neighborhood.

Noise pollution

I-023-006 | Currently, during quiet times of the day, from Emery Street we can hear the Commuter Rail trains as they go by. They are rare enough that they don't represent a disturbance to the peace and quiet of the neighborhood. Since the Green Line trains will be electric rather than diesel locomotive-powered, and since they will not have an opportunity to reach the kinds of speeds that the Commuter Rail trains do, I don't anticipate noise pollution from this project once it is operational. Some reassurance that this is the case might relax some of the reservations that are being voiced by my neighbors.

Property takings

I-023-007 | The currently-available documents on this subject, both the ones from the EOT web site and ones from other sources, indicate that there may be the need for minimal property takings. You would be wise to make some public comment --- sooner rather than later --- on the nature and size of these takings. Unless there are real risks otherwise, some assurances need to be made that entire structures housing people are not likely to be removed and that strip takings are not likely to be wider than ten feet (or whatever it is). The opponents of this project are preying on the hysteria created by images of frail elderly residents of Walking Court being relocated.

Slights, real or imagined

I-023-008 | Finally, one perception that seems to unite the opponents of this project is the impression that Medford citizens and local government officials were excluded from the process initially. Each local government official represents that he/she was single-handedly responsible for ending (with the 15-November meeting) the moratorium on Medford involvement and uses this as an ongoing reelection campaign issue as well as a whisk to whip the citizenry into a froth. Having some mercifully small contact with the bombastic blowhards that serve as local government in Medford, I would forgive the organizers of this project if they *had* deliberately overlooked the Medford so-called representatives. Time has come to eliminate the "we weren't included" objection. Even though it may not materially aid the project, including Medford representation will defuse the argument that the project was done *to* Medford rather than done *for* Medford.

Thanks for hearing me out. If there are thing that you can suggest I do to increase the chance of success for this project, please tell me what they are.

Regards,



John Roland Elliott
34 Emery Street
Medford MA 02155-5307
617-905-8675

proposed as part of the Project balance the needs of both pedestrians and vehicles throughout the study area.

I-023-004

The EOT has noted and considered your comment. Amenities such as trash receptacles will be provided at all Green Line Stations. The MBTA will be responsible for maintenance of the stations. These responsibilities will be further refined and identified in later phases of project development.

I-023-005

The MBTA will coordinate with local police as appropriate.

I-023-006

The noise and vibration impacts have been assessed. The impacts and proposed mitigation measures are identified in Section 5.6, *Noise* and Section 5.7, *Vibration* of the DEIR/EA.

I-023-007

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-023-008

The Green Line Extension Project has been engaged in a full and comprehensive public process for citizens in each of the affected communities, including Medford. Opportunities for participation have included an Advisory Group with representation from each community, public meetings, workshops and others. Please see Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for a complete description of this process.

Buckley, Deirdre (ENV)

From: Robert Feigin [bob@feiginlaw.com]
Sent: Friday, November 24, 2006 2:38 PM
To: Buckley, Deirdre (ENV)
Subject: EENF - green line extension - comments

I am writing to submit comments on the EENF for the proposed green line extension to Medford Hillside. I reside in Medford Hillside at 26 Dwyer Circle, Medford, MA 02155.

I-024-001 A citizen advisory committee modeled after the Beyond Lechmere citizen advisory committee should be formed for this project.

I-024-002 The study area for the project should be extended to include all of Boston Avenue, Route 16 and North Somerville. Consideration should be given to a terminus in the vicinity of Route 16 / 196-200 Boston Avenue.

I-024-003 The draft Medford Green Line Neighborhood Association report should be given strong consideration. I was one of the authors of that draft report, which has already been submitted.

Finally, thank you for holding a hearing in Medford, and thank you for this opportunity to submit comments.

Regards,
Robert Feigin

11/28/2006

I-024-001

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The work of the Advisory Committee is described in more detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-024-002

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-024-003

All public comments and reports have been given careful consideration during the preparation of this DEIR/EA. Responses to the report are included herein if the report was sent to MEPA during the alloted review period.

Buckley, Deirdre (ENV)

From: Feldman, James (DMH)
Sent: Wednesday, November 29, 2006 2:20 PM
To: Buckley, Deirdre (ENV)
Subject: FW: greenline extension

I attended the November 15 Medford overview.

I-025-001 I simply wanted to express that I support the extension into Medford as far as is feasibly possible up to and including West Medford Square.

During the overview it was stated that "Medford had requested that it not extend into West Medford Square".

I'm unclear what this means. There was no referendum or other poll taken to my knowledge.

To reiterate I support the extension of the greenline into Medford as far as feasibly possible up to and including West Medford Square.

James Feldman M.D.,M.P.H.
170 Morton Street
Jamaica Plain, MA 02130
Phone: 617-626-9483
Fax: 617-626-9578

11/30/2006

I-025-001

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-026-001

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DB
13886

RECEIVED
OCT 30 2006
MEPA

October 20, 2006

Secretary of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA 02114
Attention: MEPA Office
Re: Green Line Extension

Dear Secretary of Environmental Affairs,

I have read the Proposed Medford Green Line Station Study written by the Medford Green Line Neighborhood Alliance and I think they have valid ideas about the best way to bring the Green Line (back) to Medford. I thoroughly support the idea of bring the Green Line here. We cannot change the mindset of people to use public transport if we can't provide reliable and rapid service. The buses are just not getting the job done. Our streets are narrow, there is too much traffic, the buses don't run reliably, and people get discouraged. We must turn America away from a petroleum-based economy and one of the best ways is to make driving less appealing and public transportation more appealing.

I'm sorry I couldn't attend the meeting on October 16, 2006. I submit this letter in lieu of direct participation. I will follow the project closely as it evolves.

Sincerely,

Lois Grossman
33 West Street
Medford MA 02155
lois.grossman@tufts.edu

I-027-001

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

Woelfel, Steve (EOT)
From: Joe Pesaturo [jpesaturo@mbta.com]
Sent: Saturday, October 28, 2006 5:55 PM
To: ddizoglio@mbta.com
Cc: jcosgrove@mbta.com
Subject: FW: green line

-----Original Message-----

From: johnhh@rcn.com
To: "jpesaturo@mbta.com" <jpesaturo@mbta.com>
Sent: 10/27/06 7:14 PM
Subject: green line

I wasn't able to attend the meeting on the green line extension, and heard you are taking written comments until the start of November, but don't know where to send comments to so I'm starting with you(I read your answers all the time in Starts & Stops). I hope the T will decide to make 2 separate lines, so that maybe the Union Sq branch someday will go all the way to Porter Sq. I think this would help deter people from having to go to Park st to catch the Red Line, especially all those people coming in to North Station(along with help from the inner ring). Not to mention there's that big gap between the two stops, people in that part of Somerville are just as starved for rail service. As far as the Medford branch, I hope construction can be broken up into 2 phases so the portion to at least Ball sq or even Tufts can be up and running by the opening of the new Lechmere station in 2010. This will hopefully give Medford time to decide what they want. Personally I'd like to see!

I-028-001

I-028-002

it end in Medford Sq instead since W. medford is too congested, and seem so opposed to it. The Square has more room, more traffic capacity and alot more bus routes serving it. A half mile cut-and-cover under College Ave and another half mile bored tunnel will get it done. And since the tunnel will be pointing towards I-93, someday when traffic gets so bad and no one cares about aesthetics anymore, a garage could be built over the highway with a new terminus.

I-028-003

I also am a little worried about the decision to not build full stations along this line. With major boarding stations like the one proposed behind the high school would slow down service and eventually enough people would get frustrated enough to go back to the buses. (I have a solution for that too) Since some area of the track are tight, there would only be enough room for 1 center platform. Nights and weekends the station could be closed by using oppsite tracks and crossing over before Lechmere somewhere. This would allow customers to pay as they board the train.

Sorry I talked your ear off, but as a graduate with an education in Civil Engineering, I have always been interested in what the T is doing. I heard that a while back you were forming a volunteer panel for community input, if this is still the case, I WOULD BE INTERESTED.

While I have you, I think the T does a great job on its website about all its projects, but would love to be updated more often on things like where the New Bedford line stands, how we can get service extended to the cape, at least to Bourne on the other side of the canal, and if anyone has decided to extend the Silver line tunnel under D Street. A while back I Took it to and from the airport and it seemed too loop around quite a bit to get to Silver Line Way. I just thought it was odd to have to drive by World Trade Center at street level as well.

Thanks for your time.
John Haroutunian
6 Pembroke Ct.
Somerville 02145
617-794-4011

I-028-001

The proposal for the Green Line Extension would be to have a two-branch operation with one mainline branch to Medford and a spur line to Union Square. Although the Project is not currently envisioned to extend the Union Square Branch to Porter Square, the preferred alignment within the MBTA Fitchburg Line would not preclude an extension in the future.

I-028-002

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. Similar issues would also apply to an extension to Medford Square and a tunnel would be cost-prohibitive. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*. As described in Section 3.7, *Project Description - Preferred Alternative,* the Proposed Project is intended to be constructed to Medford Hillside/College Avenue within the 2014 timeframe required by the State Implementation Plan, with the segment to Mystic Valley Parkway/Route 16 being constructed at a later phase.

I-028-003

The Green Line Extension Project envisions center platforms and full accessibility for each station. The stations are described in Section 3.6, *Build Alternatives* and Section 3.7, *Project Description - Preferred Alternatives* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Solstation [solstation@www.solstation.com]
Sent: Friday, November 24, 2006 10:12 PM
To: Buckley, Deirdre (ENV)
Subject: Project 1388

Dear Ms Buckley,

I-029-001 As a long time Boston resident near the B line, and having recently moved to Medford, I greatly look forward to the Green Line being extended. However to gain the most possibility for benefit I would request that you extend the study area to at least Route 16 instead of the current stopping point at College Ave or Winthrop Street.

I-029-002 Additionally I think it is very important that you also reach out to the non-English speaking communities. I understand it is probably not cost effective to perform all of your community communications in multiple languages. However the cost of translating the final environmental study report into a number of local languages would be a tiny fraction of the overall cost of producing it, and it would have a very large impact garnering support from non-English speakers.

Sincerely,
Joseph Jaquinta
111 George Street
Medford

2

I-029-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-029-002

Thank you for your comment. EOT has committed to reaching out to environmental justice populations for the Green Line Extension Project . Additional information on these outreach efforts are described in Section 1.5.4, *Environmental Justice* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Littleko82@aol.com
Sent: Thursday, November 16, 2006 2:18 PM
To: Buckley, Deirdre (ENV)
Subject: green line extension.

I-030-001 I wish to request that the green line extension . end after the collage St. bridge and not at Rt 16. as it would need to take land from The Winthrop bridge to the North St bridge. I strongly disagree with the MGNA to extent to Rt. 16 It would also require the Winthrop bridge to be reworked costing more money without that much benefits. I understand I have until the 24 of Nov tp lodge my concerns. Thanks for your time.

R Kangas
76 Orchard St
Medford Ma.

11/28/2006

I-030-001

The EOT has noted and considered your comment. Terminus locations were evaluated at both Mystic Valley Parkway/Route 16 and at Medford Hillside/College Avenue. The Alternatives considered in the DEIR/EA are outlined in the Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* and Section 3.7, *Project Description - Preferred Alternatives* of the DEIR/EA. Thank you for your interest in the Green Line Extension Project.

D13

Kenneth J. Krause
50 Mystic Street Medford, MA 02155
781-396-0920 kenneth.krause@comcast.net

November 22, 2006

Deirdre Buckley
Executive Office of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA 02114
Attention: MEPA Office
Re: Green Line Extension Project #13886

RECEIVED
NOV 24 2006
MEPA

Dear Deirdre,

Please find enclosed my comment letter regarding the Expanded Environmental Notification Form regarding the Green Line extension to Medford (also submitted to you by email on this date).

Also enclosed is a copy of the first draft of the Medford Green Line Environmental Alliance's Proposed Station Study. This study – while unfinished – contains analysis in support of my written comments urging that the scope of the environmental review of the project be expanded beyond Winthrop Street to the West Medford area just south of Route 16.

Finally, also enclosed are four signatures on an petition that also requests that the study area include the consideration of a potential terminus station at Route 16 and Boston Avenue on the Medford/Somerville line. These signatures are in addition to the 225 that were submitted earlier by Jared Ingersoll, a Medford resident and member of the MGNA.

Thank you.

Ken Krause

Ken Krause

Kenneth J. Krause
50 Mystic Street Medford, MA 02155
781-396-0920 kenneth.krause@comcast.net

November 22, 2006

Secretary Robert W. Golledge, Jr.
Executive Office of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA 02114
Attention: MEPA Office
Re: Green Line Extension Project #13886

Dear Secretary Golledge,

Thank you for the opportunity to submit these comments on the Green Line Extension Expanded Environmental Notification Form. The citizens of Medford also appreciate your office holding a second scoping session in our city on this matter and extending the comment period by two weeks in order to increase our understanding of the project and allow ample time to respond.

At its core, a primary objective of the Green Line extension is to achieve environmental benefits, particularly in terms of improving air quality in the corridor. In order to achieve maximum environmental benefits, I offer the following suggestions:

I-031-001 **1. Extend the boundary of the scope of the EENF to include the consideration of a terminus station just south of Route 16 at the Medford/Somerville line.**

A. The Beyond Lechmere Northwest Corridor Study showed a dramatic increase in potential ridership when the Green Line was projected to the West Medford area versus stopping the line at Ball Square or Medford Hillside. Besides Medford residents, this potential additional ridership includes thousands of residents of Somerville and Arlington who would be within a convenient 10- to 15-minute walk of a Route 16 station.

Many of these potential riders would forgo the use of an automobile in favor of the Green Line. This would contribute greatly to improving the air quality in the area. According to a 1998 city emissions inventory, motor vehicle usage in Medford accounted for 38 percent of community emissions, and of that total, personal vehicles were the largest contributor. Consequently, in 2001 Medford created a Climate Action Plan -- the first city in Massachusetts to do so -- and is initiating policies and programs to reduce greenhouse gas emissions. The more people the Green Line serves, the better Medford will fare in this important effort to reduce community emissions.

I-031-002 B. The Mystic Watershed Action Plan, released in December 2005, cites transit-oriented development, better bike/pedestrian access and improved municipal infrastructure as

I-031-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-031-002

Transit-oriented development opportunities around stations, as well as bicycle/pedestrian access and infrastructure requirements have all been considered at each of the proposed Green Line stations. As noted, a station at Mystic Valley Parkway/Route 16 could be used as a catalyst to promote mixed-use, transit-oriented development, better bicycle/pedestrian access to areas in the region and improved municipal infrastructure. Additional information on the station areas can be found in Section 3.3.1, *Stations*, Section 5.5, *Traffic*, and Section 5.15.5.1, *Transit-Oriented Development*.

I-031-002 key areas of focus. All can be elements of the Green Line extension plan, particularly in the area of Route 16 and Boston Avenue, and can help the project achieve its environmental goals as well as improve the overall quality of life in the area.

I-031-003 C. Listed as one of the "highest priorities" in the Mystic report is advocacy to get federal, state and local government action on combined sewer overflows (CSOs). This is the continuation of an effort begun in 1988 when the U.S. Environmental Protection Agency and Massachusetts Department of Environmental Protection launched a program designed to improve water quality in the Mystic/Alewife Basin by eliminating illegal sewer discharges and improving the quality of storm water discharges. Stormwater discharges continue to be a serious problem, as there is at least one CSO near Route 16 through which raw sewage enters the Mystic River. This situation could be improved or even corrected/eliminated in conjunction with the Green Line station project.

2. Specify the need for close coordination of the Minuteman to the Mystic Path.

I-031-004 The EENF specifically mentions the need to coordinate the Green Line project with the extension of the Community Path in Somerville, and with the Urban Ring project. This section also should include a statement about the need for coordination with the Minuteman to the Mystic Path from Cambridge through Arlington to Medford, which would provide a direct connection to a station at Route 16 if one were built there. (Design is underway by the DCR.) This path would encourage and make it easier for people to get to the Green Line on foot or by bicycle and forgo a car.

3. Specifically and carefully consider the environmental justice issues identified in the Beyond Lechmere study.

I-031-005 South Medford, which will be serviced by the Green Line extension, is designated as an environmental justice area. Federal regulation requires full participation of EJ communities in planning and implementation of this project. One way to ensure this occurs would be for you to a appoint a Citizens Advisory Committee, as has been done for the Urban Ring project.

4. Conduct a Single Environmental Impact Review.

I-031-006 In my spoken comments at the November 15 meeting in Medford, I stated that I was not in favor of a Single Environmental Impact Review. However, upon further study of issues and learning more about the process, I recommend that a Single Environmental Impact Review be conducted, with one important condition – that the scope of this study extends beyond Winthrop Street to include the consideration of a terminus station just south of Route 16 at the Medford/Somerville line.

Thank you again for this opportunity to comment on this phase of the project. I look forward to continued involvement in the planning process.

Sincerely,

Ken Krause

I-031-003

Correcting existing stormwater discharge problems, outside of the railroad right-of-way, is not part of the Green Line Extension Project. However, the Project is designed with attention to the existing CSO issues in the region. The stormwater management system for the Project will be designed to maintain existing peak flows into the municipal stormwater system, preventing any increase in CSO-related water quality effects. Any stormwater system improvements will be coordinated with the municipalities involved to ensure proper function. Techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-031-004

Details on the design and coordination of the Green Line Extension Project with the proposed Somerville Community Path, and Minuteman to Mystic Path can be found in Section 3.8, *Community Paths*.

I-031-005

EOT established a Project Advisory Group that included municipal officials, community representatives, and local residents. Details on public participation in the process can be found in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-031-006

The Secretary's Certificate on the EENF stated that a Draft EIR, if found sufficient, may be accepted as a Final EIR. Three of the alternatives under consideration include a stop at Mystic Valley Parkway/Route 16. More detail on each alternative can be found in Section 3.6, *Build Alternatives* of the DEIR/EA.

#13886 DB



JERRY LAURETANO
19 TUFTS ST
Somerville MA 02145

I GREW UP IN THIS NEIGHBORHOOD. I LIVED ON THE SAME STREET FOR 60 YRS. I HAVE ATTENDED COMMUNITY MEETINGS SINCE 1970. MY HOBBIES GARDENING & BIRD WATCHING, THE REASON I BRING THIS UP IS BECAUSE THE GREAT ENVIORMENTAL IMPACT (POSITIVE) ~~THE~~ ~~T STOP~~ WILL MAKE IN MY NEIGHBORHOOD. I REMEMBER IN THE EARLY 70's HARDLY ANY TREES I HAVE SEEN THE TRASITION OF JUST SEEING STARLINGS, SPARROWS, PIGEONS, CITY BIRDS TO MORE COUNTRY ~~BIRDS~~ BIRDS, CARDINALS, WOODTHRUSHES, CHICKADEE, ETC COUNTY BIRDS ~~AS~~ AS THE ENVIROMENT IN (PERSONAL) NOTE HAS BEEN GETING CHANGED. ~~AND~~ THE T STOP WILL CONTINUE THAT OVER 36 YRS I WAS INVOLVED INGETTING A LOT OF TREES PLANTED IN MY NEIGHBORHOOD. WHERE THE EXACT T STOP STATION WILL BE LOCATED WITH MEETINGS WITH MY NEIGHBORS & THE T TO BE DETERMINED IT SHOW THE T NEAR WASHINGTON ST. I KNOW THE TOWNS LAND THERE WERE THE TRACKS ARE ~~RIGHT THERE~~ ~~NEW~~ NEAR CAFE BELO

DEVELOPMENT FOR MY CITY + I THINK THIS IS A GREAT ~~THING~~ THAT ~~WILL HAPPEN~~ FOR ~~TO~~ MY NEIGHBORHOOD, SOMERVILLE, AND FOR THE T

P.S. FORGIVE ALL THE CORRECTIONS I HAD TO MAKE WE KNOW THE MOST IMPORTANT THING IS THAT YOU GET IMPRESSIONS FROM RESIDENTS

JERRY LAURETANO

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I-032-001

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

Green Line Expansion to Medford Page 1 of 1

Buckley, Deirdre (ENV)

From: Scott Lever [Scott.Lever@paconsulting.com]
Sent: Wednesday, November 01, 2006 8:03 AM
To: Buckley, Deirdre (ENV)
Cc: Sciortino, Carl - Rep. (HOU)
Subject: Green Line Expansion to Medford

Secretary of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA, 02114
Attention: MEPA Office
Re: Project # 13886

Dear Sir or Madam:

I am a resident of Medford and property owner.

I moved to Medford after growing up in Arlington. I remember the debate Arlington had more than twenty years ago when the Red Line was extended. Arlington was short-sighted and ultimately wrong when it decided to discourage the Red Line expansion into Arlington.

There is nothing I can think of that would contribute more to the vibrancy and growth of the community than the Green Line in West Medford. Medford and it's citizens should embrace the expansion project.

I-033-001 Personally, I'm very much in favor of the Green Line Extension into West Medford at West Medford Square. I'm against stopping the Green Line at Route 16. I urge the State to continue and accelerate this project for the public good.

Regards,
Scott Lever

52 Dudley St. Medford.

11/14/2006

I-033-001

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

Buckley, Deirdre (ENV)

From: Jeff Levine [blumlevine@gmail.com]
Sent: Wednesday, November 29, 2006 11:33 AM
To: Buckley, Deirdre (ENV)
Subject: Comments on Green Line EENF
Attachments: green line eenf.doc

Deirdre- Attached is my comment letter. I believe I've missed the deadline but hopefully not by much.

thanks,

Jeff Levine

11/30/2006

Jeffrey Robert Levine, AICP
31 Curtis Avenue
Somerville, MA 02144
617-666-4648 blumlevine@gmail.com

Secretary of Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA 02114
Attention: MEPA Office Deirdre Buckley

Re: EENF for Green Line Extension (#13886)

To Whom It May Concern:

I am writing regarding the Expanded Environmental Notification form for the Green Line extension. I served as a member of the Citizen's Advisory Committee for the Beyond Lechmere AA/MIS as well as a former chair of the Regional Transportation Advisory Council of the Boston Region Metropolitan Planning Organization.

I-034-001 I am writing in support of the request for a Single Environmental Impact Report (SEIR) provided it is scoped appropriately and in accordance with the project presented at the end of the AA/MIS process, as well as the project modeled for the SIP. Those projects involved a Lowell Line extension to Medford Hillside (at Winthrop Street), with a possible extension to West Medford. The EENF describes a project going to "Medford Hillside" (by which it means College Avenue) with a possible extension to Winthrop Street. Winthrop Street is really the commercial heart of Medford Hillside and is a logical station location for the Green Line extension. I would also offer my support for exploration of the possibility of extending the line to Route 16 and possibly West Medford.

I-034-002 In addition, it concerns me that the proposed project has an estimated completion date of 2014. The previous SIP, and the current version of the SIP, both require a completion date of 2011. If the project is to be delayed by three years there should be interim measures put in place to provide comparable air quality benefits in the study area, such as additional or clean air buses. The SEIR should explore alternatives for providing clear air benefits during this three year period.

I-034-003 Finally, the use of Yard 8 for storage should be reexamined in light of its potential use for economic development and the extension of the Somerville Community Path. Given the commitments made – and possibly not kept – by the MBTA to provide drainage improvements as part of the "Big Blue" Commuter Rail facility, there is a reason to look at that site as a possible alternative location for Green Line operational needs. Exploration of this issue should be part of the scope for an SEIR.

Sincerely,

Jeffrey R. Levine, AICP

cc: Stephen Woelfel, EOT

I-034-001

Upon submission of the EENF, MEPA reviewed the EOT's request for a Single EIR in accordance with the MEPA regulations and determined that if the DEIR is thorough, that it was likely that the DEIR would be deemed adequate to serve as the FEIR, after public review and comment. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-034-002

The Project's estimated time of completion is 2014, which is consistent with the current State Implementation Plan (SIP).

I-034-003

As required by the Secretary's Certificate on th EENF, a number of alternative sites were considered for the proposed maintenance faciliy. Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility* of the DEIR/EA has more information on this analysis. The evaluation of the multiple sites are summarized in Appendix C, *Green Line Support Facility Alternatives Analysis* of the DEIR/EA.

Thomas W. Lincoln
27 Gleason Street
Medford, MA 02155

November19, 2006

RECEIVED
NOV 21 2006
MEPA

Mr. Robert W. Golledge Jr.
Secretary - Executive Office of Environmental Affairs
Green Line Extension
100 Cambridge St. 9th Floor
Boston, MA 02114

COMMENTS ON EOEA #13886

Dear Mr. Golledge:

I am writing as a longtime resident who has been involved on a variety of environmental and quality of life issues here in Medford.

As you know, the extension of the Green Line to Somerville and Medford has been discussed for several years, in many venues and among many constituencies. In the EOT's EENF, the fundamental issue is: where should the Green Line Extension terminate?

I-035-001 I am writing to urge you to broaden the scope of the project's SEIR (and project study) to include a terminus at Route 16 (near / along Boston Avenue). A terminus there, and a station located across from the Tufts Parking Garage (rather than one at College Avenue and one at Winthrop Street) makes huge sense and offers huge environmental, economic and operational advantages over other terminus points because:

I-035-002 It maximizes ridership – not only does the Line penetrate further into Somerville/Medford, but you will have the space necessary for Green Line / MBTA Bus connections;

I-035-003 With greater ridership, the environmental benefits on traffic reduction and air pollution will be increased;

I-035-004 Better fulfills the imperatives of the environmental settlement of the Big Dig project.

In addition to the above, I strongly suggest that the EOT and MBTA seriously consider these recent ideas in the SEIR and project scoping:

I-035-005 - decking the route from Tufts to Winthrop Street to reduce noise, replace greenspace (on top of the decking) and better integrate the Green Line with Tufts University's Master Plan

I-035-006 - truncate the MBTA 80 Bus Route at the Green Line terminus that but extend it further into Arlington for better "feeder" potential

In conclusion, extending the green Line to a terminus at Route 16 will maximize all positive aspects of this critical transportation and environmental infrastructure. Most importantly, this approach will help ensure our long-term future in Medford and Somerville.

I look forward to a positive outcome to your ruling on the EENF and SEIR requirements. As a longtime advocate in the public sphere, I am well aware of the timeframes and complexities involved in these projects, but it is absolutely essential that this critical first step be done well. Thank you.

Sincerely yours,

Thomas W. Lincoln

Recycled paper

I-035-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-035-002

Ridership estimates for each of the alternatives have been developed and are provided in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.

I-035-003

Alternatives 2A, 2B, 4 and 5 all include an evaluation of the extension of the Green Line to Mystic Valley Parkway/Route 16. The air quality analysis evaluated the local (microscale) and regional (mesoscale) analysis based upon the changes in future traffic. The results of the analysis can be found in Section 5.6, *Air Quality* of the DEIR/EA. The results of the traffic analysis can be found in Section 5.5, *Traffic* of the DEIR/EA.

I-035-004

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-035-005

The Green Line Extension Project has not evaluated in detail the option of decking due to the prohibitively high cost and since the alignment is proposed within an existing active rail corridor. However, noise has been evaluated and any mitigation necessary to reduce impacts is recommended in Chapter 5 (Environmental Consequences), Section 5.7, *Noise* of the DEIR/EA.

I-035-006

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations is within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Suzanne Lipsky [sh.lipsky@att.net]
Sent: Monday, November 27, 2006 6:47 AM
To: Buckley, Deirdre (ENV)
Subject: Comments on Green Line extension

Ms. D. Buckley
Secretary of Environmental Affairs
100 Cambridge St., Suitte 900
Boston, MA 02114
Attention: MEPA Office, Re: Green Line Extension

I-036-001

Thanks again for conducting an environmental hearing in Medford and extending the comment period. I am in favor of the Green Line extension, but I oppose the recent proposal to terminate the Green Line at Route 16. I oppose this termination point for several reasons:

1. The environmental impact on the Mystic River and the state parks adjoining the river with this proposed station as a terminus point. We should protect these invaluable resources as much as possible as previous generations did for us. A terminus at this intersection would bring additional traffic that would harm the parks and the river as this road is a conduit between Routes 2 and 93.

2. Increased traffic on Route 16, which is currently heavily used as a shortcut between Routes 2 and 93.

3. An increased number of accidents at the intersection of Route 16 and Boston Ave., where there already occurs at least two accidents a month.

4. Increased traffic and parking in the densely populated residential neighborhood surrounding the proposed terminus point.

Thank you for your consideration and for entering this into the record.

- Suzanne Lipsky

1

I-036-001

None of the alternatives would require the acquisition or physical disturbance of the Mystic River or the state parks adjoining the Mystic River, as discussed in Section 5.11, *Park and Recreation Areas* of the DEIR/EA . The traffic impacts associated with each alternative are identified in Section 5.5, *Traffic* and proposed traffic mitigation are outlined in Section 5.5.4 *Mitigation Measures* of the DEIR/EA.

Somerville Hearing
Public Comments
Project #13886

October 16, 2006

Secretary Miller, Mr. Woelfel and members of the panel, thank you for returning to Somerville to discuss the Green Line extension project and the Expanded Environmental Notification filing. My name is Joe Lynch; I live on Henderson Street in the Magoun Square district of Ward 5 in Somerville. I represent the Magoun Square Neighborhood Association and am a City of Somerville mayoral appointee to the "Beyond Lechmere Northwest Corridor Study" committee.

After reviewing the EOT filing dated October of 2006, I would like to commend your respective offices for the comprehensive review and detailed information contained in the document. I do have a few comments/questions and requests however and respectfully submit them to you now.

There are three areas of concern that I believe need further discussion and or explanation as they were identified in the Expanded Environmental Notification document. Those areas are:

Wetlands Section
Roadways and Other Transportation Facilities Section
And the Rail Alignment and Right-of-Way discussion in the Project Plan and Description section

I-037-001

The Wetlands section refers to two sites along the Lowell line route, both in Ward Five. One site is a patch of land "on the southwest side of the Lowell Street Bridge" and another "along the easterly section of a ditch-line along the rail near Cedar Street." As the station locations in this area are not set in stone and noting that the EENF does qualify that the proposed Lowell Street stop is "far enough away from the rail line that it will not be affected by the rail alignment but could be affected by a portion of the Lowell Street station", I have two requests for further information. Should these wetlands prove to be an obstacle needing mitigation, what remedies are available to EOT to overcome any such obstacle? And in the event that the Lowell Street wetland area obstacles prove insurmountable, has the EOT and MBTA identified an alternative site in the immediate area?

I-037-002

The Roadways and Other Transportation Facilities section refers on at least 6 occasions in the document that "the project will result in the removal or relocation of freight rail trackage and or elimination of freight rail trackage rights owned by others." In fact, as described in the document, of the nine alternatives for the Green Line extension, six of the alternatives that include a branch to Union Square would necessitate the removal or relocation of these freight rail tracks and or rights. I would request at this time that the EENF include a section describing any unintended consequences as a result of the relocation or elimination of the freight lines/tracks and or rail rights owned by others. One specific question would need answering, if any of the freight rail tracks and or rights

I-037-001

These areas contain some wetland species but are not regulated wetlands and would not require mitigation. The Project would not impact any regulated wetland areas.

I-037-002

Pan Am Railways (formerly Guildford Railway System) operates the freight rail system in the Project Area. Freight trains coming from the north use the mainline tracks on the MBTA Lowell Line (rather than the abandoned freight tracks) until they reach Walnut Street. At Walnut Street, they switch to Pan Am freight tracks to travel south through Yard 8 (which is located between Brickbottom and Inner Belt). After passing through Yard 8, the trains take the Valley Track (adjacent to the MBTA Boston Engine Terminal commuter rail maintenance facility) and then proceed to the south to Boston Sand and Gravel or to the east to connect with the Eastern Route to Chelsea, Lynn, Salem and Peabody, or west to connect with the MBTA Fitchburg Line near Medford Street. The freight tracks that would be affected by the Green Line Extension are tracks that are abandoned, tracks that are currently used for storage, or tracks that would be detoured. If a Green Line support facility is constructed at Yard 8, the freight trains could be detoured via the Yard 10 lead (which runs next to New Washington Street) and then connect with the same lines as they currently do. In summary, while there would be a minor rerouting to bypass Yard 8, there would be no loss in freight rail capacity. Additional information on freight operations is available in Section 4.5.3, *Existing Freight Rail* of the DEIR/EA.

I-037-002

are eliminated, where, if any will the rerouted freight train traffic go? One unintended consequence could be the overburdening of the remaining freight trackage system and increased noise and air pollution into other parts of the city.

I-037-003

And finally, within the Project Plan and Description section of the EENF, eight areas within the entire scope of the project area may wind up having some degree of eminent domain or "land takings" procedure. Six of those are within Somerville and would necessitate and I quote, "some strip takings of land may be required in areas where the right-of-way narrows, or where stations are required." While the document states that the planners do not anticipate any residence takings, some properties within Ward 5 may be affected by land takings. The document identifies land between Central St and Lowell Streets on the Vernon Street side, land on the west side of Broadway at Ball Square and land on the west side at the Lowell Street bridge area. While these land takings are not anticipated to be as great as those proposed for a Union Square branch of the Green Line extension, these actions are likely to cause premature concern, dissemination of incorrect information, and in some cases, could have a detrimental effect on property values in the areas described. I request at this time that the expanded EENF specifically identify each of the properties that may be impacted by such proposed land takings.

Member of the panel, once again thank you for returning to Somerville and thank you for your time and attention.

Joseph P. Lynch, Jr.
10 Henderson Street
Somerville, MA 02145

(617)623-0891

I-037-003

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: ken martin [kenmartinjr@hotmail.com]
Sent: Friday, November 24, 2006 3:35 PM
To: Buckley, Deirdre (ENV)
Subject: repeat e-mail

Attachments: Green line extension response.doc



Green line xtension response...

Hello

Sorry, I had the wrong address for one of the buildings. I've corrected it in this version.

Regards,
Ken Martin

_____
Share your latest news with your friends with the Windows Live Spaces friends module.
http://clk.atdmt.com/MSN/go/msnnkwsp0070000001msn/direct/01/?
href=http://spaces.live.com/spacesapi.aspx?wx_action=create&wx_url=/friends.aspx&mk

Alliance for
The Fair Use of Somerville Resources
in the Green Line Extension

Kenneth P. Martin
184 Boston Avenue
Somerville Ma 02144

11/24/2006

Dear All,

I am writing this letter in opposition to the "Proposed Medford Green Line Station Study" by the "Medford Green Line Neighborhood Alliance".

I-038-001

To fulfill one of the group's objectives of reducing the burden of the impact of the Green Line Extension to Medford, they have come up with the solution of locating the station in Somerville. I note that this simple fact is not mentioned even one time in their entire proposal. Their claim that the station would be within a few hundred feet of Somerville, completely ignores the fact that the station they propose is actually in Somerville. Also not mentioned that the increased traffic burden that would occur on Boston Avenue from Route 16 is in Somerville, not Medford. I would suggest, as a start, to refer to their proposal for the terminus station as the Somerville Station, at least as long as it is located in Somerville. Obfuscating the fact of where the terminal is located and the burdens of increased traffic does nothing to enhance their proposal. While I share in the stated goals of the Medford group for Medford residents, I am proposing to have those same goals for Somerville residents as well. As a Somerville resident, I have no interest in bearing the brunt of the burden of providing Green Line service to Medford, Arlington, and Winchester. I also have no interest in bearing the brunt of the burden of the economic development of Medford properties.

Traffic Patterns

I-038-002

As proposed, this terminus to the Green Line would be used by hundreds or thousands of commuters by car each day. It's close proximity to Rt 16 would encourage the use of automobiles to reach the station, rather than bus lines. While proponents of this station say that this will be a pedestrian and bicycle access terminal, my question is; who is going to force the GL riders to walk or cycle? This has not been the experience of other transit systems, indeed, studies clearly show that riders generally will not walk more that 800 meters to get to a station. This is also clearly is shown in the placement of other GL stations. Having no parking at the facility means that these riders will have not one round trip to the station each day, but two (dropping off and later being picked up).

I-038-003

The Boston Ave. Route 16 intersection is already a dangerous and busy intersection. Adding a west direction, left only signal, blocking one lane going west will back traffic to a standstill in both directions. This is only a recognition of the fact that this proposal will

I-038-001

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project. Proposed stations and their specific locations are discussed in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.

I-038-002

A substantial portion of the potential ridership captured for the Green Line stations is less than one-half mile from the proposed station locations; increasing the likelihood for riders to walk or bike to the station nearest their home. Roughly five percent of the total daily ridership at each station will indeed be dropped off and/or picked up at the station. The implications of pick-up/drop-off traffic are discussed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA.

I-038-003

The potential traffic impacts to this location under each of the concept alternatives are outlined in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR. Potential changes to lane geometry and traffic signal operations, including the location of new signals and how closely spaced signalized intersections would be coordinated to operate efficiently, are considered. Traffic mitigation for vehicular traffic is not warranted at the Boston Ave/Mystic Valley Parkway intersection. As such the project is not proposing to change the signal operations or lane configurations. The flashing "DON'T WALK" time will be increased slightly to accommodate projected pedestrian volumes. A new traffic signal is not proposed on Boston Avenue at the proposed station driveway.

At this time, there is no proposal to increase bus service to the the Mystic Valley Parkway/Boston Avenue vicinity area beyond that already provided.

I-038-003

make this intersection a more dangerous place than it currently is. The easterly direction is already bumper to bumper routinely from Rt 93 to Wild Oats every morning during the week and on Saturdays. Adding even more cars to this will back them up further, through the Boston Ave intersection.

Autos coming from Rt 93 to this station would have a more difficult time than east bound traffic. There is no Rt 16 west exit from Rt 93 and all traffic would have to go through Medford Square.

The proposal also adds a traffic light at the proposed entrance to the station. While this would certainly be needed for safety, it will cause a permanent traffic jam on Boston Ave. between this point and Rt 16. As one of the houses on this section of Boston Ave., the increased noise, traffic hazard, and air pollution from these stalled autos and trucks my the quality of my neighborhood will be seriously and adversely affected. This section of Boston Ave. is only several hundred feet long and cannot safely support a greatly increased traffic load.

In addition to the automobile traffic, there will be increased T bus traffic, if some of the proposed extension of bus service proposals are enacted (for example, from Arlington). This most northwesterly GL station would surely attract Commuter buses, as it will be the closest T train stop to Rt 93. Again, the increase in diesel fumes from this increased traffic is an excessive burden to this neighborhood.

Issues with stations at the end of the line.

I-038-004

While there is much comparison with regards to traffic and parking to the Davis Square and Porter Square Station, I find these arguments off the mark. Though these stations do provide service without the construction of additional parking structures, the result has increased the traffic in those areas. Also, the major difference between these and the proposed station is that the proposed station is located at the end of the Green line, not a middle of the line station in the middle of the city. A more appropriate comparison would be with Melrose Station and Alewife Station. Whatever the location of this station, it will represent the most northwesterly extension of the Green Line and the

I-038-005

closest station to Rt 93. While the lack of parking is touted as a good thing, for many commuters it represents being dropped off and picked up by somebody else, doubling the vehicle traffic by those commuters. Studies show that commuters will only walk one quarter mile before they drive to a station. This puts only a couple of hundred houses within the areas of those who would be expected to walk to the station.

I oppose the section of Boston Avenue, Somerville being used as an extended driveway from the proposed Somerville Station to Rt. 16 and Medford, Arlington, Winchester, and other north shore commuters. The use of Boston Avenue, Somerville in this manner will change the character of this neighborhood from merely a busy street to one being continually congested, having reduced safety, decreased air quality, and increased noise pollution from the increased traffic load.

I-038-004

The traffic impacts and associated mitigation measures to offset these impacts resulting from the Green Line Extension Project are discussed in Sections 5.5, *Traffic* of the DEIR/EA. Parking will not be provided at Mystic Valley Parkway/Route 16 Station under the Preferred Alternative. Without a parking garage in this area, mitigation is limited to pedestrian signal improvements.

I-038-005

A majority of the projected ridership for the service originates from within one-half mile of each station. Additionally, about five percent of daily ridership would likely be dropped-off and/or picked-up from the station. The impacts of the traffic associated with these riders is provided in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA.

Pedestrian walkways

I-038-006 The plan shows a pedestrian walkway through the U-haul parking lot. This driveway is required by trucks to be used by trucks entering and leaving the U-haul parking lot. Two other walkways show as going through the Wild Oats parking lots. What about the walkway to Boston Ave from the station through the Cummings property. Is public safety a concern in this proposal for pedestrians? Does the land have to be taken for these walkways? Certainly no private company is going to allow thousands of pedestrians on their property and be subject to lawsuits of them slipping and injuring themselves, never mind being hit by a U-Haul truck or a Wild Oats truck.
I must point out that the U-Haul trucks have no access on Rt 16 and leave through the Cummings property driveway, where the proposed entrance to the station drop off is located.

I-038-007 I must also point out that the space between 200 Boston Ave and 196 Boston Ave is about 26 feet. Through this space the proposal says will flow upwards of one hundred buses per day, hundreds of cars, hundreds of pedestrians walking to and from the station, and bicyclists. In addition, the occupants that parked where the proposed station would be would need to park in the parking lot and cross this space. The only entrance to 196 Boston Ave and the busiest entrance to 200 Boston Ave is in this tiny space. By comparison, Boston Ave is forty feet wide and with its sidewalks is fifty five feet wide. I can only ask how this would meet anybody's definition of the safe planning for a station entrance.

I-038-008 The proposal also touts a pedestrian walkway behind the U-Haul building. There seems to be no recognition that there is no space for such a walkway. There is only sixty feet between the U-Haul building and where the most northerly track must remain if the commuter train is to go over the Rt 16 bridge. This does not even meet the eighty one foot criteria for track service by the T. Additionally, this is their area for proposed switching of trains (which again is flawed). Perhaps they are proposing and elevated walkway for this two hundred and fifty feet, on top of the switching trains, as well as over Rt 16 and the river.

Station Issues

I-038-009 Station proposed is not shown long enough. It does not meet the length requirements set out in the Green Line Extension (EOT October 2006) (of 600 to 800 feet). A study of the buildings and track requirements shows why they are proposing such a small area for a station. The perpendicular distance between the Walking Court buildings and 200 Boston Ave is ninety five feet. This ninety five feet includes taking both the Walking Court driveway and the driveway where the buses are scheduled to run to leave the proposed station. The space requirement set by the Green Line Extension (EOT October 2006) is 101 feet wide for a station.

I-038-010 To shorten the length of the station, they have proposed elevator use for handicapped access to the train station. Has any consideration been given to the safety of the people that would be required to use these elevators? The two elevators required (one on the station side and one on the platform side) would be in an outdoor environment in an

I-038-006

The proposed station location at Mystic Valley Parkway/Route 16, as conceptually designed, will impact a number of properties along Boston Avenue including the Cummings building and the U-Haul building which are proposed to be acquired for the project. The station layout is being designed to provide safe and efficient access by all modes including pedestrians, bicycles, and motorized vehicles.

I-038-007

The proposed station location at Mystic Valley Parkway/Route 16, as conceptually designed, will impact a number of properties along Boston Avenue including the Cummings building and the U-Haul building which are proposed to be acquired for the project. 196 Boston Avenue will not be impacted by the project except for the relocation of its parking area. The station layout is being designed to provide safe and efficient access by all modes including pedestrians, bicycles, and motorized vehicles. Access to 196 Boston Avenue will be provided by the proposed station drive on Boston Avenue.

I-038-008

As currently designed, a station at the Mystic Valley Parkway/Route 16 location would impact the U-Haul property. In the design of the station, elements such accessibility, level of service (LOS), passenger circulation and safety requirements were all considered. A description of the station concepts is provided in Chapter 3 (Alternatives), Section 3.3.1, *Stations* of the DEIR/EA.

I-038-009

Station design is based on the MBTA's requirements for Green Line stations. More specifically, the Mystic Valley Parkway/Route 16 Station has been conceptually designed for a terminal station. Additional

~~I-038-009~~ unmanned station. Elevators are not reliable and the possibility of stranding a handicapped person in such a situation during a power failure in the winter should automatically discount their use.

I-038-011 There is simply no space for trains to reverse direction in this proposal. The Green Line Extension (EOT October 2006) shows two thousand five hundred feet of track for train switching and car retention activities. If the Green Line Extension (EOT October 2006) is to be believed, they need about one hundred feet on each side of a station, as part of the station activity. This leaves one hundred fifty feet for train switching between the proposed station and the Rt 16 bridge. As mentioned, there is only sixty feet between the U-Haul building and where the most northerly track must remain if the commuter train is to go over the Rt 16 bridge. This does not even meet the eighty one foot criteria for track service by the T, never mind the width required by the station activitied.

Noise issues

I-038-012 Noise studies would have to be conducted. Concentrating a large number of trains, buses, and additional automobiles in such a small space will dramatically affect the noise levels in the neighborhood.

Indoor Air Quality Issues

I-038-013 Buses routed in such proximity to buildings such as proposed adjacent to 200 Boston Ave. and 196 Boston Ave will invariably have their exhaust pulled into the air intakes of the buildings. Air flow patterns around and above the buildings make this a certainty. This issue needs to be studied and addressed before it becomes a permanent issue with building tenants.

Conclusion

I am against the Green Line extension to a Somerville Station at Rt 16. The proposal to site there has such obvious flaws that it would be a waste of resources to even consider.

If such a study of a Somerville Station at Rt 16 were to be undertaken, studies of the traffic, pedestrian, indoor air quality, air pollution, and noise pollution need to be undertaken.

I-038-014 I believe that the Green Line Extension (EOT October 2006) proposal is adequate for the community needs and in keeping with the mission of the project.

I-038-015 I believe that a special transfer program that allows the transfer from the commuter line at the current Medford Station to the first common station between that and the green line would serve the transportation needs of that area. This would be accomplished without the need for infrastructure in Medford. Details of fares and transfer would only need to be worked out. Such a policy would seem to meet the transportation needs without the neighborhood disruption.

information can be found in Chapter 3 (Alternatives), Section 3.3.1, *Stations* of the DEIR/EA.

I-038-010

Elevators are proposed within the proposed station building to provide access to the platform level. Redundant elevators are proposed at each of the new stations. At this time, it is propsed that stations will be manned. In the event someone becomes stranded in an elevator, they will have access to an emergency communication system that will allow them to contact MBTA staff and local police.

I-038-011

Special track work, also called crossovers, are being proposed south of the Mystic Valley Parkway/Route 16 Station that will allow trains to easily reverse directions and comply with MBTA's requirements for design.

I-038-012

Potential noise and vibration impacts have been evaluated and the results are in Section 5.7, *Noise* and Section 5.8, *Vibration* of the DEIR/EA.

I-038-013

There are no proposed changes in current bus routes and no new bus routes proposed as part of the Green Line Extension Project. The air quality analysis calculated the worst-case pollutant concentrations at sidewalk locations, which all met the air quality standards. Therefore, air intakes for buildings, which are further away, will also meet the air quality standards. In any event, the building at 200 Boston Avenue would be acquired for construction of the proposed station. The Air Quality analysis and results are in section 5.6 *Air Quality* of the DEIR/EA.

Thank you for your attention,

Ken Martin

I-038-014

Thank you for your comment.

I-038-015

Although there are no locations where joint commuter rail and Green Line stations are proposed, due to right-of-way impacts, the MBTA's current policy for commuter rail linked-trip combination includes a free transfer from commuter rail to the Central Subway System.

DB #13886

RECEIVED
NOV 2 1
MEPA

Dear Deirdre,
Thank you so much for coming to Medford on Wednesday, November 15 to help explain the Green Line Extension project. I'd like to take the time to express my disapproval of the extension through the neighborhoods of Medford Hillside.

Not In My Backyard

I-039-001

Not only am I a lifelong resident of the city, but I've always lived less than an 1/4 mile from the intersections of Winthrop Street, North Street and Route 16 with Boston Avenue. I know these roads and traffic patterns as these are the routes I take everyday to and from work on weekdays and traveling around on weekends. While I appreciate the people of West Medford and beyond looking for alternative transportation, *it's truly the residents that abut this proposed project that will suffer its consequences.* Although Medford Hillside has some businesses, it is primarily a densely populated, congested area of neighborhoods. There is simply no room to accommodate a construction project of this size, nor the structure and services that will result. I have no in depth research or reports to reference, just the everyday experience of living and driving in the area.

I'll assume your study requires that you personally visit Boston Avenue and the areas of the proposed stops. And I'll assume you'll have the opportunity to drive around the intersection of Route16 and Boston Avenue and down to College Avenue. Make sure you allow yourself some extra time, you're going to need it.

Traffic - Route 16

I-039-002

The combination of excessive speed, the sudden change to a single lane of traffic and kids crossing to get to the Brooks School compounded by heavy congestion in the area of Wild Oats hardly makes this location ideal for a commuter stop. Even at this time, I don't dare make the death defying left turn from Route 16 east into either Wild Oats parking lot or Boston Avenue. As a matter of fact, this area is so challenging that when Route 16 was reduced to one lane after several fatal accidents, the result was traffic pouring into narrow neighborhood streets to find a quicker route around the bottleneck. We couldn't even get out of our driveways and the neighbors had to go to City Hall to request that these streets all be made one way.

Traffic - North and Winthrop Streets

You should be prepared to sit in traffic from North to Winthrop Street as you sit through several light changes. You and everyone else will have to make your way around the cars double parked all along the block of stores to your right as you near the intersection. I would hope you wouldn't pick the day the liquor store or the hardware store gets their deliveries from large trucks and tractor trailers. And the buses are just part of the daily routine. As you make your way through the intersection, take a look up and down Winthrop Street so you can see the long lines of cars that idle directly in front of neighborhood homes.

Traffic – College Avenue

As you slowly make your way up to the intersection of College Avenue, take the time again to look up an down the five streets that come together here. Although directly

I-039-001

The Green Line Extension will be constructed within the existing MBTA Lowell Line Commuter Rail corridor and as such will require no whole residential property acquisitions. The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-039-002

The potential traffic impacts and their mitigation measures of the proposed station are discussed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA.

surrounded by college buildings rather than residences, keep in mind that less than a block or two away, these narrow streets are lined with peoples homes .

I-039-003

I would imagine that the proponents of the Green Line extension see this project as the very answer to the congestion I've just described. I would like to believe that, but I don't. I'd like to believe that all of these commuters will happily leave their cars at home and walk or bike to a T stop, but I don't. As we saw this year, people are more than willing to continue to fill up their SUVs even at $3 or more a gallon and drive their own cars. I simply don't believe adding T stops through these neighborhoods is the answer. I believe it will only make the current congestion even worse by adding more vehicle and pedestrian traffic to the area. And we haven't even taken into consideration the "s" word – snow!

Drop Off Areas

I-039-004

Certainly, we can assume some residents will take advantage of the Green Line extension, although I must say – I'm not looking forward to the estimated 10,000 commuters that supposedly will be pouring into my neighborhood. I'm very curious as to where the drop off areas are being proposed. Boston Avenue in currently only one lane in each direction and allows for parking and bus stops on both sides of the street. As I've stated, double parking is a regular occurrence around the business areas. As it stands, I don't frequent the businesses in the area because I can't put my car anywhere. I've never even been able to mail a letter in the mailbox on Boston Avenue at the top of North Street because I can't pull over. Where in the world is anyone going to be able to stop to let some one off to catch a train? What will they do? They'll stop in the middle of the street, hold up the traffic and let someone off. Short of mastering the stop, drop and roll technique, I cannot realistically see the feasibility of drop off areas anywhere along Boston Avenue or the smaller intersecting streets.

Parking

I-039-005

While the idea of people walking and biking to neighborhood T stops is appealing, I have to believe we're talking about a very small and targeted demographic. I'm sure your studies would bear that out. And let's not forget, we do live in New England after all, where eight out of twelve months are not exactly conducive to either walking or biking. I sincerely doubt the residents of West Medford are planning to walk to Winthrop Street every day. People *will* bring their cars and they *will* try to park in the neighborhoods. One of the speakers at the Wednesday meeting happily reported that the city could make an additional $6 million dollars through the ticketing and towing of illegally parked cars. Do you think he would be so enthusiastic if these cars were in front of *his* house or across *his* driveway? These neighborhood T stops were described as similar to those along the Riverside line. I work and teach in Brookline very close to these types of stops. Have you ever tried to park in Brookline? Clearly the neighborhoods fought for resident parking all over the city and we in the Hillside area would have to do the same thing.

Conclusion

Deirdre, I am asking you to reject the EENF of the Green Line Extension into the Medford Hillside area. Many of the people who expressed their opinion Wednesday

I-039-003

The potential traffic impacts and their mitigation measures of the proposed station are discussed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA.

I-039-004

Designated pick-up/drop-off areas are proposed at College Avenue Station and Mystic Valley Parkway/Route16 Station to allow vehicles to drop off and pick up passengers. Figures 3.7-25 and 3.7-29 illustrate the pick-up/drop-off areas for College Avenue and Mystic Valley Parkway/Route 16 Stations, respectively. At the Mystic Valley Parkway/Route 16 Station, the pick-up/drop-off will be located effectively away from Boston Avenue, while the pick-up/drop-off for the College Avenue Station will be available along the northern curbside of Boston Avenue, adjacent to the current traffic lane.

I-039-005

EOT will work with the City of Medford to develop a parking enforcement plan to address illegal parking around proposed stations in the project area.

evening do not live in our neighborhood. I understand the positive changes an undertaking like this can bring. We'd all like cleaner air and better transportation routes.

But the project has to be a good fit for the particular area where it will be developed. We are small neighborhoods of closely laid out homes and narrow streets. I believe this project will be truly detrimental to our neighborhoods, our homes and our property values.

Thank you so much for giving us this opportunity to express our opinions.

Jean McCarvill
76 West Street
Medford
jean@nationalboston.com

November 24, 2006

Secretary Robert W. Golledge, Jr.
EOEA
Attn. MEPA Office
Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston, MA 02114-2524

Secretary Golledge,

I-040-001 I am pleased to finally see progress toward the extension of the Green Line to Medford and Union Square. Much of the area that will be served by the extension has carried a disproportionate regional transportation burden for decades, and contains economic justice populations that have not been treated equitably, or fairly represented during in the transportation planning process.

I-040-002 However, although it is urgent for the Green Line extension to move forward, it is just as important that its planning strive to maximize environmental, economic and equitable returns. Therefore I strongly urge that the EIR include the following alternatives:

- A Union Square branch alignment permitting a station near its center
- A station near where the Union Square and Medford branches diverge

These options were specifically identified in the Beyond Lechmere Northwest Corridor MIS, which stated that they should be evaluated in this phase. I served as a member of the Citizen Advisory Committee to that study, and am disappointed that the EENF redacted significant portions of its recommendation without offering any justification for doing so.

I-040-003 The EIR must be coordinated with other ongoing and future projects in the area:

- Lechmere station relocation
- Urban Ring planning
- Future reconstruction of the Msgr. McGrath Highway between its crossing of the Fitchburg line and Washington St.

I-040-004 To assist in understanding the complex fabric of this dense urban corridor, as well to provide an opportunity for participation by affected EJ neighborhoods, an effective Citizens Advisory Committee should play an active role in the EIR process.

I-040-005 In my opinion the most serious omission in the EENF, one that must be remedied in the EIR, is any mention of matching the Union Square branch alignment to land use. Union Square is Somerville's largest commercial district, and more than any other location along the proposed extension, has the potential for successful transit-oriented development on a large scale.

I-040-001

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-040-002

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

In addition, as required by the Secretary's Certificate on the EENF, a station in the vicinity of Brickbottom was evaluated and determined to be a preferred location for a station, as described in Appendix B of the DEIR/EA. This location is in close proximity to the diverge of the Union Square and Medford branches of the Green Line Extension. The complexity of the geometry of the two branch lines, as well as the lack of projected demand for an additional station in this area, does not allow for a station specifically at the diverge location.

I-040-003

The Secretary's Certificate on the EENF requires consideration of and

I-040-006

The EIR, in evaluating the Union Square branch, should include:

- Compatibility with current and future land use, both in the Square proper and along the right of way, especially as regards ridership and economic development.
- Safety and convenience of pedestrian and bicycle access to the station, taking into account the congested arterial roadways in Union Square
- Feasibility of a bus terminal usable by all of the bus routes serving Union Square. As a terminus, it is important to provide a safe and convenient way for riders to change modes.

The EENF station location, directly on the Fitchburg rail line between Prospect and Webster streets, is a poor choice based on these criteria. It is 200 yards from the southeast edge of the Union Square business district, which extends west to Carlton St., and thus will not serve the largest portion of Union Square businesses. It also has limited access for both pedestrians and buses since high embankments on the adjacent Prospect St. and Webster Ave. bridges pose obstacles to pedestrian and bus access.

I-040-007

An optimum station location in Union Square, reinforcing well-established land use and transportation patterns, would be on the north side of Somerville Ave. between the intersections with Stone St. and Warren Ave. A second choice, but still better than the Fitchburg line, would be on the southeast corner of the intersection of Somerville Ave and Prospect St. This location could easily be reached from tracks on the north side of the Fitchburg ROW.

I-040-008

Constructing a station where the two branches diverge would provide substantial benefits at modest cost. Lacking this station, the connection between Union Square and the area served by the Lowell line branch is clumsy and slow, requiring passengers to travel to Lechmere, change trains and then backtrack to travel on the other branch. Depending on the Union Square branch alignment, this station could be located east of the Brickbottom complex, across Msgr. McGrath highway from the Twin City shopping center, or near the intersection of Somerville Ave. and Medford St.

In conclusion, I sincerely hope that in the rush to put shovels in the ground, and to be as parsimonious as possible, we doesn't make prematurely eliminate the best alternatives in the belief that cheaper is always better. For decades Massachusetts has in effect opted for the "no-build" alternative along this corridor, and the results – congestion, pollution, poor mobility and transportation inequity -- speak for themselves.

Judged by cost alone, building nothing always has the lowest out-of-pocket cost; but an EIR that fairly includes environmental, economic and equitable benefits of the Beyond Lechmere MIS's alternatives is far more likely to produce the highest net benefits to Somerville and the region as a whole.

Sincerely,

James A. McGinnis
26 Bow Street,
Somerville, MA 02143

coordination with other regional projects, including the Urban Ring, the reconstruction of Route 28/McGrath Highway, the Community Path, the NorthPoint Redevelopment, the relocation of Lechmere Station, and the Minuteman to Mystic Valley Parkway Path. Details are found in *Section 3.9, Coordination with Regional Projects* of the DEIR/EA.

I-040-004

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The work of the Advisory Committee is described in more detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-040-005

Union Square has significant potential for transit-oriented redevelopment, both in the square proper and in Boynton Yards, which abut the MBTA Fitchburg Line right-of-way. The proposed station site is within easy walking distance to areas with high residential densities and moderately high employment densities. The proposed station site in the MBTA Fitchburg Line commuter rail right-of-way is below street level and the area immediately surrounding the site is currently used for commercial/industrial purposes, which provide redevelopment opportunities. Redevelopment of Boynton Yards for mixed-use transit-oriented development is somewhat more speculative than redevelopment of the Union Square proper but is consistent with the City of Somerville's plans for the area.

I-040-006

Sections 4.2 and 5.2, *Land Use* of the DEIR/EA describes the compatability of the Union Square branch with the current and future land use identified in the area. All of the stations have been designed to provide convenient and safe access for pedestrian and bicycles, as well as provisions for bicycle storage. As described in Section 5.5.1.5, *Public Bus Transporation*, existing bus services will remain as they operate today but with bus stops in close proximity to new Green Line stations.

I-040-007

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive. As described in Section 3.7.3, *Stations*, the proposed Union Square Station is located at the intersection of the MBTA Fitchburg Line and Prospect Street, approximately 200 yards from the center of Union Square.

I-040-008

Due to the complex geometry of the two branch lines, it is not possible to construct a station at the diverge of the Medford and Union Square branches. However, it should be noted that based on the current operating plan, commuters will not be required to transfer at Lechmere Station to other train lines. The proposed Green Line service will extend existing lines to Medford and Somerville which will allow a one-seat ride to the Central Subway. Additional descriptions of the proposed operating plans can be found in Section 3.6, *Build Alternatives* of the DEIR/EA.

DB

45 Ibbetson St. #3
Somerville, MA 02143
November 22, 2006

RECEIVED
NOV 27 2006
MEPA

Secretary Robert W. Golledge, Jr.
EOEA
100 Cambridge St., Suite 900
Boston, MA 02114
Attn: MEPA Analyst Deirdre Buckley
Re: EOEA Project No. 13886

Dear Secretary Golledge,

Thank you for extending the opportunity to comment on the Green Line ENF. I appreciate the state's effort to move Green Line planning forward efficiently to make up for lost time. I am very concerned, however, that the Expanded ENF skips over issues that need to be carefully evaluated for the project to realize the greatest benefit for the local communities and the Commonwealth.

I-041-001 In compliance with recent state initiatives, transportation planning must be evaluated in relation to land use planning. The ENF proposes only one possible alignment for extension to Union Square, along the Fitchburg line to a spot outside the square. There must be a full appraisal of alternative alignments that would create a stop in the heart of Union Square, where the potential for economic growth and increased ridership is greatest. The use of more than one headhouse needs to be carefully evaluated as a way to counteract the pedestrian barriers created by heavy traffic in Union Square. The impact of using Yard 8 for vehicle storage on future development in the Green Line corridor needs to be studied, and the addition of stops at Twin Cities and Brickbottom needs to be considered as a way to increase potential use of the Green Line and value of the area.

I-041-002

I-041-003

I-041-004 There needs to be a comprehensive view that coordinates Green Line planning with planning for transportation projects that will interact with the Green Line. Currently planning for Lechmere station is proceeding with virtually no public input and no coordination with Green Line planning. Since current Lechmere plans call for the realignment of McGrath and O'Brien Highway, there needs to be consideration of other realignments that could coordinate with other possible alignments of the Green Line to Union Square. The implications of moving the Lechmere stop completely out of the commercial and civic center of East Cambridge and into an expensive residential enclave need to be looked at more carefully, including the economic justice impacts of moving the stop away from an existing ej population. Other projects that need to be considered in relation to Green Line planning include the future Urban Ring, the reconstruction of the elevated portion of McGrath Highway, new NStar infrastructure between Union Square and Lechmere, and the Community Path. In addition to these, there needs to be careful planning of pedestrian and bicycle access to proposed stops.

I-041-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-041-002

The proposed Union Square Station will provide access into a single headhouse directly from the bridge on the Prospect Street Bridge and from a second access at a lower grade along Prospect Street in order to ensure that ADA compliance is being met. Section 3.7.3, *Stations* and Figure 3.7-33 of the DEIR/EA have additional detail on the station layout.

I-041-003

Section 3.3.2, *Maintenance Facility* of the DEIR/EA describes the evaluation of mutiple sites considered for the proposed Green Line Support Facility. Yard 8 was selected as the preferred alternative based on cost, operational characteristics and its historic rail use. Proposed stations are discussed in Section 3.7.3, *Stations* as well as Appendix B, *Station and Alignment Selection Analysis* of the DEIR/EA.

I-041-005 Finally, I strongly support the appointment of a citizens advisory committee to work with EOT and MEPA to make sure that environmental justice issues are fully examined in the ongoing planning.

Sincerely,

Lynn McWhood

Lynn McWhood

I-041-004

The communities in the study area are pursuing a number of transportation and development projects that are of importance to the Project study area. Descriptions of the key features of these undertakings are provided in Chapter 3 (Alternatives), Section 3.9, *Coordination with Regional Projects* of the DEIR/EA. Also Lechmere Station is now included in the DEIR/EA as part of the Green Line Extension Project. Additional information on relocated Lechmere Station can be found in Section 3.7.3, *Stations* of the DEIR/EA.

I-041-005

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The work of the Advisory Group is described in more detail in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Lynn McWhood [linwoodplace@earthlink.net]
Sent: Thursday, November 23, 2006 10:57 PM
To: 'Deirdre Buckley'
Subject: EOEA Project No. 13886

Dear Ms. Buckley,

I am enclosing in this email a copy of a letter I mailed on Wednesday, Nov. 22, re EOEA Project No. 13886 to insure that you receive it by the deadline for public comment.

Lynn McWhood

45 Ibbetson St. #3
Somerville, MA 02143
November 22, 2006

Secretary Robert W. Golledge, Jr.
EOEA
100 Cambridge St., Suite 900
Boston, MA 02114
Attn: MEPA Analyst Deirdre Buckley
Re: EOEA Project No. 13886

Dear Secretary Golledge,

Thank you for extending the opportunity to comment on the Green Line ENF. I appreciate the state's effort to move Green Line planning forward efficiently to make up for lost time. I am very concerned, however, that the Expanded ENF skips over issues that need to be carefully evaluated for the project to realize the greatest benefit for the local communities and the Commonwealth.

In compliance with recent state initiatives, transportation planning must be evaluated in relation to land use planning. The ENF proposes only one possible alignment for extension to Union Square, along the Fitchburg line to a spot outside the square. There must be a full appraisal of alternative alignments that would create a stop in the heart of Union Square, where the potential for economic growth and increased ridership is greatest. The use of more than one headhouse needs to be carefully evaluated as a way to counteract the pedestrian barriers created by heavy traffic in Union Square. The impact of using Yard 8 for vehicle storage on future development in the Green Line corridor needs to be studied, and the addition of stops at Twin Cities and Brickbottom needs to be considered as a way to increase potential use of the Green Line and value of the area.

There needs to be a comprehensive view that coordinates Green Line planning with planning for transportation projects that will interact with the Green Line. Currently planning for Lechmere station is proceeding with virtually no public input and no coordination with Green Line planning. Since current Lechmere plans call for the realignment of McGrath and O'Brien Highway, there needs to be consideration of other realignments that could coordinate with other possible alignments of the Green Line to Union Square. The implications of moving the Lechmere stop completely out of the commercial and civic center of East Cambridge and into an expensive residential enclave need to be looked at more carefully, including the economic justice impacts of moving the stop away from an existing ej

population. Other projects that need to be considered in relation to Green Line planning include the future Urban Ring, the reconstruction of the elevated portion of McGrath Highway, new NStar infrastructure between Union Square and Lechmere, and the Community Path. In addition to these, there needs to be careful planning of pedestrian and bicycle access to proposed stops.

Finally, I strongly support the appointment of a citizens advisory committee to work with EOT and MEPA to make sure that environmental justice issues are fully examined in the ongoing planning.

Sincerely,

Lynn McWhood

11/28/2006

Buckley, Deirdre (ENV)

From: Peter Micheli [peterhlc@conversent.net]
Sent: Wednesday, November 22, 2006 7:10 PM
To: Buckley, Deirdre (ENV)
Subject: EOEA 13886: Green Line Extension Environmental Review

Dear Ms. Buckley:

I-042-001 I'm writing to comment on the Green Line Extension Environmental Review. The footprint for this review should be extended to at least West Medford Square, beyond even Route 16. West Medford Square is a logical place for a terminus given the surrounding cluster of businesses and residences and the existing commuter rail stop. It is also a logical place to encourage "smart growth". Not to include a possible West Medford terminus in the review would be short-sighted given that this is truly a once-in-a-lifetime opportunity. Thanks for your consideration.

Sincerely,

Peter Micheli
117 Brooks St.
Medford, MA 02155

11/28/2006

I-042-001

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

November 16, 2006

Ms.Buckley,

I-043-001 I-043-002 I am writing in regards to the possible extension of the Green Line from Boston to West Medford. I am a lifelong resident of Medford, having lived here for 50 years. I am totally opposed to the Green Line coming from Boston to Rte. 16 in Medford. I am not aware of any traffic study that was done in regards to this area. However if there was one you must be aware of what a heavily congested area this is now. I know the argument will be that people will walk to this station and if we lived in a perfect world they would. The problem will be that the neighborhood will have all of these people that intended to walk to the train station parked all over the neighborhood and then of course we will need a huge garage eventually to house all these cars .

I-043-003 Furthermore I feel that we have enough modes of transportation in our city now we have great access to any bus route and we also have the train at Wellington, which is not located in a residential neighborhood.

The area I live in will be directly and negatively affected by the plan to extend the Green Line from Boston to West Medford. Years ago the neighbors on my street all got together and got a petition to make our street a one-way as we couldn't handle the traffic and accidents that occurred due to the overflow from Rte. 16 .It is an inconvenience for us but one we gladly handle rather than have the problems we had before it was a one-way street. This area cannot handle this train station and I do not see the need for this.

I will close by saying again that I live in a neighborhood that will be directly and negatively affected by the Green Line extension from Boston to Rte. 16 and I am totally opposed to this plan.

Thank you for taking the time to read this and I only hope you will take this letter into consideration when making your final plan.

Sincerely,

Barbara A. Monagle

Barbara A. Monagle
95 West Street
Medford, Ma 02155
bamonagle@hotmail.com



I-043-001

A traffic study for the Green Line Extension Project was conducted and the results including impacts and mitigation measures are reported in Chapter 4 (Affected Environment) Sections 4.6, *Traffic* and in Chapter 5 (Environmental Consequences) 5.5, *Traffic* of the DEIR/EA.

I-043-002

The DEIR/EA serves as the traffic study for this proposed project. The implications of traffic, parking, and pedestrian activity on study area intersections are presented in Section 5.5, *Traffic* of the DEIR/EA. EOT will work with the City of Medford to develop a parking enforcement plan to address neighborhood parking issues.

I-043-003

Existing transit services offer MBTA buses that travel within the flow of traffic along urban corridors with narrow streets, on-street parking, and numerous intersections, all of which create significant delay for daily commuters including existing public transportation. Roadway congestion in the study area impacts the reliability of current on-street transit services and results in unreasonable travel times from Lechmere Station to Mystic Valley Parkway/Route 16 despite the relatively short distance (approximately 4 miles). The potential to improve the reliability and capacity of the bus network in the study area is severely limited by roadway congestion, narrow street widths, and other physical constraints. According to the MBTA's 2008 Service Plan, all study area bus routes except the Route 85 failed to meet the Schedule Adherence Standards.

Wellington Station on the MBTA Orange Line is approximately 2 to 3.5 miles from the study area corridor, an unbefitting distance for pedestrian traffic. MBTA Bus Route 90 provides a connection to Wellington Station from the eastern corner of the study area with no transit connection from the remaining corridor. The percentage of households that do not own a

car within the study area corridor is 21% requiring transit connectivity for a service 3.5 miles away. Wellington Station, therefore, does not provide efficient and reliable service for the study area corridor.

DB

Secretary Robert W. Golledge Jr.
EOEA
Attention MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge St.
Suite 900
Boston MA 02114

22 November 2006

RECEIVED
NOV 27 2006
MEPA

RE: ENF for Green Line extension

Dear Ms. Buckley:

First I'd like to thank the EOEA for holding the two public meetings and the EOT for starting the Green Line Extension planning process by submitting the ENF. This is a very important public project for Somerville and the area. Thank you for seriously considering my following comments:

I-044-001 | 1. Community Path - While the document mentions 2-3 times that the Green Line Extension will to preclude the eastward extension of the Somerville Community Path and says the planning should be coordinated, it is imperative that the language be changed to explicitly include the planning and construction of the Community Path North Point, Cambridge no later than during the Green Line extension construction. The Path is needed for bike and pedestrian access to the new Green Line stations and these two projects cannot be constructed independently from each other.

I-044-002 | 2. Overdesign, cost estimate - I believe that the estimated cost of the Green Line extensions are greater than necessary. I think the MBTA and their transportations engineers are overdesigning this project. For example the horizontal bridge clearance which is too conservative and therefore concluding that more bridges than necessary will need to be reconstructed, The MBTA are not accustomed to designing light-rail systems and need to retain new consultants to find simpler, more creative and less expensive ways to carry out this project less expensively. I'm sure that this possible and I'll provide some ideas directly to the planners, such as a single track for both inbound and outbound trains, especially on the Union Square branch.

I-044-003 | 3. Public Input - In general, many decisions appear to have been made with almost no community input. Most all the meetings to date have been to force the State to carry out it's commitment to construct the Green Line Extension but not to gather information on detail design, many aspects which have been included prematurely in this document.

I-044-004 | 4. Union Square - There has not been enough community input into station locations, especially the Union Sq. station which needs to be closer to the heart of Union Square that just running the Green Line along the Fitchburg Line. The tunnel option, which seems to have been rejected earlier needs to be considered again by different light-rail transportation consultants.

I-044-005 | 5. Terminus - The goal of this Green Line extension should be to reach West Medford and have an interchange with commuter trains so Somerville residents can travel further north and commuters from further north can get to Somerville without having to first travel all the way to North Station. West Medford is a dense location that would serve a

I-044-001

The Secretary's Certificate on the EENF requires consideration of and coordination with other regional projects, including the Urban Ring, the reconstruction of Route 28/McGrath Highway, the Community Path, the NorthPoint Redevelopment, the relocation of Lechmere Station, and the Minuteman to Mystic Valley Parkway Path. Details are found in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA. EOT has committed to designing the Community Path in conjunction with the Green Line Extension Project.

I-044-002

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-044-003

The Green Line Extension Project has engaged in a full and comprehensive public process for citizens in each of the affected communities. Please see the Public Involvement Summary in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for a complete description of this process.

I-044-004

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However,

I-044-005 large amount of population in Medford and Arlington. While there obviously needs to be public discussion of the station locations and design, I'm sure there's a solution that will satisfy most all concerns.

I-044-006 6. Urban Ring - There has not enough consideration on how the Green Line Extension will be integrated with Urban Ring.

I-044-007 7. Auto Parking - The ENF says there will no parking at the new stations. While I know that parking is a sensitive subject, the possibility of parking should be left open for community consideration.

I-044-008 8. Lowell St. area station - This is an important location for a Green Line stop, given its proximity to the Magoun Square commercial district and the point where the Community Path diverges from the route of the Green Line extension to Medford. Therefore this station location should remain in the plan.

I-044-009 9. Bicycle Parking - The plan should mention that bicycle parking must be provided at the stations.

I-044-010 10. "Brickbottom"/Inner Belt station needed -The "Brickbottom"/Inner Belt area of Somerville should include a station on the Green Line extension that accesses the Community Path here.

I-044-011 11. Yard 8 - Alternative locations to Yard 8 should be considered for any storage and maintenance of the light-rail vehicles. If Yard 8 must be used, sufficient width for the Community Path must be provided and the plan should state that such width be reserved for its construction.

Thanks for listening.

Sincerely,

Alan Moore

Alan Moore
23 Cherry St.
Somerville, MA 02144

due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-044-005

As described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical and environmental impacts.

I-044-006

The communities in the study area are pursuing a number of transportation and development projects that are of importance to the Project study area. Descriptions of the key features of these undertakings are provided in Chapter 3 (Alternatives), Section 3.9, *Coordination with Regional Projects* of the DEIR/EA. The Urban Ring and Green Line Extension Projects, in particular, are envisioned to provide services that complement each other and provide a greater benefit for the communities. Together, the Urban Ring in conjunction with the Green Line Extension Project would provide environmental and economic benefit to the neighborhoods surrounding the greater Boston area. The Urban Ring has been taken into consideration, therefore, in the planning and design stages of the Green Line Extension Project as well as for the Project's ridership model.

I-044-007

As currently proposed, parking will only be provided at relocated Lechmere Station, to replace existing parking at the current station. A

300-space parking garage was considered at Mystic Valley Parkway/Route 16 Station. The full impacts of the alternative both with and without a garage at this station were analyzed and are described in Chapter 5 (Environmental Consequences) as part of the DEIR/EA. However, due to input from the public and the results of the traffic analysis, it is not proposed to provide a garage at Mystic Valley Parkway/Route 16 Station.

I-044-008

Lowell Street Station is one of the proposed stations for the Green Line Extension Project. Proposed stations are discussed in greater detail in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-044-009

Space for bicycle parking has been allocated at all stations as discussed in Section 5.5, *Traffic* of the DEIR/EA. Bicycle storage for each of the proposed stations is shown in the station plans in Figures 3.7.2 through Figure 3.7.34 of the DEIR/EA.

I-044-010

Brickbottom Station is one of the proposed stations for the Green Line Extension Project. Proposed stations are discussed in greater detail in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-044-011

An extensive analysis of potential maintenance facility sites was developed and is described in 3.3.2, *Maintenance Facility* and Appendix C of the DEIR/EA. This study concluded that the area around Yard 8 is the most practicable site for the maintenance facility. However, this will not affect the layout of the proposed Somerville Community Path. The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs of the proposed Somerville Community Path. Details

on the design and coordination of the proposed Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Steve Mulder [smulder@rcn.com]
Sent: Saturday, November 18, 2006 3:17 PM
To: Buckley, Deirdre (ENV)
Subject: Comments on Green Line extension SEIR

Hi -

Thank you first of all for holding public hearings in Somerville and Medford about the important issues of planning for the Green Line extensions. It is good to - finally! - see progress on this critical project. I'm very disappointed in the delay to 2014, and hope that no further delays will occur.

Regarding the EENF that has been created, the most disturbing thing about it are some of the assumptions.

I-045-001 The first and most troubling assumption is that Union Square would be served by a branch following the Fitchburg line. Although this is certainly an option to consider, it is foolish at this early stage to not examine other options as well. It is obvious to residents and local businesses that the most effective way to serve Union Square (and maximize the number of riders) is to place a station in the heart of the square, rather than in a dead zone along the Fitchburg line. Other options, such as a cut-and-cover tunnel following Somerville Ave into the heart of Union Square, are essential to study in the coming year(s).

I-045-002 Second, the EENF assumes the Lowell line branch will end at College Ave or Winthrop St. Here too, it is absurd not to consider other options. In particular, a terminus near Route 16 should be studied, which is supported by the vast majority in Somerville and Medford.

I-045-003 Finally, there's an odd gap in service between Lechmere and Union Square or Washington St. A stop near Brickbottom or Twin Cities Plaza would benefit this area and is certainly worth study.

We have one chance to get this right. It's a huge project and worth studying all the options now, rather than making critical mistakes.

I-045-004 Regarding the issue of a Single EIR, I support it *unless* it means not studying other options mentioned above. I'd rather see multiple EIRs if that's what it takes to study multiple Union Square options, etc.

Thank you.

Steve Mulder
42 Stone Ave
Somerville

1

I-045-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-045-002

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

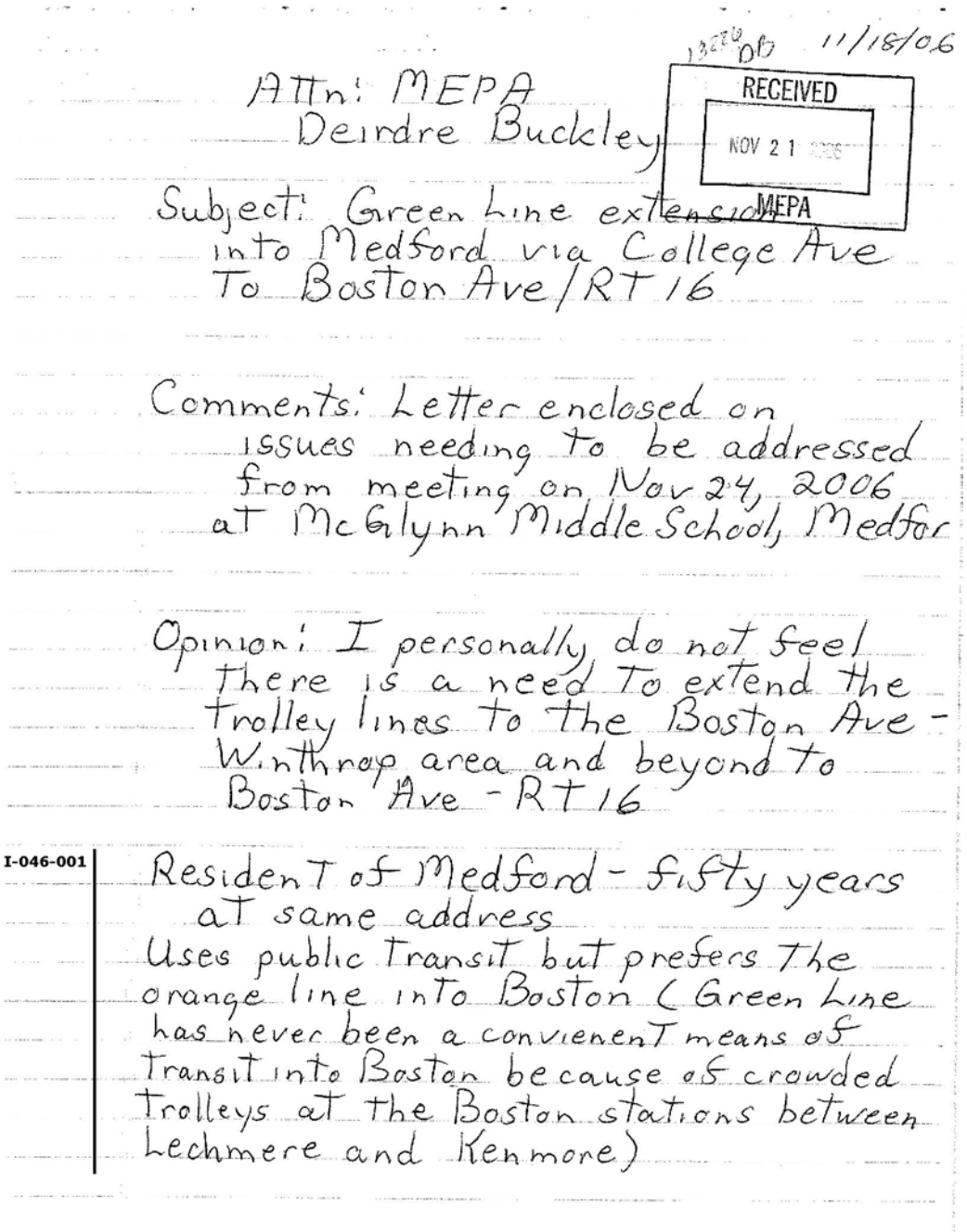
I-045-003

Brickbottom Station is one of the proposed stations for the Project. Proposed stations are discussed in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-045-004

The Secretary's Certificate on the EENF required the preparation of a DEIR, with the expectation that it would be accepted as the FEIR after

public review and comment. Within the DEIR, two different Union Square options were considered. Section 3.6, *Build Alternatives* of the DEIR/EA, discusses the alternatives considered.



11/18/06

RECEIVED
NOV 21
MEPA

Attn: MEPA
Deirdre Buckley

Subject: Green Line extension into Medford via College Ave To Boston Ave/RT 16

Comments: Letter enclosed on issues needing to be addressed from meeting on Nov 24, 2006 at McGlynn Middle School, Medfor

Opinion: I personally do not feel there is a need to extend the trolley lines to the Boston Ave - Winthrop area and beyond to Boston Ave - RT 16

I-046-001

Resident of Medford - fifty years at same address
Uses public transit but prefers the orange line into Boston (Green Line has never been a convienent means of transit into Boston because of crowded trolleys at the Boston stations between Lechmere and Kenmore)

I-046-001

Thank you for your comment and interest in the Green Line Extension Project. Sullivan Square Station and Wellington Station on the MBTA Orange Line are the closest Orange Line stations at approximately one to four miles from sections of the study area corridor. One to four miles is an incompatible walk distance for pedestrians. As 21% of study area households do not own a car, these residents would have to rely on existing MBTA Bus Routes to access Sullivan Square or Wellington Stations. However, existing transit services offer MBTA buses that travel within the flow of traffic along urban corridors with narrow streets, on-street parking, and numerous intersections, all of which create significant delay for daily commuters including existing public transportation. Roadway congestion in the study area impacts the reliability of current on-street transit services and results in unreasonable travel times despite the relatively short distances. The Green Line Extension will provide Medford, Somerville, and Cambridge residents another means to commute to Boston.

Thank you for reading the enclosed letter. I feel I and many in Medford have some concerns that need to be addressed.

Angela Murphy

Ms. Angela Murphay
16 Cotting St.
Medford, MA 02155-4302

Tele: 781-396-0188
email: lucky1351851@aol.com

11/18/0

Atten: MEPA Office - Deirdre Buckley

My name is Angela Murphy and I've lived at 16 Cotting St. Medford for fifty years. Cotting St. is five blocks down Winthrop St from Boston Ave and ends at North St-Auburn St and RT 16

I have been a Transit rider since I was a baby, being that my parents did not drive nor own a car. We moved to Medford after being displaced from the West End of Boston, when I was five. My father, uncles and cousins have all worked for the MBTA, has laborers and union representatives thru the fifties up till 2001.

I-046-002

My comments and concerns are, is this worth the expense and inconveinence to surrounding neighborhoods a project of this size will cause to benefit Tufts and a few commuters who dislike riding the bus?

I-046-002

With approximately 18,870 people per square mile in Somerville, 15,760 in Cambridge, and 6,850 in Medford, the study area neighborhoods are among the densest in the Boston region. Most activities within the study area corridor, such as shopping and going to work, require the use of a car. This has resulted in traffic congestion, constrained parking supply, and poor access, all of which hamper development opportunities within the study area communities. In addition, this area is made up of an approximately 60 percent Environmental Justice (EJ) population that is currently underserved by transit opportunity. U.S. Census data (2000) indicates that approximately 21 percent of study area households do not own a vehicle, which creates a need for reliable and efficient transit service. Although the MBTA commuter rail passes through the study area corridor, there are no rail transit stops within these communities, which impacts the environment within the study area without providing the benefit of transit access. In addition, roadway congestion in the study area impacts the reliability of current on-street transit services and results in unreasonable travel times from Lechmere Station to Mystic Valley Parkway/Route 16 despite the relatively short distance. Chapter 2 (Purpose and Need) within the DEIR/EA discusses these elements of purpose and need in greater detail.

I-046-003

I am fifty five years old, and find it difficult To climb The hill up Winthrop St To Boston Ave. Thus I for one would not have a need for a station at Winthrop St and Boston Ave. When I do use public transit into Boston, it is usually in The evening for a concert or event and coming home at the hour of eleven/ Twelve pm, I would not feel safe walking the five blocks To Cotting St. I prefer to park at Wellington or Oak Grove where I know my car is waiting to take me home to my driveway at that late hour. I am sure this safety issue of how far you have to walk from the proposed stations To get to your house - whether it be the early morning hours, late at night or in inclement weather - is a concern of people my age or even parents with young children.

I-046-003

Accessibility with safety to stations was considered when selecting station locations. The selection process and specific station sites are discussed in Sections 3.3.1 and 3.7.3, *Stations* of the DEIR/EA.

Another concern is where will this trolley take me? In the fifty years that I have lived in Medford, I can truthfully say that the Green line trolleys has never been my choice of Transit into Boston or out of Boston for that matter. The Trolleys and Lechmere station do not provide a comfortable means of transit. I chose To take the Red line To Park St and walk six blocks to where I worked on Bolyston St, even Theugh there was a green line stop one block on each side of where I worked. Another reason for not using the green line. after an event, ex: Red Sox Game, the Trolleys are too crowded. My sister, nephew, his friend and myself chose to walk from Kenmore Square to Downtown Crossing along with numerous fans after a game because it was faster. So once again we take the orange line from Wellington. When my daughter attended Northeastern, she always

came home via the orange line where it was convenient for me to pick her up at Wellington, has opposed trying to park in Davis Square for the Red line or having her walk from Boston Ave home.

I-046-004

The Trolleys at the Kenmore, Arlington, Copley and Bolyston St. stations have always been crowded and are not a comfortable means of transit. So driving into Boston or to Wellington and walking from Downtown Crossing or Park St has always been preferable then to use these stations. So why do I need a Trolley to take me directly to them?

There are times when I take the bus route from Arlington To Lechmere. I visit relatives in Somerville and need to get to the Cambridge courthouse when called to jury duty. Will they

I-046-004

The Green Line Extension Project will offer users an opportunity for a one-seat ride to the Central Subway system in Boston. Issues such as overcrowding are an important aspect for the entire system and calculations for vehicle requirements are based on projected ridership and vehicle capacity on the line. The number of vehicles required for each alternative has been calculated and is described in Section 3.6, *Build Alternatives*.

I-046-005

discontinue the bus routes which are convenient for my needs? Will I now need to drive to my relatives, the courthouse and Arlington Center and hope to find a parking place for my car?

I understand there is a need for The people who commute to Boston. However, my son who Took

I-046-006

The bus at Medford Hillside notes how few ride the bus, even though The buses were prompt and on time and the drivers very friendly. He and I believe the number of commuters who use the green line is overestimated and would not increase significally To warrant This project because of the make up of the surrounding neighborhoods. Would Tufts be the only community who may see some increase from this?

I have seen the Medford Hillside area Through many changes and we are presently a thriving and close knit community. I would be very dissapointed were this community

I-046-005

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

I-046-006

Existing transit service along the corridors in Cambridge, Somerville, and Medford is currently offered by 15 MBTA bus routes with access to points within those communities as well as to Boston, Arlington, Woburn, and Winchester. However, existing bus routes currently operate within existing traffic flows, which hinder bus service along the congested study area corridors and, therefore, provide inefficient and unreliable transit service to the study area. Roadway congestion in the study area impacts the reliability of current on-street transit services and results in unreasonable travel times from Lechmere Station to Mystic Valley Parkway/Route 16 despite the relatively short distance. The Green Line Extension Project would serve a wide population including residential neighborhoods, businesses and educational communities.

I-046-007

be disrupted. I am able to call any business, Ulla's flower shop, Hillside hardware, Andrea's, Hillside cleaners, Expresso Pizza and even Dunkin' Donuts and they know who I am. If it becomes inconvenient for me to frequent these businesses as often as I do now, how would a thriving business center exist. There are

I-046-008

few parking areas now and will they take some away for track expansion?

I-046-009

I also have seen the store at Rt16 and Auburn St change from the First National, Purity Supreme, Wild Harvest to Wild Oats. Do you know how convenient it was to have a grocery store at this location during the blizzard of 1978? I would once again be dissappointed if the now existing store be closed for a trolley yard. The liquer store at this location has also been a good neighbor at this location for many years and even though I

I-046-007

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in Section 5.2, *Direct Effects* on Land Use, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-046-008

The Green Line Extension Project is envisioned to acquire a limited number of public parking for stations and traffic improvements along the entire length of the corridor. Traffic improvements and impacts on parking for each alternative are described in more detail in Section 5.5, *Traffic* of the DEIR/EA.

I-046-009

There are currently no plans to acquire this parcel. A complete summary of land acquisition is provided in Chapter 3 (Alternatives), Table 3.7-1 of the DEIR/EA.

I-046-009

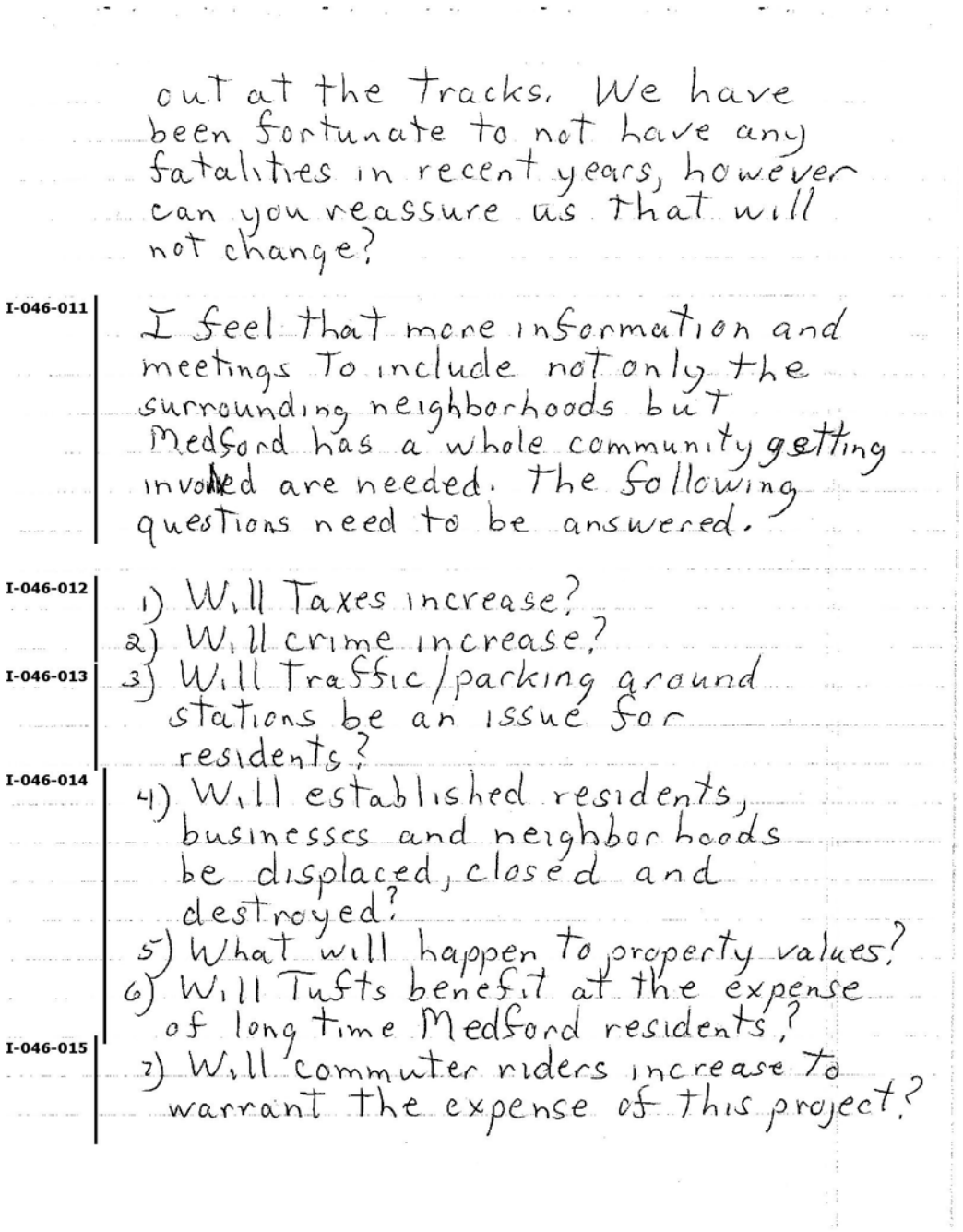
may not frequent this business too often, they have been conveinent for the time I have, for family special occasions. If these businesses were to remain open, would there parking lot become a nightmare? I do not feel a trolley yard would be an improvement over two businesses which along with Starbucks are contributing members of our community.

I-046-010

Safety is another great concern for me. My brother-in-law lost an uncle, who was killed by a commuter train on the tracks behind the homes on Orchard St which abutts the railway. Has a child I played near the tracks and I know that my son and his friends did also. Who is going To moniter the tracks when there will be more trains and trolleys flying by. Children have a curiosity and at times show ~~fe~~no fear, so it is without question that they would find a way to hang

I-046-010

Due to safety concerns, the existing right-of-way is fenced and posted with "No Trespassing." The expanded right-of-way proposed for the Project will also be fenced and posted.


out at the tracks. We have been fortunate to not have any fatalities in recent years, however can you reassure us that will not change?

I-046-011 I feel that more information and meetings to include not only the surrounding neighborhoods but Medford has a whole community getting involved are needed. The following questions need to be answered.

I-046-012 1) Will Taxes increase?
2) Will crime increase?
I-046-013 3) Will Traffic/parking around stations be an issue for residents?
I-046-014 4) Will established residents, businesses and neighborhoods be displaced, closed and destroyed?
5) What will happen to property values?
6) Will Tufts benefit at the expense of long time Medford residents?
I-046-015 7) Will commuter riders increase to warrant the expense of this project?

I-046-011

The Green Line Extension Project has engaged in a full and comprehensive public process for citizens in each of the affected communities, including Medford. Please see the Public Involvement Summary in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for a complete description of this process.

I-046-012

Indirect and socioeconomic effects of the Project are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

I-046-013

Traffic and parking impacts of the proposed Project and their mitigation measures are discussed in Chapter 5 (Environmental Consequences), Section 5.5, *Traffic* of the DEIR/EA. Parking for the project is proposed only at the relocated Lechmere Station. EOT will work closely with Medford, Somerville and Cambridge to develop a parking enforcement program to address parking issues in neighborhoods.

I-046-014

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in Section 5.2, *Land Use,* and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA. Indirect effects on land use are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

I-046-015

Ridership on the MBTA's system will increase as a result of the extension of the Green Line into Somerville and Medford. The methodology for estimating ridership is provided in Section 3.4, *Ridership Methodology* of the DEIR/EA. Ridership for each of the alternatives proposed is described in Section 3.6, *Build Alternatives.*

All these questions need answers so that we as a community can feel assured that the quality of living in the neighborhoods surrounding the proposed green line extension will not be changed for the negative. I am not against change when it is done to benefit the people, community, who have to go through what is usually a long and traumatic experience in proposed projects such as this.

Please go slow, very slow when reviewing this project.

My father and uncles would be very upset if they were alive and not understand how the MBTA can fund this project when they are in fiscal crisis at present. Who will end up paying for this? Do we really know?

Thank you
Angela Murphy

Angela Murphy, 16 Cotting St, Medford MA 02155
781-396-0188 email: lucky135185l@aol.com

Buckley, Deirdre (ENV)

From: jod3502@aol.com
Sent: Sunday, November 19, 2006 1:09 PM
To: Buckley, Deirdre (ENV)

Deirdre;
I misspelled your name on my first attempt, so I will try again.
Attached Message
From: jod3502@aol.com
To: Deirde.buckley@state.ma.us
Subject: Green Line Extension
Date: Sun, 19 Nov 2006 11:53 AM
Good Morning Deirdre;

As a resident of Medford for the past 39 years, I want to register my objection to the Green Line extension into Medford. I have watched and read with interest all of the reasons given for this project coming into Medford, and I find no merit in any of it. I am aware of the studies done that point out great needs for the potential thousands of riders, but those numbers do not exist. As is, we in West Medford already bear a great deal of public transit burden, with buses, trains, etc., in our midst daily. They are an aspect that we have all used, and I can see no further benefit to the system by disrupting it and creating another level above what we already have.

I-047-001 If all are to be honest, this is a project driven by Tufts University to have better access to Boston. To call the proposed station "College Ave" is a poor joke, as we all know who it is for, and at least you can do is call it what it is" "Tufts University" station. I want you to realize that when the Red Line extension was proposed out to Arlington and beyond, it was stopped in its tracks by those yelling "not in my backyard". That is not my case, as I live on Johnson Avenue, West Medford, and it already is in my

I-047-002 backyard. The idea of locating a station along the Mystic reservation in the Hillside is a perfect example for all those studying Urban Planning at Tufts University on how to take a pristine area with waterfowl and beautiful grasslands and to turn it into a parking lot for the commuters from other cities and towns west of Medford, the same ones who would not accept the Red Line extension.

Thank you for your consideration.

John J. O'Donoghue
jod3502@aol.com

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11/28/2006

I-047-001

The purpose of the Green Line Extension Project is to improve corridor mobility, boost transit ridership, improve air quality, ensure equitable distribution of transit services, and support opportunities for smart growth initiatives and sustainable development. Although College Avenue Station is located in close proximity to Tufts University, it is intended to service the surrounding residential neighborhoods as well as the University itself. Tufts University employs roughly 3,500 faculty and staff and has approximately 8,500 enrolled students. A large majority of the student body lives on or in close proximity to the campus, accounting for a small percentage of projected Green Line passengers. Although the 3,500 faculty and staff will account for a percentage of the daily transit ridership at this station, the remaining ridership is expected to come from the local residential neighborhoods.

I-047-002

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

Buckley, Deirdre (ENV)

From: Crispin Olson [crispin.olson@gmail.com]
Sent: Sunday, November 12, 2006 11:46 AM
To: Buckley, Deirdre (ENV)
Cc: kenmedford
Subject: EENF Scoping comments - support for the MGNA proposal.

To Whom It May Concern:

I am writing in support of the Medford Green Line Neighborhood Associations (MGNA) proposal for the proposed Green Line extension to terminate in the area around Rte 16/Boston Ave, which has not so far been considered within the current EERF. I live in W Arlington close to the proposed location, along with many other residents of this town. This area is the most densely populated part of our town, and includes much high density housing and low income families - many reliant on public transportation. For example Menotomy Manor housing project includes several hundred low income families who will greatly benefit from a new Green Line stop within a 10-15 minute walk along newly proposed DCR walk and bikeways.

I-048-001

I-048-002

For other Arlington residents who would rely on a bus connection, the proposal on the table from MGNA makes far more sense than W Medford Sq or Tufts/College Avenue terminus alternatives, due to the difficulties of bus traffic turning in the former location, and bus traffic getting to the latter location.

I-048-003

It is perhaps a little unfortunate that the group has chosen "Medford" as part of their title, since I believe there are roughly equal numbers of Arlington, Medford AND Somerville residents within a 20 minute walking distance of their proposed location. I'm not sure of the exact numbers, but I would urge that Arlington and Somerville are considered as part of this proposal, and included in any study of neighborhood impacts.

I-048-004

Thank you for your consideration

Crispin Olson
95 N Union St
Arlington, MA 02474

1

I-048-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-048-002

Increased transit access for environmental justice populations is discussed in Section 5.4, *Environmental Justice* of the DEIR/EA.

I-048-003

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

I-048-004

A station at Mystic Valley Parkway/Route 16 is included in Alternatives 2, 4, and 5. More details on station locations and ridership can be found in Section 3.7.3, *Stations* of the DEIR/EA. The analysis takes into account the entire population within the capture area for this station, including residents of Somerville, Medford and Arlington.

Buckley, Deirdre (ENV)

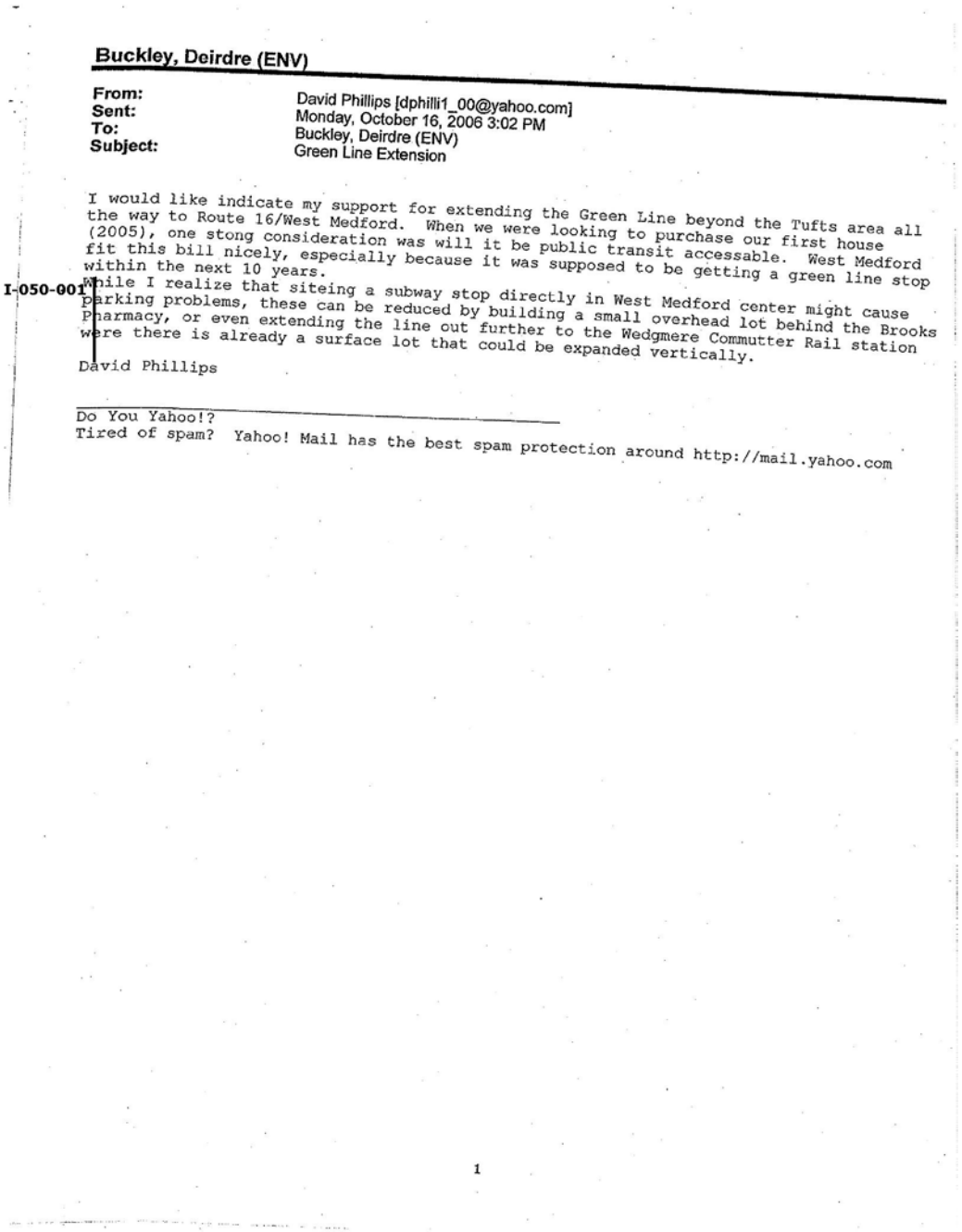
From: Alan Peterson [peterson@theworld.com]
Sent: Sunday, November 26, 2006 11:54 PM
To: Buckley, Deirdre (ENV)
Subject: Green line to West MEdford

Dear Mrs. Buckley,
My family and I have been living in West Medford for 5 years. We think it is a great place to live and it would benefit every citizen of this community if we had access to public transportation such as the Green line. We take the bus every so often and we are happy that they exist, but we have experienced late comings and no showings, probably due to the fact of sharing with car traffic. Our kids are now 3 and 5 years old. We dream of being able to tell them when they are 16 that they can take the Green line and not the car.
I-049-001 Please extend your environmental study to include a Green line extension that runs all the way from Boston to Route 16 and not just to Hillside, sincerely, Catherine and Alan Peterson

1

I-049-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.



Buckley, Deirdre (ENV)

From: David Phillips [dphilli1_00@yahoo.com]
Sent: Monday, October 16, 2006 3:02 PM
To: Buckley, Deirdre (ENV)
Subject: Green Line Extension

I would like indicate my support for extending the Green Line beyond the Tufts area all the way to Route 16/West Medford. When we were looking to purchase our first house (2005), one stong consideration was will it be public transit accessable. West Medford fit this bill nicely, especially because it was supposed to be getting a green line stop within the next 10 years.

I-050-001 While I realize that siteing a subway stop directly in West Medford center might cause parking problems, these can be reduced by building a small overhead lot behind the Brooks Pharmacy, or even extending the line out further to the Wedgmere Commutter Rail station were there is already a surface lot that could be expanded vertically.

David Phillips

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I-050-001

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

Buckley, Deirdre (ENV)

From: Nancy Phillips [nanphill@earthlink.net]
Sent: Wednesday, November 01, 2006 6:45 PM
To: Buckley, Deirdre (ENV)
Cc: mimi@unionsquaremain.org
Subject: MBTA Green Line Extension to Union Sq.

Dear Ms. Buckley:

I-051-001 This is a comment with respect to MEPA Project No. 13886.
I understand that the state has filed an Expanded Environmental Notification Form on the proposed Green Line Extension from Lechmere to Union Square, Somerville, but that the EENF will evaluate only one potential location for the Union Square station, a location outside the Square itself which is, from the point of view of T riders, less convenient than a location in the Square itself. I am writing to add my voice to those asking that the EENF also evaluate alternative locations since these would appear to enhance the usefulness, and thus the potential ridership, of the proposed line to Union Square.

Nancy E. Phillips
nanphill@earthlink.net
Phone 617-354-2646
Fax 617-576-6695

11/14/2006

I-051-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

RECEIVED

NOV 27 2006

MEPA

DB

138 Brookings Street
Medford, MA 02155
November 20, 2006

Dierdre Buckley,
Re: EOEA No. 13886

As an abutter to railroad property, I would like the EENF for this project to be rejected. This matter of the Green Line Extension beyond College Avenue is of too great importance and will have too vast an impact on abutters and surrounding neighborhoods, homes and people not to require a full draft and final environmental review.

My request for rejection is based upon the following concerns:

I-052-001

1.) **NOISE POLLUTION** As of now, most of the trains that come by are extremely loud to the point you cannot carry on a conversation or hear TV and, at times, you have to plug your ears it is so painful. Right now I can hear people talking as they walk Boston Avenue; the echo of voices and trains off buildings at Tufts has made life more stressful in recent years. To think that this will be happening more frequently and lines will be located closer to houses with a concrete retaining wall for noise to bounce off of is not to be thought of.
There has been no mention of the amount of noise generated with a project of this size. How are people in abutting neighborhoods going to deal with this? Has any thought been given to this disruption?

I-052-002

2.) **VIBRATION** There are trains that go by my home that shake the windows, rattle objects on the walls and contribute to cracks that have been appearing on my walls. There are times when I can feel a train coming through the floor even before I hear it. Putting in two lines closer to my home will only make this worse.

I-052-003

3.) **PARKING** I already see people parking on Charnwood Road who are there just to take the bus. There are times that people use the end of this dead end street to park. When this happens I have trouble or cannot get out of my driveway. I have no faith that this problem will be alleviated or not exist but will only be expanded to more streets in the area.

I-052-004

4.) **TRAFFIC** This is a small neighborhood of small streets and dead ends. People are always looking for a way out. If the line is extended, the bridges will have be reconstructed which aggravates the problem. This contributes to added traffic but if any kind of station is erected in this area life will be made unbearable. In addition, there is tremendous traffic congestion in Medford especially at the intersections of Boston Avenue and Winthrop Street, Boston Avenue and Route 16 and Route 16 and Winthrop Street during morning and evening rush hours. By having drop offs at a station, it will be too much for those intersections and this neighborhood to handle.

I-052-001

Potential noise and vibration impacts and their mitigation measures are assessed in Section 5.7, *Noise* and Section 5.8, *Vibration* of the DEIR/EA, respectively.

I-052-002

Potential noise and vibration impacts and their mitigation measures are assessed in Section 5.7, *Noise* and Section 5.8, *Vibration* of the DEIR/EA, respectively. Typically, vibrations generated from transit sources are not high enough to cause even minor cosmetic damage to buildings. In the case of the commuter rail, the vibrations are caused by the low frequency sound waves that travel through the air and vibrate items on shelves. Proposed noise barriers and sound insulation should take care of these pre-existing issues. Proposed noise mitigation is identified in section 5.7.3, *Noise Mitigation* of the DEIR/EA.

I-052-003

EOT will work with the City of Medford to develop a parking enforcement plan to address illegal parking around proposed stations in the project area.

I-052-004

The traffic impacts of the proposed project are discussed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. As is standard practice, these impacts are measured against a "No Build" condition which forecasts traffic conditions within Medford without the Green Line Extension but with known or planned projects identified by the City. The traffic analysis for this project is inclusive of all components of traffic and does not solely focus on traffic destined to Boston.

I-052-005 5.) **POLICING** There are many problems from parking to traffic to people hanging around stations and tracks to accidents to other crimes and it has to be determined who will handle these problems and at what cost to taxpayers and people who live in the neighborhood.

I-052-006 6.) **SECURITY AND SAFETY** I am concerned with an influx of people into this area what will happen to the sense of security that residents now have and their safety. During the meeting, I was made particularly aware of the elderly and disabled residents of Walking Court and how vulnerable they are. They should not have their quality of life impaired nor should any resident along the tracks.

I-052-007 7.) **DRAINAGE** This problem has no solution right now nor is the impact on the environment known. Discovering what will have to be done, how much will I cost and what will the result of implementing a plan, whether feasible or not or how successful it will be, has not been determined.

I-052-008 8.) **COST** The cost of solving drainage problems, rebuilding bridges, adding two more tracks to what is now there is not worth the disruption and destruction to neighborhoods, homes and people. There is a tremendous monetary cost and overwhelming cost to human quality of life.

I-052-009 9.)**AIR POLLUTION** The intrusion of extra cars dropping off passengers, waiting for a train or waiting to pick someone up with motors running will contribute to the air quality in this neighborhood.

I-052-010 The process of construction will also have a detrimental effect upon the air quality in the neighborhood. Construction equipment and the altering of earth will have an adverse effect.

I-052-011 10.) **TERMINUS** There has not been an adequate explanation of what is involved in the constructing of the end of the line. Will this negatively affect people and property? What property will have to be taken in order to build a terminus?

I-052-012 11.) **WILDLIFE** Since the sides along the tracks have not been disturbed in many years, they have reverted to a natural state of vegetation, which has allowed a number of animals and birds to make their homes. These many species should also be considered in order to not disrupt their homes and lives. This has turned into a natural corridor for wildlife.

I-052-013 It is unconscionable to me that this project does not have the full awareness and input of those who will be directly affected in the construction and day-to–day running of this new line, if accepted. All abutters should be informed of what may happen to their property and lives. This is what people and business have to do if they want any variances on their property that impinge on abutters and it should be a right of those next to the tracks. People must have their say and a full environmental review is necessary.

I-052-005

Policing of the local neighborhoods will remain the responsibility of local law enforcement. No increases in accidents, crime, or policing costs are anticipated as a result of the Project. Any additional safety measures found necessary for individual stations will be coordinated by the MBTA. EOT will work with Medford, Somerville and Cambridge to develop a parking enforcement plan to address neighborhood parking issues.

I-052-006

The Project is anticipated to improve access for residents to jobs and services. The majority of Green Line riders will be local residents. The Project is not expected to cause safety concerns.

I-052-007

Drainage changes and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA. Costs for constructing the improvements identified are included in the capital cost estimates for the project.

I-052-008

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-052-009

Passenger pick-up and drop-off traffic was included in both the mesoscale (regional) and microscale (local) air quality analyses. The air quality analysis and results are summarized in Section 5.6, *Air Quality* of the DEIR/EA.

I-052-010

A construction mitigation plan will be developed that will incorporate air quality mitigation measures such as requiring construction vehicles to be

These and probably more issues should be addressed before any decisions are made so that there will be no surprises, no extra expenses, no litigation and no failures of any sort. There is too much at stake, to adopt plans that are not fully explored.

It is very easy for those who live in other parts of Medford and in other communities to see this as their salvation whereas I see it as my and abutting neighbors' damnation.

Sincerely,

Ruth Piscitelli

maintained, use ultra low-sulfur fuel, and measures to reduce dust and particulate pollutants, as discussed in Section 5.6.7, *Construction/Demolition Mitigation* of the DEIR/EA.

I-052-011

As required by the Secretary's Certificate on the EENF, a terminus at Mystic Valley Parkway/Route 16 and at Medford Hillside/College Avenue have both been evaluated. Descriptions of these alternatives are described in Section 3.6, Build Alternatives in the DEIR/EA. Land acquisition requirements for each alternative are defined in Chapter 5 (Environmental Consequences), Section 5.2, *Land Use* of the DEIR/EA.

I-052-012

Impacts to vegetation and wildlife habitat are discussed in Section 5.10, *Fish, Wildlife, and Plants* of the DEIR/EA.

I-052-013

The Green Line Extension Project has engaged in a full and comprehensive public process for citizens in each of the affected communities. Please see Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for a complete description of this process.

DB

Jefferey J. Reese, P.E.

21 Dexter St., Medford, MA 02155
email: JJ_boston75@netzero.com

October 18, 2006

Secretary Robert W. Golledge Jr.
Executive Office of Environmental Affairs, MEPA Office
Attention: MEPA Analyst Deirdre Buckley
Regarding: EOEA Project No. 13886
100 Cambridge St., Suite 900
Boston MA 02114-2524

RECEIVED
OCT 20 2006
MEPA

Cc:Stephen Woelfel
Executive Office of Transportation
10 Park Plaza, Suite 4150
Boston, MA 02116

Reference: Comments regarding the Green Line Extension through Somerville and Medford
MEPA Project #: 13886

Dear Ms. Buckley and Mr. Woelfel:

First, I'd like to say that I am 100% in favor of extending the green line to at least Ball Square, or to north of Ball Square if the residents of that area are in favor of it. I live near the proposed Ball Square and Lowell St stations, and I would use them frequently. I think these two stations would drastically improve the Ball Square and Magoun Square areas in many ways, and I am very pleased that this project is making some progress.

I have several comments regarding the Green Line Extension as presented at the Somerville High School on October 16, 2006. I think my comments fall under 3 distinct categories:

1) Environmental/operational concerns for the project as it was presented by EOT/MEPA, that I think should be addressed by MEPA (and/or EOT)
2) Concerns about the scope of the project that the EOT has presented to MEPA, and should be addressed by the EOT (and/or MEPA)
3) Concerns about the environment and green line extension which could be further addressed by the EOT and MEPA

For the sake of organization, I will try to number my comments, starting with the categories listed above, followed by a decimal point, and then a comment number.

I-053-001

1.1: SNOW REMOVAL: The proposal typically puts 4 tracks (commuter rail plus proposed subway) in a narrow right of way bounded by tall retaining walls. I am not an expert in train operations, but I believe the commuter rails use some sort of plow attachment or plow system for snow. I am not sure if the subway has a similar snow-clearing system. I was wondering if anyone had taken into consideration where snow would be plowed to, or how it would be plowed away, given the tight, side-by-side configuration between tall retaining walls and the insertion of a concrete wall between the commuter rail and subway. Looking at the preliminary cross-section (EENF Figure S-7), it doesn't look like there is anywhere to put the snow, and I was worried about train

Continued on page 2

I-053-001

Commuter rail locomotives and control cars have permanently-affixed snow plows at the front end. MBTA experience with the commuter rail and the Green Line has shown that keeping trains running during major storms keeps the rail bed clear of snow accumulation. Snow has not presented operational difficulties for Green Line operations. MBTA runs Green Line trains (including specialized sleet-cutting trains) continually during snow storms and icy conditions to prevent ice buildup on the overhead wire. MBTA has a Winter Operations/Snow Plan that addresses these techniques in detail. The width of the right-of-way is not anticipated to interfere with keeping the tracks free of snow.

I-053-001 operation in winter months, as well as cost of and environmental impact of removal of contaminated snow if removal is required.

I-053-002 2.1: The last publication on the MBTA's website prior to the MEPA 10/16/06 meeting ("Beyond Lechmere Northwest Corridor Study August 2005") indicated that the project had reviewed something like 9 "Tier 1" options, consisting of green line, commuter rail, or bus options. The choices were narrowed down to something like 5 "Tier 2" options (at the MEPA 10/16/06 meeting it was mentioned that the green line extension was being highly emphasized due to public support). MEPA appears to be reviewing ONLY a modified version of "Tier 2 alternative 1C: Green Line Extension to West Medford & Union Square"... modification to this alternative included (but not limited to) terminating the line before the Mystic River rather than going into West Medford.

My concerns on this topic are:

2.1A: I am all for Tier 2 alternative 1C, but I cannot find any documentation of the decision making process that eliminated the other Tier 2 alternatives... I think this documentation should be public record to avoid having to stop the project and defend the decision at a later date.

2.1B: Similarly, I cannot find any documentation of the decision making process that modified Alternative 1C from what was described in the MBTA's August 2005 study... I think this documentation should also be public record. (I understand the problems with crossing the Mystic River, and I am not personally concerned whether the line ends before or after the river, so long as it goes to Ball Square.)

2.1C: Is the modified Tier 2 alternative 1C the "final" option being considered (of all the tier 2 alternatives)? If not, or if this alternative is further modified later, will MEPA have to scrap their report and start all over? I would hope that whatever future decisions are made by EOT, it will not require MEPA to be re-review anything...see comment 2.2

I-053-003 2.2: I am eager for this project to begin ASAP... I would really like it built by 2011 per the original agreement/lawsuit. Anything that can be done to accelerate the schedule, such as hiring multiple engineers or multiple contractors that each handle separate segments of the line, or fast-tracking the project, or filing a single EIR would be greatly appreciated. Also, if it can be constructed in a phased manner starting from Lechmere and moving north, so that, for example, the Washington St station would be operating 6 months after breaking ground, then the Gilman Square station would be operating 1 year after breaking ground, and then Lowell St 18 months after breaking ground... etc., then that might be good too.

I-053-004 2.3: Any chance you can get to put stations in the "heart" of existing major commercial centers or "squares" would be greatly appreciated. I think Davis Square should be the role model for all green line station location decisions. I LOVE Davis Square, and I've heard that the subway being brought directly into it DRASTICALLY improved that area. The two squares that impact me the most are Ball Square and Magoun Square. The proposed Ball Square station looks like it is in the heart of the square/commercial area, but the Magoun Square station does not. I suppose getting the line directly into Magoun is cost prohibitive though. I think commenters at the October 16th meeting are correct in suggesting that the Union Square branch be modified to go into the heart of Union Square.

I-053-005 2.4: I did some digging into the STEP archives and I figured out why I was surprised to see the EENF list the recently completed Lowell St bridge as NOT having adequate horizontal clearance for the green line:

email: JJ_boston75@netzero.com

I-053-002

The Beyond Lechmere Northwest Corridor Study MIS explored options of providing a terminus station beyond Mystic Valley Parkway/Route 16 and Mystic River into West Medford. However, as described in Section 3.3, *Project Elements* of the DEIR/EA, the alternative to West Medford has been removed from further consideration due to the high cost of extending the Green Line to West Medford, grade-crossing constraints, as well as historical, environmental, and parkland impacts. As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-053-003

The Project is on schedule to be operational in 2014 as currently required by the State Implementation Plan. The current construction schedule proposes to cut over service from existing Lechmere Station to proposed Lechmere Station after all track and stations have been constructed for the Proposed Project.

I-053-004

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail

I-053-005

In STEP Yahoo Group Message #2002, dated Fri Jul 7, 2006 3:00 pm
John Alan Roderick wrote:
"*Among the questions I asked at the Lowell St. bridge meeting last fall was the width of the span. It was explained to us that the south/west abutment is actually a false-wall in the sense that the footings for that end of the bridge do not touch it but, rather, rest on newly set footings. Removal of the original abutment would not be that big a deal and would not, according to the State Engineer, affect the new bridge at all.*"
Can this be confirmed? And if so, could it change the horizontal clearance of the Lowell St bridge from "inadequate" to "adequate"?

I-053-006

3.1: I realize this may be outside the scope of the current green line extension project, but it relates to the original intent of extending the green line. It involves connecting different modes of transportation together. The intent of the green line extension was to alleviate pollution to an area that is highly and negatively impacted by pollution from autos traveling on Interstate 93. The current proposal for extending the green line helps eliminate LOCAL traffic for LOCAL residents, which should reduce air pollution to some degree. I agree that the proposed stations should not have parking in order to avoid attracting extra traffic from non-local commuters (although I think drop-off spots would be good... when we have guests staying at our house we often times need to drop them off at a T station, and having a safe place to do so is important for pedestrians and traffic). I would though suggest designing the green line extension in a way that leaves open the possibility of later connecting it to I-93... I can imagine putting a station right along I-93, with I-93 exits and on-ramps connected directly to an enormous parking garage, similar to the way commuters on Route 2 can pull directly into the Alewife station. Every morning I see I-93 southbound looking like a parking lot due to all the suburban commuters. They are probably thinking "I could get out of my car and walk to Boston faster than traffic is moving". If you gave them an option of relatively inexpensive parking, direct access to the green line and Boston, I bet thousands of people would choose to get off of I-93, park at the garage, and take the T in to Boston... it could save commuters time and expensive Boston parking fees. I think it would drastically increase green line ridership, and thus improve MBTA income. If commuters chose to stop at this station rather than continue driving along I-93, it could reduce traffic congestion and pollution on I-93 in the Medford to Boston corridor. I would love to see a study of what this option could do to improve air quality.

I-053-007

3.2: Related to the connecting of different modes of transportation noted in comment 3.1, I think connecting bike and pedestrian paths to the proposed stations, as well as **allowing the Somerville community bike path room to extend into Boston** is extremely important. Again, Davis Square is a good role model for this... when I lived in Somerville I used the bike path VERY frequently to get to the Davis Square subway. Also, I would love to be able to bike into Boston on a dedicated bike path, rather than brave the automobiles and street traffic. I think the proposed stations should have plenty of space for locking up bicycles, plus possibly secured bicycle "lockers" or valet bicycle storage sheds where bicycle commuters can safely leave their bicycles without fear of theft. Alternatively, I would like to see the T trains become much more bicycle friendly, possibly with rear cars of trains being free of seat and organized to accommodate numerous bicycles.

I-053-008

I-053-009

3.3: Also intermodal connections: I never take the bus, but I suspect it would be ideal to provide "ring routes" that connect red line stations to green line stations to orange line stations. The red, green, and orange lines lead radially away from Boston. The buses would probably be best served if they made tangential arc paths connecting the subway lines, and will need drop-off areas.

email: JJ_boston75@netzero.com

Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

Proposed station site alternatives and the process by which the final station sites were selected for the Green Line Extension Project were based on an evaluation that weighted the benefits and disadvantages of each station alternatives. Such evaluated criteria included, but were not limited to, station accessing challenges, transit operations, land use compatibility, and project costs. A station is proposed at Ball Square, however, as noted, would be difficult to achieve in the heart of Magoun Square. The station site selection process and its findings are discussed in greater detail in Chapter 3 (Alternatives), Section 3.3.1, *Stations*, as well as in Appendix B of the DEIR/EA.

I-053-005

The Lowell Street Bridge will be reconstructed as part of the Green Line Extension Project including both abutments to provide adequate width for the Green Line track, commuter rail track, and Lowell Street Station.

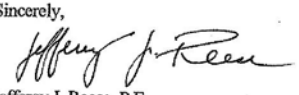
I-053-006

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project. Station locations for the limits of the Project are described in Section 3.7.3, *Stations* in the DEIR/EA. The air quality analysis is provided in Section 5.6, *Air Quality* of the DEIR/EA.

I-053-007

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Community Path. Details on the design and coordination of the Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths*.

Sincerely,



Jefferey J. Reese, P.E.
Structural Engineer
Structures North Consulting Engineers, Inc.
Salem, MA
RESIDENT OF MEDFORD, former resident of Somerville.
Home address: 21 Dexter St., Medford, MA 02155
Home phone: 781-874-9613
Home email: JJ_boston75@netzero.com ← preferred method of contacting me
I am loosely affiliated with the S.T.E.P. and the Medford Green Line Extension Group, but my comments do not represent the opinions of these organizations.

I-053-008

Space for bicycle parking has been allocated at all stations as discussed in Section 5.5, *Traffic* of DEIR/EA.

I-053-009

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: jj_boston75@netzero.net
Sent: Monday, October 30, 2006 9:57 AM
To: Buckley, Deirdre (ENV)
Subject: Project # 13886: revisions/ammendments to comments?

Ms. Buckley,

I-053-006 I sent in comments re: the green line extension to Medford. I've realized since sending them that one of my comments should be changed (I suggested connecting the green line to a parking garage at I93 at some point in the future... I've realized that the green line is not appropriate for this, and that the orange line would be better suited for it). Is it possible to ammend my comments after they have already been submitted?

Thanks,
Jeff Reese

PrivatePhone™- FREE telephone number & voicemail. A number so private, you can make it public.
http://www.privatephone.com

11/28/2006

Buckley, Deirdre (ENV)

From: Ellin Reisner [ereisner@rcn.com]
Sent: Tuesday, November 21, 2006 12:21 PM
To: 'Buckley, Deirdre (ENV)'
Subject: Correction on letter submitted regarding EOEA Project No. 13886 - EENF - Green Line Extensions

Hi Deidre,

I noticed that I had made an error in the section of my letter regarding station locations. I have made the correction below and highlighted the replaced words. Please review this version of my letter. I apologize for any inconvenience, but the two words significantly change the meaning of sentence.

Ellin

November 20, 2006

Secretary Robert W. Golledge Jr.
EOEA
Attention MEPA Analyst Deidre Buckley
Regarding EOEA Project No. 13886
100 Cambridge St.
Suite 900
Boston MA 02114

Dear Ms. Buckley:

Please accept my comments regarding the EENF submitted by EOT for the Green Line extensions to Union Square and Medford. In reviewing the EENF there are a number of assumptions and decisions that raised major concerns for me. I was appointed by Mayor Curtatone as the East Somerville representative on the Beyond Lechmere Northwest Corridor Major Investment Study/Alternatives Analysis (MIS/AA). I am also a member of the Somerville Transportation Equity Partnership (STEP). Many of the concerns I have raised below are based on my experience with the process and conclusions made in the Beyond Lechmere Study. Specifically everyone agreed that consideration of alternatives in the study for the Union Square branch would be made based on the Fitchburg alignment; however study participants made it clear that we wanted the next phase of the study to examine the feasibility of the Union Square branch running directly into Union Square. We were advised by the MBTA and the consultants that this could be addressed in the next phase of the study. Below I also raise other issues and assumptions that were either not addressed or agreed upon in the study.

Like most Somerville residents I am very enthusiastic about the Green Line extensions improving public transportation and air quality in Somerville. I do support doing an SEIR rather than a DEIR to move the process along as quickly as possible. However, if the issues that are raised cannot be addressed in an SEIR, I would then recommend that a DEIR be done to ensure that all of the critical concerns I and other raise are addressed in the Green Line extensions.

I-054-001

Union Square Branch

The EENF assumes that the Union Square extension alignment along the Fitchburg line is a final decision. However it was agreed at the termination of the Beyond Lechmere Northwest Corridor Major Study (MIS/AA) study that alternate routes would be considered that would bring the Green Line directly into Union Square. The environmental review should not consider preliminary choices as the final design decision in the environmental review of the project. Plans for transit oriented housing development in the Union Square area would be better served by the line running into Union Square as it will be more centrally located for all residents, and will better

11/28/2006

I-054-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-054-001 rve broader economic development goals while minimizing the impact of the noise on adjacent residences made by trolleys operating in early morning and late evening hours.

I-054-002 **Coordination with (and Integration) of Related Projects and Transportation and Land Use Studies**
The EENF does not address the need for coordination with the redesign and re-construction of McGrath and O'Brien Highway which must happen soon because of failing columns. The environmental review should address the relationship between the highway re-construction and the Union Square extension alignment.

I-054-003 The Single Environmental Impact Review (SEIR) must include full investigation of the land use and the urban design context of the Green Line extensions to fully serve current and future people, transportation and land uses rather than narrowly considering infrastructure efficiency without careful regard for those it will serve. Among the related projects are the Urban Ring and proposed Transportation Corridor Studies to be conducted by the Executive Office of Transportation.

I-054-004 The environmental review should specify that the Green Line's design and construction include the extension of the **Somerville Community Path** eastward. The Green Line and Community Path should be coordinated to include planning and construction of the Community Path to North Point in Cambridge as an integral component of the Green Line project from scoping through evaluating design alternatives, construction permits, and contracts from the current terminus of the Community Path from Central Street in Somerville to North Point. Just as the Southwest Corridor Park was constructed in conjunction with the extension of the Orange Line to Forest Hills. If the Community Path extension is not designed and built in conjunction with the Green Line extension it will not be constructed and this will constrain pedestrian access to the Green Line stations.

Environmental Justice Concerns

I-054-005 The environmental review must carefully consider the environmental justice issues identified in the Beyond Lechmere study because East Cambridge and eastern Somerville and South Medford are designated environmental justice areas. Involvement of the Green Line citizen advisory committee can help to address environmental justice issues during the planning and environmental permitting process over the next two years.

Federal regulation requires full participation of the affected communities regarding the Lechmere Station relocation and Green Line extension planning and implementation in Somerville and Medford.

I-054-006 I-054-007 Extension of the Community Path as part of the Green Line meets environmental justice goals by providing safe pedestrian and bicycle access to public transportation in Winter Hill and East Somerville which are designated environmental justice communities by ensuring that residents do not need to cross McGrath Highway or Washington Street to gain access to stations. Further, the Community Path would serve as the main route for East Somerville residents to access the Green Line extension.

Station Locations

I-054-008 Serious consideration should be given to slowing the development of the design and construction of the Lechmere station at North Point. Design and siting decisions made now without consideration in the environmental review may preclude some options that should be considered for the Green Line branches north of the new Station. The current plan places the station at an elevated location in an inconvenient building location making the station less accessible to residents of and people employed in East Cambridge, as well as shoppers at the Galeria Mall and other local shops.

I-054-009 The environmental review **should address** the large gap between the Lechmere, Washington Street and Union Square stations because there is no station near Brickbottom or Twin Cities. This might not be needed if the location of the proposed new Lechmere station were more convenient to East Cambridge and Brickbottom

I-054-002

The Secretary's Certificate on the EENF requires consideration of and coordination with other regional projects, including the Urban Ring, the reconstruction of Route 28/McGrath Highway, the Community Path, the NorthPoint Redevelopment, the relocation of Lechmere Station, and the Minuteman to Mystic Valley Parkway Path. Details are found in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA.

I-054-003

Section 4.2.2, *Existing Land Use at Proposed Station Sites* of the DEIR/EA, describes the existing land use and urban design context for each of the proposed station areas. Sections 4.3, *Socioeconomic Conditions*, and 4.4, *Environmental Justice* of the DEIR/EA, address the socioeconomic context and environmental justice considerations. Section 4.2.5, *Proposed Transportation Projects* of the DEIR/EA describes the Urban Ring and the Route 28/McGrath Highway Corridor Transportation Plan. Section 5.15, *Indirect and Cumulative Effects* of the DIER/EA describes the indirect and cumulative effects of the Green Line Extension with these and other projects.

I-054-004

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Community Path. Details on the design and coordination of the Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths* of the DEIR/EA.

I-054-005

Potential benefits and impacts to environmental justice communities in Cambridge, Medford, and Somerville are assessed in Section 5.4, *Environmental Justice* of the DEIR/EA. Outreach efforts for local residents, including the Project Advisory Group and numerous public

I-054-009 sidents. A station serving one or both of the branches would provide access to residents of the Green Line environmental justice communities to these commercial establishments to shop and work as well as to the neighborhoods just beyond.

I-054-010 Just as the Union Square branch alignment was not agreed to at the end of the Beyond Lechmere study, the terminus of the Green Line in Medford should be determined with the involvement of the city of Medford and residents from Medford and Somerville to ensure that the Green Line best serve Medford and Somerville residents. A terminus at Route 16 would serve Medford, Somerville and east Arlington residents.

Green Line Storage and Maintenance Facility

I-054-011 The EENF proposes that the 25 trolleys currently stored at Lechmere and an additional 30 or more that will be added for the Green Line extension be stored in Yard 8 in Inner Belt. The SEIR must evaluate alternative storage and service locations, such as the nearby Boston Engine Terminal because it is large enough to store and do some maintenance on Green Line trolleys. At the end of the Beyond Lechmere Study there was not agreement that the maintenance and storage facility be located in Yard 8 and consideration of the vast Boston Engine Terminal Property was recommended the facility. Locating the facility in Yard 8 may be incompatible to Inner Belt development goals and could interfere with the Community Path alignment.

Thank you for consideration of my concerns.

Very sincerely,

Ellin Reisner

Ellin Reisner, Ph.D.
51 Mount Vernon Street
Somerville, MA 02145
617-776-1987
ereisner@rcn.com

11/28/2006

meetings, are discussed in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.

I-054-006

The Secretary's Certificate on the EENF requires the DEIR/EA to include conceptual designs for the Community Path. Details on the design and coordination of the Somerville Community Path in connection with this Project are found in Section 3.8, *Community Paths*. Discussions on environmental justice are found in Section 4.4 and in Section 5.4 of the DEIR/EA.

I-054-007

There is an opportunity to integrate the proposed Somerville Community Path's neighborhood connections into the Green Line Extension stations, particularly where the path would cross local streets at grade. The Green Line Extension Project has been coordinated with the proposed Somerville Community Path project for compatibility. In addition to the Somerville Community Path, the Green Line Extension Project has been coordinating the physical integration of the Mystic Valley Parkway Path with the proposed station at Mystic Valley Parkway/Route 16, which can help encourage safe and multi-modal access between these two uses. Lastly, the Urban Ring and Green Line Extension Projects are envisioned to provide services that complement each other and provide a greater benefit for the communities. Together, the Urban Ring in conjunction with the Green Line Extension Project would provide environmental and economic benefit to the neighborhoods surrounding the greater Boston area.

I-054-008

Planning and design of the Lechmere Station Relocation Project is currently a part of the Green Line Extension Project. Although design and construction funding for the relocation of Lechmere Station was

previously being financed primarily by private (NorthPoint development), recent changes in the NorthPoint development have left uncertain the future opening year of the relocated Lechmere Station. The alignment of the Green Line Extension Project would not be possible without the relocation of the station. Therefore, the Green Line Extension Project has extended its original limits to include Lechmere Station. The conceptual design of the station is based upon the previously permitted Northpoint Development Project. More discussions on NorthPoint development and relocation of Lechmere Station can be found in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA.

I-054-009

At outlined in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA, Brickbottom Station, located south of Washington Street, would be provided as part of the Green Line Extension Project.

I-054-010

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-054-011

The Secretary's Certificate on the EENF required the DEIR to investigate feasible alternatives to the Yard 8 site, including the expansion of the Boston Engine Terminal (BET). As outlined in Chapter 3 (Alternatives), Section 3.3.2, *Maintenance Facility* of the DEIR/EA, several sites were considered to support the new Green Line maintenance facility. Additional sites or variations of these sites were suggested by representatives of the Cities of Medford and Somerville, by Project Advisory Group members, and by the public. Due to the density of development in the project study area, there were limited potential sites

to evaluate. However, in working with the project stakeholders, a number of sites or additional variations on sites, were identified for evaluation as potential maintenance facility locations. Specific locations are provided in Chapter 3 (Alternatives), Section 3.3.2 of the DEIR/EA and in Appendix C of the DEIR/EA. The proposed Yard 8 site will accommodate and not preclude the connection of the Community Path to Inner Belt Road and ultimately NorthPoint with the construction of the Urban Ring.

Green Line extension to Union Square Page 1 of 2

Buckley, Deirdre (ENV)

From: Swan, Maura [MSwan@jhancock.com]
Sent: Thursday, November 02, 2006 10:00 AM
To: 'deirdre.buckley@state.ma.us'
Cc: 'Ben Lavery'
Subject: Green Line extension to Union Square

Dear Ms. Buckley,

I am writing in support of the extension of the Green Line to Union Square, Somerville. As you proceed with your work, I would ask you to consider locating the station in the heart of the square for the reasons set forth below. We support the goals of the Union Square Main Streets program and request that the scope of the SEIR be expanded to include the following alternatives:

I-055-001 1. Location of the Union Square station - The Union Square station should be closer to the heart of the square, for example at Prospect and Somerville Ave near what is now a city parking lot.

A station right on the Fitchburg line has the following drawbacks:
- 200 yards from Somerville Ave which impedes connecting to Union Square's central business district
- poor accessibility due to barriers created by the elevated bridges and their approaches and the rail right of way itself
- poor integration with major bus routes going to Sullivan, Davis, and Harvard squares that don't travel on Prospect St
- needless disruption of traffic from rebuilding either or both the Prospect and Webster bridges

I-055-002 2. Creation of a station near the split of the Union Square and Medford Branches - Placement of a station on the Union Square branch near Somerville Ave and Medford or at Brickbottom would fill a large gap in the northern Green Line. This has a substantial economic justice population that has long been underserved by the T. It is also an area ripe for redevelopment, allowing the T to maximize this area's potential.

I-055-003 3. Evaluate the Msgr. McGrath Hwy between the Fitchburg line and Washington St - The elevated section of this highway is deteriorated and will have to be reconstructed within roughly the same time frame as Green Line construction. Green Line Extension planning therefore must be coordinated with this project. Considering this overpass as part of the project addresses two issues. One, the reconstruction may permit the Union Square branch to go straight up McGrath/O'Brien and then up Somerville Ave to the center of the Square using either a cut-and-cover tunnel, a central reservation or (on Somerville Ave) street-running. Second, the overpass currently poses serious safety and mobility problems. Eliminating or reducing the elevated roadway could resolve these issues and allow better pedestrian access.

We have three concerns we wish MEPA to positively influence.

I-055-004 1. The redesign of Lechmere Station - The alignment of the Green Line at NorthPoint will directly affect the construction of the Green Line Extension, particularly for the alignment for the Union Square branch. We are concerned that there has not been adequate consideration of the coordinated alignment and see that EOT and DEP may need to require NorthPoint developers to take this into account.

I-055-005 2. Include input from citizen advisory committees - Citizens have made valuable contributions to the Green Line Extension planning process. The SEIR should draw on the ideas and local knowledge of those affected, and in fact, Federal and state EJ regulations require such involvement throughout the entire process. Union Square Main Streets would be pleased to contribute to this effort.

I-055-006 3. Minimize and mitigate project delays - USMS is disappointed by the Green Line Extension's 3-year delay until 2014, the latest in a long series of delays for this project. It is important that this delay be absolutely minimized to adhere to the current commitment to operate in 2011. If this commitment cannot be met, then suitable mitigation should be instituted.

11/14/2006

I-055-001

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-055-002

The complex geometry at the diverge of the Medford and Union Square branch lines does not permit a station specifically at this location. As described in Section 3.7.3, Stations of the DEIR/EA, a station is proposed at Brickbottom. A second station on the Union Square Branch is not warranted at this time, but is not precluded from inclusion in the future.

I-055-003

Based on information provided by the Massachusetts Department of Conservation and Recreation (DCR), there are currently no immediate plans to reconstruct Route 28/McGrath Highway. The only planned improvements along Route 28/McGrath Highway would be in the form of

Please do not hesitate to contact me if you would like further information.

Thank you in advance for your consideration,

Maura Swan & Ben Lavery
10 Bigelow Street
Somerville, MA 02143

Maura H. Swan
AVP and Counsel, Investment Law
John Hancock Financial Services, Inc.
John Hancock Place
Post Office Box 111
Boston, Massachusetts 02117
p: 617-572-1135
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e: mswan@jhancock.com

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11/14/2006

in-kind repairs with no plans to increase capacity or significantly modify the corridor as discussed in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA. As for the Green Line Extension Project, there will be no impacts to the McGrath Highway Bridge and the commuter/freight tracks beneath it, and therefore no structural modification to the bridge will be necessary. DCR coordination has occurred in the preparation of this DEIR/EA, and will continue into the Preliminary Engineering to obtain necessary permits, if needed.

I-055-004

Planning and design of the Lechmere Station Relocation Project is currently a part of the Green Line Extension Project. Although design and construction funding for the relocation of Lechmere Station was previously being financed primarily by private (NorthPoint development) funds, recent changes in the NorthPoint development have left uncertain the future opening year of the relocated Lechmere Station. The alignment of the Green Line Extension Project would not be possible without the relocation of the station. Therefore, the Green Line Extension Project has extended its original limits to include Lechmere Station. More discussions on NorthPoint development and relocation of Lechmere Station can be found in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA.

I-055-005

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus and advise EOT on issues of concern. EOT invited the chief elected officials of Cambridge, Somerville and Medford to appoint representatives to the Advisory Group, as well as representatives of regional groups with an interest in the project. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation. The work of the Advisory Group is described in greater detail in Section 1.5, *Public*

Involvement and Agency Coordination of the DEIR/EA. The committe includes a representative from Union Square Main Streets.

I-055-006

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project. The Project is on schedule to be operational in 2014 as currently required by the State Implementation Plan.

Buckley, Deirdre (ENV)

From: Charles Tolson [CTolson@ctdi.com]
Sent: Wednesday, November 22, 2006 2:44 PM
To: Buckley, Deirdre (ENV)
Subject: Project #13886 Green Line Extension from Medford to Boston

I-056-001 As a resident of West Medford, I would like to express my opinion on the proposed extension of the Green Line into West Medford. I feel that with the current availability of the Orange Line, Commuter Rail and Buses, that there is no need to extend the Green Line into West Medford. Route 93 is available to commuters and already cuts Medford in half. The proposed Green Line extension would only benefit people outside of Medford in communities like Arlington and Winchester who would come into Medford and use the new line causing additional traffic, parking and cleanliness problems. I-056-002 If the Green Line does have to come into West Medford, I would urge that it be extended no further than College Ave. so that it may serve Tufts University and the Hillside area of Medford.

Please feel free to contact me if you would like to discuss this matter.

Thank You

Charles Tolson
312 Grove St.
Medford, MA 02155
781-395-3337

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I-056-001

Although the Massachusetts Bay Transportation Authority (MBTA) commuter rail passes through the study area corridor, there are no rail transit stops within these communities, which impacts the environment within the study area without providing the benefit of transit access. Existing transit services offer MBTA buses that travel within the flow of traffic along urban corridors with narrow streets, on-street parking, and numerous intersections, all of which create significant delay for daily commuters including existing public transportation. Roadway congestion in the study area impacts the reliability of current on-street transit services and results in unreasonable travel times from Lechmere Station to Mystic Valley Parkway/Route 16 despite the relatively short distance. Sullivan Square Station and Wellington Station on the MBTA Orange Line are the closest Orange Line stations at approximately one to four miles from sections of the study area corridor. One to four miles is an unbefitting walk distance for pedestrians. As 21% of study area households do not own a car, these residents would have to rely on existing MBTA Bus Routes to access Sullivan Square or Wellington Stations. The MBTA Orange Line, therefore, would not provide efficient and reliable service for the study area.

However, the Green Line Extension Project would improve mobility in the study area, which should result in significant improvements in the ability to move people through the study area and to and from downtown Boston. Improvements should increase accessibility for all users, including residents, employees, students, visitors, and shoppers. Residents of the study area would benefit from improved employment access and reduced commuting times, as well as reduced travel times and costs.

I-056-002

Terminating the Green Line Extension Medford Branch at College Avenue Station is proposed as one of the alternatives considered for the

Project. Additional information is provided in Chapter 3 (Alternatives), Section 3.6, *Build Alternatives* of the DEIR/EA.

Buckley, Deirdre (ENV)

From: Varga, Peter [pvarga@cambridgema.gov]
Sent: Thursday, November 16, 2006 2:41 PM
To: Buckley, Deirdre (ENV)
Subject: EOEA No. 13886, Green Line Extension

I-057-001 I am a resident of Union Square residing at 60 Bow street. I strongly support the implementation of the proposed Green Line Extension including a spur to Union Square. I am disappointed that the originally committed completion year of 2011 is now 2014, and hope that mitigation in either increased bus service, or other traffic calming measures is seriously considered in light of this fact. I also hope that the proposed terminus of the extension to Union Square will be as close to the plaza as possible, and not on the periphery of the Square. In addition, any necessary coordination for the Lechmere T stop relocation must consider the various alternatives that would bring the Green Line to the heart of Union Square.

I-057-002

I-057-003

Thank you for the opportunity to comment on this long-overdue project. I encourage any measures that EOEA can take to expedite it's implementation.

Sincerely,

Pete Varga
Watershed Protection Supervisor
Office of Watershed Management
Cambridge Water Department
(617) 349-4799

1

I-057-001

The Project is on schedule to be operational in 2014 as currently required by the State Implementation Plan.

I-057-002

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking, pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-057-003

Planning and design of the Lechmere Station Relocation Project is currently a part of the Green Line Extension Project. Although design and construction funding for the relocation of Lechmere Station was previously being financed primarily by private (NorthPoint development) funds, recent changes in the NorthPoint development have left uncertain the future opening year of the relocated Lechmere Station. The alignment of the Green Line Extension Project would not be possible without the relocation of the station. Therefore the Green Line Extension Project has extended its original limits to include Lechmere Station. More discussions on NorthPoint development and relocation of

Lechmere Station can be found in Section 3.9, *Coordination with Regional Projects* of the DEIR/EA.

DB

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MEPA

November 20, 2006

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston MA 02114-2524

Subject: Comments on EOEA #13886
Green Line Extension EENF

Dear Mr. Golledge:

We have reviewed the document titled *Green Line Extension Expanded Environmental Notification Form* (EENF) dated October 2006, and have attended Public Scoping Sessions on the Green Line Extension held in Somerville on October 16, 2006 and in Medford on November 15, 2006. Based on our review of the EENF and information obtained at the public scoping sessions, we offer the following comments on the scope of the environmental impact report (EIR) to be prepared for this project in accordance with the MEPA process:

1. Developing the appropriate location and layout of the stations along the proposed extension of the Green line are critical to the long-term success of this project. Accordingly, we believe it to be critically important that both a draft and final EIR be prepared for this project. The public needs to have an opportunity to review and comment on planning-level layouts of the stations at the proposed locations. Equally importantly, however, the public also needs to see how the project proponent responds to comments on the proposed station locations and layouts. Providing both a draft and final document would allow this iterative comment/response cycle to occur. While this approach may somewhat prolong the planning process, in the long run it may shorten the overall project implementation schedule if it helps avoid citizen actions once the project moves into design.

I-058-001

2. Since the locations of the stations are so important to the success of this project, the project area should be extended to Route 16 in Medford. Based on statements made at the scoping sessions, it appears that a station in the vicinity of Wild Oats would have certain advantages and disadvantages. It would be prudent to conduct detailed engineering studies to further define the benefits and impacts of a station at this location, so that the decision on the location of the terminus can be made in a rational manner, with benefits and impacts fairly weighed. Given the approximately $550 million cost of this project, the front-end planning and engineering should not be short-changed.

I-058-002

3. The EENF references a reduction of 9,660 person trips under the Traffic Impacts and Permits section. A footnote indicates that this number is based on Alternative 1C of the MIS/AA, "which most closely reflects the preferred alternative". However, under Alternative 1C, the Green Line would be extended all the way to the West Medford commuter rail station. By all accounts, the currently-proposed project would not extend past Route 16. At the public scoping sessions, many residents expressed skepticism of the reduction in person trips. The EIR should refine the reduction in person trips based on the actually-proposed terminus of the Green Line extension. It may be that the reduction in person trips could be a differentiator in siting the terminus at Route 16 versus Winthrop Street. The reduction in air pollution loads associated with the reduction in person-trips should also be refined.

I-058-003

1 of 3

I-058-001

As required by the Secretary's Certificate on the EENF, a potential terminus station at Mystic Valley Parkway/Route 16 has been considered for this project and is described in Section 3.6, *Build Alternatives*.

I-058-002

Updated ridership and person trip estimates are provided in Chapter 3 (Alternatives) Section 3.6, *Build Alternatives* and in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. These estimates are reflective of changes made to the proposed alternatives since the MIS/AA.

I-058-003

The air quality mesoscale (regional) and micoscale (local) air quality analyses included the impacts of reduction of person-trips due to the proposed project and is presented in Section 5.6, *Air Quality* of the DEIR/EA.

I-058-004 | 4. The EIR should consider the extent to which ridership could be enhanced through enhancements of bike trails and pedestrian facilities. This point may also be a factor in assessing the appropriate location for the terminus.

I-058-005 | 5. The EENF seems to downplay the potential for encountering hazardous materials. However, soil along railroad rights of way often can often be contaminanted from fluids leaking from the locomotives. It seems likely that relocation of the existing commuter rail tracks and installation of the new Green Line tracks will involve some excavation, as would the construction of new bridge abutments and installation of new storm drains. The EIR should include further investigation of the soils along the right of way to better characterize the potential for encountering contaminated material, and to identify approaches and the cost to mitigate the contamination during construction.

I-058-006 | 6. The Historical and Archaeological Resources section of the EENF identifies the Susan Russell House as the only historical resource in the project area. A commenter at the November 15, 2006 scoping session stated that work is underway to define a proposed Middlesex Canal Historical District. The EIR should investigate the status of this proposed historical district, and assess the potential impact of the granting of historical district status for this area on the Green Line project.

I-058-007 | 7. Public notifications related to the Green Line project should be posted in the Medford Transcript.

I-058-008 | 8. It would appear that one of the biggest challenges for the station layouts will be in providing handicap access. The EIR should evaluate a range of alternatives for meeting ADA requirements on a station-specific basis, taking into consideration local topography and long-term maintenance costs.

I-058-009 | 9. The need to replace or enlarge bridges must be more clearly defined in the EIR. Similarly, the potential traffic impacts of the bridge replacement work must be defined, along with an approach to sequencing of bridge construction to mitigate traffic impacts.

I-058-010 | 10. In refining the project costs in the EIR, the potential impact on the annual MBTA assessment to the cities of Medford and Somerville should be identified.

I-058-011 | 11. The EIR should identify and evaluate alternatives to locate the station on the Union Square branch closer to the heart of Union Square. Similar to the question of the Route 16 terminus, the decision whether or not to locate closer to Union Square should be based on a fair weighing of benefits and impacts supported by engineering evaluations.

I-058-012 | 12. The EIR should evaluate noise impacts related to retaining wall construction and potential loss of trees, and should evaluate lighting impacts to abutters in the vicinity of the
I-058-013 | stations. Will the stations be lit all night for security purposes? Vibration impacts should also be assessed.

I-058-015 | 13. The EIR must include detailed traffic studies to assess impacts to the neighborhoods in the vicinity of the stations, as well as potential changes to existing bus routes. Approaches to parking enforcement should be identified and evaluated.

I-058-016 | 14. As was stated by public officials at the two scoping sessions, the public notification and review process must continue to include the residents of Medford, and we would expect to see continued outreach to Medford residents during the facilties planning process.

2 of 3

I-058-004

There is an opportunity to integrate the proposed Somerville Community Path's neighborhood connections into the Green Line Extension stations. The Green Line Extension Project has been coordinated with the proposed Somerville Community Path project for compatibility. In addition to the Somerville Community Path, the Green Line Extension Project has been coordinating the physical integration of the Mystic Valley Parkway Path with the proposed station at Mystic Valley Parkway/Route 16, which can help encourage safe and multi-modal access between these two uses. These multi-use community pathways are further discussed in Section 3.8, *Community Paths* of the DEIR/EA.

I-058-005

Phase 1 hazardous materials investigations were performed in order to identify possible contamination in soil and groundwater that may be exposed or encountered during the construction of the Project. Proper handling, treatment, and disposal procedures for hazardous materials will be in place to address both known and unexpected contamination encountered during construction. During the preliminary engineering phase, subsurface investigations will be performed on all areas of expected soil disturbance to identify any additional areas of contamination. The hazardous sites identified are discussed in Chapter 4 (Affected Environment) Section 4.16, *Hazardous Materials*, and potential impacts to these contaminated sites under each alternative are discussed in Chapter 5 (Environmental Consequences) Section 5.14, *Hazardous Materials* of the DEIR/EA.

I-058-006

Your comment has been addressed in Chapter 4 (Affected Environment) Section 4.15 and Chapter 5 (Environmental Consequences), Section 5.13, *Historic and Archaeological Resources* of the DEIR/EA.

We appreciate the opportunity to comment on this important project, and we look forward to continued involvement in the planning process. We support the expansion of public transportation to Medford.

Very truly yours,

Donald E. Walker
Victoria A. Halal
11 Mason Street
Medford, MA 02155

cc: Senator P. Jehlen
Representative C. Sciortino

3 of 3

I-058-007

Display ads have been placed in The Medford Transcript in advance of community meetings.

I-058-008

All of the proposed Green Line stations have been designed to fully accommodate ADA requirements. Additional information can be found in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-058-009

Details on construction and associated mitigation are provided in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA. Section 3.7.2, *Affected Bridges* provides a definitive breakdown of bridge reconstruction required for each alternative.

I-058-010

All municipalities in the MBTA district are charged an assessment for the transit benefits they receive. This assessment is based on population, not on the amount of service a municipality receives, and it will not change based on any increase in service. The assessment would only increase with an increase in a municipality's population, and the total assessment charge to all communities can grow no more than 2.5 percent per year. More substantial changes to a municipality's assessment can only occur through an act of the Legislature.

I-058-011

An in-street running alternative for the Union Square Branch via Monsignor O'Brien Highway, McGrath Highway and Somerville Avenue was evaluated early in the project and is described in detail in Appendix B of the DEIR/EA. This analysis concluded that the in-street alternative that brought the Union Square Branch directly into the "heart" of Union Square was not feasible due to its impacts on traffic, parking,

pedestrian safety and transit operations/reliability. As such, a single-track "loop" alternative, with portions of in-street running and a station located along Prospect Street, was evaluated as part of the DEIR/EA and is described in more detail in Chapter 3 (Alternatives). However, due to the impacts on traffic, property and transit operations on this "loop" option, it was determined that the Union Square Branch alternative that operates exclusively within the MBTA's Fitchburg Commuter Rail Line is part of the Preferred Alternative. From this route, tunneling beyond the proposed terminus to get closer to the center of Union Square was determined to be cost-prohibitive.

I-058-012

Construction noise would be temporary and would occur during daytime hours to the greatest extent practicable to prevent nighttime noise in residential areas. Some trees would be removed from the edges of the right-of-way, but noise barriers and other noise mitigation would be provided to prevent any long-term noise impacts to residences or other sensitive receptors. The new retaining walls would include replacement vegetation as well as noise barriers where needed. Much of the retaining wall and noise barrier construction is expected to be completed early in the overall construction duration and as such the noise barriers will be in place before the Green Line track and station construction is underway. Noise and vibration impacts are discussed in Section 5.7, *Noise*, and Section 5.8, *Vibration* of the DEIR/EA, respectively.

I-058-013

Lighting impacts are expected to be minor given the existing urban environment. Lighting will be designed to be downward, and any lighting impacts will be assessed and mitigated on a case-by-case impacts.

Station designs will minimize light pollution to surrounding neighborhood of each station, while ensuring that adequate safety lightings measures

are adhered to. Lighting designs are discussed in Section 3.6.3, *Stations* of the DEIR/EA.

I-058-014

Potential vibration impact are assessed in Section 5.8, *Vibration* of the DEIR/EA.

I-058-015

Components of the transportation study addressing traffic and parking can be found in Chapter 4 (Affected Environment) Section 4.6, and Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. There are no proposed changes to existing bus routes as part of the Green Line Project as discussed in 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

I-058-016

The Green Line Extension Project has engaged in a full and comprehensive public process for citizens in each of the affected communities, including Medford. Please see Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for a complete description of this process.

Buckley, Deirdre (ENV)

From: Lynn Wiles [lynnwiles@comcast.net]
Sent: Saturday, October 14, 2006 9:57 AM
To: Buckley, Deirdre (ENV)
Subject: EOEA Project No. 13886

Deirdre Buckley,
I will not be able to attend Monday night's meeting on the Green Line Extension, so I thought I should write to you with my concerns. I do think that extending the Green Line in to Somerville and parts of
Medford would be a great improvement to mass transit in this area.

I-059-001 My concern is for the areas where there are a lot of houses abutting the tracks. I live in the area between School St and Central, where houses line each side, but believe that there are a few other places in Somerville (Boston Ave) and in Medford (near Winthrop St) that also abut the tracks.

I-059-002 My specific concerns are noise pollution and the destruction of a green space that is habitat for urban birds and animals. For those of us who have 9-5 M-F jobs, there's a rush hour during the week, with a fair number of commuter rail trains running, but for most of the rest of the time, it's very quiet here. If the Green Line starts running every 4 minutes in each direction, we would be exposed to almost constant noise from 5:30 am to 1:00 am. On my side, we have some protection / noise abatement of the commuter rail and the Downeaster from the growth of very tall old maple trees. I've

I-059-003 heard that all of the trees would have to be removed to build a restraining wall. Those trees are a habitat for many birds and animals and they are beautiful trees. In such a densely populated area as Somerville, it is a real treat to live in such a urban green space and that certainly makes up for the current noise from the commuter rail.

I-059-004 I have heard of the possibility of covering the tracks in some areas, putting the bike path on top and replanting the area with large trees. Is this being considered?
Thank you,
Lynn Wiles
9 Montrose Court
Somerville, MA 02143
617-776-1560

1

I-059-001

Potential noise and vibration impact are assessed in Chapter 5 (Environmental Consequences) Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA, respectively. This assessment considers the number and time of day of proposed transit operations.

I-059-002

Potential noise and vibration impact are assessed in Chapter 5 (Environmental Consequences) Sections 5.7, *Noise* and 5.8, *Vibration* of the DEIR/EA, respectively. This assessment considers the number and time of day of proposed transit operations.

I-059-003

Impacts to vegetation and wildlife habitat are discussed in Chapter 5 (Environmental Consequences) Section 5.10, *Fish, Wildlife, and Plants* of the DEIR/EA.

I-059-004

The Somerville Community Path has been conceptually designed to travel parallel to the MBTA's Lowell Line right-of-way. The construction of a deck over the railroad corridor has been considered and would be costly to the project, therefore, tunneling or decking of the railroad right-right-of-way have been removed from consideration.

Public Comments

On

Expanded Environmental Notification Form #13886
Of
October 2006

Executive Office of Transportation

Submitted to

Secretary Robert W. Golledge, Jr.
EOEA, Attn: MEPA Office
Deirdre Buckley, EOEA No. 13886
100 Cambridge Street, Suite 900
Boston, Mass. 02114-2524
617-626-1044

Submitted by:

William Wood, Ph.D., M.Ed., M.A.
Carolyn Rosen, MBA, M.T.S.
25 Bussell Road
Medford, Mass. 02155
781-391-8424

and

Mr. James Morse
ADA Community Access Monitor and
Member of RAGE (Residents Against the Green Line Extension)
49 Metcalf Street
Medford, Mass. 02155
781-395-3302

and

Mrs. Gwen Blackburn
233 Arlington Street
Medford, Mass. 02155
781-488-7378

November 15, 2006

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Exhibit Two

Exhibit Three

Preface

One must wonder why the citizens of the city of Medford had to push state and local officials to advocate with the Executive Office of Transportation for an official public meeting in the city of Medford and to put pressure on the Massachusetts Executive Office of Environmental Affairs (MEPA) to extend the public comment period on the filed Expanded Environmental Notification Form (EENF) concerning the Green Line extension so that full citizen participation could occur. The lack of proper public notices on public hearings and public meetings within the city of Medford since the inception of this significant smart growth transit oriented project cries of injustice, especially for those citizens of the environmental justice population and the disabled community in Medford.

I-060-001

It appears that the only citizens who are given any prior notice on the progress of this state project are environmental and smart growth lobby proponents who act in concert with the state by submitting inadequate public announcements that neither editors of the local newspapers or its citizens seem to find.

As contended by the Cato Institute in its Policy Analysis, "Smart Growth at the Federal Trough – EPA's Financing of the Anti Sprawl Movement" written by Peter Samuel who has worked on EPA policies with the George C. Marshall Institute and by Randal O'Toole, executive director of the Thoreau Institute and noted policy analyst on rail transit systems, " . . . the government is covertly supplying funds and technical support to supposed grassroots organizations" in its efforts " . . . to build public support . . ." for Smart Growth projects. The report goes on to state that "The EPA anti-automobile campaign is implicitly founded on the idea that "the locals" cannot be trusted to determine their own fate," and that the EPA believes that " . . . government itself should not only directly lobby municipal governments but should indirectly subvert local decisionmaking." In other words, environmental policy is built upon the foundation that government must impose its will upon its citizens and if citizen participation is lost in the process so be it for the benefit of transforming suburbs into their endorsed planning trend known as "New Urbanism" or Smart Growth.

The writers of these public comments are not against growth or environmental protection. They are, though, trying to protect the environmental justice populations and the disabled community so that these communities can have full participation in society. Without the government's protection, it has been noted numerous times that the disabled community and the environmental justice population will be abused in government and bureaucratic policy. This becomes true when you recognize the only reason to advocate for the expansion of the Green Line to Route 16 is to knock down an environmental justice and disabled housing program called Walking Court. Without replacing this project or giving the disabled and environmental justice protected groups their full participation in making a change to Route 16, the state is opening themselves up to gross mismanagement of this project by going any further than College Avenue and

I-060-002

I-060-001

Outreach efforts for local residents, including the Project Advisory Group and numerous public meetings, are discussed in Section 1.5, *Public Involvement* of the DEIR/EA. Public outreach efforts have included targeted efforts to reach environmental justice populations. Meeting on the Green Line Extension Project have attempted to reach as many residents as possible by ensuring that meetings and Project materials were widely available and in a variety of formats. More discussions on the outreach efforts for the environmental justice communities can be found in Section 5.4, *Environmental Justice* of the DEIR/EA.

I-060-002

Walking Court would not be acquired for the Project. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA. Details on environmental justice impacts can be found in Section 5.4, *Environmental Justice* of the DEIR/EA. Details on the Somerville Community Path and other paths can be found in Section 3.8, *Community Paths* of the DEIR/EA. Also, all new stations will be ADA accessible as further discussed in Section 3.7.3, *Stations* of the DEIR/EA.

I-060-002

Boston Avenue. This point can be proven beyond a reasonable doubt. The state opens itself up to massive class action lawsuits since it has been documented in the past that these environmental justice groups and disabled citizens have wanted to participate. Their participation has been refused by groups of people who after the fact of presenting their proposal to the state, then allow participation that only serves to strengthen their own view. An example of this would be the development of bike paths and walking paths for the able bodied to get to the Green Line extension. There is no mention in their proposal of accommodations for blind people, people who walk with canes and their needed rest stops or do they speak about wheelchair accessibility.

This is just one example in this preface of exclusionary practices that have been outlined by the Cato Institute Report. This exclusionary practice is happening now and must be rectified by stopping this abuse of governmental agencies that work in concert with these supposed grassroots organizations.

The petition drive started by proponents who push for the Green Line Extension to Route 16 is not a vote of the public. Petition drives are noted for misinformation in a short time span to explain a complex issue. If this group truly wanted citizen participation, they would have put a non-binding question on the ballot for next year. A ballot question allows full discussion in the community. Instead this organization chose a petition that only pinpoints proponents and not the full city or environmental justice populations or disabled community.

The evidence of this statement is that one of the historical groups in the city of Medford at their November 9, 2006 meeting went on record voting against extending the Green Line to Route 16. The National Historical Register is looking at this same area as a historical site. We doubt in the ten seconds that it takes to sign a petition that these proponents explained this situation. The Green Line extension into Medford is a complicated situation that has both benefits and detriments. This historical detriment is just beginning to be understood.

Executive Summary

The authors of this report are providing public comments within the specified public comment period in response to the Expanded Environmental Notification Form (EENF) dated October 2006 submitted by the Executive Office of Transportation (EOT) to the Executive Office of Environmental Affairs (MEPA) for environmental review. The public comments within this report will point out the violation of citizens participation in the Commonwealth's Green Line Extension process through lack of proper public notice in the City of Medford and the omission of citizen input from the environmental justice populations and disabled community. Only due to public pressure because of everyone's concern did EOT and MEPA decide to have a public meeting on this EENF in Medford and extend its public comment period.

I-060-003

We also will point out in our comments area of the EENF that we believe a fuller study is required before the footprint of this project is set within an environmental study. We will contend in our report that the Single Environmental Impact Report (SEIR) which will be built on the EENF framework that will respond to the Secretary's EENF certificate should go no further than the stated College Avenue/Medford Hillside (Medford Hillside Branch) for further study.

We believe in the proposed EENF that there are proposed violations of the recent settlement with the MBTA and the disabled community that require further investigation and cost analysis. We also contend that there has been disabled discrimination throughout the Green Line process in direct conflict with the Americans with Disabilities Act.

As we have contended in prior public comments to the General Manager of the Mass. Bay Transit Authority, to the Secretary of the Executive Office of Transportation and most recently to the Department of Environmental Protection, there needs to be a reassessment of public support within the Medford community, particularly with the environmental justice populations and the disabled communities since the newest public document submitted by proponents seems to drive these populations out of the city of Medford by advocating an extension of the Green Line to Route 16.

I-060-004

It is our contention that the premise by proponents to extend the Green Line Extension to Route 16 is to bring about the dismantling of an elderly environmental justice population and disabled housing program for the purpose of dislocating residents for the policy of Smart Growth Development. This housing program is known as Walking Court. Based upon the fact that there is no funding for the rehabilitation and renovation of this housing program, any developer under the ruling of the U.S. Supreme Court can pursue purchase of this property from the city of Medford through eminent domain for the purpose of developing high density smart growth development that has been proven to be

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I-060-003

The Beyond Lechmere Project had public meetings in each of the impacted communities, Somerville, Cambridge and Medford during the Fall of 2004. The Project Advisory Group also included eight representatives from Medford. A summary of the Beyond Lechmere public process can be found in the Archive section of the Green Line Extension Project website http://www.greenlineextension.org/archive.asp?area=arc.

The Green Line Extension Project has engaged in a full and comprehensive public process for citizens in each of the affected communities. Please see Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA for a complete description of this process. Public outreach efforts have included targeted efforts to reach environmental justice populations. Meetings on the Green Line Extension Project have attempted to reach as many residents as possible by ensuring that meetings and Project materials were widely available and in a variety of formats. More discussions on the outreach efforts for the environmental justice communities can be found in Section 5.4, *Environmental Justice* of the DEIR/EA.

I-060-004

No acquisition of Walking Court is proposed under the Project. The only acquisitions proposed by MBTA would be for stations and new rail infrastructure. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-060-004

less than affordable to the moderate to low income populations, which includes the population at Walking Court.

In the Boston Sunday Globe, Real Estate Section, dated November 5, 2006 in the article, " Lack of starter homes adds to state housing woes," it states regarding transit oriented housing and mixed use development " . . . many of the units in those developments start off in the $400,000 and $500,000 range, well beyond affordable thresholds." Although Smart Growth is allegedly a way to address affordability, this article further states " . . . many of these new properties will still cost far more than what working class and young families can afford."

In the report "Rail Disasters 2005 – The Impact of Rail Transit on Transit Ridership", written by Randal O'Toole in June 2005 to determine the long term effects of rail transit on transit ridership, he contends that many transit projects have negatively impacted on environmental justice and disabled population neighborhoods through sacrificed service to these communities while trying to encourage middle class suburbanites out of their cars.

We believe based on reports on urban planning and on transit projects that extending the study of the Green Line extension beyond College Avenue and Boston Avenue in Medford will harm, not protect the very populations it is purported to help.

Definition of Terms:

I-060-005

1) The Environmental Justice Population terms listed in Attachment 5.1 of the Expanded Environmental Notification Form, page S-1, as submitted by the MBTA in its Beyond the Lechmere Northwest Corridor Major Investment Study/Alternative Analysis does not spell out the disability population nor the civil rights of the disability community even though this community may be a portion of the low income population. This community may also be represented in the race-based definition as well as in the lacking English proficiency definition and may not own an automobile. This community lives in the area that has been identified as Route 16, West Medford, one such area being Walking Court. The EENF report does not adequately mention the disabled and their needs in its report thereby leaving out a community and its civil rights that also live in this area of Medford, as well as, affected disabled people in the community of Medford. This disability issue also was brought up at the last DEP public hearing meeting on the SIP plan and has not been corrected in any report to the best of our knowledge at this writing.

2) Preliminary – a preliminary report to anyone who knows the bureaucratic world means the report is open for change though many people in the community talking about this issue have not felt that is true. This EENF report has been presented to several citizens by a State Representative as fact and that it is not in flux of change. In preliminary reports such as the EENF there are what if situations that are nothing more than theoretical assumptions that some one has made for the benefit of the reader. We will use in our comments what if situations regarding the scope of this project instead of theoretical assumptions so that all people understand these comments.

3) For sake of clarity, Route 16 is West Medford. We make that statement based upon discussions with old time residents of West Medford and on the fact that one of the writers of this report, Dr. William Wood, represents West Medford in that area as the community representative on the board of the Columbus School. We also know for a fact that this area is a voting area of Ward Six, which is West Medford. At one point in time, Walking Court, a low-income senior housing and disabled project, was the polling place for this precinct. Simply because the location of the voting place has changed does not mean it is still not part of the Ward Six, West Medford community.

Why do we define these terms in the first place? So that we are all on the same page when we are talking about West Medford and the Hillside, which is different than West Medford. There is much misinformation that is used by advocates who promote the extension of the Green Line to Route 16, West Medford. There is a strip of land that is part of Somerville near this area. But to get to this point in the Green Line extension as is being investigated now, you must go through the area known as West Medford. There is no other route that would be viable for any Green Line extension to that area.

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I-060-005

Disability populations will benefit from increased transit access, and the Project is designed for ADA compliance to ensure safe access to the stations. However, the environmental justice analysis follows state standards, which address EJ populations - concentrations of persons who are low-income, minority, foreign-born, or non-English-speaking. The ADA standards and requirements address the interests of disabled persons within the Green Line corridor. The design of the Green Line Project has been developed in accordance with relevant provisions of the American with Disabilities Act (ADA) Commonwealth of Massachusetts Architectural Access Board (AAB) and MBTA standards to provide equal access to all users. This commitment is reflected in Section 3.3, *Project Elements*, Section 3.6, *Build Alternatives*, Section 3.7, *Project Description - Preferred Alternative* with respect to discussion regarding the proposed stations; and in Section 3.8, *Community Paths* of the DEIR/EA.

Noise impacts and mitigation are defined in Section 5.7, *Noise* of the DEIR/EA.

Observations:
This section of our report will note our public comments concerning observations from reviewing the EENF. Our first comments center on citizen participation.

Citizen Participation

I-060-006

1) According to the Expanded Environmental Notification Form dated October, 2006 on page 26, concerning public notice, two newspapers in Cambridge and two newspapers in Somerville were notified of the October 16th public meeting in Somerville. There is a distribution list noted in Attachment 4 of the EENF that Lists All Agencies and Persons Receiving the EENF prior to this meeting.

It is noted on page 26 that a public notice had been or would be published in the Medford Daily Mercury on or before October 10, 2006. First, why was this public notice not published in both newspapers in Medford? Second, in contacting the editor of the Medford Daily Mercury, they could not locate any such public notice in their newspaper since they review this section for future stories. The only reason that can be surmised by the lack of notification in Medford is the intent to keep the people of Medford ill informed from knowing what is going on concerning the Green Line extension process.

Let's examine this statement. The newspaper of record in Medford is the Medford Transcript, which is the sister paper of the Cambridge Chronicle and the Somerville Journal, both of which are noted on page 26 of the EENF. The same publishing company owns all these newspapers. Yet the Medford Transcript was not informed to publish a notification of this meeting according to its editor.

The Medford Transcript is the most widely read newspaper in the city of Medford. The one newspaper that was allegedly chosen to publish a one-day notice of this public meeting was a daily newspaper, unlike the other papers in Cambridge and Somerville. An alleged one-day notification in this daily newspaper would not have had the same affect of public notification that Cambridge and Somerville received. Hence, the Medford people have not been informed correctly as other cities have. We believe that the editors of these fine newspapers would agree that their newspaper, the Cambridge Chronicle, the Somerville Journal and the Medford Transcript are the paper of record in their cities. Though the Medford Daily Mercury is a fine newspaper, it is not read everyday since it also contains world news and Malden news in it and can be confusing to some readers.

The editor of the Medford Daily Mercury, Mr. Kevin Macciola, has stated to us that he was not able to find the notice in his newspaper concerning the October 16th meeting in Somerville. How does this affect public comments? Let us try to answer that. It affects public comments in such a manner that the State Representative and the State Senator of the district writes MEPA a letter

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I-060-006

Public notices for the availability of the DEIR/EA have been provided in the newspapers of record.

supported by the City Council that the public is not aware of this study being extended beyond College Avenue and Boston Avenue.

Further investigation states that there is group, who may be construed as mass transit advocates sponsored by the MBTA, that has come up with a plan that supports an alternative extension of the Green Line to Route 16, West Medford, even beyond the SEIR alternative proposal. In the membership of this advocacy group there is an individual who, it has been stated to us by their committee, works directly or indirectly for the Mass. Bay Transit Authority. This ethical question needs to be investigated and if it is found to be true, brings up another question around the process of fair and full citizen participation. We enclose an email from Ken Krause a member of this self appointed committee called the Medford Green Line Neighborhood Alliance (MGLNA) which appears to have the backing of the Mass. Bay Transit Authority since they use this as a prelude to acceptance of their particular report (See Exhibit 1).

The question arises about these particular issues. Number one, the Mass. Transit Authority just signed a settlement document answering a suit by the disabled community. Not one noted or self-identified disabled individual sits on this nine-person committee that is supported by the MBTA. We must believe that the Mass. Bay Transit Authority wishes to fully comply with ADA. The question arises why the Mass. Bay Transit Authority supported this group over full citizen participation in the City of Medford? If it is the case that the MBTA supports this group by paying a salary directly or indirectly to this person, then their report should be recognized as tainted evidence that would be considered in a legal area as inadmissible because of the conflict of ethical violations.

As several of the writers of these public comments are known environmental justice and disabled advocates in the city of Medford, we question the right of this nine-person committee in their representation of the disabled and environmental justice communities. This nine-person committee proposes the displacement of these populations at Walking Court by using the Green Line extension to push for a Smart Growth program as they indicate in their proposal draft, dated October 10, 2006.

This committee wrote their proposal knowing that there were disabled people who wanted to participate. Dr. William Wood, one of the writers of this report, went to a meeting held on June 27, 2005 and explained this publicly. So have members of the environmental justice group. Neither of them has been invited to participate in the over yearlong study this nine-member committee claims they have made. Yet a participant from the MBTA had all the rights that these populations were denied. It is well known that public transit and private entities that provide transportation services are prohibited from discrimination based upon disabilities. This group and the Mass. Bay Transit Authority have followed a pattern in this procedure with Department of Environmental Protection to make

sure that the disabled never stated or had full participation as required by federal law.

The Americans with Disabilities Act under Title III-Covering Public Accommodations states in section III-3.4200 on Right to Participate in the regular program, and we quote, "Even if a separate or special program for individuals with disabilities is offered . . . cannot deny an individual with a disability participation in its regular program . . . Individuals with disabilities are entitled to participate in regular programs, even if the public accommodation could reasonably believe that they cannot benefit from the regular program." Several broad principles have been established by the federal government for participation. These include: 1) equal opportunity to participate, 2) equal opportunity to benefit, 3) receipt of benefits in the most integrated setting appropriate. These regulations and policies have not been followed.

The federal government describes discrimination as a failure to make reasonable modifications in policies, practices and or procedures when such modifications are necessary to afford services, privileges, advantages or accommodations for people with disabilities. These are fundamental aspects of failure to include disabled people. Part of this section goes on to state that a failure to take such steps as may be necessary to ensure that no individual with a disability is excluded, denied, segregated or treated differently than other individuals of the absence of aids or services is also considered discrimination unless you can prove that it is undue burden on the organization. And undue burden does not mean excluding them from notification in newspapers and or from excluding the individual from contact once you have a meeting that will substantially change the way the disabled community lives.

These tenets have been violated by the Mass. Bay Transit Authority, by public meetings by its possible entity called the Medford Green Line Neighborhood Alliance (MGLNA) because of an identified direct or indirect responsibility or employment by a member of the so-called Medford Green Line Neighborhood Alliance. The nine-person board never notified Dr. William Wood of their meetings. Dr. Wood is a noted disabled advocate in the city of Medford and was the first organizer of the community to express our dismay over what this group had done at a major meeting held back in June 2005 when they were originally members of the MBTA citizens advisory committee. We pointed out discrimination at that time and we were ensured that this discrimination would stop.

They then self anointed and recreated themselves as the Medford Green Line Neighborhood Alliance. We contend that was to avoid disability participation, which did not occur, since Dr. Wood was never notified of their meetings. He had notified members of this group that he wanted to be in any group that talks about the Green Line in Medford. The proof in the pudding is that their meetings were open to others in Somerville, but not the leaders of the disabled movement

in Medford. Once such leader is a community access monitor who was not outreached too and who lives directly in the affected area in part of the city that MEPA and EOT are reviewing for further study.

It also was brought up at the June 2005 meeting that a member of their group was employed directly or indirectly by the MBTA as the enclosed email from the member of their group does state. This gives an unfair advantage and an uneven playing field for the disabled in the community when you consider that the so-called neighborhood group, the Medford Green Line Neighborhood Alliance, wants Smart Growth development from the Green Line extension with the closing of the housing program known as Walking Court which houses members of the environmental justice and disabled populations. It also can be hypothesized that the advantages of demolishing public housing is a way in which you can use the Green Line extension for the purpose of displacing environmental justice populations and disabled people without any true participation from their groups. As Mr. Krause a member of the MGLNA has stated in a local debate on the Green Line extension, the rebuilding of the Walking Court housing development would be a positive thing to this transit project.

I-060-007

I-060-008

The distribution list of persons receiving the EENF prior to this public meeting also does not include Ms. Gwen Blackburn, an African American environmental justice person from Medford who requested from the original members of the Citizens Advisory Committee that she be kept informed. Nor was the EENF distributed to Dr. William Wood, a disabled Medford resident who has written several public reports on this project to the MBTA, the Executive Office of Transportation and to the Dept. of Environmental Protection. Dr. Wood contacted DEP in the past and told them he wanted to be informed since he does represent this area of West Medford under the school system and has been chosen by the school system to represent that community. Dr. Wood is an elected representative in the two party system in Medford and is the first disabled Recording Secretary of that group. Dr. Wood is also a member of the Medford Chamber of Commerce and the Medford Kiwanis Club. All are concerned with West Medford and the Hillside.

We find this lack of outreach to the community ridiculous since the names on the list of distribution in Medford did not make themselves available nor have they held a public meeting since the one and only meeting on the Green Line extension over a year ago. This meeting as noted in prior comments to the MBTA was originally only for proponents until Dr. Wood and other community activists pushed for a more open meeting. The MGLNA has knowingly pushed smart growth development with the proviso of destroying homes that serve the environmental justice and disabled populations.

It is still up to the Medford resident to join a web site created by this MGLNA group to learn of any activity on this project. To join you may have to agree that

I-060-007

Ms. Gwen Blackburn is on the current distribution list, which can be found in Chapter 7, *Distribution List* of the DEIR/EA.

I-060-008

Dr. William Wood is on the current distribution list, included in Chapter 7, *Distribution List* of the DEIR/EA.

you are in favor of the Green Line extension. Since neither Ms. Blackburn nor Dr. Wood is in favor of the total Green Line extension proposal or its sub alternatives, we would not receive the information off that site nor would someone who does not have a computer. It would appear that neither EOT nor the MBTA are actually in favor of true representation from the environmental justice group or the disability community since both Ms. Blackburn and Dr. Wood have run for public office in our city and are well known.

Our major questions on these observations would be is this oversight or discrimination on the part of people who have put this public meeting together? Have the former citizens advisory committee and or its new appointees kept up with the organizing side of this issue in gathering full and open citizen input? And why have they not held at least some meetings in Medford or informed the environmental justice population and disabled critics and skeptics of what has been going on prior to and during organizational preparation of their proposal? Dr. Wood and Jim Morse represent many disabled people in Medford as their advocates. Dr. Wood has been asked by Ms. Blackburn to represent her when she cannot attend meetings on this project. He also has been asked by Mr. and Mrs. Samo who live directly in the affected area to represent their interests. These two disabled people are community activists in the affected areas.

This lack of participation has been the Commonwealth's problem as well and has been since the inception of this transit project. The EOT and MBTA have left out in the Medford area the two populations that require full participation if you truly believe in the civil rights laws of Massachusetts and the United States when planning transportation policy and projects. This situation should be corrected prior to any new meetings.

Cambridge and Somerville had a great deal of time to organize a contingency of supporters for the Somerville Green Line extension public meeting on October 16th while Medford had no one doing anything due to lack of poor organization and poor notice by the state. To include either the environmental justice population or the disabled population, one must fully embrace the concept that discrimination in the past has made them feel tremendously unwelcome in meetings.

Commissioner Daniel McGillicuddy, Deputy Commissioner for Administrative Services, at the Department of Environmental Protection, regarding the last DEP public hearing on the Green Line extension ruled in an ADA complaint filed against that public hearing that a public sound system is not needed for a public hearing for the deaf and hard of hearing or their servicers unless they request it prior to the meeting. No sound system was provided at this public meeting which had a large group from the Boston area attending. This Commissioner also falsely stated that a witness to this ADA complaint, Mr. Dan Hurley, a former Governor's Council member, had been interviewed in the investigation and did not witness a violation of the disabled speaker's civil rights. When Mr. Dan

Hurley presented a written letter to the Commissioner that he had never been interviewed in this investigation by DEP, the Commissioner should have reopened a reinvestigation into this case with its multiple violations. Instead, this reinvestigation appears not to have been done. It is clear under ADA laws that an injustice has taken place if not discrimination by the Commonwealth of Massachusetts. The complainant has held off on filing a further ADA complaint, hoping that there would be changes in the process of informing people on public hearings and meeting and in providing better outreach to the environmental justice populations, which we include the disabled community within this definition.

Therefore having seen no change in the process, it should be required that state organizations fully outreach in those communities and or notifications fully be posted in their communities. Without these types of organizing tools, you are speaking out for environmental justice and disabled communities but not with their permission. Simply because EOT may have an environmental justice person on its committee from one city or a disabled person on its committee from one city does not mean they speak for other communities.

We believe that authentic voices should be listened to from the communities that are here now. That is what is happening now. Many in the Medford community have asked us to represent them on this one issue. When people find out they have been left out of the process, you will find an explosion as others have informed Representative Sciortino.

Traffic Congestion

After reviewing the EENF and the Tufts University Master Plan and their minutes we must conclude that Tufts University does not support the Green Line extension beyond the intersection of College Avenue and Boston Avenue as presented by Tufts University President Bacow, according to the minutes of their faculty meeting, dated October 19, 2005. In regards to this, we conclude that most residents who are not in favor of the Green Line beyond that intersection point would agree with them. This will be one of the few times that the critics and skeptics of Tufts University actually agree with Tufts University's assessment.

I-060-009

Extending the Green Line beyond College Avenue and Boston Avenue is too costly and too much disruption in the city with smart growth development that excludes the very population that it claims will benefit from the Green Line.

Also in the process of developing the Green Line to West Medford, Route 16 as advocated by the MGLNA, it has been stated by the Mayor of Medford that for him to firmly support this project, he would have to see economic development in that area. Although this economic development would bring tax benefits to the city, this future development also would probably require some changes on Route 16 in handling the amount of traffic that would definitely come from sister cities surrounding Medford. There are many current traffic congestion issues on

I-060-010

I-060-009

The EOT has noted and considered your comment. Thank you for your interest in the Green Line Extension Project.

I-060-010

The traffic implications of the proposed project are discussed in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. The traffic analysis includes the effect of various development projects planned in the vicinity of the study area that Town officials indicated should be included.

I-060-010 Route 16 in the Medford area because this road provides access to and to Route 2. The corner of Auburn Street (at Wild Oats) and Rc of the worst intersections on Route 16 in Medford and this is in the the MGLNA is proposing a transit station.

These issues require a fair and impartial study of the amount of traffic ... be picked up by locating any stations in that area. Included in this study should be the incorporation of the approximately million new square feet of space that Tufts University will be developing, including the stretch of Boston Avenue, both east and west, which they consider a growth corridor for the future. The idea that no new traffic would come to that area from such development is unreasonable and or unrealistic. This traffic pattern alone would preclude any need for any study beyond College Avenue and Boston Avenue since it would be only an educated guess on either side for or against.

I-060-011 The best proof to base a guess upon would be to study the increased traffic that the Red Line brought after the development of Porter Square and Davis Square. This study also would prove a community impact change in which a community of moderate to low income residents changed to a professional and more affluent community. Development that is specifically tailored to university expansionism such as Tufts University Master Plan with accompanying professional expansionism will devastate the moderate to low income community in the West Medford community. We believe the EENF report should incorporate this community impact study.

A complete study of the pattern of human demographic movement would be needed to justify going beyond the stated area of College Avenue and Boston Avenue. Included in these comments is a copy of Tufts University's Master Plan for the future (Exhibit 2) as well as Tufts University minutes to their meeting (Exhibit 3) in which they reveal that there should be a stopping of the Green Line extension at College and Boston Avenue.

As stated in the MGLNA proposal, this group supports benefits from this project that would provide more flexible housing opportunities for students and the commuting alternative for the entire university community. A development benefit that can cause the turnover of a neighborhood and conversely have negative impacts on the very environmental justice and disabled populations it is suppose to help.

I-060-012 The Tufts Master Plan and page S-3 of the EENF identifies a potential problem that reading the Tufts Master Plan projects without calling them environmental problems. What if you were to study the potential problem of park and ride in the EENF? We state there is enough evidence for inclusion of this aspect in the study. Tufts University has built a parking lot on Boston Avenue for their use. There is another Tufts building being remodeled over on George Street, included in their plans is another parking lot for that building. We would guess that there

I-060-011

The analysis of the proposed alternatives included assessments of land use, socioeconomics, and traffic, as well as the long-term impact of anticipated development and land use changes. Traffic analysis indicates improvements in traffic conditions under the Build Alternatives. Transit improvements are expected to benefit environmental justice populations -- including low-income populations -- more than the rest of the surrounding community. Compatibility with existing land use is discussed in Section 5.2, *Land Use*. Socioeconomic and traffic impacts are considered in Section 5.3, *Socioeconomic Impacts*, and Section 5.5, *Traffic* of the DEIR/EA. Indirect and cumulative effects of the Project, including the impact of planned and anticipated development associated with the Tufts Master Plan, are discussed in Section 5.15, *Indirect and Cumulative Effects* of the DEIR/EA.

I-060-012

Park-and-ride options are considered at the Mystic Valley Parkway/Route 16 Station. A discussion of traffic and parking analysis can be found in Section 5.5, *Traffic* of the DEIR/EA. At this time, there is no proposal to share Tufts University parking for commuter purposes.

I-060-012 are plans for other parking lots in their Master Plan in this area, including off street parking. If we do not study park and ride, we are not truly getting a fair environmental study and this study could be quite easily added and completed in the EENF process. No one is describing this in the current EENF since park and ride does not exist now in its scope, but in reality it does exist now if you consider that the shuttle buses to Davis Square to Tufts University could be used that way. In fact, Tufts in its description of its Master Plan speaks to its initiative of enhancing connections to Davis Square. We have no real indication of ridership of that shuttle bus system. This information needs to be researched and investigated. There is probably other potential evidence that supports this what if situation.

I-060-013 What if the cars coming from Arlington, Lexington, parts of Medford and Winchester all congested themselves on to the Green Line extension corridor on Boston Avenue and College Avenue or thereabouts? The solution called for by supporters of the Green Line Extension is to use a parking ban with parking enforcement officers (e.g. like Somerville). That is to say that Medford, a suburban area, must first become like Somerville, an urban area, with its problem parking. Medford will then need to increase taxes to hire parking officers and set up a department for full-blown traffic monitoring. Not only will Medford need to do that, but also Tufts University may need to do that as well to monitor their staff and the access to their campus from Boston.

Implementation of strict traffic parking enforcement would change the character of the city of Medford from being a friendly parking area for its residents to an unfriendly parking area for residents. It would also take away the visiting rights during parts of the day to families and friends of residents of Medford. Or force them to participate in a full residential parking sticker program throughout the city. This action would change the very character of the city of Medford and increase congestion in a city that already has experienced growth in congestion in the Wellington transit area according to the local newspapers, the Mayor, the City Council and residents. By the way, the proof of the need for this study would be the Orange Line and the increased traffic to the Orange Line because of Smart Growth initiatives. As the EENF states, the Green Line is anticipated to be part of Smart Growth development planning as well.

I-060-014 The other area of contention for support of a what if study is Winchester's train station around Mystic Valley Parkway where you will find cars parked all over the commuter rail station area, under bridges and in possible flood areas and on public residential streets in Winchester, taking away residential parking. It appears that these cars could only be Winchester residents coming from all over Winchester. How many of these cars will now come to the Green Line in Medford? And are these cars truly only from Winchester?

I-060-015 This brings us to the next what if situation. Why would we want to decrease bus service to any part of Medford to enhance Green Line ridership in one specific

I-060-013

The use of the regional travel demand model to forecast traffic volumes related to the project allows the EOT to assess regional traffic related to each of the proposed alternatives. The analysis of traffic and parking impacts and their mitigation measures are provided in Chapter 5 (Environmental Consequences) Section 5.5, *Traffic* of the DEIR/EA. Analysis of traffic and parking impacts related to Smart Growth Initiatives is outside of the scope of this study.

I-060-014

There is no way to directly ascertain the number of trips to any station that are related directly to Winchester residents. Based on FTA guidelines, the analysis completed for the Green Line Extension Preferred Alternative assumes no parking at the proposed Mystic Valley Parkway/Route 16 Station. The results of this analysis are presented in Section 5.5, *Traffic* of the DEIR/EA.

I-060-015

EOT has worked with the MBTA and the communities to determine the bus needs for the study area. Based on input received and an evaluation conducted by CTPS, it was determined that the existing bus routes in the study area are still warranted and will remain as existing. Each of the proposed stations are within close proximity to existing bus routes/stops making transfer connections possible. Additional information on the bus services can be found in Chapter 4 (Affected Environment), Section 4.5, *Existing Transportation Systems* and Chapter 5 (Environmental Consequences), Section 5.5.1.5, *Public Bus Transportation* of the DEIR/EA.

I-060-015 area of the city? It may on a report sound interesting and may provide documented evidence of lowering contaminates in the city, but in reality if we use Winchester train station as a model, it would only increase the car usage around that area of the Green line extension since there would be no way to get there. It is quite possible that you would need to increase bus traffic to get to the extension. This is one reason not to go beyond College Avenue and Boston Avenue. Even if there is only drop and ride, it increases pollution in that area and buses create even more.

I-060-016 This brings up another what if. The further the MBTA station goes hypothetically down the stated area in Medford from College Avenue to Winthrop Street or beyond would cause an even larger area for people to drive into. The benefit of adding the Winthrop Street station stop would only be one block difference according to Tufts University and cause a lot of disruption and unneeded cost.

I-060-017 Another what if that needs studied in the scope of the EENF, has the Red Line extension stopped traffic to Porter Square in Somerville and to Davis Square, Somerville? In that study, EOT must use the growth pattern that has happened in Porter Square and to state infallibly that no growth pattern like that will occur in

I-060-018 the Medford area. In the Expanded Environmental Notification Form report, you must pin down what Tufts University is actually going to build in the future. Are they going to increase student enrollment and is that going to provide a larger potential for more cars to the area? Tufts University has all ready stated in its Master Plan report that it intends to build on Boston Ave in both directions and that it is all ready trying to look at air rights over the current commuter rail system, which we assume they are going to fund themselves. Without looking at this potential growth pattern, you are opening yourself up to encouraging the university to expand with public funds, which would go over quite badly in the adjacent neighborhoods to Tufts. We suspect that Tufts understands that since they all ready have had to pay a commercial tax on the new property they bought from the city of Medford on George Street.

ADA Accessibility

I-060-019 The EENF on page 2-2 of the Project Plan and Description states that access to stations, such as College Avenue and possibly beyond to Winthrop Street, will be provided from existing nearby overhead bridges via a stairway and accessible switchback ramp. Yet, the EENF describes that there will be no MBTA attendees at these stations. In the MBTA/BCIL ADA Settlement there is a paragraph on station management that states: " All new and "Key" stations must be managed and maintained so they are readily accessible and usable by persons with disabilities. Stations must be clean, well lighted and free of barriers or safety hazards for people with disabilities . . . Appropriate personnel will be available to assist passengers with access problems."

16

I-060-016

Locating a station at Winthrop Street is no longer a consideration for the Green Line Extension Project, as described in Section 3.3.1, *Stations* and Appendix B of the DEIR/EA. Specific station locations are identified in Chapter 3 (Alternatives), Section 3.7.3, *Stations* of the DEIR/EA.

I-060-017

The study of traffic patterns in and around Porter and Davis Squares is outside the scope of this DEIR/EA. As requested by the City of Medford, Tufts University was contacted to determine the magnitude of any planned expansion. At this time, no increase in faculty, staff, or students is planned. As such, no additional traffic attributed to Tufts University has been included in the traffic analysis for the Green Line Extension Project. Traffic analysis that investigates traffic impacts and the mitigation measures can be found in Section 5.5, *Traffic* of the DEIR/EA.

I-060-018

While the Green Line Extension Project has taken into consideration the Tufts University Master Plan, the university's plans to grow and expand will not affect the location nor the alignment of College Avenue Station. The EOT is scheduled to submit a New Starts application with the Federal Transit Administration (FTA) requesting federal funding for the Green Line Extension Project. The Tufts University's plan to expand into the air-rights of the commuter rail alignment is independent of the Green Line Extension Project and is not part of the New Starts application nor is Tufts University eligible to receive those funds.

I-060-019

The new stations will include redundant elevators for disability access. As noted in your comment, the BCIL Settlement requires "appropriate personnel…to assist passengers with access problems." The term "appropriate personnel" does not necessarily mandate continuous

I-060-019 What if these accessible ramps fail to function as we have seen with poor maintenance of elevators and escalators? Who will help the disabled get daily access to these stations? As a Medford proponent of the Green Line stated to one of the writers of this report, it seems like every night when she gets off at Sullivan station the elevator for disability access is never working. Based upon the MBTA's poor performance around disability accessibility, are we in the disabled community expected not to have access on any particular day if they arrive at the Green Line station when the ramp is in disrepair from exposure to the elements and poor maintenance? Why would the disabled community not expect attendees at these stations for assistance since it is required under their settlement with the MBTA and why have these costs not been added to the operating cost of this project?

What happens in many of the other Green Line stations where access is a problem? Are the disabled, as in the song "Charlie on the MTA," allowed to get on but never allowed to get off at other inaccessible stations?

I-060-020 In many incidents in urban transportation systems, defecation and urination become the biggest problem at unattended sites. Harassment also could easily be inflicted on the disabled population if stations are not attended.

I-060-021 The MGLNA plan speaks to the able bodied using pedestrian walkways, pedestrian overpass bridges and bike paths along the commuter rail to gain access to Green Line stations. Yet there is no mention of access for the disabled community on these fixed routes, a legal requirement, since state and local governments are responsible for the maintenance of walkways and transportation sites for disability access in order to comply with the ADA. There should be focus in the EOT plans that addresses the population whose access is a restriction, not those for whom it is irrelevant.

I-060-022 It has been observed by one of contributors to this report who takes public transportation into Boston that the new token system instituted by the MBTA recently is a system that is difficult for the disabled and elderly to navigate. Has the MBTA considered this issue regarding unattended stations planned for the Green Line extension? Where is the design for wheelchair accessibility at platforms so that wheelchairs are not forced to go over bumpy slats and rails to gain access to the middle platform setting? Where is the accomodation that ADA requires of public transportation providers to afford person with disabilities, including persons with sensory or cognitive impairments, an effective means of communicating with transportation system personnel while these travelers are within or utilizing transportation facilities? Have these accommodations been included in the cost of this project?

All of these what ifs situations need to be included into the scope of the EENF study and an extensive study prepared with answers to these questions and a study that uses updated data for the purpose of giving factual information. As

staffing of all stations as long as personnel would be available to assist passengers with access problems.

Stations that require payment prior to boarding (such as enclosed stations with turnstiles) would be provided with MBTA staff. Most of the proposed Green Line stations would be enclosed stations and would have MBTA staff on-site for assistance. However, most existing stations on the Green Line are simple platforms with no MBTA staff, where passengers pay as they board the train. For such stations, the train conductor is available to assist with payment and boarding when the train arrives. This still ensures that passengers with disabilities receive necessary assistance.

Details on ADA compliance can be found in Section 3.7.3, Stations of the DEIR/EA.

I-060-020

Most of the proposed Green Line stations would be enclosed stations and would have MBTA staff on-site. Any problems with safety, cleanliness, or upkeep at the new stations will be addressed by MBTA as appropriate. Customer information call Bores will be provided at each station that will interface with the Passenger Assistance Supervisory System located at the MBTA Police Station on Southampton Street and the maintenance terminal at 500 Arborway.

I-060-021

ADA-compliant access will be provided to all stations regardless of other access routes available. Details on ADA compliance are provided in Sections 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternatives* of the DEIR/EA. The proposed stations will be equipped with redundant elevators.

noted in our comments to DEP on December 21, 2005, they based much of their social economic and traffic vehicle data on old data prior to the Americans with Disabilities Act and not on the population and economic trends that are here today.

Rail Alignment and Right-of-Way

I-060-023 In the EENF it speaks to the taking of strips of land to accommodate the addition of the Green Line tracks. This land taking is mentioned on pages 2-1, 2-3 and 2-4 of the EENF. We believe that time is of the essence in identifying specific

I-060-024 areas of eminent domain taking. We believe that those areas of land taking must be identified and specified now before further studies are implemented. We also believe that it is imperative that secondary impacts on the operations of other areas in Medford that may be affected in environments that are removed from the immediate project area be identified as well. As is stated in the EENF on page 2-

I-060-025 4, "Throughout the project area, the need to construct retaining walls, replace bridge abutments, relocate utilities, construct ancillary facilities, and make modifications to other facilities will result in temporary construction impacts that extend beyond the project area. These impacts may include temporary and permanent construction easements on adjacent properties."

I-060-026 Since Tufts University does not want the Green line to go beyond College Avenue and Boston Avenue according to their own minutes and the EENF report states that it may need to take land acquisitions as stated on Page 2-1 and 2-3 and 2-4 of the EENF's Project Plan and Description, what land could be taken? If EOT decides to go beyond this stated intersection or the Ball Square area, we would suggest that for the sake of fairness that the Commonwealth take Tufts University's property and not any homes or businesses in Medford.

Storm Water Run Off/ Noise Disruption/Rodent Control

I-060-027 There is no evidence that the storm water run off issues have been considered in the Hillside area of Medford nor storm water run off issues that impact South Medford which sits below the Hillside. There are areas of the Hillside that currently experience storm water run off and these areas also impact South Medford in the Harvard Street area and beyond. Is the cost of controlling this storm water run off issue been incorporated in the MBTA's investment analysis? Or is the city of Medford taxpayer expected to pick up the cost of this problem?

I-060-028 Although there is an intrusion barrier that is planned to separate the Green Line tracks from the commuter rail tracks there is no consideration of a Sound Barrier to protect the surrounding neighborhoods from increased noise pollution. This issue should be studied and its cost incorporated into any plan for the Green Line extension.

I-060-029 There is also no mention of the cost of rodent control. It is well known that large construction projects cause disruption in animal habitats some of which have

18

I-060-022

All proposed stations will be ADA accessible. They will be enclosed stations and are proposed to have MBTA staff on-site for assistance with payment and boarding. For any pay-on-board stations with no resident MBTA staff, the train conductor is available to assist with payment and boarding when the train arrives. Redundant elevators will be provided for access from street level to platform without any at-grade track crossings. The costs of all access accommodations have been included in the capital cost estimate for the project.

I-060-023

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-060-024

Property takings required for the Project is discussed in Section 5.2, *Land Use* of the DEIR/EA. Other indirect and cumulative effects of the Project are discussed in Section 5.13, *Indirect and Cumulative Effects* of the DEIR/EA.

I-060-025

Construction access has not been determined at this stage of design. All permanent land requirements are included in the land acquisitions discussed in Section 5.2, *Land Use*. Temporary construction easements will be developed during final design and will not require any permanent acquisitions or effects.

I-060-026

The properties and buildings to be acquired vary depending on the alternative selected. Details on property acquisitions can be found in

I-060-029 negative impacts on surrounding communities. There is no mention in this study of controlling rodent populations that can cause disease and pestilence during this major construction event. This issue should be studied and the cost of rodent control included in this project.

Peripheral Costs

I-060-030 There needs to be a cost analysis of peripheral costs that will impact on communities such as Medford. Although there is mention on page 2-4 of disruption of electrical, sewer and water lines as part of the modification of bridge replacements, there is no mention of who will be picking up these costs. Electric trains require electrical substations and placement of electrical lines. There is no evidence that there has been a study on the peripheral costs of increased electrical demands on the surrounding communities. Who will pay for these additional electrical investment costs, the utility ratepayer or the taxpayer of Medford on their particular section of the extension? What is the environmental impact of increased demand on electrical grids in this area? These issues should be included in any study.

Smart Growth, the Rappaport Institute Report and Sustainable Development:

Smart Growth has been represented across the country and in Massachusetts as a pattern of development that promotes high density mixed use housing and retail development along transit lines, a plan lauded by New Urbanists. But Smart Growth is a pattern of development that skeptical urban planners and economists have called the creation of boutique cities that promote elite population centers and soft economy service jobs based on cultural trends, not hard economy jobs that sustain an economy.

In fact the development trend is away from New Urbanism now called Smart Growth, and toward the New Suburbanism of low density development that brings business and jobs to the outer smaller towns and cities and away from urban centers. In futurist and urban historian Joel Kotkin's article in The American Enterprise Magazine, dated June 2006, and entitled "Transit for the Public, Not the Planners" he calls advocates who speak of forcing the American commuter patterns back into rail centric models of transit as ". . . backward looking agendas" that leaves these advocates "at war against cars, and against the suburbs where most of us choose to live." Throughout this EENF and the MBTA Investment Study/Cost Analysis the Commonwealth speaks to Smart Growth that is based in outdated data and refuses to look at current population movement and economic trends to the periphery of cities.

It has been stated by David Luberoff, Executive Director of the Rapport Institute for Greater Boston at Harvard University's Kennedy School of Government, in his

Section 5.2, *Land Use*, and Section 5.3, *Socioeconomic Impacts* of the DEIR/EA.

I-060-027

The Project is designed to maintain or reduce existing stormwater flow rates and would not increase the risk of flooding. Drainage changes and techniques for stormwater management are discussed in Section 5.9, *Stormwater* of the DEIR/EA.

I-060-028

Potential noise and vibration impact are assessed in Chapter 5 (Environmental Consequences) of the DEIR/EA. Potential mitigation options such as noise barriers have been considered and are presented in section 5.7, *Noise* of the DEIR/EA. The costs of any potential mitigation options are also included.

I-060-029

The construction management plans for the Project will include rodent control measures. Details on possible measures and information on construction staging and sequencing are provided in Section 3.7.6, *Construction Sequencing and Staging* of the DEIR/EA.

I-060-030

All utility related costs associated with the Green Line Extension Project including the relocation of existing utilities, installation of electric power and communications for the proposed system and future electric costs are included in the capital costs for the project and future operation and maintenance cost for the Green Line.

April 2005 report that these kinds of large transit projects are more for political expediency than because they have anything to do with air quality improvement or cost benefit. As Mr. Luberoff states in his report, " . . . our transit system should be geared to providing mobility for those who most need it: the elderly, the disabled, and the poor. Study after study has shown that extensive and flexible bus systems are the most effective way to meet both these needs, at a cost far less than . . .. laying rails in Medford. "

In the October 20, 2006 edition of the Chronicle of Higher Education speaks to the definition of sustainable and the ability to meet present needs without compromising the future. As pertains to Smart Growth and its connecting transit projects, sustainable development must not only show environmental stewardship, but it must also demonstrate social responsibility that addresses economic growth for all who live in Medford, not just environmentalists or community activists. As Mr. Luberoff so aptly stated in his report, "We are, therefore, especially obliged to spend money wisely in our efforts to protect and improve the environment and expand transportation options for those who need them. In neither case are costly investments in expanded fixed-rail transit systems justified." We agree with Mr. Luberoff's assessment that going beyond College Avenue and Boston Avenue is not cost effective and does not protect those populations in the environmental justice populations and disabled communities who deserve better transit options.

I-060-031

I-060-032

We believe that economic and environmental studies need to be conducted by outside, objective participants that can verify the need for this transit project to Medford so that we can be confident these studies are using models based on current research data based in new economic impact models. We believe it is required that full citizen participation be obtained, which would include environmental justice population and disabled population input with their authentic voices. We believe that legal agreements have been broken in this study concerning disability access issues and that this shows a total disregard for the Americans with Disabilities Act.

I-060-033

We recommend based upon our comments that this study not go beyond the stated area of Boston Avenue and College Avenue.

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I-060-031

The alternatives assessed include various terminal stations, including a College Avenue terminal, a Mystic Valley Parkway/Route 16 terminal, and a Union Square terminal. Details and analysis of each alternative are provided in Chapter 3 (Alternatives) of the DEIR/EA. Benefits and impacts to environmental justice populations are discussed in Section 5.4, *Environmental Justice* of the DEIR/EA.

I-060-032

In addition to the work of EOT and the consulting team on this Project, the FTA has reviewed the materials presented and has hired an independent Project Management Oversight Consultant to review various aspects of the Green Line Extension Project. The analysis contained within the DEIR/EA is based on current models and analysis tools and identifies the need for the Green Line Extension Project.

I-060-033

Outreach efforts for local residents, including the Project Advisory Group and numerous public meetings, are discussed in Section 1.5, *Public Involvement and Agency Coordination* of the DEIR/EA.
All proposed stations will meet ADA accessibility standards as discussed in Section 3.7.3, *Stations* of the DEIR/EA.

Conclusion:

Proponents and advocates for the Green Line Extension state that this transit project, if executed properly, would provide an environmentally friendly alternative to automobile use, provide better access to Boston and beyond, raise property values and make Medford an overall better place to live, work and visit. Yet when researching transit projects based in Smart Growth policies across the country, it has been found that the high cost of transit projects like the Green Line extension are often the cause of declining or slower transit ridership as fare prices are increased and bus routes eliminated to help cover the construction and debt service costs of these construction projects. Often the disabled, the elderly and environmental justice populations, who are often the major users dependent upon public transit are hurt by higher fares and service cut backs.

As senior economist Randal O'Toole points out in the Thoreau Institute case study called "The Folly of "Smart Growth", he points out that the real effects of Smart Growth appear to be increased traffic congestion and air pollution, increased consumer costs and taxes and that Smart Growth has proven costly for everyone on other indicators of livability. In Mr. O'Toole's economic reports on Smart Growth and Rail Transit projects he highlights several vulnerability factors that contradict the Green Line proponents benefit contentions.

- First, high construction costs and cost overruns often force transit agencies to cut back on bus service and/or raise fares on riders with the resulting impact of depressing transit ridership.

- Second, transit agencies are very vulnerable when recessions occur and tax revenues that subsidize transit are reduced, forcing transit agencies to cut transit service to avoid defaulting on rail construction bonds. These cuts often impact on the disabled and environmental justice populations. Although recessions can hurt any transit agency, it has the most impact on those agencies that are heavily in debt.

  This second vulnerability factor speaks clearly to the MBTA's current financial situation. As stated in the November 12, 2006 Boston Sunday Globe article, "Three Days after election, Patrick outlines initial plans for his administration" (page B-4), one of the biggest challenges to the new governor is how to fund and maintain the state's current transportation system. The article goes on to report, "The MBTA, which voted Thursday to raise fares again, is burdened with debt, budget shortfalls, and expensive maintenance needs."

  On November 10, 2006 the Boston Globe in its City & Region section reported in an article entitled "Outcry over T fare hikes" speaks overall to concerns by Boston and state officials that the vulnerable low income populations that depend on transit systems will be the very

persons that will be hurt by the voted fare increase as the MBTA projects its fare increase will drive away 16.5 million passengers a year. The article goes on to state, "The T's troubles could get worse as state sales tax revenue, which funds a large portion of its budget, continues to decrease."

- It has been economically proven that well managed bus systems can outperform rail systems at a much lower operating costs and provides more flexible travel routes as jobs and housing decentralize to the outer suburbs.

- In order to increase the use of public transportation, state planning and transit agencies often increase roadway congestion to the point of stop and go traffic flow on roads parallel to existing or planned transit lines. This situation often occurs because transportation funds are often diverted to mass transit projects instead of road improvements as in the case of Wellington Circle in Medford.

- Often bus lines are replaced with new transit light rail systems providing a false surge in transit ridership.

- Strict land use regulations that usually accompany Smart Growth policies can cause an even greater disparity in affordable housing. The rise of property values also brings higher property taxes and higher rents, which impacts on moderate to low income populations such as environmental justice populations and the disabled community.

- Projects like the Green line Extension more often than not subsidize growth in urban areas like Boston rather than help develop jobs and sustainable economic growth for suburban areas like Medford.

The question becomes, why should a suburban city like Medford suffer its quality of life and change its very character for the subsidization of Boston and university expansionism? Boston has become known in urban planning studies as a boutique city that, according to noted urban historian Joel Kotkin in his September 25, 2006 article for the New America Foundation called "The Urban Legend," has abandoned its middle and working class for the top-tier business services, art and hip culture. As Mr. Kotkin articulates, "Some boosters explain this depopulation as a sign of a "qualitative" improvement in the population, a kind of genteel version of ethnic cleansing where middle-and working-class families are being replaced by well-educated, affluent, and often childless households."

I-060-034

Medford on the other hand is a city of socio economic diversity with one of the oldest middle class African American communities in the nation. We believe that Smart Growth policies tied to the Green Line extension will not enhance this socio economic diversity, but will actually decrease the quality of life in our community through increased traffic congestion, increased air pollution and that these policies will increase the cost of living in this community upon all its citizens, thereby pushing out the middle and working classes and particularly the disabled and environmental justice populations as will be seen with the Walking Court housing displacement.

As Mr. Kotkin states in his article, "Great cities are about many things, but none more than being a place for a broad spectrum of people to improve their lives and that of their families. Great cities are about real diversity of ages, family types, and incomes, not just agglomerations of the affluent." Therefore, we believe that the EENF study should not go further than the current demarcation of College Avenue and Boston Avenue. Even the proponents of the Green Line extension agree on this consensus.

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I-060-034

Impacts to socioeconomic conditions, environmental justice populations, traffic, air quality, and their associated mitigation measures are discussed in Chapter 5 (Environmental Consequences) of the DEIR/EA.

Exhibit One

----- Original Message -----
From: Ken Krause
To: Bill Wood
Sent: Friday, October 20, 2006 12:08 AM
Subject: Re: Green line meeting and report

Hi Bill,

Yes, as I had intimated, Melissa Bennett said she would not be an appropriate guest on a TV show about this issue, as her company does perform contract work for the MBTA.

Myself or Roberta Cameron from the MGNA group could do it. (Contrary to newspaper reports, I am not the leader of the group, just one member.)

Next week is brutal on my calendar, and the week after not much better, but let's stay in touch and try to find a time that might work.

Thanks,

Ken

11/13/2006

Exhibit Two


The Tufts University Master Plan
TUFTS
UNIVERSITY
FOUNDED
1852
TUFTS UNIVERSITY MASTER PLAN

Visioning Goals of the University

GOAL A: Enhance the "Intellectual Community" on Campus

GOAL B: Increase Interdisciplinary Connections on Campus

GOAL C: "The Research Initiative"

GOAL D: Direct the Physical Evolution of the Campus through an Understanding of its *Patterns of Place*

GOAL E: **Active Citizenship**

Enhance the University's relationship to the community beyond its campus

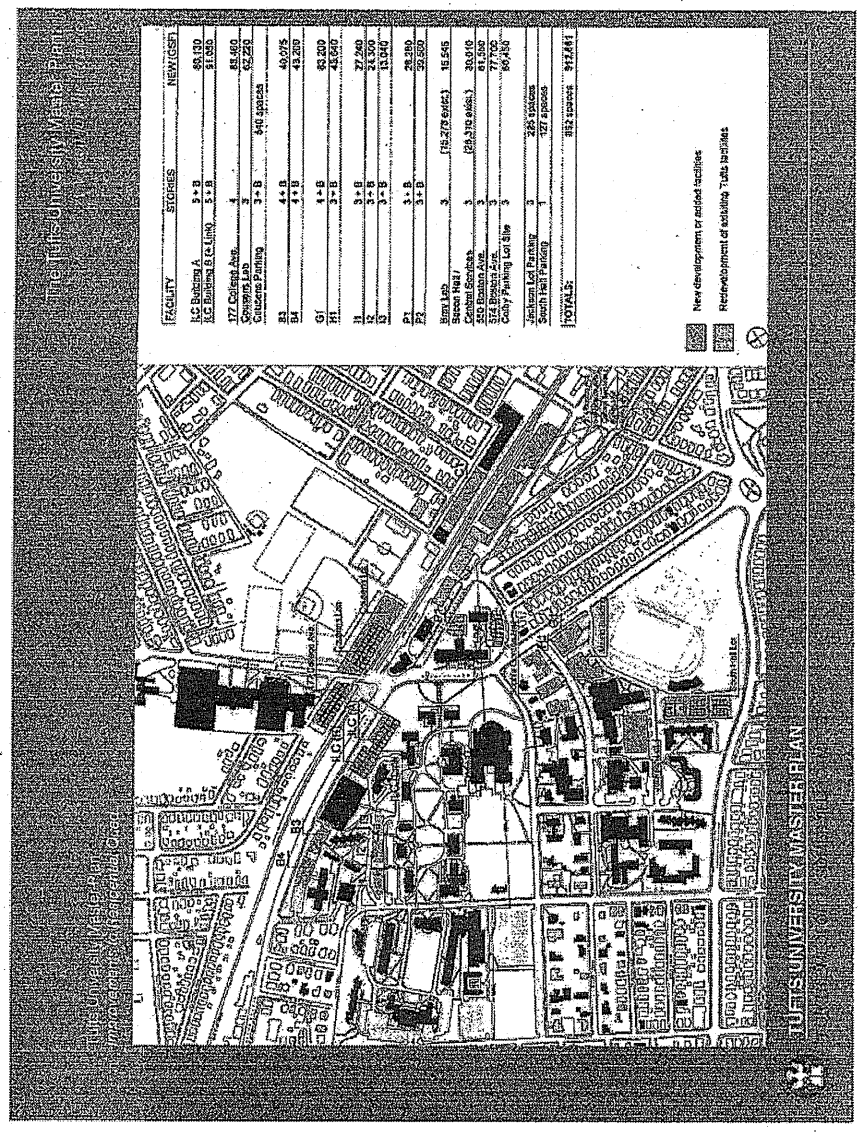
Enhance the University's commitment to the education of effective citizens

GOAL F: **Sustainable Campus Development**

Sustainable design principles should guide the future evolution of the University

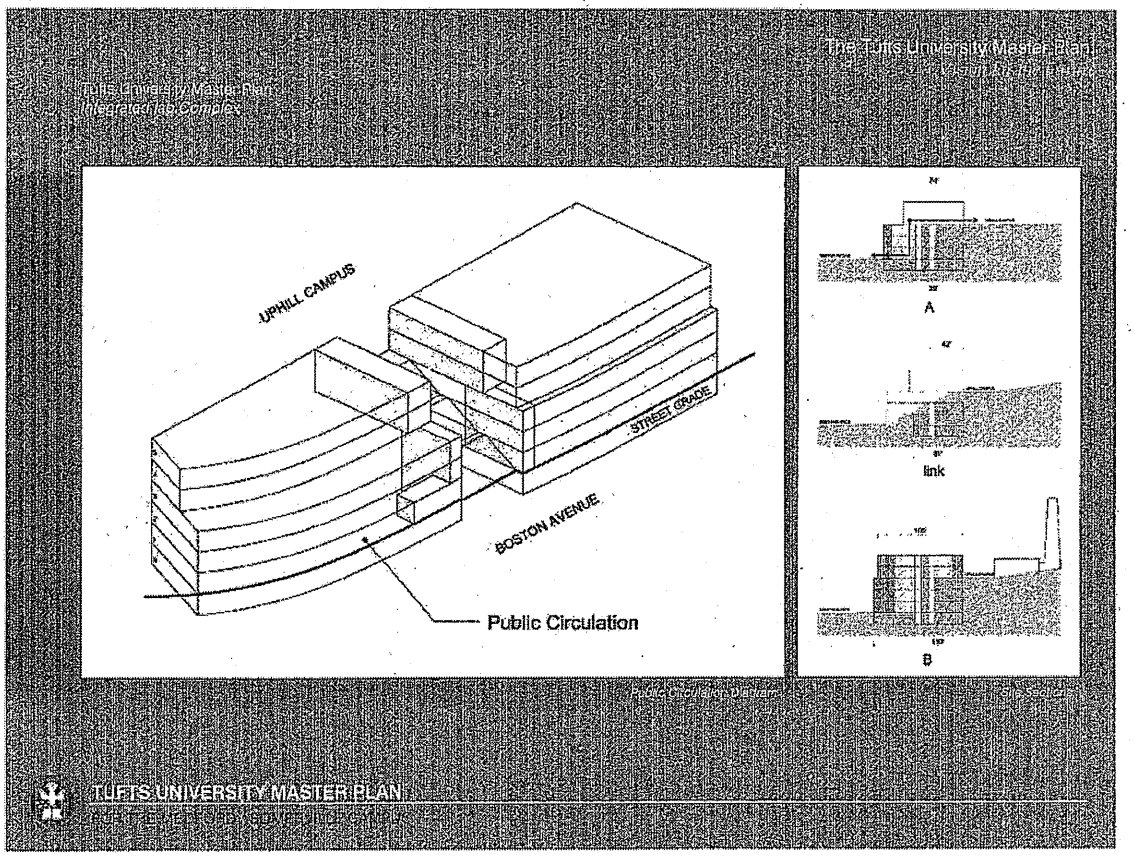
Apply the knowledge and experience of the Tufts community not only in the classroom and laboratory, but in decisions shaping the evolution of the campus

The Tufts University Master Plan
TUFTS UNIVERSITY MASTER PLAN


The Tufts University Master Plan
TUFTS UNIVERSITY MASTER PLAN
FACILITY
STORIES
NEW (GSF)
New development or added facilities
Redevelopment of existing Tufts facilities

Tufts University Master Plan
177 College Ave.
Cousens Lab
Cousens Lot
ILC (A)
ILC (B)
ILC (Link)
TUFTS UNIVERSITY MASTER PLAN

The Tufts University Master Plan
TUFTS UNIVERSITY MASTER PLAN


The Tufts University Master Plan
Tufts University Master Plan
Integrated Hub Complex
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STREET GRADE
BOSTON AVENUE
Public Circulation
A
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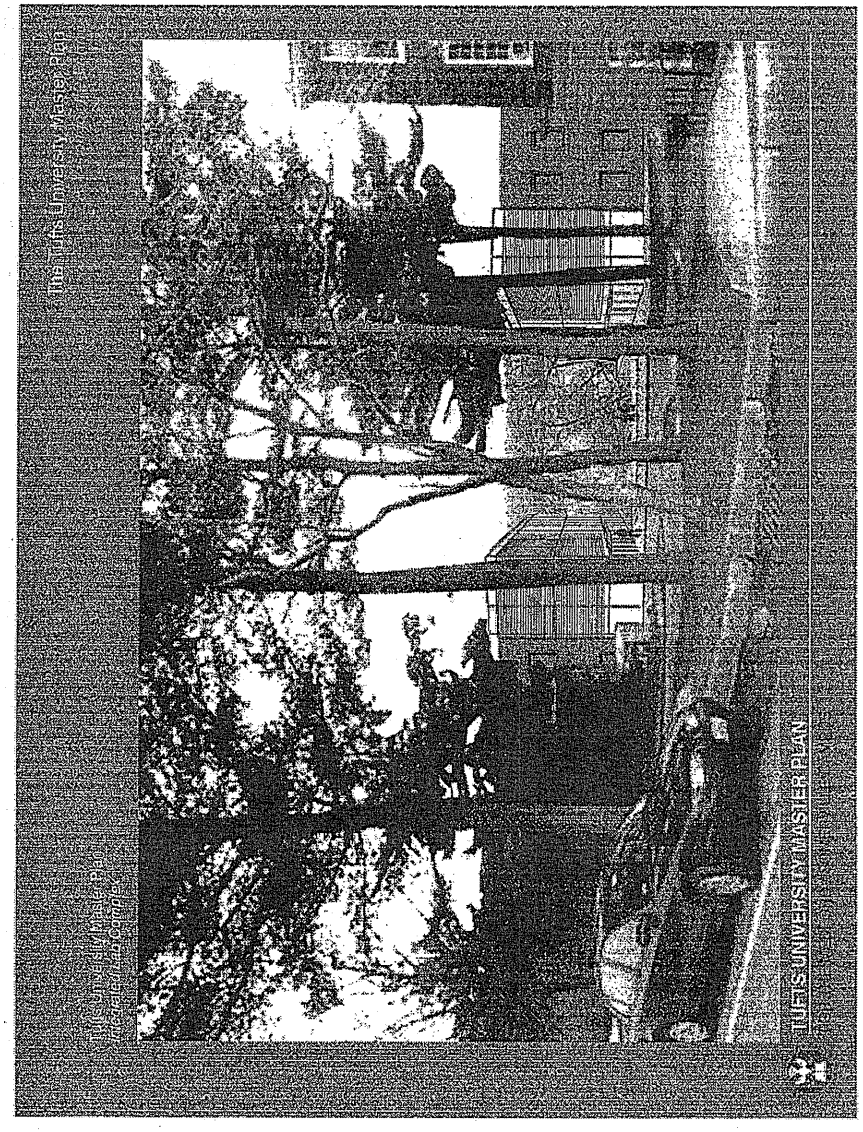
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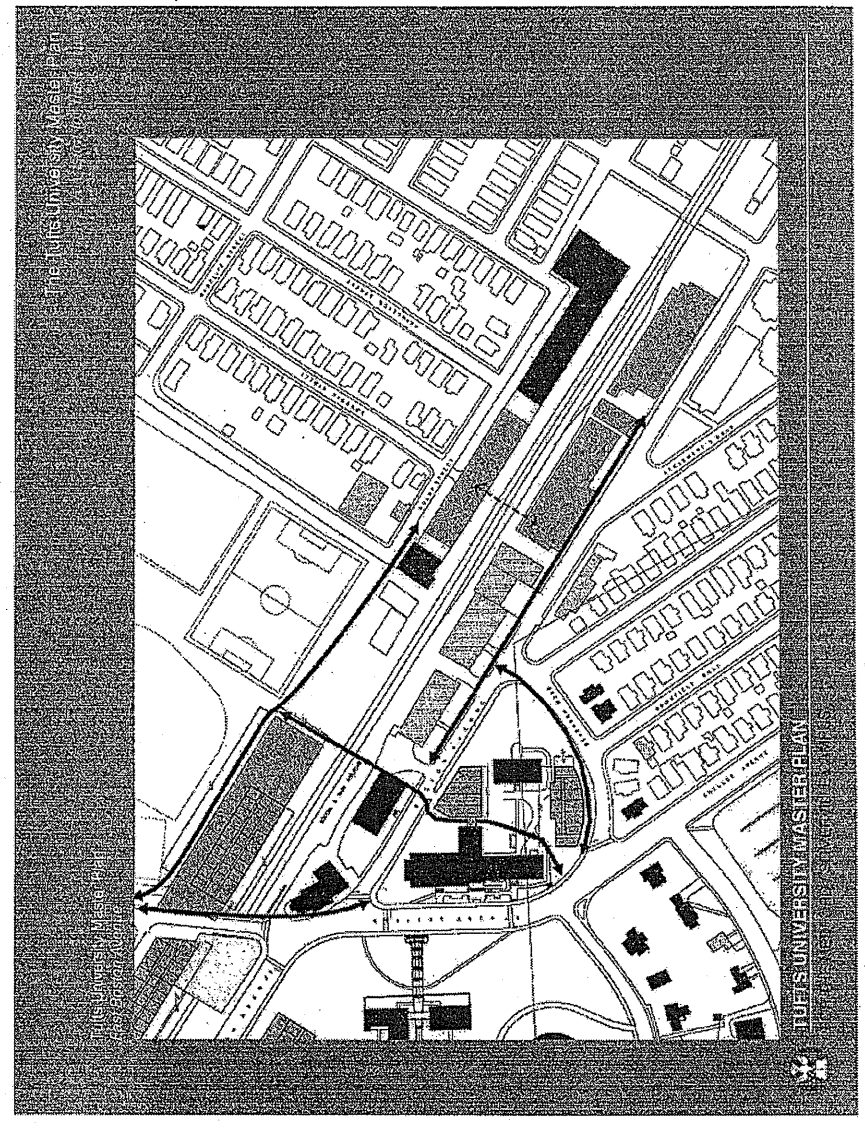
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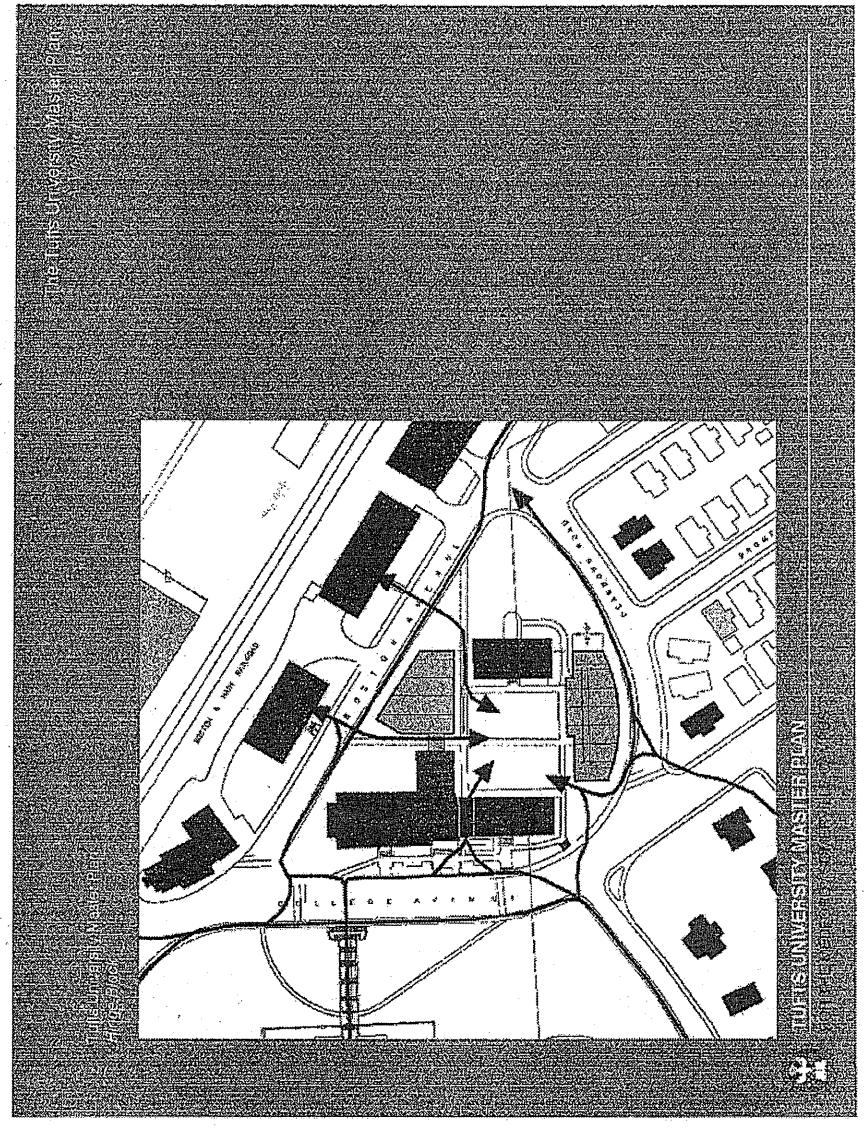
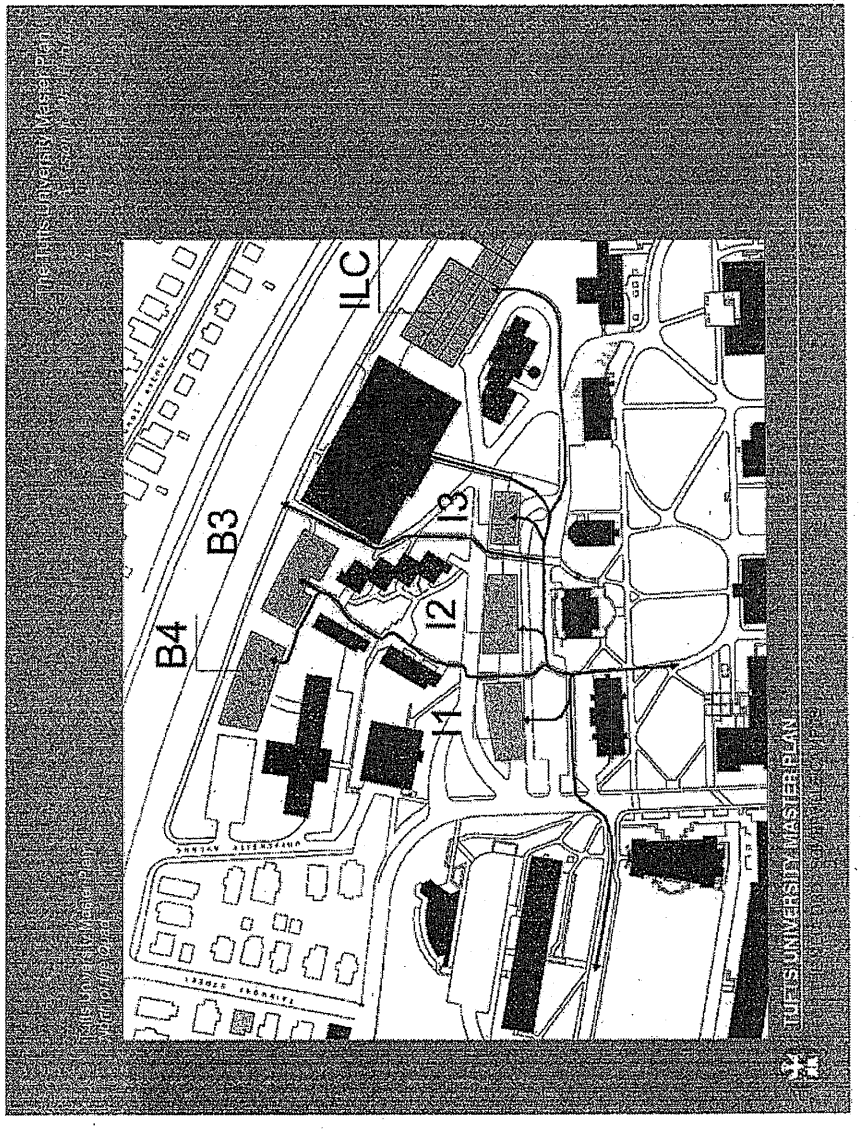
Tufts University Master Plan


Tufts University Master Plan
TUFTS UNIVERSITY MASTER PLAN
COLLEGE AVENUE


ILC
I3
I2
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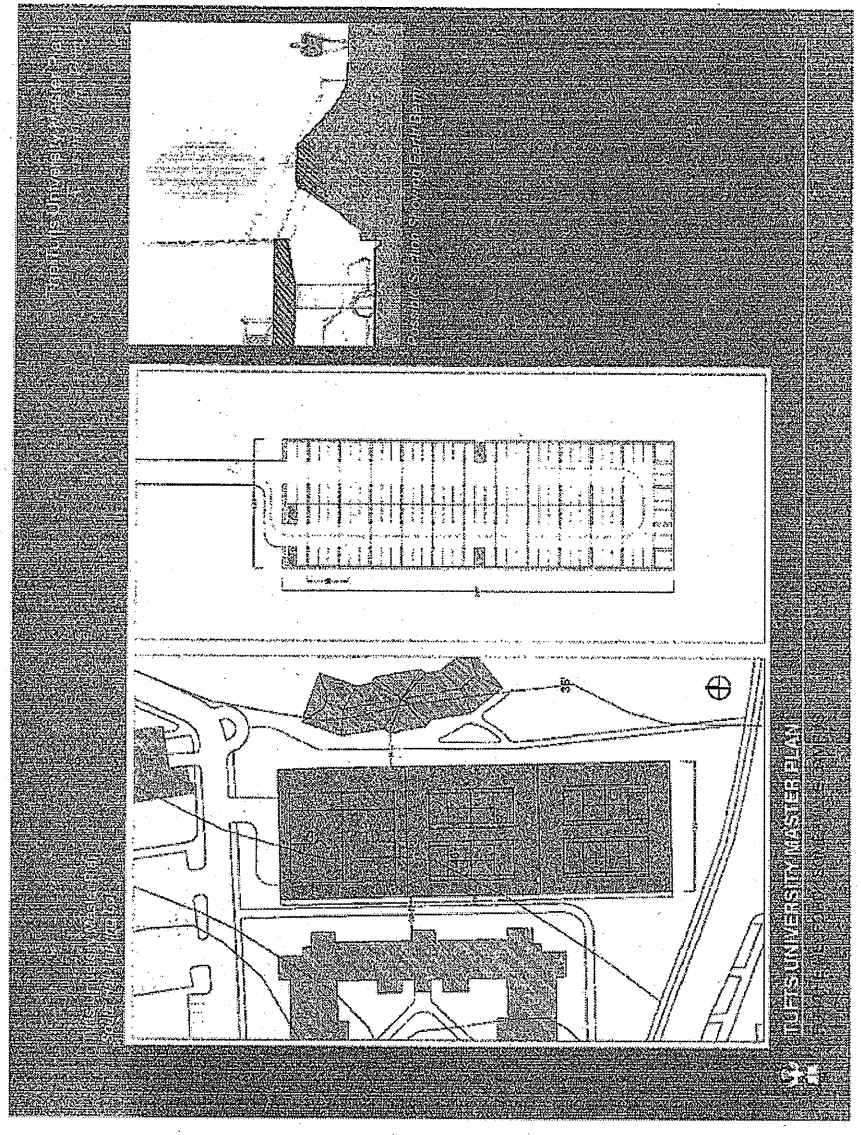
TUFTS UNIVERSITY MASTER PLAN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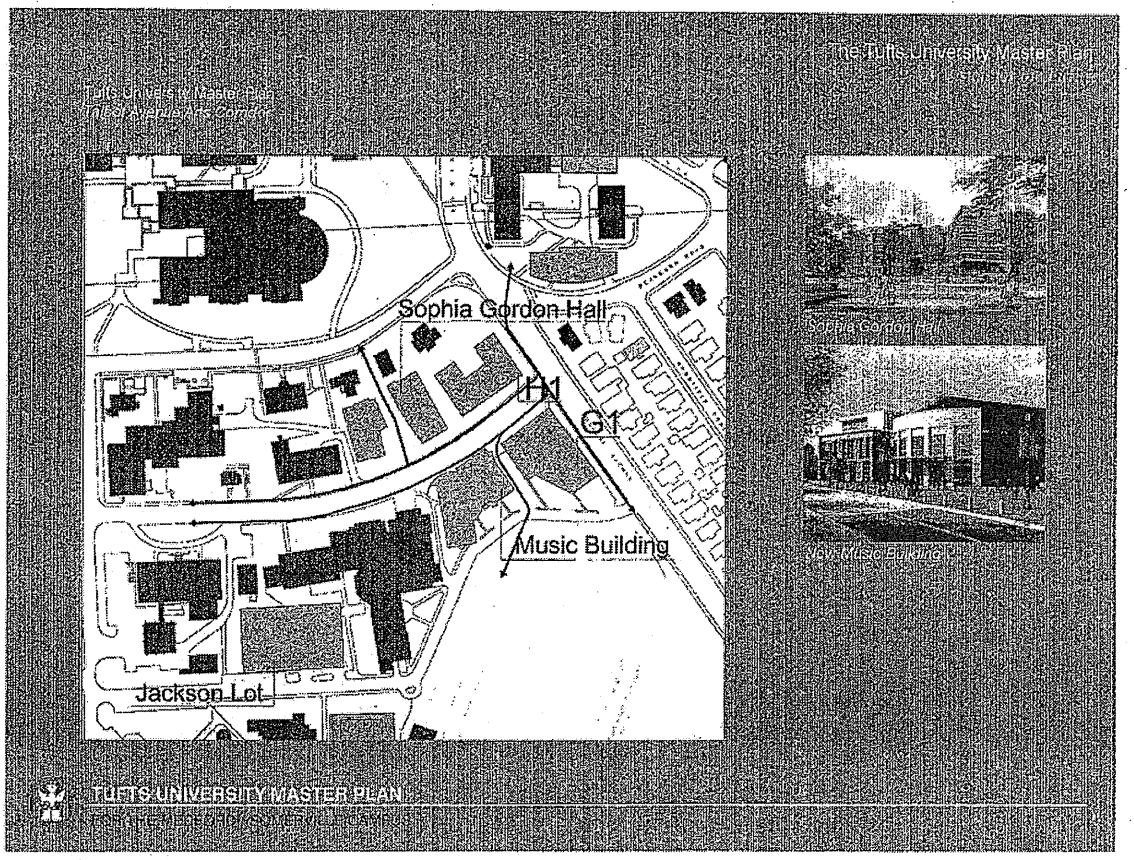
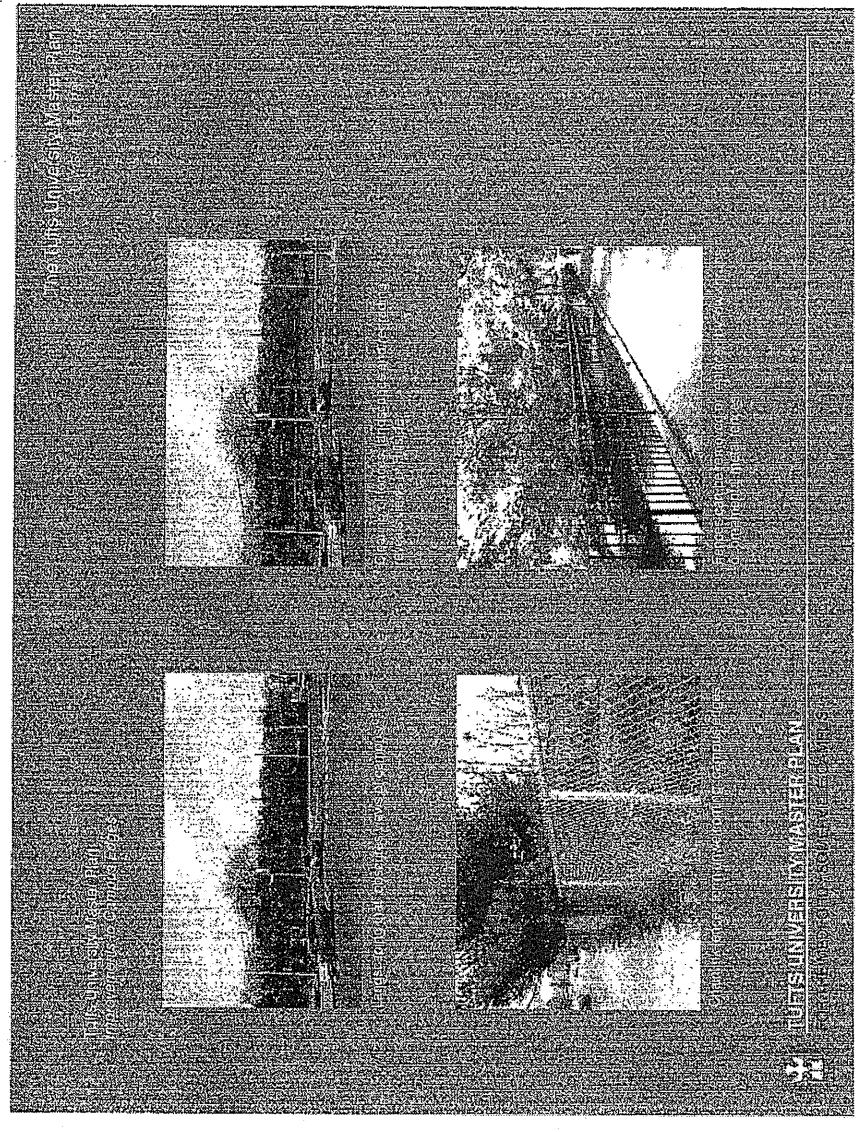

The Tufts University Master Plan
Sophia Gordon Hall
H1
G1
Music Building
Jackson Lot
TUFTS UNIVERSITY MASTER PLAN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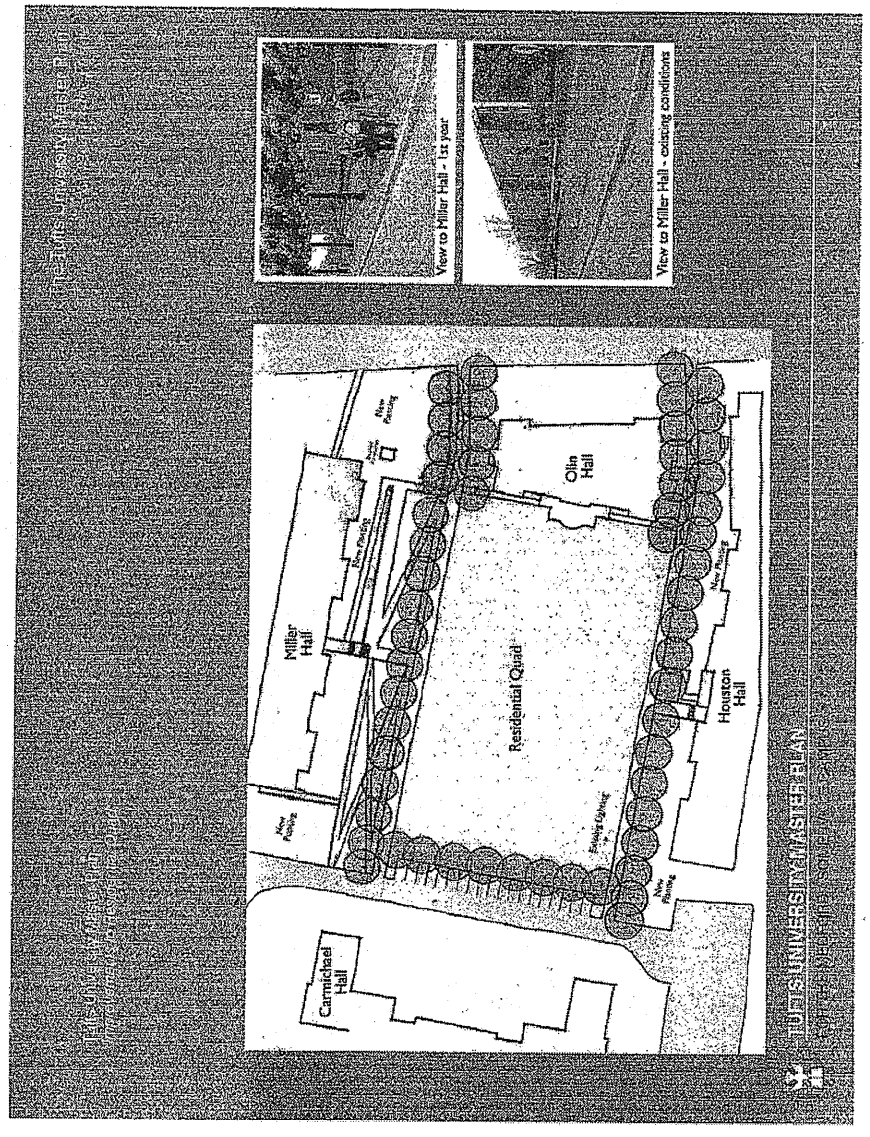
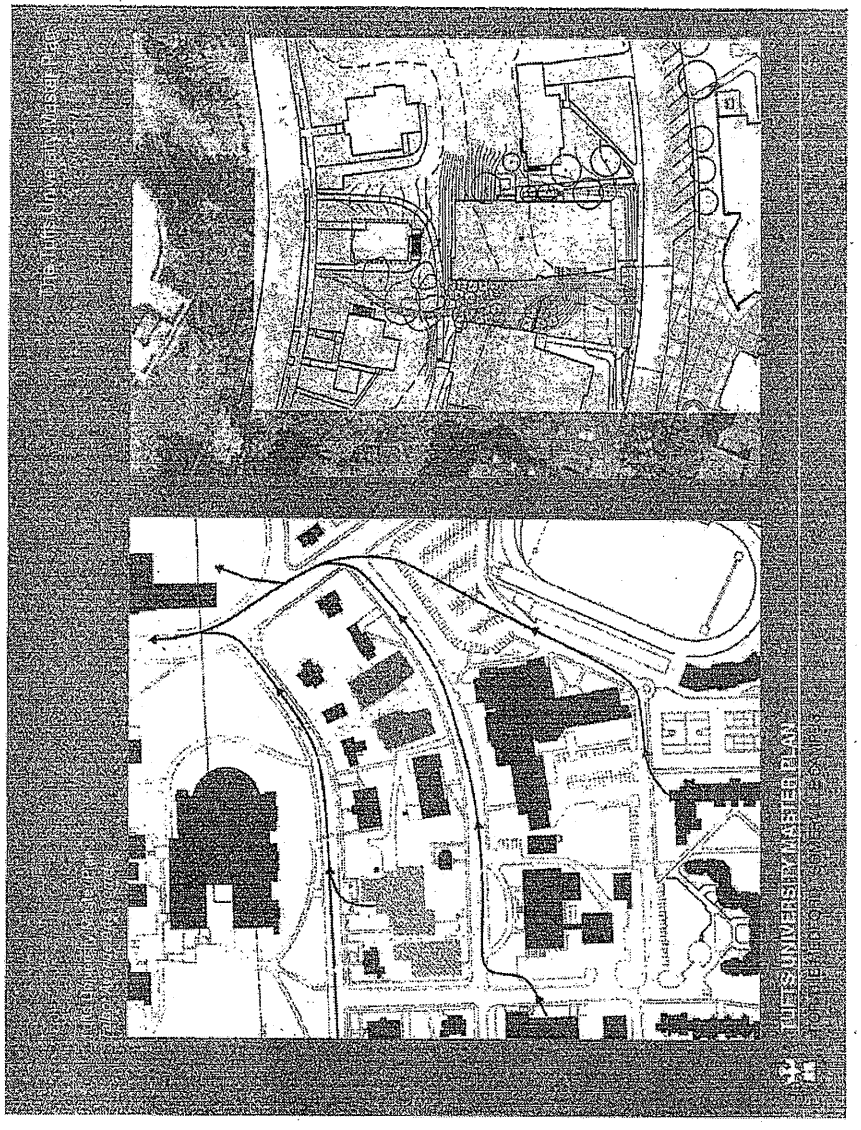
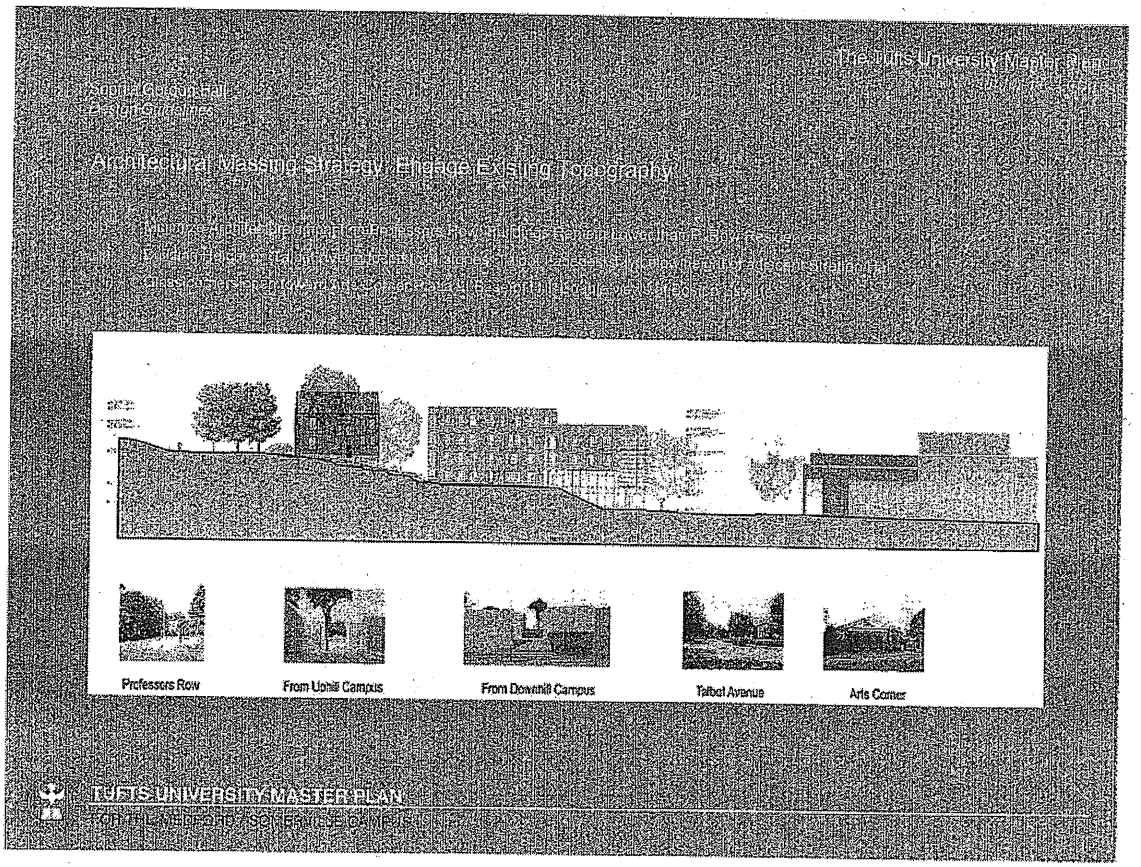
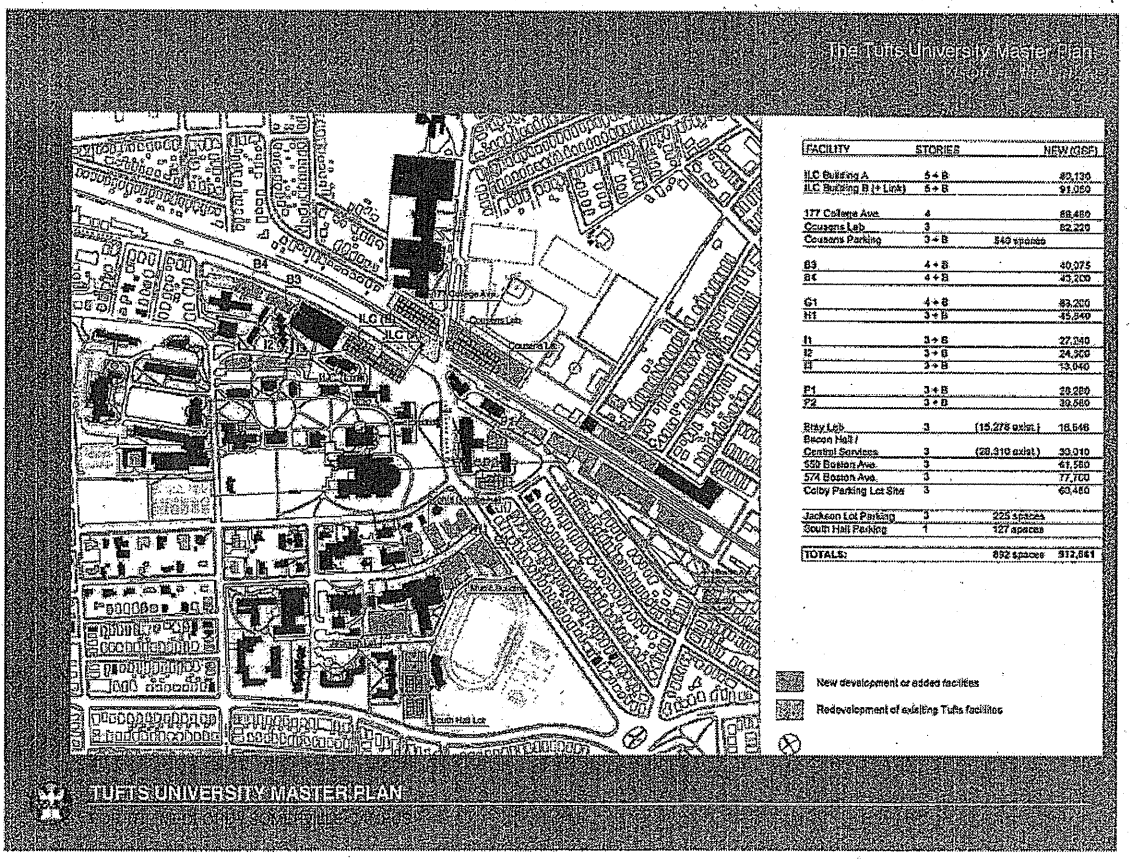

View to Miller Hall - 1st year
View to Miller Hall - existing conditions
Olin Hall
Miller Hall
Residential Quad
Houston Hall
Carmichael Hall
TUFTS UNIVERSITY MASTER PLAN




Tufts University Master Plan
North Campus Hall
Architectural Massing Strategy: Engage Existing Topography
Professors Row
From Uphill Campus
From Downhill Campus
Talbot Avenue
Arts Corner
TUFTS UNIVERSITY MASTER PLAN
NORTH, MIDDLE AND SOUTH HILL CAMPUSES

TWO STOP LU-LA ELEVATOR



FACILITY	STORIES		NEW (GSF)
ILC Building A	6 + B		89,130
ILC Building B (+ Link)	6 + B		91,050
177 College Ave.	4		68,480
Cousens Lab	3		62,220
Cousens Parking	3 + B	540 spaces	
B3	4 + B		40,075
B4	4 + B		43,200
G1	4 + B		89,200
H1	3 + B		45,849
I1	3 + B		27,360
I2	3 + B		24,300
I3	3 + B		13,840
P1	3 + B		29,280
P2	3 + B		39,560
Ritty Lab	3	(15,278 exist.)	16,646
Bacon Hall / Central Services	3	(28,310 exist)	30,010
550 Boston Ave.	3		61,560
574 Boston Ave.	3		77,700
Colby Parking Lot Site	3		60,460
Jackson Lot Parking	3	225 spaces	
South Hall Parking	1	127 spaces	
TOTALS:		892 spaces	912,661

Exhibit Three

ARTS, SCIENCES AND ENGINEERING
FACULTY MEETING
COOLIDGE ROOM, BALLOU HALL
WEDNESDAY, OCTOBER 19, 2005

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School of Arts and Sciences.....2

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COLLEGE OF SPECIAL STUDIES – VOTE DEGREES

DEAN DUNN: I'd like to call to order a meeting of the College of Special Studies. I hope you've all picked up the degree sheet lists in the front. Members of the faculty, I have the honor to present these candidates from the College of Special Studies for the degrees of bachelor of fine arts. I'm happy to certify the completion of the programs in which they have been enrolled or met or will meet the stated requirements of the faculty. I would therefore move that this faculty recommend that these candidates be forwarded to the board of trustees for award of the degrees in November 2005, subject to the usual conditions. There are 15 bachelor of fine arts candidates. Second? All in favor? Opposed? Abstained? Adjourned.

PRESIDENT BACOW: Linda, do you have November degrees to read and vote on?

SCHOOL OF ENGINEERING – VOTE DEGREES

DEAN ABRIOLA: Members of the faculty, I have the honor to present these candidates from the School of Engineering for the degrees of master of engineering, 1; master of

science, 5; master of engineering management, 4; master of science and engineering management, 4; and doctor of philosophy, 1. I am happy to certify that the completion of the programs in which they have been enrolled has met or will meet the stated requirements of this faculty. I would therefore move that this faculty recommend to the faculty of Arts, Sciences and Engineering that these candidates be recommended to the board of trustees for award of the degrees effective November 2005, subject to the usual conditions. All in favor? Opposed? Abstentions? Thank you.

GRADUATE SCHOOL OF ARTS & SCIENCES – VOTE DEGREES

DEAN DUNN: I'm going to be Robin for the purposes of this brief matter of business. Members of the faculty, I have the honor to present these candidates from the Graduate School of Arts and Sciences for the degrees as follows: 7 masters of arts, 1 master of arts in teaching, 4 master of science, 3 doctor of philosophy. Fifteen total degrees for candidates in November 2005. I'm happy to certify the completion of the programs in which they have been enrolled have met or will meet the stated requirements of the faculty. I would therefore move that this faculty recommend to the faculty of Arts and Sciences that these candidates be recommended to the board of trustees for award of the degrees effective November 2005, subject to the usual conditions.

I have been asked to give one point of information, which is that this number is very low because we've been successful in getting more people to take their degrees in September. So if that struck anybody, that's why.

All in favor? Opposed? Abstained? Thank you.

ARTS, SCIENCES & ENGINEERING– VOTE DEGREES

DEAN GLASER: On behalf of the Deans of the colleges of Liberal Arts and Jackson, the School of Engineering, and the Graduate School of Arts and Sciences, I move to recommend that the Trustees of Tufts College that the degrees be granted in November 2005 to students who have completed the degree requirements subject to the usual conditions. The total number of degrees to be recommended is 50. Of those, 24 are bachelor degrees, 22 are masters degrees and certificates of advanced study, and 4 are PhD degrees.

The number of undergraduate degrees are as follows: 10 in the College of Liberal Arts, 11 in Jackson College of Women, and 3 in the School of Engineering. The number of graduate degrees are as follows: 7 masters of arts, 1 master of arts and teaching, and 1 master of engineering, 9 masters of engineering, 4 masters of science and engineering management, 4 doctors of philosophy -- 3 in GSAS and 1 in engineering. All in favor? Thank you.

ANNOUNCEMENTS

PRESIDENT BACOW: Thank you very much. I will now officially call the meeting to order, and the first order of business are announcements. Professor Hitchner.

PROF. HITCHNER: Thank you, President Bacow. Two years ago, we received Mellon fellowships for the next four years for post-docs in the humanities. These fellowships are quite unique among the Andrew Mellon fellowships grant, which you may know about from other institutions, in that they offer collaborative research in the humanities.

We now have four Mellon fellows on campus: Raquel Rivera, who works with Deborah Pacini-Hernandez in Sociology, and Michael Thomas in Classics, Deborah Lewitts, who works in Art History, and Richard Griffin working with Dan Dennett in Philosophy.

I'm here to announce that I would like to encourage faculty in the humanities to suggest to the Mellon committee -- and I'm the chair of the committee -- potential candidates for the Mellon post-doc, people who may like to work with collaborative projects. You know, this is an interesting situation, because in some ways, we're not interested in having in-house people, or recent PhDs from Tufts. We're really interested in attracting people from other institutions who are doing comparative work that is similar to your own that you might like to collaborate with.

We're asking if you have names of people that you encourage them to apply to the program. The deadline for the applications this year is January 3, 2006. We will appoint two next year. We'll have at all times four fellows on campus. The responsibilities of the fellows are basically to do two things: to undertake the collaborative work with their colleagues here at Tufts and to continue their own research. They teach three courses starting in the spring semester of their first year, one course each semester. They don't teach in the fall.

One of the key aspects of this is that they actually are slotted into a department as part of this process. We are not asking people that the candidates necessarily teach courses that are on the books as much as the opportunity to teach new courses either in collaboration or on their own as part of this process.

I explained a lot in a very short time, but I encourage you, if you have any questions about it, now or later, you can write to me at my e-mail, and I'll be happy to answer any questions. We encourage you to, if you know people elsewhere in this country, for post-docs, recent post-docs that would like to come and work with us to contact us, to encourage them to apply to the program. Any questions?

PROF. HIRATA: Do you provide an office space?

PROF. HITCHNER: That's an interesting challenge. The reality is that we now have office space with the new library, and that's a process that we will continue to explore and try to sort out as we go forward in the process. Thank you very much.

PRESIDENT BACOW: Thanks, Bruce. I've been asked to make a couple of announcements on behalf of other people who could not be here. Boris Hasselblatt asked me to announce this year's Norbert Weiner lectures, which will be given by Professor Nick Trefethen, who is a fellow of the Royal Society and a Professor in numerical analysis at Oxford. On Tuesday, October 25 at 6 p.m. at Pearson, he will give a lecture called Confessions of a Number Cruncher. Some of us could give that lecture, at least used to be able to. There will be a reception preceding the lecture at 5:15 in the Remis Sculpture Court. I would encourage all to attend, and I think there are some posters like this that are going around.

He'll also present in the Numerical Analysis Seminar on Wednesday, October 26 at 4 p.m. in Anderson the Trapezoidal Rule, Rational Functions, Approximation in Functions of Matrices. The Mathematics Colloquium on Friday, October 28 at 4 p.m., Paige Hall in the Crane Room, each case with refreshments preceding, Polynomial Interpolation and the Chebfun System in MatLab. Also in the Mechanical Engineering Department, a lecture entitled Computer Eigenmodes of Planar Regions, on Thursday, October 27 at 3 p.m., also in Anderson.

PROF. MANNO: Larry, I might mention for those of you who remember Lloyd Trefethen, this is his son Nick. These are incredibly entertaining speakers and topics.

PRESIDENT BACOW: I've also been asked to make an announcement on behalf of the Leonard Carmichael Society. Our enterprising students have organized a group of students to go down to Mississippi the week following New Year's to help in a variety of efforts both to rebuild housing and also to arrange distribution systems for food supplies and other things. They're going to be chartering buses, and they're looking for faculty who are interested and willing to go with them.

We have provided contact information, which Cathy has for you. We will leave it by the door if you're interested, both a website to get more information as well as contact information for our students.

I would just like to thank the faculty and everybody else who participated in Parents Weekend. We had an extraordinary turnout this past weekend, which was logistically challenging, because we combined homecoming with Parents Weekend. We did so with a big construction site, which made sort of getting around campus a little bit more challenging for some people. We had approximately 6,000 people visiting our campus, made even more interesting by the arrival of the monsoon.

You know, I spent a lot of time talking to lots of people and had not a single complaint from a parent about anything, either about the weekend or their son's or daughter's experiences at Tufts. I must have had contact with at least 500 or 600 parents in one form or another over the course of the weekend. I think it speaks to the quality of the work done by our faculty, the quality of the work done by our staff, by the dean's office, by the conference bureau, by everybody.

You know, at the beginning of the year, there was a lot of concern over this is a larger than usual first year class. Our yield rate was up, and forced triples, but not a single word about that from anybody over the course of the weekend. I know Jim Glaser, Bruce Reitman, Paul Stanton. and Jo-Ann Smith and the Conference Bureau. and I know I'm forgetting somebody who's probably in the room to acknowledge, in addition to all the faculty, worked very hard to make this happen. It went marvelously.

Also, the library. By the way, if you haven't seen the exhibit, the Lincoln exhibit in library, you've got to go. It's a great exhibit. Thank you very much, Joanne.

The whole weekend was organized around two things. The first was Tufts and its relationship to its communities, both locally and in the world, and Molly Mead gave a great presentation at the convocation. The faculty presentations were organized around that. The second thing was organized around the Lincoln exhibit at the library, it had a Lincoln theme. The concert on Saturday night was fabulous. Our students are always terrific, and the faculty who conducted them were superb'. Jim, do you want to say anything about the weekend, or Bruce, either one of you? I know you guys played a major role in making this happen.

DEAN GLASER: I'd just say that Jesse Papatalekis comes to me and says can you suggest some names of faculty to participate. The parents eat up the sessions that you give, and we called on about a dozen faculty to give presentations. It just makes such a big difference, because the parents and students have such enthusiasm, so thank you.

PRESIDENT BACOW: Bruce, anything?

DEAN REITMAN: He said it. Thank you.

PRESIDENT BACOW: Paul Stanton, Paul Tringale, anything?

DIRECTOR STANTON: Get to the exhibit over at the library. Don't miss the reception. Joanne picks the best food.

MS. MICHALAK: I just want to mention that there is a lecture this afternoon. Gerry Gill is giving a speech as well as someone from B.C. and Mass. Historical Society. It's on Lincoln's presidency. It's in Pearson 104.

PRESIDENT BACOW: Great. So again, everybody who participated, thank you very much. These things are really important for us. Sometimes university presidents are accused of only caring about fundraising. and sometimes that's true. But it's also true that the parents fund increased last year from year to year by over 100 percent. We doubled the amount of money this past year. We raised something like $1.7 million.

PRESIDENT BACOW: This money goes directly to support activities in Arts, Sciences and Engineering. It's unrestricted money. It really provides budgetary sort of relief for

everything. We get happy parents, and they go home and they write even bigger checks on top of the ones that they send us for tuition. So thanks to everybody.

PROF. TRINGALE: Just a reminder that course proposals for summer school are due next Friday to the chairs. We already have quite a few that came in, and they'll be reviewed starting on Friday at a Summer Session Faculty Committee. So if you have any questions, I'll leave some flyers on the side.

MASTER PLAN UPDATE
(NOTE: this entire presentation is available online at http://ase.tufts.edu/faculty-meetings/2005-2006/ase/10-19-05/master-plan.pdf)

PRESIDENT BACOW: Any other announcements that people have? The principal activity today is an update on the Master Plan and the progress that's been made to date, both on the plan and on implementation of the plan, which many of you can see by all the steel moving around campus and other things that are going on at the moment.

This is the third presentation that I think our friends from Rawn Associates -- no, I think actually we did a first one, then we had the models here, right? This is the third time that we've presented to the faculty as a whole to update people on it. Doug Johnston, from Rawn Associates, is going to do it.

MR. JOHNSTON: First of all, thank you very much for the opportunity to give people a sense of where the Master Plan has come in the last year since I stood in about the same place talking about some of the initial goals and ideas that came up in the discussions of the Master Plan.

I'm going to digress a little bit into a few of those goals, in part because we've added a few new ones. For those of you who remember, we started off talking about the importance of master plans being based in ideas so that they not just be simple accounting and checklists of spaces needed and solutions for that, but that they really have a grounding in the values and the culture of a specific institution.

So after a series of discussions in the course of the year about some of those goals, we expanded the list a little bit. We've also started specific building programs, several of the pieces that had been identified early on in the Master Plan. Already, even before the completion -- if a master plan is ever complete -- before the completion of the master plan, we've actually got projects that already respond to those ideas.

Let me start by for the benefit for those of you who might not have been a part of those earlier discussions, talk about a few of the early goals that were identified by the committee and the group that were developing the Master Plan. The first was to enhance the intellectual community on the campus. Clearly, there's a lot of energy and ideas here. We need to develop spaces and physical opportunities for the exchange of that intellectual capital on the campus.

Second was to increase interdisciplinary connections on the campus. The ideal of the university setting is you've got all these great ideas, you've got all these great people and the more the Master Plan can foster ways to make those ideas and those people connect and collide, the better.

The third goal was to support the research initiative, the recognition that Tufts is in fact a model that has an extraordinary competitive advantage in that it is an institution that fosters research opportunities for both undergraduates and graduates.

And the fourth goal, quickly, was true last year and remains in the plan, is to direct the physical evolution of the campus, planning for new facilities, open spaces, and the like through an understanding of what we as architects call its patterns of place. Those fundamental characteristics of the campus, its topography, its buildings, its sense of identity within the broader community context, and let those recognitions of how the campus has evolved over time influence how it gets developed in the future.

Now, two new goals, or two new ideas that didn't come up, again, through input and involvement through a lot of discourse, not just with the faculty, but with the broader Tufts community. One was the recognition of active citizenship as a goal for the university and as a goal for the Master Plan, and a recognition that Tufts has a responsibility to kind of enhance and improve the world beyond its campus, and to enhance the university's commitment to the education of effective citizens.

Now, that's kind of difficult to understand how what might be fostered by a master plan. But if you think about the ways that the campus edges, the way that the master plan can actually influence or facilitate students, faculty and the like interacting with the community around them and the like, it's a powerful idea for planning of a campus.

And clearly, if you look at Tufts' commitment to this idea, at the broadest level, President Bacow wrote in last Sunday's Globe about the university's commitment in leading a kind of international sense of commitment to citizenship and social responsibility that we really think is a powerful force potentially for the master plan.

And the second goal that had been added, so it becomes a new goal for the Master Plan, was to recognize Tufts' leadership in sustainable campus development. For many of you, you already know Tufts is recognized as an international leadership in environmental responsibility and sustainability. And so it's now infused deeply in the language and the ideas of the Master Plan that sustainable design principles should guide future growth and evolution of the university and apply that knowledge, quite frankly, and experience of the Tufts community to making that an active part of the future planning of the university.

We did then establish a set of physical planning initiatives that I'm going to go through very, very quickly, because they haven't changed a whole lot, but again, just to refresh people's memories and also to help those who have not heard this previously. The first initiative is to identify potential building sites for future development. That doesn't mean we're designing the buildings. That simply means look at the broad campus, figure

out where buildings might take place, and where new open spaces might be developed as well, not just buildings.

The second one was to focus on what we call our centers of gravity, those places that already have great strength, either strength of gathering or strength of quality of place on the campus, those places where people naturally are already drawn to, and focus on those as opportunities for improvements.

The third initiative was to improve ways of traversing the hill. The hill is everywhere in the culture of this university, of this campus. New projects and the master plan need to look at ways of increasing those uphill/downhill connections and enhancing the experience of traversing the hill.

The next initiative was maintain the scale of buildings on the campus when possible. That means that oftentimes when campuses err with new construction, it's usually to build buildings that are out scaled to the nature of the campus. So we want to be very careful even as buildings get bigger, programs that bigger -- we have a fixed quantity of land here at Tufts. We do feel like we've got plenty of opportunity for growth physically, but we want to maintain the general scale and the sense of quality of the buildings.

The next initiative was to develop a cohesive landscape. Cohesive is probably too broad a term, but it was to look at the landscape element as being one of the defining elements of quality of the campus, and to find ways that maybe landscape combines with this idea of improving ways of traversing the hill, so some of these initiatives start to overlap in terms of creating opportunities.

The next was to improve the sense of arrival on campus. Tufts does have a physical identity problem within the broader community, so we've started to look at ways through signage, through several ideas of campus edges, creating gateways and the like, we can improve the sense of arrival.

The next was to identify sites and potential organization for the integrated lab complex that even a year and a half ago, that had been identified as a primary building opportunity, as a primary priority for the campus. So you'll see in a moment some of the detail that we've gone into in studies for that integrated lab complex and a proposed site for that.

The next initiative was -- and I'm sorry that I'm talking so quickly, but if I don't get through this section, then we won't get to some of the specific projects -- recognize the importance of Professor's Row. It was a fundamental sort of character-defining quality of the campus early in its history. We think it still has a place going forward.

The next initiative was enhancing connections to Davis Square. This is directly related to that sense of citizenship, sense of connection to a broader world beyond the campus borders.

The next initiative was developing strategies for the air rights. Over the commuter rail tracks, there's a huge amount of land immediately adjacent, or quite frankly, running right through the heart of your campus. We should be exploring ways that that might be incorporated for university and broader kinds of needs.

And the next was to analyze the impact of the potential Green Line extension, and there are perhaps other people in this room that are even more up-to-date than I am on what the specific planning is around that. But you have I'm sure an awareness there has been a great deal of talk about extending the Green Line out through Somerville and to the campus.

So now to show what the plan generated initially in terms of kind of ideas for new building, of that initiative of looking for opportunities on the campus for building. The first sense was that maybe the campus was landlocked and that we didn't have a lot of capacity. But we actually demonstrated without a lot of kind of tortured fitting in that we in fact could develop new areas on campus that would create the opportunity for creating almost a million new square feet of space on the campus. Now, that would be an enormous undertaking for the university at this point to think of building a million square feet. 970-some-odd-thousand was the capacity that we kind of identified, and we identified that in several areas.

One was the entire stretch of the Boston Avenue corridor, which for years really has not been an identity-defining sector of the campus. But we think that with careful development of pieces particularly around the Boston Avenue and the College intersection that that stretch of Boston Avenue, both east and west, could become a future kind of growth corridor for the university.

The next was an area directly to the north of the historic quad area, an area of surface parking lot that's currently underutilized, inefficient kinds of uses there that it could be new buildings. The next was the whole area near the intersection of Talbot Avenue and College Avenue. In fact, two of the four sites that were identified in that part of the campus have already started building projects on. So in a short period of time, the master plan identified those as sites, and they quickly became construction sites. Then there was another opportunity behind Aidekman and Cohen, an opportunity to expand parking in that area, and a third opportunity here to expand parking below the South Hall, below the athletic courts of South Hall, that is now underway as well.

So specifically, a couple of ideas in development of, again, at a master plan level a few of these notions. One was to look at the intersection of College and Boston. Just to orient people, this is Boston Avenue coming through here and College Avenue running north and south. One idea would be to take some of the air rights, and to take air rights above the tracks there and create a major new urban kind of open space, a plaza, if you will, a simple deck that would start to unite several buildings around this intersection including Curtis Hall around a place that right now is simply a traffic problem, but could become a real place sometime in the future.

Around that would be the new ILC to the south, and two new buildings. One would be an academic building north of the plaza, along the tracks, and then this building, which would be a combination much like Dowling is, a parking structure below parallel to the tracks, and then additional building space, probably academic space above that.

The idea was to build that parking structure parallel to the tracks here to replace parking that is currently in the Cousins lot right along College Avenue here so that, in fact, rather than having parking as your image and sort of at the front door of this gateway to the campus, move that parking deeper into the tracks, use the natural grade of the hill there to camouflage or to -- not camouflage, but to put parking where it would be less obtrusive than right out on the street in front of one of your gateways.

Now, the ILC, all the images that I'm going to share of the ILC, be aware that this is at a master plan level. And at the same time that we were developing the Master Plan, there's a specific programming study and feasibility study being done by another architectural group that is getting much more detailed in terms of what can actually be achieved on this site, what can fit, how it might be organized, and so on. So this is not the first view of the ILC, what it's going to be. This is at a master planning level, what we think some ideas might be that could be incorporated into that building. The end building may be quite different from this.

So the first thought was at a kind of campus planning level that the building wanted to have a strong relationship to Boston Avenue, and yet it didn't want to consume the entire corner there. That corner, the views up to historic buildings of the campus was quite important to us. So one idea was to break the building's massing in a way that it bends, or it kind of inflected towards the hill so that in a subtle way, one could still see the green, that sense of lawn rising up to the historic buildings on the campus in a way that preserve that view on it.

The second was -- and by breaking the building, and this doesn't necessary mean that the middle has to be open, but by introducing some sort of circulation through the mid part of the building, you're increasing the opportunities for connections from the uphill to the downhill part of the campus; the idea that people would be moving through this building in a way that doesn't happen currently, except in the elevators of Dowling along that edge.

So going back to one of the master plan initiatives, ideas of increasing ways of uphill/ downhill connections. Maybe this building can be one of the solutions at the (inaudible) edge of campus of creating better lengths uphill and downhill.

This is simply a rendering that we quickly did to show the big building on that site -- I apologize for those in the back that are having a hard time seeing. The idea that even if you put a big building there, if it's done with some sort of sensitivity to the scale of the existing buildings and so on, from the view from the top of the hill, it doesn't need to be

an imposing kind of massive structure, and in fact, can preserve some views out to the surrounding hills.

Now, the next specific area that I wanted to show ideas of developing of was this idea of the East Boston corridor here. Whether it's through renovated buildings or new buildings, this is potentially a new building west of the SciTech Center. These are the footprints of some existing buildings. These could be new buildings, (inaudible) in fact demonstrate that there are better uses that won't fit in the existing buildings. But the important thing are these red arrows, this idea of connecting both at the northern edge of the tracks and along Boston Avenue to really make those buildings and make that part of campus an integral part of the broader campus, and then finding ways to connect back either through what we're calling the hinge block here behind Anderson, connecting back through there to create again a sense that this is not the outer frontier, that this is an integral part of the campus.

Specifically looking at that hinge block, you can see that even by adding several pieces of new building to that particular section of the campus, we can create both new quad kinds of spaces, new spaces of quality, and better senses of connection both through Anderson Hall, through open areas, etc., to future development along Boston Avenue. So that block becomes actually a critically important part of the campus's future, and the planning of that block really has to take into account the idea of people moving through it towards Boston Avenue in the future.

PRESIDENT BACOW: Doug, can you stop for a second. I want to emphasize, as you look at all of these plans, remember the task which we gave the master planners initially was to test to see how much additional building capacity we had on campus, given the existing land which we controlled, while preserving those parts of the campus which we knew were special: the lawn, the quad, things like that.

Please don't anticipate that we're going to build all these buildings in the next two years. We're trying to swallow and consume the construction that we have on campus, as well as to pay for it. But these plans guide us going forward as we think about sort of smaller decisions which we make so that we don't lock up certain things and so that we know the direction that we want to go as we think about things in the future.

I notice people sort of looking around and nodding and sort of saying yeah, that would be nice for my department. All in due course. All in due course. Again, just to put things in context, we are moving forward with the programming for the integrated lab complex, and there's a lot of hard work that people are doing from both Engineering as well as Arts and Sciences and thinking about what goes in. But the construction in that building is still well out in the future, because we've got to both figure out what can go on the site, and then we have to go out and raise the money to build the thing, and then we actually have to build it. At best, that's a five-year process from programming to design to construction to occupancy. I just want to temper expectations a little bit so that people don't go back to their office and start putting stuff in boxes anticipating that you're going to move tomorrow.

MR. JOHNSTON: Dorms are much, much easier on that regard in terms of the speed with which one can move.

The next sector of campus was this idea of the north of the quad. Again, these are non-program-specific kind of blocks, if you will, on the plan. But the idea is that they would be permeable enough that these sort of patterns of moving uphill and downhill on the campus would be retained. We wouldn't want to create a singular kind of block of building in that part of the campus, because there is a strong movement both to potential future buildings along Boston Avenue, but even to the existing residents hall along that.

Now I'm going to move specifically to a few of the real projects that are already in the works that have come about from the master planning effort. There was a lot of focus, and I'm not going to get into the details of parking numbers all over the campus, but suffice to say a good chunk of the master plan is a section regarding parking and anticipating future parking needs and so on.

One of the realizations was where we have a shortfall of parking, particularly taking the Cohen lot, a portion of the Cohen lot and the new music building was on the southern edge of the campus. And the idea came forth to raise the playing courts next to South Hall, literally putting a parking structure underneath that. A simple, not terribly expensive way to build structured parking while maintaining the open space of the courts above that. So this was kind of a hidden whim, I guess, in the world of parking on the southern edge of the campus if you could maintain open space and create new parking at the same time.

PRESIDENT BACOW: How many parking spaces are in that, Doug, do you remember?

MR. JOHNSTON: It's about 140 to 160.

PRESIDENT BACOW: And we'll get back half of the Cohen lot when the music building is built. So there will be a net addition to parking once that's done. And the parking structure next to South Hall should be finished in the spring, is it?

MR. JOHNSTON: I think the spring.

PRESIDENT BACOW: It's not that far away, just so that people understand where we are in terms of that.

MR. JOHNSTON: Two new building projects along Talbot Avenue, and certainly I'll share more details of Sophia Gordon Hall and the dormitory in particular in a moment, because our firm has been directly involved in the design of that building.

But at a Master Plan level, I think it's important to look at how these buildings, in fact, are starting to respond to some of the ideas both of the continuity of street edges, which was one of the specific recommendations of the master plan, but also of being permeable

enough that one has view quarters. If you look, one of the strengths of Professor's Row and Talbot Avenue in the current condition is one can actually see up and through and get a sense of the campus on the hill even when you're down on Talbot Avenue. Now, in part that's obscured by trees periodically and so on. But that idea that you've got these permeable kind of corridors. Sophia Gordon Hall is a direct response to that as a master planning idea. The new music building, likewise, is shaping itself in a way that creates an important new center of gravity right here at the combined kind of entrances to the auditorium, to the new music building, and encouraging a kind of path through and a connection through to the southern part of the campus, and potentially a path or a connection through if another building ends up happening out here on the corner of Boston and College.

These two sites which were identified in the master plan, I know for a fact there's no specific plan for any program or any building on those sites in the foreseeable future. It was more simply identifying them as potentials.

Now, a couple of other ideas that came forth in specific kinds of plans or initiatives. There is this idea that I talked about of moving some of the parking from the edge of the intersection of the northern end of College Avenue into the garage. But even before then, improvements can be made to the streetscape along College Avenue. And from the landscape perspective, College Avenue is identified as the most important corridor to sort of focus on first; introducing some street planting, some street trees along there, deal with the issue of fences, that I'll get to in a moment. But in terms of identity for the university, College Avenue becomes a very important avenue.

We also looked at specifically a couple of gateway locations where we might introduce a banner program. The details of that are still in the works, because there was a thought to include our neighbors in the planning of that, meaning our two communities, Somerville and Medford in the planning of that. But simply looking at Powderhouse Square, this intersection around Curtis Hall, and to the north here up by Gantcher Center, of introducing some markers, some simple identity kinds of ideas to let people know they've arrived on campus.

Recognition that oftentimes, landscaping which we do have in place, in fact, is working counter to this idea of identity and kind of people being able to see the campus, perhaps thinning out some of the perimeter kinds of plantings to create a sense of arrival and an open lawn here at Powderhouse Square, or taking down some of the chain link fencing that is so pervasive around the campus edges and either replacing it with nothing, or replacing it with something where it's proven to be necessary with a more kind of intimately-scaled wrought iron fence. This is actually along Professor's Row, I believe, near the campus center. So that's an example. There's another stretch of this along Talbot Avenue along the corner.

But there was a recognition -- many, many people said that it troubled them, the amount of the fence, the campus that was surrounded in chain link fence, and so we're looking at ways of reducing that and improving that condition.

PRESIDENT BACOW: We've actually removed one section of chain link fence on the Capon Street extension right behind Wren Hall. There used to be a chain link fence there. It's gone. All it did was attract trash and leaves. So we removed it. It looks better.

MR. JOHNSTON: A couple of other ideas or plans that have come forward that you may be seeing some headway on. One is around the residential quad, some easy ideas about removing some of the asphalt that is located directly in front of the buildings and replacing that with perimeter plantings, keeping the main lawn section open for larger kinds of activities and functions. But you see here just a simple introduction of the perimeter line of trees could do so much for the area along the northern edge of the residential quad there. Not a huge undertaking, but something that could make a real profound impact on the quality of appearance.

PRESIDENT BACOW: This is called hiding bad architecture with landscape architecture.

MR. JOHNSTON: Another idea of landscape level was what Michael Van Valkenburgh and his firm, who are the landscape architects, are calling hillside meanders, which is their sort of catch phrase for pathways that will find their way up through and between buildings to improve these uphill/downhill connections, but do so in ways that are respectful of the existing trees and plantings that might be in those areas that have rather than a straight shot of stairs running down a hill have a kind of meandering quality to them so that they encourage people to sort of pause and take note of the fact that they're moving uphill and downhill.

The first of these hillside meanders you'll start to see in the fall taking shape is directly behind Sophia Gordon Hall connecting up to Professor's Row, a combination of several paths, and I'll get into the detail of that. But specifically, this is a cut through the hillside of Sophia Gordon Hall to show how the building scale is in fact lower in its total height than the buildings on Professor's Row and how the buildings step down with the hillside down to the future music building here and down to Talbot Avenue.

Just speaking specifically of a couple of the ideas, that hillside meander coming through. Also, we made a big point in the Master Plan, the future building project should work toward solving some of the accessibility problems that the campus has, and that new buildings in fact have the responsibility to address beyond their immediate walls some of those issues of accessibility, and Sophia Gordon Hall is an interesting illustration of that.

There is a fully accessible path that goes from Talbot Avenue and actually uses the elevator system of the building to get up to the midpoint of the hill, and then from that point on, there is a fully accessible ADA ramp that goes on up the hill. So you'd be able to get from Professor's Row down through this hillside meander down to Talbot Avenue on an ADA-compliant path.

Now, it took some thinking how to do that, and it took a commitment from the university to actually invest the extra money to make the building responsive to that. But future building projects can each take on a little bit more than their immediate surroundings to address some of those issues, the campus as a community improves.

PRESIDENT BACOW: Doug, while you're talking about ADA, some of you may have noticed construction in front of Gancher. That is because we are creating a new ADA-accessible ramp to Gancher directly. When the building was built, the only way one could get in on a wheelchair was by going through Cousins, and now you'll be able to go right into the front of Gancher. That's the construction that you see there right now. It's ADA-compliant.

MR. JOHNSTON: Now, for those of you who have peered down on Talbot Avenue to see the construction that's going on, Sophia Gordon Hall is ahead of the music building in terms of its construction schedule. It is slated to be open and available in July of next summer for students to be able to move in in the fall. Things look really good in terms of the schedule so far in terms of achieving that. Everything seems to be moving along. The music building will come along about six months later than that, so in the mid academic year for occupancy in January of '07, the fall of '06. But it too is progressing I think pretty much on schedule in terms of the way that the construction managers thought it would.

So there is going to continue to be that construction activity through the course of this year and through the course of next summer. Once Sophia Gordon Hall opens up, the plan I believe is to reactivate part of Talbot Avenue between the two buildings beginning in the fall. That doesn't mean that Talbot Avenue is going to be all put back together again, because they're still going to be working on the music building through the course of the fall, so you won't see everything put back in place in that part of the world really until that building is finished, but you'll see incremental improvement at the end of the summer towards the beginning of next fall.

I can answer specific questions about Sophia Gordon, but I think I'll stop here and ask if there are broader kinds of questions about the plan or any specific elements of it.

PROF. JOHNSON: When you're doing the Master Plan, did you make a conscious decision not to look at any existing buildings for potential expansion or renovations? What you're talking about is identifying new sites, but has there been consideration and decision about the existing buildings, particularly on the Talbot campus here?

MR. JOHNSTON: We looked at several -- we looked at almost all of the existing buildings in terms of -- first of all, we did a broad inventory of how spaces would be used on campus, who was where and how much space was being occupied by various groups. Then we looked at areas adjacent to existing buildings for their land banking potential for expansion and renovation. In other words, we identified building areas or buildings on campus that could grow in terms of a logical fit on campus for expansion.

We did not go as far as connecting the dots and saying this department or this program is going to grow by this much in this place. Now, that's another stage of master plan that we may be asked to get to in terms of making all of the pieces fit around the campus, but we were more interested in identifying what was the broadest capacity, where were the opportunities for expansion, and demonstrating that in fact we had land on the campus, we had opportunities to be able to achieve some of those goals.

Coming through the deans, there have been summaries of anticipated growth of their various constituencies, and there's been a parallel exercise with another consultant that's been working with us on establishing benchmarks based on peer institutions, understanding how both current capacities fit with benchmarks and how the anticipated growth might then fit with those benchmarks.

PROF. THORNTON: Is there a projected Tufts station for the Green Line?

PRESIDENT BACOW: Maybe I should take that. There's a lot of stuff going back and forth. We are trying to position ourselves to get on the existing right of way to get a station at College and Boston Ave. There was at one point discussion of two stations, one there and also at Winthrop Street and Boston Ave., and we basically took the position that we were far more interested in seeing something at College and Boston than in fact having two stops and disruption. They're a block apart. It doesn't seem to make a lot of sense.

But the planning is still very much up in the air. The mayors are now together. There was a point at which Medford and Somerville were a bit apart in terms of their attitude towards the Green Line extension. There was some concern about the Green Line extension going all the way to West Medford Square and terminating there, but the plan now, at least the one being advocated, would have it stop at the river, basically, at Route 16, and both mayors are comfortable with that plan.

So we'll see where it goes. There's an issue of funding for this, environmental review, timing. Many of us will be retired before this happens. But we have to start planning for it now. And one of the reasons candidly that we have made the acquisitions that we have on Boston Avenue between Winthrop and College Ave. is we acquired the building that is on the corner that has now the Danish Pastry House -- I think a good addition to the neighborhood. We acquired that building. And then we also have acquired the building that Jay's Deli was in. They were selling it, they were going out of business, so we took that over.

The intention is pretty much to do the same thing that we did with that building as we did with the building on the corner of Winthrop and Boston that houses the flower shop and the Danish Pastry House, and that is just to improve the streetscape, make it look better, re-tenant it with a series of tenants that will be a nice amenity for the neighborhood as well as the campus.

Because if a Green Line stop goes there 10, 15, 20 years from now at Boston and College Ave., Boston Ave. becomes much more important, and that stretch becomes much more important. We also acquired the church, which I think everybody knows. We're looking now at what use to put that, but we haven't decided yet.

PROF. HITCHNER: The recent strategic plan put together by the School of Arts and Sciences acknowledged the issue of capacity for each school. And apart from the integrated lab, one of the issues is facilities, how do we essentially deal with the shortage of space, our ability to compete with other universities when it comes to capacity. How do you see strategic plans influencing or having a role in the shaping of what is decided to do with the buildings, dealing with some of the issues that are facing the school in terms of space and so forth?

PROVOST BHARUCHA: We are well aware that there is a shortage of space throughout the campus, certainly throughout Arts, Sciences and Engineering. And there is an acute shortage. In the long term, we're going to have to provide more space for many of the departments, and we can only do so much at any given time. Certainly, when the integrated lab complex is ready, that ought to free up some space that can be used for expansion of the existing departments.

But we are simultaneously always thinking about how we address these space issues in the long term. We don't have any specific plan to put on the table right now about the expansion or relocation of other departments, besides Biology, that might be cramped. Money, of course, is the limiting factor here. As we get more gifts, more naming gifts, we can put more buildings on line. But we recognize there will need to be more space for most of the departments in the future, and particularly if we're able to raise money through endowed professorships to expand the faculty, then we will need even more space.

PRESIDENT BACOW: But even the music building. When the music building comes on line, it will open up space in the former Provost's house.

But the other thing which we are in need of is meeting space, for example, and the music building will help with that. The public spaces in the music building actually will function very much the same way, for example, as the Remis Sculpture Court does.
PROVOST BHARUCHA: And there's program space in the dorm.

PRESIDENT BACOW: There's program spaces in the auditorium and the dorm that will seat --

MR. JOHNSTON: 150, 160, I guess if we're really pressed.

PRESIDENT BACOW: There are classrooms in the music building that will relieve some demand on existing classrooms. So each time we open up a new building, it sort of gives us a little bit more elbow room for a variety of things. But remember where we were two years ago before we started this process. We thought that the campus was

landlocked, and we lacked really sort of the footprint to build new buildings if we acquired the financial resources, and now we're comfortable with where we're at on that. But we do look at these things together. But at least we know we've got expansion now.

PROVOST BHARUCHA: One thing we haven't adequately taken into account is with the Danish Pastry, there will be a fattening of the faculty, and how that impacts on making our spaces feel even more cramped, we don't know that.

PRESIDENT BACOW: That's why we're providing more opportunities for you to run up and down the hill and the meanders. Any more questions for Doug? Well, Doug, thank you very much. I think the faculty has found this very interesting, and we're encouraged by the work that you and your colleagues are doing and look to seeing more of it come to fruition.

MR. JOHNSTON: Thank you. We're excited to see real things coming of it.

AS&E EXECUTIVE COMMITTEE TOWN MEETING

PRESIDENT BACOW: At this point, what we're going to do is we are going to formally close the Arts and Sciences and Engineering faculty meeting, unless anybody has any formal business to come before it. This meeting will become a town meeting for the Arts, Sciences and Engineering Executive Committee. Before we close the formal part of the meeting, let me see if there's any other business to come before the faculty.

Okay, then we will formally adjourn, and what I'm going to do is to turn things over to David Sloane, and the Arts, Sciences and Engineering Executive Committee. Your deans are members of the Executive Committee, so they are I think going to take seats in the audience and participate in this, but Jamshed and I are going to decamp and let the Executive Committee conduct its town meeting.

PROF. SLOANE: We have a limited amount of time. I think as usual, in a faculty meeting, you never know how long a discussion will continue. I think it was good that we had this presentation by Doug and the architects. So that is very good, but it leaves us very little time, and so I'm trying to catch up and share with you the things I think are most important about what things we are planning.

And then I want to alert you to the fact that on November 2, two weeks from today, there will be an Open Meeting of the Executive Committee in this room, and its subject will be the strategic plan. What will be new in that presentation is that the two strategic plans, both for Arts and Sciences and for Engineering, will be presented. We have already the summary reports, a new vision statement from Dean Sternberg, and we of course have the existing statement that Kevin and Susan Ernst worked upon and put together, along with the task force, and all of that will be distributed in ample time before the meeting two weeks from now.

There will also be some questions to spur you on to thought about the strategic plan. Not only the strategic plan, but also of course the implementation of it and how that will work, and we have a plan also from Dean Abriola.

Originally, it was the suggestion of President Bacow to have a Town Meeting. At first I was surprised to hear this new word, but I had been reading The Social Contract by Rousseau, and he says that the best form of democracy is a Town Meeting. So maybe we can still make something out of that.

We didn't know how long this item would last, but what we decided was that we needed some help from the faculty to determine what are really the pressing issues that you are thinking about. We do get many issues. We funnel them into committees, we deal with them on the basis of them being minor issues or small issues, but we really need help on what are the issues that we want to put on the agenda through the rest of this year.

And to that end, there were four questions that were put onto the agenda, the first being what are the concrete priorities that we want the deans to consider. That was number one. Has the culture of Tufts changed, second question. And the third, what issues should be on the agenda for us aside at faculty meetings this year. And finally, anything else that comes to your mind.

We still have about eight minutes to debate. What I would suggest is that if you have a point, to bring it up, say your name, and our reporter here will keep a record of what your suggestions were. So I open the floor to whoever wants to speak. I'm going to put maybe a time limit on it, seeing as we only have seven and a half minutes.

PROF. HITCHNER: I'd just like to follow up with what I just said a little bit further in response to the comments made by the President and Provost. I think we need something more than perhaps an ad hoc response to the space availability, as placement facilities come on, that we need much more focus and effort to determine space availability, what needs to be done with the new space that emerges.

This is a very short-term reality I think that we face right now, and I think we can talk about plans for buildings that are ten years down the road. That's one thing. But I do believe that there has to be effort to say that as buildings come into availability, space comes into availability, that we actually have a plan, a strategy of doing that, rather than simply saying we now have space available, let's try to figure out what we want to do with it. This does involve not issues of just simply open space, but it deals with renovation and restoration. If it's an older building, you simply can't renovate, you also have to consider restoration in some ways. But I believe this is a priority that needs to be addressed very quickly, and also very tangibly, not intangibly.

PROF. SLOANE: Still on this issue?

PROF. MUFTI: I just wanted to emphasize my appreciation for the point in the strategic mission that came up last year, last semester about International Relations. I think given

the international issues on campus and the unacceptably cramped quarters in which the program currently relies, and the need to create a (inaudible) will also allow it to interact better with other entities on campus that are related similarly to international issues. I just wanted to emphasize my hope that that point does not get lost.

PROF. SCHWARTZBERG: I'd like to follow up on Bruce's comment. I have a concern about educational technology in terms of the lack of availability of servicing equipment. I'm concerned about the technology . There's just not enough availability of servicing for resources in educational technology.

PROF. BRATT: Staying on the idea of educational technology, it still feels like there are not enough rooms that are properly wired for Internet access, for Power Point projectors, and this becomes a real problem for rescheduling classes.

PROF. SLOANE: That was in the Tufts Daily today.

PROF. JOHNSON: Following up on what Bruce and Malik had said about space and buildings, I think that it's wonderful to get the Master Plan here. It's wonderful to see. But when it's year five and ten years out there, we'll all have these incredible space constraints that are actually constraining hiring that we want to do. I think it would be very good for the Executive Committee to help create some kind of process other than just lobbying our deans all the time. I think that the space in Barnum has been sold over five times now to all the different departments who want to go in there.

So if a process can be between the specific needs that we have and the Master Plan which is out there, if we knew, the chairs, how these decisions were going to be made, how we can plan out for five years, and also how in the meantime, we can solve our immediate problems that are keeping us from making the hires that we might want to make.

PROF. SLOANE: Just a question. You're talking about the cost of hiring and the space for --

PROF. JOHNSON: I'm talking about the space. I think ironically, the cost -- obviously, it's a big issue, but the space becomes a critical issue at this point. And we need some kind of plan, some intermediate plans.

PROF. MELDON: I'm kind of waking up like Rip Van Winkle.

PROF. SLOANE: Well, you must then have tremendous wisdom to share with us.

PROF. MELDON: What I'm referring to is the fact that I was head of the Faculty Advisory Board, which it's my impression your committee is the follower of the board. What I want to ask is the raison d'etre for that committee was in part to provide feedback to the administration, including about administrators, that we manage for the administration periodic reviews of administrators. I wonder, is that now something of the past, or is that possible to be resurrected?

PROF. SLOANE: No, actually, it isn't our job to do the job of the faculty advisory board. We don't really get into that hiring administrators or reviewing them.

PROF. MELDON: No, not hiring.

PROF. SLOANE: Well, sometimes questions come our way, and we really have no way of responding to them, because it isn't our charge. The FAB committee is one that is very high on our list, and we're trying very hard now to get a meeting with the current chair, and we're trying to get that within the next couple of weeks to see whether the FAB committee wants to take back some of those tasks that it had performed four or five years ago.

PROF. MELDON: When you say FAB, there is a faculty advisory board?

PROF. SLOANE: That's the Faculty Advisory board.

PROF. ERNST: There is a Faculty Advisory Board. When I was dean, we used it in hiring the Dean of Admissions, and used it for a number of other things. But it still, as far as I know, is still an active committee.

PROF. MELDON: But as far as you know, is periodic review of administrators still part of its pervue.

PROF. ERNST: I think most of them have decided to leave their positions before review came up.

PROF. SLOANE: In terms of our committee review, we've prioritized a number of committees which we think need attention right away and are trying to work with those committees, and we've begun that process of doing that, and there's a pecking order at this point.

If you have anything else, please send to any member of the Executive Committee. I think it's easy enough to find on the faculty web information. Send it to us. This is very useful, even though we had very little time to discuss it. Any new agenda items, please bring forth to us. I'm sure some of them will get on the agenda in the future. Thank you so much.

Meeting Adjourned.

Respectfully submitted,

Catherine Doheney
Secretary of the Faculty

Buckley, Deirdre (ENV)

From: pwoolley@earthlink.net
Sent: Friday, October 13, 2006 8:11 PM
To: Buckley, Deirdre (ENV)
Subject: proposed Green Line station on Lowell St, Somerville

Dear Ms. Buckley,
I'm very happy to hear that the Green Line will be extended into Somerville and Medford. I think it will be especially beneficial to the Union Sq. area, and I hope a station will be considered for the Brickbottom neighborhood as well.

I-061-001 However, I can't envision fitting a T station on Lowell Street in Somerville. I live off of Lowell Street, and have found the traffic on the street dangerous. Our neighborhood has been in touch with the Somerville office of traffic about the cars that speed up and down hill, making it difficult to turn onto the street by car. We've asked for traffic calming strategies such as adding a 4-way stop at the corner of Albion and Lowell, a frequent site of car accidents before the bridge was closed. So far the city hasn't responded positively.

A Green Line station for the use of people walking to the station would be wonderful, but most likely the station will bring more cars to Lowell St. Medford St, where Lowell St ends, is another trouble spot for traffic, usually backing up at rush hour between Broadway and School St. or beyond. In short, locating a station on a street that's in a neighborhood that's already burdened with too much traffic on streets that are too small (and residential in nature) seems sure to invite gridlock, unless major steps are taken to ensure that most users come by foot or to somehow alleviate the new traffic to be created.

Thank you for your time,
Paula Woolley
117 Hudson St.
Somerville MA 02144

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I-061-001

Potential traffic and parking impacts for the project is discussed in Section 5.5, *Traffic* of the DEIR/EA. Mitigation measures, including traffic calming, are proposed as appropriate to mitigate impacts related to the Green Line Extension.

A pick-up/drop-off area is proposed on the Lowell Street bridge to provide a designated location outside the main flow of traffic. Except for riders that are dropped off, the majority of the Green Line users will access the station by walking or bike. The proposed station is linear. It will be accessed from the bridge and will extend to the north within the rail corridor. Detailed descriptions as well as figures of the elevation and building plans for each station are provided in Section 3.6, *Build Alternatives* and 3.7, *Project Description - Preferred Alternatives* of the DEIR/EA.

Intersections must meet Federal and State warrants for four-way stop control as defined in the Manual on Uniform Traffic Control Devices. Four-way stop control is not considered a traffic calming measure and would only be recommended if the appropriate warrants are met.

Appendix B
Station and Alignment Selection Analysis

1.0 Introduction

The purpose of this memorandum is to summarize the selection process used to identify the project alignments that were selected as the basis for the alternatives analysis described in the Green Line Extension Project Draft Environmental Impact Report/Environmental Assessment (DEIR/EA). This memorandum includes the following:

- A description of the siting, evaluation and selection process for the neighborhood stations.
- A summary of the analysis of the Union Square Branch in-street running options.
- A discussion of the various tunnel alignment options evaluated throughout the project study area and the findings.

2.0 Project Overview

The Green Line Extension Project proposes that the Executive Offices of Transportation and Public Works (EOT) evaluate the extension of the Massachusetts Bay Transportation Authority's (MBTA's) Green Line light rail transit (LRT) service to communities north of the Charles River. This represents an extension to the existing Green Line network, which operates four light rail branches west and south of downtown Boston and through downtown Boston in the Central Subway. The network currently terminates at existing Lechmere Station in the city of Cambridge, one-half mile northwest of downtown Boston.

The project would extend the Green Line from East Cambridge to the cities of Somerville and Medford. The extension would have two light rail branches. The main branch would extend approximately four miles northwest through Somerville and Medford (Medford Branch). The Medford Branch would run within the MBTA Lowell Line commuter rail right-of-way. A second branch would extend approximately one mile west of Lechmere Station to Somerville's Union Square neighborhood (Union Square Branch). The Union Square Branch would run within the MBTA Fitchburg Line commuter rail right-of-way.

3.0 Station Siting - General

In order to determine the most appropriate alternative alignments for the Green Line Extension Project, it was first necessary to evaluate the study area in terms of feasible locations for stations. Previous studies identified a number of potential station sites for the project, including Washington Street, Gilman Square, Ball Square, Lowell Street and College Avenue.

During the development of the 2005 *Beyond Lechmere* Major Investment Study/Alternatives Analysis (MIS/AA), the alternative that evaluated light rail service (Alternative 1C) included evaluating the extension of service beyond the Mystic River to West Medford. The MIS/AA's proposed light rail alignment traveled via the MBTA's Lowell Commuter Rail Line beyond the Mystic Valley Parkway/Route 16 and Mystic River to terminate at a location south of the existing West Medford Commuter Rail Station near High Street/ Route 60. This termination point was determined to have number of operational and environmental challenges, including the crossing of an existing highway-railroad at-grade crossings and impacts on the existing historic Mystic Valley Parkway/Route 16 and the Mystic River structures.

By extending the Green Line service across the Canal Street grade crossing, this existing two-track crossing would become a four-track crossing (two Green Line tracks; two commuter rail tracks). The differing operational characteristics of the Green Line, commuter rail, and roadway would significantly raise safety concerns. In a similar situation in Los Angeles, the accident rates are significantly higher than the national average; ninety people have died on the Los Angeles County Metropolitan Transportation Authority's 22-mile Blue Line (consisting of 100 at-grade crossings). This line has had more than 821 recorded incidents between its inception in July 1990 and July 2008. All of the at-grade crossings in Los Angeles have grade crossings gates and lights. With the potential of having Green Line vehicles cross the roadway in each direction, safety concerns were raised at the Canal Street crossing.

The Secretary of Environmental Affairs Certificate on the EENF for the Green Line Extension, dated December 1, 2006, specified that EOT "evaluate the feasibility and advisability of locating stations at Route 16, Winthrop Street, between Winthrop Street and College Avenue (as described by the Medford Green Line Neighborhood Alliance (MGNA) and supported by Tufts University) and to serve the Brickbottom/Twin Cities Plaza area."

Additionally, since the time of the EENF filing, the relocation of Lechmere Station which was originally intended to be completed by the NorthPoint development project has been suspended. Because the relocation of Lechmere Station is a critical element of the Green Line Extension Project, EOT determined that the environmental analysis of this work would be included in the DEIR/EA for the Green Line Extension Project also.

The purpose of this section is to discuss the criteria used and the process by which the station sites were selected.

3.1 Key Considerations

Three key considerations inform the station siting process. These considerations are projected *Ridership, Environmental Consequences,* and *Financial Burden.* The following paragraphs elaborate on these considerations.

3.1.1 Ridership

From the public perspective, a high ridership projection is like a public vote favoring the station. High ridership indicates that the station will be active, and thus feel more safe and secure. It increases travel alternatives by promoting more transit service. It supports community and

economic development, by raising the demand to live, work, do business, and seek culture and entertainment near the station. High ridership also indicates environmental benefits by shifting travel from polluting modes to clean, green, electrified transit.

From an operational prospective, a high ridership projection indicates a more sustainable transit operation. Higher ridership means more paying customers, and thus more revenue to offset costs.

Factors in projecting project ridership include *station access*, *projected development and growth*, and the *attractiveness of the transit service* at the station. The following paragraphs describe these factors.

Station access is the main factor in projecting ridership. It considers:

- residents and jobs within a comfortable walking distance;
- bus and other transit connections;
- bike connections;
- passenger drop off potential; and
- availability of station parking.

Projected development and growth considers development potential near stations. Special attention is given to permitted developments and mature development plans and initiatives. This factor also considers projected growth within the region and how this will affect travel patterns in the project area.

Finally, transit service attractiveness considers the level to which people will want to ride the transit service. This factor considers the speed, frequency, and reliability of the transit service. It also attempts to predict how pleasant the station environment will be.

3.1.2 Environmental Consequences

The primary environmental impacts associated with Green Line Extension stations result from property acquisitions. While some stations and station entrances fit within street and MBTA right-of-way, others require the acquisition of private property. The Green Line Extension Project has identified a goal of attempting to minimize property impacts to the greatest extent possible, with a focus on minimizing residential takings. The station siting analysis considers the costs of these potential acquisitions to the project, to land owners, to land occupants, and to station communities.

Station construction can also impact station area communities, traffic, and with this project, railroad operations. Green Line stations will be constructed generally within railroad or on acquired private property and will generally not cause substantial construction impacts. Construction will be limited to daytime hours whenever possible to avoid disrupting residents. Pedestrian access will be maintained to businesses and residences, and station construction is expected to disrupt traffic only minimally.

One of the project requirements is to avoid disrupting railroad operations, both during construction and for the life of the project. To accommodate Green Line tracks, commuter railroad tracks within the corridor will need to be reconfigured. The project has been designed and construction will be staged to minimize railroad disruptions and in a manner that will allow the continuation of rail services.

The station siting analysis also considers potential ongoing impacts at station sites. These may include impacts to vehicular and pedestrian traffic. They will also include noise and light pollution. At some sites these are not problematic, while at others they are project breakers.

Vehicular traffic can be impacted by cars, pedestrians and bicyclists going to and from a station. Buses at stations effect traffic, as do roadway pinch points that may be necessary at some sites. The analysis attempts to estimate how station sites would impact traffic.

Stakeholders commonly ask how they will be impacted by transit project noise and vibration. While these are considerations with the Green Line Extension, they are not typically associated with stations (other than during construction). Sources of station noise pollution include public address systems, fare gates, mechanical systems, and, sometimes, passengers. While station lighting is desirable in many settings, some stakeholders may find it unwelcome. These environmental consequences are evaluated in a proposed station's compatibility with surrounding land uses, and efforts to minimize adverse impacts will be made by the project.

3.1.3 Financial Burden

Station cost considerations include upfront capital costs as well as ongoing operations and maintenance costs. Rail transit station capital costs vary considerably. Subway stations can cost hundreds of millions of dollars to build, and elevated stations tens of millions. All stations will include elevators, escalators and stairs to transition from stations platforms to street level. Capital costs also include any property acquisitions necessary to locate a station.

Security cost estimates are based on whether a station requires fare gates and how visible the station is. Fare gates have mechanical costs and require ongoing maintenance. The more visible a station is to streets, businesses, and residences, the more secure passengers are likely to feel within the station. If passengers feel insecure, costs are paid in decreased ridership or an increased security presence. All of these ongoing costs were considered in this station siting analysis.

3.2 Evaluation Criteria

Four general categories of station siting criteria were used to evaluate key considerations at each alternative station site. The criteria were used to qualitatively assess each of the proposed station sites and assist in the selection of the preferred station site for each target neighborhood. The general categories of criteria, and a description of their subcategories, include:

1. Station Access— This criterion evaluates the access of a the proposed station site for pedestrians, bicycles, intermodal transit, and Kiss and Ride (passenger drop off) vehicles, as well as discussion of traffic impacts and area signalized intersections and crosswalks. Also, included in the criterion is any difficulty in complying with the Americans with Disabilities Act (ADA) at the potential site.
2. Transit Operations— This criterion measures the operational impacts of a station location on the proposed Green Line and on existing commuter rail and freight services, as well on any other transit connections. Additionally, this criterion includes a review of the preferred

infrastructure needs for siting a transit station, such as available right-of-way, safety and security, and configuration of track.

3. Land Use Compatibility— This criterion qualitatively evaluates the appropriateness of the station in relation to its surroundings for compatibility with area land use plans and general public acceptance. It accounts for noteworthy construction, noise and light pollution impacts. It also considers the potential for future transit-oriented development near the station and the impact a station might have on area parcels.
4. Project Costs—This criterion qualitatively evaluates the costs that a potential station site would have on the project, including capital costs such as large construction costs and property costs, as well as impacts that construction might have on existing commuter rail revenue.

For each of the areas evaluated for a potential Green Line Extension Project station, these criteria were used to qualitatively assess each alternative and rate and rank the possible options. For each criterion, Station Alternatives were rated numerically from -2 for being the most unfavorable to +2 for being the most favorable. The final station sites recommended for the project were selected based on the highest overall scores. A detailed listing of evaluation criteria, ratings for each alternative and station area figures are included in the Attachments 1 and 2. The following section describes the evaluation of each proposed station location area.

4.0 Green Line Station Siting - Medford Branch

This section briefly discusses alternatives analysis for the station siting of the proposed Green Line Extension Project along the Medford Branch. It addresses proposed station site alternatives and the process in which the final station sites were selected.

As part of the EENF, a number of neighborhoods were recommended for Green Line station locations. However, the Secretary's Certificate identified a number of additional areas for further evaluation of stations. A summary of the project area neighborhoods on the Medford Branch that were evaluated for stations are listed as follows. A discussion of the Union Square Branch station(s) can be found in later sections of this document.

1. New Lechmere Station – Located in East Cambridge, the proposed station to be built as part of the NorthPoint development project would continue to be relocated to the same location on the east side of Monsignor O'Brien Highway as proposed by the developer's plan. The location for New Lechmere Station was finalized through a previous environmental process in compliance with the Massachusetts Environmental Policy Act (MEPA).
2. Washington Street/Brickbottom - Serving Somerville's Brickbottom community, Inner Belt District, and Cobble Hill neighborhood, as well as the residential areas north of Washington Street.
3. Gilman Square – Located behind the Somerville Civic Complex, including the high school and City offices, as well as adjacent to a residential neighborhood.

4. Lowell Street – Located in Somerville in a primarily residential area near the Spring Hill neighborhood and Magoun Square.
5. Ball Square – Located along Broadway on the border of Medford and Somerville in a largely commercial area.
6. College Avenue/Winthrop Street – Located in Medford near Tufts University, this area also has a large residential community on the east side of the commuter rail tracks.
7. Mystic Valley Parkway / Route 16 – Located in Somerville and Medford, the neighborhood consists of several commercial and residential properties along Boston Avenue, with the Mystic River Parklands on the north, and retail and residential areas on the east.

A number of conceptual layouts for the each of these station areas were developed utilizing desired design criteria for stations based on the MBTA's requirements. Station concepts that were did not meet the design standards for the project and were eliminated from further consideration. Concepts that met the design guidelines and the goals of the project were then developed for presentation to the public and local officials.

In February of 2008, a series of public workshops were conducted in the neighborhoods to discuss the proposed station areas and to obtain feedback from stakeholders on the various concepts developed. Based on previous work and the feedback obtained at these workshops, the station concepts for Gilman Square and Mystic Valley Parkway / Route 16 were generally accepted by the public and local officials and did not require additional evaluation. However, input on the other remaining station areas, including Washington Street/ Brickbottom, Lowell Street, Ball Square and College Avenue/Winthrop Street, received as part of the public process required that a more extensive evaluation of the station sites be conducted. Utilizing the criteria described previously, a comparison of the various station concepts developed for these areas was conducted and a preferred station site was selected to be used as the basis for the project alignment. The following describes each of the station areas and the results of the evaluation. A detailed listing of evaluation criteria and ratings for each alternative are included in the Attachment 1. Conceptual plans for the station sites evaluated are included in Attachment 2.

4.1 Washington Street/Brickbottom Area

Four alternative station locations were evaluated for the Washington Street/Brickbottom Area. These include:

1. Brickbottom Station Alone – near the Brickbottom Artists Buildings with access from Fitchburg Street;
2. Washington Street Station Alone – north of Washington Street with access from Washington Street;
3. Two single stations serving the Brickbottom community: one near the Brickbottom Artists Buildings and a second north of Washington Street; and
4. A Combined Brickbottom/Washington Street Station located south of Washington Street with access from Joy Street (a local access road), Washington Street, and possibly Inner Belt Road.

A brief description of how each station alternative meets the project criteria follows:

Station Access

Americans with Disabilities Act Compliance: The Americans with Disabilities Act (ADA), a Federal law enacted in 1990, mandates equal access to public and private facilities, including public transit, regardless of disability. All Green Line Extension stations will be designed to comply with ADA requirements. The immediate area between Washington Street and the Brickbottom Alternative sites is industrial in character. Joy Street and connecting streets have incomplete sidewalks and some sections of cobblestone paving. None of the station areas have a complete set of ADA compliant infrastructure. Neither do any of the four Alternatives have fatal flaws for ADA compliance. Required improvements include wider sidewalks on Washington Street, Fitchburg Avenue and potentially Inner Belt Road.

Kiss and Ride Access: High vehicular and pedestrian traffic at Washington Street make the Washington Street Station Alone Alternative somewhat unfavorable for Kiss and Ride and taxi drop-offs. The Brickbottom Alternatives can more easily accommodate vehicular pick-up/drop-offs.

Intermodal Transit Access: The Washington Street Alternatives have high potential for bus / rail transfers. Washington Street can easily be accessed by five MBTA bus services (Routes 80, 86, 88, 91 and the limited-stop CT2). Other routes stop nearby. The Brickbottom Station Alone Alternative does not connect well with MBTA bus routes. No existing routes stop within one-third mile of the site. Intermodal transit opportunities are greater for the Washington Street Alternatives.

Pedestrian/Bicycle Access: Currently, none of these sites have on-street bike routes except on a section of Washington Street. Each Alternative can accommodate bicycle storage. The Brickbottom site or the combined Brickbottom / Washington Street site could more easily accommodate bike storage because of the intensity of traffic, transit, and pedestrian activity and existing development at Washington Street.

Crossings: The Washington Street sites have clear crosswalk markings for pedestrian/bike crossings. Upgrades to these areas will be necessary. The Brickbottom Alternative sites do not have existing crosswalks, however there are low traffic volumes in the area

Traffic Impacts: For all Alternatives, traffic impacts would be negligible. Each Washington Street Alternative will have bus transfer activity at the street's bus zones. The Combined Station and Brickbottom Alternatives would include passenger drop-off zones off of Joy Street.

Transit Operations

The Washington Street Alternatives are projected to have higher ridership than Brickbottom Station Alone. These Alternatives are closer to the residential areas north of Washington Street than the Brickbottom Station Alone Alternative (all Alternatives have a similar number of jobs within walking distance). Qualitative ridership projections show that the midpoint station captures most of the riders that the two combined stations would capture. It also speeds service on the entire line by eliminating the deceleration, dwell time, and acceleration associated with an additional station. Thus, the midpoint station increases ridership projections at every Medford Branch station. The

midpoint station also offers an open, well-lit location for an attractive station environment. Projected ridership supports a Combined Washington Street / Brickbottom Station.

Land Use Compatibility

The Brickbottom and Inner Belt Area have great potential to grow into a thriving neighborhood. Current development in the area includes a mix of housing types, including live-work housing, apartments, and single-family homes. Washington Street has a high rise hotel, a few walk-up businesses, and a strip mall. These community-oriented uses are scattered and somewhat disconnected. A rail transit station will encourage infill development, potentially bringing a critical mass of community uses to the area.

Each station Alternative presents tremendous land development opportunities. Defining neighborhood features are small auto-related service businesses, underutilized industrial sites, vacant lots, and a trash transfer facility on city-owned land. The Washington Street Alternatives strongly support infill along the street.

The City of Somerville proposes mixed-use development in the Inner Belt Area, just east of the Brickbottom Station Alternatives. These Alternatives will potentially transform the Brickbottom and Inner Belt industrial areas into a mix of industrial, office, institutional, retail, and housing uses. The community stated their preference for the combined Brickbottom / Washington Street Alternative, which accommodates the needs of both the Washington Street and the Brickbottom neighborhoods. Even though this combined Alternative requires property acquisition, it presents the least impacts to neighboring properties. This is because required and adjacent parcels are strong candidates for redevelopment. The combined site also presents the fewest noise and light impacts to existing residences.

Project Costs

Constructing two separate stations at Washington Street and at Brickbottom requires a greater capital investment than would a single station. The combined Brickbottom / Washington Street site would require land acquisitions and infrastructure improvements, but could be constructed with minimal disruption to existing rail services. The Brickbottom Alone station also requires land acquisitions, but it construction could occur with no impact on existing rail services. The Washington Street Alone site may not require land acquisitions for site access, but it requires the greatest modifications to commuter and freight rail tracks.

Conclusion

Based on the Site Selection Criteria Rating, the combined Brickbottom / Washington Street Station Alternative received the highest rating, making this Alternative the most preferable station site. The station captures nearly as many riders as the two station scenario. Operationally, the location of this Alternative provides nearly optimal spacing with adjacent stations.

The site enables bus / rail transfers using Washington Street bus zones. It also provides a walking connection to the Brickbottom Artists Buildings and supports redevelopment in both Brickbottom

and the Inner Belt Area. It could have multiple pedestrian access points from Washington Street, Joy Street and the future Inner Belt development.

Roadways immediately surrounding the Combined Alternative site are fairly wide with low traffic volumes, allowing future accommodations for pedestrian, bicycle, and Kiss and Ride access to the station. The site also offers future flexibility in that it allows possible expansion of the station and platform to accommodate needs.

4.2 Gilman Square Station

Gilman Square Station would be located north of the Medford Street Bridge, behind City Hall and adjacent to an undeveloped municipal property. The site connects strongly with the Civic complex, Medford Street businesses, and Highland Avenue bus routes. This location has been generally accepted by stakeholders at numerous meetings and workshops.

The site offers optimal operations in that it is located along a section of tangent track, which complies with MBTA design criteria. It also offers desirable station spacing in relation to other stations.

The undeveloped City property adjacent to the site could be used for access to both the station and the proposed Somerville Community Path. This is also a candidate location for a large bicycle parking facility and retail uses that activate the station, bike parking, and path area.

4.3 Lowell Street Station

Two station alternatives were evaluated for the Lowell Street Station site. These include:

1. Lowell Street Station (North) – Platform located north of Lowell Street Bridge; and
2. Lowell Street Station (South) – Platform located south of Lowell Street Bridge.

Station Access

Americans with Disabilities Act Compliance: Streets in the vicinity of the station sites are currently not ADA compliant. Sidewalks are incomplete and do not feature curb ramps. The Lowell Street Bridge over the tracks slopes substantially from a high midpoint. However, access from the north or south side of Lowell Street is the same.

Kiss and Ride Access: Either site would require significant construction to accommodate a Kiss and Ride and / or taxi zone.

Intermodal Transit Access: No MBTA bus routes travel within one-quarter mile of the Alternative sites.

Pedestrian/Bicycle Access: Both Alternative sites could interface with the proposed Somerville Community Path. Both sites could accommodate bicycle parking.

Crossings: Both alternatives have crosswalks at the adjacent intersections. However, there are currently no formal crosswalks provided in the vicinity of the Alternatives at Lowell Street.

Traffic Impacts: Lowell Street is a collector arterial with light traffic. The station site is well removed from major arterials such as Medford Street, Broadway, and Highland Avenue. Lowell Street has no bus service to affect traffic. Passenger drop-offs and pedestrians are anticipated to create minor delays to local access traffic. For these reasons, anticipated traffic impacts are marginal for either Alternative.

Transit Operations

The Alternative site north of Lowell Street is located along a tangent section of track. The Alternative site south of Lowell Street is located along a curve. From an operational perspective, this makes the Lowell Street Station (North) the more attractive alternative.

Neither Alternative would likely cause permanent impacts to commuter and freight rail operations. The existing conventional rail tracks would be reconfigured at the station.

In order to accommodate the platform utilizing the preferred design criteria, the south side Alternative would have significant right-off-way impacts. The north side Alternative would have lesser right-of-way impacts. Both platforms would be accessed from Lowell Street.

Land Use Compatibility

Either alternative would improve transit access to a compactly settled residential area. The station would also service nearby employment areas and proposed development immediately adjacent to the station. Station noise and light impacts may be of concern to the neighborhood.

The community seems to favor the South Alternative. However, since this Alternative requires more right-of-way acquisition, it would likely cause greater impacts to the abutting parcels.

Project Costs

The South Alternative would be more costly since the proposed station site and the access to the site would require significant acquisition of private property. The North Alternative would need marginal, if any, land acquisition. The North Alternative has fewer known impacts to commuter and freight rail operations.

Conclusion

Based on the Site Selection Criteria Rating, the Lowell Street Station (North) Alternative received the highest rating, making this Alternative the most preferred station site. The station would be located along a tangent section of the track, complying with MBTA design criteria for optimal operations. This Alternative would also be located within the desired station spacing tolerance, while the South Side Alternative's spacing would be somewhat unbalanced. This Alternative requires less land acquisition than the Lowell Street Station (South) Alternative and has a lower capital cost.

4.4 Ball Square Station

Two Alternatives were evaluated for the Ball Square Station site. These include:

a. Ball Square at Harvard Street – Platform located adjacent to and on the south side of Harvard Street; and

b. Ball Square at Broadway – Platform located in proximity to Broadway.

Station Access

Americans with Disabilities Act Compliance: Both station sites currently have sidewalks available along the main streets and Boston Avenue.

Kiss and Ride Access: For both station sites, a formal Kiss and Ride could be provided, however it would be easier to construct along Broadway. Traffic impacts of a Kiss and Ride facility could have adverse impacts on traffic at both sites.

Intermodal Transit Access: Two major MBTA bus routes (Routes 80 and 89) have stops at the intersection of Boston Avenue and Broadway near the Ball Square Station site. The Harvard Street site is not directly served by bus routes. The Broadway buses and other routes serve Powder House Square approximately one quarter mile from the Harvard Street site and approximately one-third mile from the Ball Square site. Based on existing service, Ball Square provides the much stronger intermodal transit connection of the two Alternative sites.

Pedestrian/Bicycle Access: Neither site has direct connections to the Somerville Community Path. Both Alternative sites can accommodate bicycle parking near station entrances.

Crossings: The intersection of Harvard Street and Boston Avenue has traffic signals with crosswalks assisting pedestrians and bike crossings. Due to fairly heavy vehicular traffic on Boston Avenue, implementation of traffic improvements would be beneficial and should be considered for this Alternative. The Ball Square/Broadway Alternative would benefit from pedestrian and vehicle improvements at the intersection of Broadway and Boston Avenue.

Traffic Impacts: The location of the stations would have some or minor impacts on area traffic. The Harvard Street Alternative would have slightly more impact on traffic than the Broadway location.

Transit Operations

Based on the assessment of the station layouts, the Ball Square/Broadway Station site would have better balanced spacing with the adjacent stations compared to the Harvard Street Station site. Both sites are located along a tangent section of track for optimal operations.

Neither Alternative would likely cause permanent impact to existing commuter rail/freight train operations. Some track displacement of the railroad corridor would be needed with either Alternative. In order to accommodate the platform, both Alternatives would require right-of-way acquisition.

Both sites are fairly open and well-lit areas. The Harvard Street Station site would be more visible to the public, though access to the site would be from a pedestrian tunnel. Ball Square Station has more nearby sidewalk activity, which promotes security. While the Harvard Street Station site could only be accessed from Harvard Street, the Broadway Station could be accessed from both Boston Avenue and Broadway, providing more options for passenger access and egress.

Land Use Compatibility

The areas around both locations have economic development potential, and would benefit from having a Green Line station. The Harvard Street Station Alternative is in a light industrial and institutional setting with some nearby apartment buildings. The Ball Square Alternative is located in a mixed residential and commercial neighborhood with active sidewalk-oriented uses. This station site has support from the community. Required property acquisitions and impacts to abutting properties would be similar between the two Alternatives.

Project Costs

Both Ball Square Alternatives would be fairly costly to construct. Construction of the Harvard Street Station site would require a pedestrian tunnel between Harvard Street and the station platform. Construction of the Broadway Station Alternative would require the cost associated with accommodating two sets of vertical circulations. Both sites would require some acquisition of privately-owned properties.

Conclusion

Based on the Site Selection Criteria Rating, the Ball Square Station Alternative at Broadway received the highest rating, making this the most preferred station site. This location is immediately adjacent to Ball Square, an existing pedestrian-oriented center. The station would be directly served by existing frequent bus service, creating a strong intermodal transit connection. This Alternative also allows near optimal spacing with the adjacent stations. This location seems to have support from the adjoining cities of Medford and Somerville, and from the community.

4.5 College Avenue/Winthrop Street

Two Alternatives were evaluated for the College Avenue Station Site. These include:

a. Two separate stations at College Avenue and Winthrop Street – one station north of the intersection of College Avenue and Boston Avenue, and the other station within close proximity to Winthrop Street; and

b. A single College Avenue Station northwest of College Avenue, adjacent to Boston Avenue.

Station Access

Americans with Disabilities Act Compliance: In order to comply with the ADA, both sites would require additional infrastructure improvements, such as curb ramps to accommodate station access.

Kiss and Ride Access: Kiss and Ride facilities would impact have traffic impacts at the College Avenue and Winthrop Street station locations. The single station along Boston Avenue might better accommodate a drop-off/pick-up area.

Intermodal Transit Access: Both station sites have bus stops for three MBTA bus routes (Routes 80, 94 and 96) at the immediate vicinity of the proposed stations.

Pedestrian/Bicycle Access: Both sites offer attractive bicycle connections and can accommodate bicycle storage areas.

Crossings: Both College Avenue and Winthrop Street are close to signalized intersections. Pedestrian and bicycle crossings can be enhanced through crosswalks and traffic controls at both sites. The College Avenue site is closer to regional school and employment destinations in the area. The Winthrop Street site is closer to area residential neighborhoods. The single station located between College Avenue and Winthrop does not have signalized intersection adjacent to it.

Traffic Impacts: Both Winthrop Street and College Avenue experience fairly significant traffic during the commute hours. Since adjacent Boston Avenue is a highly trafficked roadway during commute hours, any additional traffic introduced to all of the station sites would have a negative impact on traffic and bus level of service.

Transit Operations

The ridership projections indicate that two separate stations would create a larger catchment area and higher local ridership than would a single station. This higher station ridership, however, may be offset by lower system ridership due to slower service. From an operational perspective, having one combined station would reduce delays associated with additional dwelling, accelerations, and decelerations.

Of the two stations, College Avenue has the higher projected ridership. This is because of its proximity to the heart of the Tufts University Campus and nearby employment centers. The Winthrop Street site serves the back of the Tufts campus and a neighborhood retail node. The retail node is a former streetcar station area now served by buses.

The existing New Hampshire main line would need to be shifted to the east under both Alternatives. In order to accommodate a platform, both Alternatives would require some minor right-of-way takings.

Both the College Avenue and Winthrop Avenue sites feature active sidewalk environments. While located in a railroad ravine, both sites are relatively open, active, and well-lit locations.

Under the Alternative with two separate stations, the College Avenue Station would be accessed from College Avenue, and the Winthrop Street Station would be accessed from Winthrop Street, though there is a possibility that Boston Avenue could be considered as an additional access point. Both sites are located along a tangent section of track for optimal operations.

Land Use Compatibility

There is general support for having a station in this part of the Medford. The College Avenue site is adjacent to institutional buildings, while the Winthrop Street site is adjacent to residences. Residents near the Winthrop Street site have expressed concerns about noise and light emissions from the station. Both sites are adjacent to a strip of land along the Boston Avenue side of the track, with little opportunities for future development.

Project Costs

Constructing two separate stations at College Avenue and at Winthrop Street would incur greater capital and operating costs than a single station. Each single station would require reconstructing the respective bridges over the railroad at Winthrop Street and College Avenue. Both Alternatives would cause some minor operational impacts from construction alongside active railroad tracks.

Conclusion

Based on the Site Selection Criteria Rating, a single station between College Avenue and Winthrop Street received the highest rating, making this Alternative the most preferred station site. This site optimizes station spacing and Green Line operations by having one station, as opposed to having two in close proximity.

The proposed combined station as shown on the plans in the vicinity of Brookings Street, based on feedback from the community, would only provide access from the Boston Avenue side of the tracks, resulting in longer walk times to the station for individuals from the neighborhoods.

In addition to the physical characteristics of the stations and impacts on the surrounding areas, the ridership market was evaluated to determine if additional stations were warranted in particular areas. Because none of the stations have park-and-ride facilities, the ridership market for these stations are almost wholly defined as persons capable of accessing the stations by walking or bicycle. Based on FTA requirements for walk-access distances, a one-mile walk-access transit catchment area was evaluated. Based on this distance, nearly every portion of the area around Winthrop Street is covered by the one-mile walk-access catchment areas around the proposed College Avenue and Mystic Valley Parkway/Route 16 Stations. Therefore, the Winthrop Street area will be easily served by a single station in this area and is not warranted at this time.

Based on concerns raised by the community and with a thorough understanding of the ridership market, it was determined that a single station situated north of College Avenue can sufficiently address the demand in this area, while minimizing the impacts on area residents.

4.6 Route 16 / Mystic Valley Parkway Station

This station would extend the Green Line's service further into Medford. The proposed station location is just south of the railroad bridge over Mystic Valley Parkway. This station has potentially high capital costs for right-of-way and station site acquisition and bridge reconstruction. Due to design constraints, community and City of Medford concerns, further evaluation would be needed to determine the feasibility of this station.

5.0 Station Siting - Joint Commuter Rail/ Green Line Stations

In addition to specific light rail station locations, the Secretary's Certificate also specified evaluating alternatives that "could meet the goal of a connection between the Green Line Extension and the Lowell commuter rail including a rail stop at Tufts University or Gilman Square." Toward this goal, the development of joint Commuter Rail/Green Line stations were evaluated at College Avenue and at Gilman Square in order to take advantage of possible transfer opportunities for commuters prior to entering Boston.

In order to provide a potential for providing a commuter rail station along the MBTA Lowell Line, it would be necessary to fully comply with the accessibility requirements for commuter rail stations, as well as to accommodate the requirements for freight service along the corridor. The MBTA's Lowell Line currently accommodates freight rail service in addition to passenger rail service and is designated as a "high-and-wide route," meaning that additional clearances are required for freight traffic along the corridor.

All new stations must be constructed in a manner that meets the American with Disabilities Act (ADA) for providing fully accessible stations. In order to meet these standards, a new commuter rail station would need to include a fully accessible high-level platform. The MBTA Railroad Operations' *Commuter Rail Design Standards Manual* specify that sufficient clearance or a bypass track must be provided for all high level platform stations on "high-and-wide routes". This side clearance does not comply with the Americans with Disabilities Act Statute and Regulations found at 42 USC Section 12162(e) and the U.S. Department of Transportation's regulations found at 49 CFR Parts 37 and 38, which requires a gap of no more than 3'' horizontal and 5/8'' vertical between platform edge and entrance to the rail car. Bridge plates could be used to address this gap.

To accommodate the freight traffic in this area, it would be necessary to construct an additional track for freight service in the vicinity of the commuter rail station areas. This "bypass" track would provide the freight trains with the additional clearances that would be necessary to circumvent the stations. An example of this type of design can be found at the MBTA's Anderson/Woburn Station. Constructing an additional commuter rail track along the already constrained College Avenue and Gilman Square area corridor would significantly impact additional properties in these areas. As it is the goal of this project to minimize property impacts to the greatest extent possible, the impact on the neighboring areas would outweigh the potential benefits of providing a commuter rail and light rail connection. Conceptual plans of a joint commuter rail/Green Line station at Gilman Square and in the vicinity of College Avenue are provided in Attachment 3.

Providing a new joint station also could have impacts on operations and on the environment. Adding a new commuter rail stop on the MBTA Lowell Line within such close proximity of West Medford Station and North Station would increase travel times on existing trains and could have a negative impact on existing ridership. Additionally, environmental impacts such as noise and air quality is an important consideration in the stopping of a diesel commuter rail train in a residential community, a concern expressed by many in the public.

For these reasons, it is not recommended that a joint Commuter Rail/Green Line station be included in the project at this time. Although the Project does not provide a new connection between the Green Line and the commuter rail, a connection already exists at North Station and would continue to be available.

6.0 Alignment and Station Siting - Union Square Branch

For the Union Square Branch of the Green Line Extension Project, one light rail transit (LRT) station is proposed in the vicinity of Union Square. The alignment proposed as part of the EENF for the project consisted of a route within the MBTA's Fitchburg Line commuter rail right-of-way. As a result of comments received during the EENF process, it was suggested that an in-street running option be evaluated to bring the rail lines closer to the center of Union Square. The Secretary's Certificate stated that the DEIR document "should consider alternatives that route the spur along the McGrath Highway and Somerville Avenue with a potential to loop back along the Fitchburg Line."

Toward this goal, three Union Square Branch alignment Alternatives were evaluated, each with its own unique station location. The purpose of this section is to evaluate the alternative alignments under consideration and select the alternative alignments that will be used the basis for the evaluation of the DEIR; one alignment operating within the MBTA Fitchburg Line commuter rail right-of-way, and one "in-street" running alignment via Somerville Avenue.

6.1 Alignment Alternatives

6.1.1 Alternative 1: Railroad Corridor via the MBTA Fitchburg Line

Under this Alternative, the Union Square Branch would operate within the existing MBTA Fitchburg Line Right-Of-Way, north of and parallel to the existing commuter rail track. A station platform would be located on the east side of the Prospect Street bridge, as shown in Attachment 4. Detailed operations and conceptual design plans will be evaluated in the DEIR/EA phase of the Project.

6.1.2 Alternatives 2A & 2B: In-Street Running

Two variations were evaluated for the Street-Running Alternative. These are:

A. Street-Running via Somerville Avenue in both directions, extending from the MBTA Fitchburg Line Right-Of-Way ("Somerville Avenue Only"). Travel on Somerville Avenue would be in mixed-flow traffic. A station platform would be located on Somerville Avenue between Prospect Street and Stone Avenue within the heart of Union Square (as shown in Attachment 4); and

B. Street running on Somerville Avenue westbound via the MBTA Fitchburg Line Right-Of-Way, with a return loop eastbound via Prospect Street and the MBTA Fitchburg Line Right-Of-Way ("the Loop"). Travel on Somerville Avenue would follow a single dedicated transit lane on a raised track bed that would enable crossing by emergency vehicles. A station platform would be located along the east side of Prospect Street close to the intersection of Prospect Street and Somerville Avenue (as shown in Attachment 4).

When evaluating the feasibility of the in-street running alternatives, coordination with the Department of Conservation and Recreation (DCR), the owner of the McGrath Highway structure in the vicinity of Somerville Avenue, was conducted. DCR informed the project team that there were no plans to reconstruct the bridge structures in the area and any upgrades that were planned were simply to be in-kind structural repairs. In order to provide transit service in this segment, a significant and costly reconstruction and reconfiguration of the McGrath Highway bridge structures would be required. Due to the large expense associated with this work, the routing along this segment of highway was found to be impractical at this time. The In-Street Running Alternatives, however, propose an alternate to the McGrath Highway routing, with the connection to Somerville Avenue being made through a private property (Pat's Tow Lot), as shown in Attachment 4.

6.2 Evaluation of Alternative Alignments

Utilizing the same criteria described in previous sections, the In-Street Running Alternatives 2A and 2B were evaluated and compared to determine the option that would move forward into the DEIR analysis. These criteria were used to qualitatively assess each In-Street Running alternative and rate and rank the possible options. For each criterion, Alternatives were rated numerically from -2 for being the most unfavorable to +2 for being the most favorable. The final alignments and station sites recommended for the Union Square Branch were selected based on the highest overall score. A detailed listing of evaluation criteria, ratings for each alternative and alignment figures are included in the Attachment 4. The following section describes the evaluation of the In-Street Running Alternatives 2A and 2B as they relate to the criteria.

Station Access

Americans with Disabilities Act Compliance: The Americans with Disabilities Act (ADA), a Federal law enacted in 1990, mandates equal access to public and private facilities, including public transit, regardless of disability. Each of the evaluated station sites provides existing facilities and opportunities to support ADA compatible access to and egress from stations in Union Square. All Green Line Extension stations will be designed to comply with ADA requirements.

Kiss and Ride Access: Alternative 2B (The Loop) station area holds potential for a Kiss and Ride facility along the east side of Prospect Street. Because properties east of Prospect Street would be acquired for the LRT alignment, a Kiss and Ride could potentially be located off-street to minimize impacts on traffic. Alternative 2A (Somerville Avenue Only), the station area has high vehicular and pedestrian traffic and would not likely accommodate a safe and effective Kiss and Ride facility immediately at the site.

Intermodal Transit Access: Union Square currently has two bus hubs: 1) Washington Street/Webster Avenue/Somerville Avenue; and 2) a secondary hub served by the limited stop Route CT2 at Prospect Street/Somerville Avenue. (See the following figure for MBTA bus routes in Union Square). The station sites for each In-Street Running variation are adjacent to existing stops for MBTA Routes 85, 86, 87, 91 and CT2. In general, the existing stops for these routes provide convenient bus connections from the proposed LRT station sites in either In-Street Running variation.

Pedestrian/Bicycle Access: Several Union Square streets are identified by the City of Somerville as recommended bicycle routes. These include Somerville Avenue (with a Bow Street couplet in the northwestern portion of the Square), Washington Street, a Webster Street / Newton Street couplet, Summer Street, Prescott Street, Quincy Street, Walnut Street, and School Street. Additionally, bicyclists are able to share travel lanes with vehicles on all other streets in the area. All station sites could accommodate bicycle storage areas. In the Somerville Avenue Only variation, existing signalized intersections could provide pedestrian / bicycle crossings for station access and egress. The proposed Loop Alternative station would be located in the midpoint of a long Prospect Street block with no immediate signals aiding safe crossings. A controlled midblock crosswalk may be needed to enable transit customers to cross Prospect Street at this station site.

Crossings: Both In-Street Running alternatives will require additional pedestrian capacity at the station site and along primary access routes to the station. Consideration should be given to street crossing locations and conditions, existing pedestrian barriers, signal timing for pedestrians, and street and sidewalk amenities that will improve the walking experience to and from the stations and thus maximize transit ridership and community benefits from transit improvements. Alternative 2A (Somerville Avenue Only) has the advantage of being located within the Square, in close proximity to the Square's businesses and amenities. This variation also provides convenient walking connections for areas north of Somerville Avenue to the station. Alternative 2B (The Loop) fosters the transformation of the eastern reaches of the Square and areas south of the Square.

Traffic Impacts: With Alternative 2A (Somerville Avenue Only), the alignment would follow Somerville Avenue in both directions. To accommodate this, vehicular travel lanes on Somerville Avenue east of Prospect Street would either be reduced from two to one lane in each direction, and / or they would be re-configured for mixed-flow operation with Green Line LRT vehicles. In addition, on-street parking would be reduced or eliminated and some turning movements would be restricted along the street. Connecting streets would also be impacted. For example, train movements through the Somerville Avenue / Prospect Street intersection would cause some delays on Prospect Street and other intersecting streets.

The station in Alternative 2A would be located within Somerville Avenue between Prospect Street and the existing Washington Street plaza. At the station, it may be necessary to convert Somerville Avenue to a transit mall with no vehicular access. This would require directing the Square's high traffic volumes through the existing plaza and creating a new plaza within and adjacent to Somerville Avenue around the station. These changes to neighborhood streets would be comprehensive and transformative in the community with potentially adverse consequences.

By contrast, the Alternative 2B (The Loop) station would be located off-street and the fixed-guideway alignment would require minor reconfigurations to Somerville Avenue east of Prospect Street. The Loop would have some minor traffic impacts along Somerville Avenue, most notably at the intersection of Somerville Avenue, Prospect Street, and Washington Street. Other traffic impacts of the variation include restrictions on left turns and cross-track movements.

Transit Operations

The two In-Street Running alternatives would produce similar transportation ridership projections. Because in-street running would limit travel speeds to posted roadway speeds, the either Street-Running variation would have a longer station to station travel time than the Railroad Corridor

Alternative. The Loop (2B) is the faster of the in-street running options for three reasons: 1) it would change direction before entering the most congested section of Union Square; 2) the Somerville Avenue portion would have a reserved transit right-of-way (as opposed to mixed-flow operations shown in Alternative 2A); and 3) in the outbound direction, it could operate at optimal vehicle speeds for one-half-mile along the railroad corridor. Somerville Avenue Only (2A) provides the strongest pedestrian connection to Union Square of any alternative, while the Loop provides a stronger walking connection to neighborhoods south of the railroad corridor, including the Boynton Yards Revitalization Area and Cambridge's Inman Square and Wellington-Harrington neighborhood. Neither variation would cause permanent impacts to existing commuter rail operations.

None of the In-Street Running Alternatives is easily extended beyond Union Square in the future. No planned rail mode improvements connect with the Alternatives, though all improvements would be designed not to preclude a future MBTA Fitchburg Line commuter rail station serving Union Square. Both variations would have stations in open, well-lit areas, making them desirable for transit customer comfort and safety, and for maximizing benefits to the community. The most active and visible station would be the Somerville Avenue Station for the Somerville Avenue Only Alternative (2A).

Land Use Compatibility

Each of the Alternatives facilitate improved transit access to planned developments in the Union Square and Boynton Yards area. The station would present additional opportunities for development oriented or adjacent to transit. Alternative 2B (Loop) would require property acquisitions for the alignment, which presents opportunities for joint development at the station. Of the two, Alternative 2B would more strongly support the redevelopment of the Boynton Yards Revitalization Area south of the MBTA Fitchburg Line.

Alternatives 2A and 2B are anticipated to incur similar impacts on abutting properties and land uses. Both variations would incur impacts in the Brickbottom Artist Buildings neighborhood near the junction of the Union Square and Medford branches of the Green Line Extension. These impacts can be mitigated and will be fully documented in the DEIR / EA, as will any impacts along the selected Union Square In-Street Running alignment. The Loop (Alternative 2B) would incur some adverse impacts to abutters—for some due to property acquisitions and for others due to transportation activities moving closer to these properties. The Somerville Avenue Only variation would incur minor noise and vibration impacts to street-adjacent properties.

While the public generally supports Alternative 2B (Loop), several Union Square stakeholders have expressed preference for the Alternative 2A (Somerville Avenue Only). This is because the proposed site would be located at the heart of Union Square, providing the most direct access to properties and amenities in the Square. The Somerville Avenue Only variation is particularly supported by STEP and Main Street Merchants. The City of Somerville seems to prefer the Loop variation, in part because it would provide a stronger transit connection to areas south of the MBTA Fitchburg Line.

Project Costs

Estimates for the two In-Street Running Alternatives are expected to be similar, though detailed capital construction estimates have not been developed at this point. The Loop (2B) alternative has higher property acquisition costs, while the Somerville Avenue Only (2A) alternative includes costs for substantial street and signal modifications. Neither variation will have undue costs associated with shifting the existing MBTA Fitchburg Line commuter rail tracks to make room for LRT tracks.

Conclusion

Based on the evaluation of station sites and operations, Alternative 2B (Loop) is recommended for the In-Street Running Alternative. The greatest concern with the Alternative 2A (Somerville Avenue Only) is that street-running operations in both directions would take substantial roadway capacity from already busy Union Square streets. This would adversely impact traffic and require multiple street reconfigurations. Alternative 2A would also have the greatest impact on Green Line operations because of relatively slow street-running travel speeds and relatively low schedule reliability. Although Alternative 2B, The Loop, would require some private property acquisition, these properties could be redeveloped with amenities at the station site that benefit transit users, surrounding properties, and community and City initiatives. Alternative 2B (The Loop) offers substantial benefits to the Union Square area while incurring few impacts. It is recommended for detailed evaluation, along with the Railroad Corridor Alternative, in the DEIR / EA.

7.0 Tunnel Alignments

A number of suggestions for incorporating tunnel alignments into the proposed Green Line Extension Project were suggested by members of the Advisory Committee and general public. The proposals offer the potential of mitigating some impacts of the extension, as well as for allowing for some variations in the alignment that would be possible with a tunnel alignment.

A detailed memorandum was prepared that summarizes the proposals received, considers alternative construction methodologies, examines the feasibility of tunnel alignment alternatives, and presents order-of-magnitude construction cost comparisons. This memorandum is provided in Attachment 5.

This evaluation concluded that while the tunnel alternatives would reduce surface disruption during construction and post-construction noise and visual impacts, any tunnel would add considerable costs to the project, and thereby make the ability to construct a tunnel at this time impractical.

Attachments

1. Station Site Alternatives Analysis and Rating Summaries
2. Medford Branch Station Sites Concept Plans
3. Joint Green Line/Commuter Rail Station Concept Plans
4. Union Square Branch Alternatives Concept Plans and Rating Summaries
5. Tunnel Alignment Memorandum

Attachment 1

Station Site Alternatives Analysis and Rating Summaries

Green Line Extension Station Site Alternatives Analysis - Overall Rating Summary

		Washington Street /Brickbottom Area				Lowell Street		Ball Square		College Avenue/Winthrop Street	
Criteria	**Definition**	Brickbottom (Alone)	Washington Street (Alone)	Washington Street & Brickbottom (Separate Stations)	Combined Brickbottom/ Washington	Lowell Street - North	Lowell Street - South	Ball Square/ Harvard Street	Ball Square/ Broadway	College Avenue & Winthrop Street (Separate Stations)	Combined College Ave/ Winthrop Street
STATION ACCESS											
ADA Consistency	*Does the proposed location have ADA compliant infrastructure embedded in the adjoining build environment (ie, complete sidewalks, curb ramps etc)?*	-2	-2	-2	**-2**	**-2**	-2	0	**0**	1	**1**
	Is there a barrier or fatal flaw for ADA compliance?	1	1	1	**1**	**-1**	-1	1	**1**	1	**1**
Kiss & Ride	*Would right-of-way acquisition or significant construction be required to accommodate kiss and ride, taxi and local bus feeder route activities?*	1	-1	0	**1**	**-1**	-1	-1	**1**	-1	**1**
Transit Connections	*Is direct access available from existing local bus stops?*	-2	2	0	**1**	**0**	0	-1	**1**	2	**2**
Pedestrian and Bicycle	*Are there existing or planned non-motorized, regional infrastructure that can be linked to the location (ie, the Community Path)?*	-1	1	0	**-1**	**1**	1	0	**0**	0	**0**
	Is there an on-street bike route?	-1	-1	-1	**-1**	**-1**	-1	-1	**-1**	-1	**-1**
	Can bike storage areas be accommodated?	2	1	1	**2**	**1**	1	0	**1**	1	**1**
Signalized Intersections/ Crosswalks	*Are there pedestrian/bicycle crossing enhancements (ie crosswalks, pedestrian count-down timers etc) at the adjacent intersections?*	0	1	1	**1**	**2**	2	1	**0**	1	**-1**
Traffic	*Would there be traffic impacts based on the location of the station*	0	0	0	**0**	**2**	2	-1	**0**	-1	**-1**
TRANSIT OPERATIONS											
Ridership	*Do ridership projections support a station at this site?*	1	1	2	**2**	**1**	1	1	**1**	2	**1**
Green Line Operational Impacts	*Would there be impacts to existing Green Line operations based on station spacing, run time, and distance between light rail stations?*	1	1	-1	**2**	**2**	-2	0	**1**	1	**2**
Impact to Commuter/Freight Operations	*Would there be permanent impacts to existing Commuter/freight train operations such as altering speeds, headways etc?*	-1	-1	-1	**-1**	**2**	2	2	**2**	2	**2**
	Would existing tracks need to be relocated?	1	1	1	**1**	**-1**	-1	-1	**-1**	-1	**-1**
Intermodal Connections	*Are there other modes (commuter rail, heavy rail, BRT, etc) that are planned to connect with the proposed location*	0	0	0	**0**	**0**	0	0	**0**	0	**0**
Adequate R-O-W	*Does the proposed location have adequate right-of-way to accomodate a 300' long platform?*	2	2	2	**2**	**0**	-2	-2	**-2**	-1	**-1**
Safety and Security	*Would the station be located in an open, well-lit area?*	-2	-2	-2	**-1**	**-1**	-1	2	**1**	2	**1**
	Can several access points be accommodated?	1	1	1	**2**	**-1**	-1	0	**1**	0	**1**
Track Configuration	*Is the site located along a tangent section of track?*	2	2	2	**2**	**2**	-2	2	**2**	2	**2**
LAND USE COMPATIBILITY											
Compatible with Land Development Plans	*Does the location meet the land development goals of the municipality and support the regional MPO Comprehensive Plan?*	1	0	1	**1**	**2**	2	2	**2**	1	**1**
Development Opportunities	*Are there re-development or transit-oriented development opportunities adjacent to the station?*	1	1	1	**2**	**-1**	-1	1	**1**	-1	**-1**
Environmental Concerns	*Would this location have negative impacts on environmental issues such as wetlands, noise & vibration, etc.*	-1	-1	-1	**0**	**-1**	-1	-1	**-1**	-1	**-1**
Public Perception	*Does the station location have the general support of the community and local decision makers?*	0	0	1	**1**	**0**	1	0	**2**	1	**1**
Impact to Abutters	*Would station location adversely alter abutting parcel access or effect parcel "usability"?*	-1	-1	-1	**1**	**-1**	-2	1	**1**	0	**0**
PROJECT COSTS											
Capital Costs	*Would the station location require large capital construction costs (moving existing commuter rail/freight tracks, tunneling, bridge replacement etc)?*	0	0	-1	**-1**	**0**	-1	-1	**-2**	-1	**1**
	Would this station site add additional cost to the project?	0	0	-1	**0**	**0**	0	0	**0**	-1	**0**
Impact to Commuter Rail/Freight Ops	*Would construction require existing transit operations to be altered causing a reduction in revenue or loss of ridership?*	2	-1	0	**1**	**0**	0	0	**0**	0	**0**
Property Acquisition	*Does the alternative require acquisition of privately owned property or the relocation of tenants, owners or users of adjacent private property?*	-1	1	0	**0**	**-1**	-2	-1	**-1**	-1	**-1**
	Totals	**4**	**6**	**3**	**16**	**3**	**-9**	**3**	**10**	**7**	**10**

Criteria Rating Legend

-2 Very unfavorable condition, criteria has a significant impact on station siting
-1 Unfavorable condition, citeria has some impact on station siting
0 Nuetral, criteria has little or no impact on station siting or Not Applicable
1 Favorable condition, criteria has some benefit on the station siting
2 Very favorable condition, criteria has many benefits on the station siting

Green Line Extension Station Site Alternatives Analysis - The Brickbottom/Washington Street Station Alternative

Criteria	Definition	Brickbottom Alone		Washington Street Alone		Washington Street & Brickbottom Separate Stations		Combined Brickbottom/ Washington	
		Rating	Justification	Rating	Justification	Rating	Justification	Rating	Justification
STATION ACCESS									
ADA Consistency	Does the proposed location have ADA compliant infrastructure embedded in the adjoining build environment (i.e.. complete sidewalks, curb ramps etc)?	-2	incomplete sidewalk network, cobblestone, no curb ramps	-2	incomplete sidewalk network, no curb ramps	-2	incomplete sidewalk network, cobblestone, no curb ramps	-2	incomplete and/or obstructed sidewalk network, no curb ramps or crosswalks
	Is there a barrier or fatal flaw for ADA compliance?	1	no fatal flaw, but additional construction would be required to bring area into ADA compliance	1	no fatal flaw, but additional construction would be required to bring area into ADA compliance	1	no fatal flaw, but additional construction would be required to bring area into ADA compliance	1	no fatal flaw, but additional construction would be required to bring area into ADA compliance
Kiss & Ride	Would right-of-way acquisition or significant construction be required to accommodate kiss and ride, taxi and local bus feeder route activities?	1	Some minor construction would be required to accommodate this feature	-1	significant construction would be required to accommodate this feature (ROW, Traffic Intersections)	0	Construction would be required at both sites but Washington Street would be more involved	1	Some minor construction would be required to accommodate this feature
Transit Connections	Is direct access available from existing local bus stops?	-2	Currently there are no existing local bus stops	2	Washington Street is served by bus routes 86 and 91	0	Transit connections are easily made at Washington Street but the Brickbottom area is remote to bus service	1	Transit connections could be made via a connection to Washington Street but not necessarily directly in front of the station headhouse
Pedestrian and Bicycle	Are there existing or planned non-motorized, regional infrastructure that can be linked to the location (i.e.. the Community Path)?	-1	The community path would not provide direct access	1	The community path could potentially provide access to this station site	0	While the community path would not provide a direct connection, the proximity would be close enough to allow easy access	-1	The community path would not provide direct access
	Is there an on-street bike route?	-1	Currently there is no on-street bike route	-1	Currently there is no on-street bike route	-1	Currently there is no on-street bike route	-1	Currently there is no on-street bike route
	Can bike storage areas be accommodated?	2	Bike storage areas can be accommodated at this site	1	Bike storage can be accommodated but space here is at a premium	1	Bike storage areas could be accommodated at both sites, though at a premium at Washington Street	2	Bike storage areas can be accommodated at this site
Signalized Intersections/Crosswalks	Are there pedestrian/bicycle crossing enhancements (i.e. crosswalks, pedestrian count-down timers etc) at the adjacent intersections?	0	there are no crosswalks or signalized intersections in the area, but the low AADT does not warrant them	1	this location does have existing crosswalks and signals, however there is heavy vehicular traffic on Washington Street. Some improvements could be implemented	1	this location does have existing crosswalks and signals, however there is heavy vehicular traffic on Washington Street. Brickbottom has no crosswalks or signalized intersections	1	this location does have existing crosswalks and signals, however there is heavy vehicular traffic on Washington Street. Some improvements could be implemented.
Traffic	Would there be traffic impacts based on the location of the station	0	Traffic impacts would be negligible	0	Traffic impacts would be negligible	0	Traffic impacts would be negligible	0	Traffic impacts would be negligible
TRANSIT OPERATIONS									
Ridership	Do ridership projections support a station at this site?	1	ridership would support a station at this site but the location is not centered on the optimal catchment area	1	ridership would support a station at this site but the location is not centered on the optimal catchment area	2	The catchment area of the two separate stations would cover a large enough area to support two separate station sites in this area	2	This location would provide the nearly the same ridership as the two (Washington & Brickbottom) stations combined
Green Line Operational Impacts	Would there be impacts to existing Green Line operations based on station spacing, run time, and distance between light rail stations?	1	Somewhat unbalanced spacing with adjacent stations	1	Somewhat unbalanced spacing with adjacent stations	-1	These locations would create less than ideal conditions in station spacing, creating operational issues	2	This location provides near optimal station spacing
Impact to Commuter/Freight Operations	Would there be permanent impacts to existing Commuter/freight train operations such as altering speeds, headways etc?	-1	Freight operations would be permanently altered	-1	Freight operations would be permanently altered	-1	Freight operations would be permanently altered	-1	Freight operations would be permanently altered
	Would existing tracks need to be relocated?	1	The main line would not require any adjustment but the freight siding would be displaced	1	The main line would not require any adjustment but the freight siding would be displaced	1	The main line would not require any adjustment but the freight siding would be displaced	1	The main line would not require any adjustment but the freight siding would be displaced
Intermodal Connections	Are there other modes (commuter rail, heavy rail, BRT, etc) that are planned to connect with the proposed location	0	No connections planned at this time	0	No connections planned at this time	0	No connections planned at this time	0	No connections planned at this time
Adequate R-O-W	Does the proposed location have adequate right-of-way to accommodate a 300' long platform?	2	There is sufficient R-O-W width at this location	2	There is sufficient R-O-W width at this location	2	There is sufficient R-O-W width at this location	2	There is sufficient R-O-W width at this location
Safety and Security	Would the station be located in an open, well-lit area?	-2	This location is in located above grade, behind industrial buildings	-2	This location is in located above grade, behind industrial buildings	-2	This location is in located above grade, behind industrial buildings	-1	This location is in located above grade, in an industrial area, but adjacent to vacant parcels
	Can several access points be accommodated?	1	From Fitchburg Street and Innerbelt Road	1	From Washington Street	1	From Fitchburg Street, Innerbelt Road and Washington Street	2	From Joy Street, Innerbelt Road and Washington Street
Track Configuration	Is the site located along a tangent section of track?	2	Yes	2	Yes	2	The site is located along a tanget section of track for the optimal operations	2	The site is located along a tanget section of track for the optimal operations
LAND USE COMPATIBILITY									
Compatible with Land Development Plans	Does the location meet the land development goals of the municipality and support the regional MPO Comprehensive Plan?	1	Consistent with the City of Somerville's Master Plan	0	Benefits to having a station site at this location would be marginal	1	Brickbottom is favored by the City while Washington Street provides marginal benefit	1	This site provides access from both the Brickbottom and Washington Street neighborhoods and is consistent with the City's plans
Development Opportunities	Are there re-development or transit-oriented development opportunities adjacent to the station?	1	The Innerbelt and Brickbottom areas are currently underdeveloped and potential exists for re-development	1	The Innerbelt and Brickbottom areas are currently underdeveloped and potential exists for re-development	1	The Innerbelt and Brickbottom areas are currently underdeveloped and potential exists for re-development	2	The Innerbelt and Brickbottom areas are currently underdeveloped and potential exists for re-development Vacant parcels adjacent to this site present opportunities
Environmental Concerns	Would this location have negative impacts on environmental issues such as wetlands, noise & vibration, etc.	-1	There is a sensitive receptor in this area and therefore noise & vibration is of concern	-1	This location would not adversely impact the surrounding environment	-1	Washington street has no adverse impacts but there is a sensitive receptor at Brickbottom	0	This location would not adversely impact the surrounding environment
Public Perception	Does the station location have the general support of the community and local decision makers?	0	The City of Somerville supports a station at this site while some citizens oppose	0	A station at this site has not gained much support though there is little opposition	1	There is support for a Brickbottom Site and little or no opposition to Washington Street	1	this location accommodates the needs of both the Washington Street and Brickbottom neighborhoods
Impact to Abutters	Would station location adversely alter abutting parcel access or effect parcel "usability"?	-1	An access point on Fitchburg Street or Innerbelt Rd could impact this area	-1	Depending upon which access point are chosen, the usability of the adjacent parcels could be altered	-1	Depending upon which access point are chosen, the usability of the adjacent parcels could be altered	1	Adjacent parcels are currently vacant and could be acquired to serve TOD, resulting in no adverse impacts
PROJECT COSTS									
Capital Costs	Would the station location require large capital construction costs (moving existing commuter rail/freight tracks, tunneling, bridge replacement etc)?	0	There is no premium associated with the construction costs of this station	0	There is no premium associated with the construction costs of this station	-1	There is no premium associated with the construction costs of this station	-1	Some land acquisition would potentially be required to accommodate access point for this location
	Would this station site add additional cost to the project?	0	This location would not add additional cost to the project	0	This location would not add additional cost to the project	-1	two separate stations are more expensive than one	0	This location would not add additional cost to the project
Impact to Commuter Rail/Freight Ops	Would construction require existing transit operations to be altered causing a reduction in revenue or loss of ridership?	2	Construction could take place completely independent of any existing operations	-1	Some operational impacts would occur during construction due to the location of this station	0	Construction at Brickbottom would have no impacts to existing operations but the Washington Street site would present minor challenges	1	Most of the construction at this site would not impact existing operations
Property Acquisition	Does the alternative require acquisition of privately owned property or the relocation of tenants, owners or users of adjacent private property?	-1	Access to this site would likely have some impacts on adjacent parcels	1	access to this site would not require private property acquisition	0	Brickbottom would likely require some takings while Washington Street would not	0	Two potential access routes would require property acquisitions or easements.
	Totals	4		6		3		16	

Criteria Rating Legend

-2 Very unfavorable condition, criteria has a significant impact on station siting
-1 Unfavorable condition, criteria has some impact on station siting
0 Neutral, criteria has little or no impact on station siting or Not Applicable
1 Favorable condition, criteria has some benefit on the station siting
2 Very favorable condition, criteria has many benefits on the station siting

Green Line Extension Station Site Alternatives Analysis - The Lowell Street Station Alternative

Criteria	Definition	Lowell Street - orth		Lowell Street- South	
		Rating	Justification	Rating	Justification
STATION ACCESS					
ADA Consistency	Does the proposed location have ADA compliant infrastructure embedded in the adjoining build environment (i.e.. complete sidewalks, curb ramps etc)?	-2	incomplete sidewalk network, cobblestone, no curb ramps	-2	incomplete sidewalk network, no curb ramps
	Is there a barrier or fatal flaw for ADA compliance?	-1	Grade difference from Highland Avenue is faily significant.	-1	Grade difference from Highland Avenue is faily significant.
Kiss & Ride	Would right-of-way acquisition or significant construction be required to accommodate kiss and ride, taxi and local bus feeder route activities?	-1	significant construction would be required to accommodate this feature (ROW, Traffic Intersections)	-1	significant construction would be required to accommodate this feature (ROW, Traffic Intersections)
Transit Connections	Is direct access available from existing local bus stops?	0	There is Route 80 on Medford Street and Routes88 and 90 on Highland Avenue, but both are approx. 1/4 miles from the station.	0	There is Route 80 on Medford Street and Routes88 and 90 on Highland Avenue, but both are approx. 1/4 miles from the station.
Pedestrian and Bicycle	Are there existing or planned non-motorized, regional infrastructure that can be linked to the location (i.e.. the Community Path)?	1	The community path could potentially provide access to this station site	1	The community path could potentially provide access to this station site
	Is there an on-street bike route?	-1	Currently there is no on-street bike route	-1	Currently there is no on-street bike route
	Can bike storage areas be accommodated?	1	Bike storage can be accommodated	1	Bike storage can be accommodated
Signalized Intersections/Crosswalks	Are there pedestrian/bicycle crossing enhancements (i.e. crosswalks, pedestrian count-down timers etc) at the adjacent intersections?	2	this location has existing crosswalks and signals	2	this location has existing crosswalks and signals
Traffic	Would there be traffic impacts based on the location of the station	2	Traffic impacts would be negligible	2	Traffic impacts would be negligible
TRANSIT OPERATIONS					
Ridership	Do ridership projections support a station at this site?	1	ridership would support a station at this site but the location is not centered on the optimal catchment area	1	ridership would support a station at this site but the location is not centered on the optimal catchment area
Green Line Operational Impacts	Would there be impacts to existing Green Line operations based on station spacing, run time, and distance between light rail stations?	2	This location provides near optimal station spacing	-2	This location provides near optimal station spacing
Impact to Commuter/Freight Operations	Would there be permanent impacts to existing Commuter/freight train operations such as altering speeds, headways etc?	2	There would be no permanet impacts to the existing operations	2	There would be no permanet impacts to the existing operations
	Would existing tracks need to be relocated?	-1	The main line would require some track displacement	-1	The main line would require some track displacement
Intermodal Connections	Are there other modes (commuter rail, heavy rail, BRT, etc) that are planned to connect with the proposed location.	0	No connections planned at this time	0	No connections planned at this time
Adequate R-O-W	Does the proposed location have adequate right-of-way to accommodate a 300' long platform?	0	There might be sigith R-O-W acquisition to accomdoate the proposed width of 24 feet.	-2	There would be significant R-O-W acquisition required for this option.
Safety and Security	Would the station be located in an open, well-lit area?	-1	Platform would be covered with canopies	-1	Platform would be covered with canopies
	Can several access points be accommodated?	-1	From Lowell Street	-1	From Lowell Street
Track Configuration	Is the site located along a tangent section of track?	2	The site is located along a tanget section of track for the optimal operations	-2	The site is located along a curved section of track.
LAND USE COMPATIBILITY					
Compatible with Land Development Plans	Does the location meet the land development goals of the municipality and support the regional MPO Comprehensive Plan?	2	Would be benefitial to have a station site at this location	2	Would be benefitial to have a station site at this location
Development Opportunities	Are there re-development or transit-oriented development opportunities adjacent to the station?	-1	The area is already well developed	-1	The area is already well developed
Environmental Concerns	Would this location have negative impacts on environmental issues such as wetlands, noise & vibration, etc.	-1	There is a sensitive receptor in this area and therefore noise & vibration is of concern	-1	There is a sensitive receptor in this area and therefore noise & vibration is of concern
Public Perception	Does the station location have the general support of the community and local decision makers?	0	The City of Somerville supports a station at this site while some citizens oppose	1	The community seems to prefer this site.
Impact to Abutters	Would station location adversely alter abutting parcel access or effect parcel "usability"?	-1	An access point to Lowell Street would have some impact on the abutting parcel.	-2	Impacts to the abutting parcel and land acqisition required.
PROJECT COSTS					
Capital Costs	Would the station location require large capital construction costs (moving existing commuter rail/freight tracks, tunneling, bridge replacement etc)?	0	There is no premium associated with the construction costs of this station	-1	Some land acquisition would potentially be required to accommodate the proposed station.
	Would this station site add additional cost to the project?	0	This location would not add additional cost to the project	0	This location would not add additional cost to the project
Impact to Commuter Rail/Freight Ops	Would construction require existing transit operations to be altered causing a reduction in revenue or loss of ridership?	0	Construction could take place completely independent of any existing operations	0	Some operational impacts would occur during construction due to the location of this station
Property Acquisition	Does the alternative require acquisition of privately owned property or the relocation of tenants, owners or users of adjacent private property?	-1	Access to this site would likely have some impacts on adjacent parcels	-2	The proposed site and the access to this site would require significant acquisition of private properties
	Totals	3		-9	

Criteria Rating Legend

-2 Very unfavorable condition, criteria has a significant impact on station siting
-1 Unfavorable condition, criteria has some impact on station siting
0 Neutral, criteria has little or no impact on station siting or Not Applicable
1 Favorable condition, criteria has some benefit on the station siting
2 Very favorable condition, criteria has many benefits on the station siting

Green Line Extension Station Site Alternatives Analysis - The Ball Square Station Alternative

Criteria	Definition	Ball Square/ arvard Street		Ball Square/ Broadway	
		Rating	Justification	Rating	Justification
STATION ACCESS					
ADA Consistency	Does the proposed location have ADA compliant infrastructure embedded in the adjoining build environment (i.e.. complete sidewalks, curb ramps etc)?	0	Sidewalks available on Boston Avenue	0	Sidewalks available on Boston Avenue
	Is there a barrier or fatal flaw for ADA compliance?	1	no fatal flaw, but additional construction would be required to bring area into ADA compliance	1	no fatal flaw, but additional construction would be required to bring area into ADA compliance
Kiss & Ride	Would right-of-way acquisition or significant construction be required to accommodate kiss and ride, taxi and local bus feeder route activities?	-1	significant construction would be required to accommodate this feature (ROW, Traffic Intersections)	1	significant construction would be required to accommodate this feature (ROW, Traffic Intersections)
Transit Connections	Is direct access available from existing local bus stops?	-1	There are Routes 80 & 89 on Broadway but would be quite a distance for walk.	1	There are Routes 80 & 89 on Broadway at Boston Avenue right around the proposed site
Pedestrian and Bicycle	Are there existing or planned non-motorized, regional infrastructure that can be linked to the location (i.e.. the Community Path)?	0	While the community path would not provide a direct connection, the proximity would be close enough to allow easy access	0	While the community path would not provide a direct connection, the proximity would be close enough to allow easy access
	Is there an on-street bike route?	-1	Currently there is no on-street bike route	-1	Currently there is no on-street bike route
	Can bike storage areas be accommodated?	0	Bike storage can be accommodated with some restriction on the current street usage or Right-Of-Way takings	1	Bike storage can be accommodated
Signalized Intersections/Crosswalks	Are there pedestrian/bicycle crossing enhancements (i.e. crosswalks, pedestrian count-down timers etc) at the adjacent intersections?	1	this location does have existing crosswalks and signals, however there is faily heavy vehicular traffic on Boston Avenue. Some improvements could be implemented	0	no signalized intersection in the immediate proximity but at the end of the block.
Traffic	Would there be traffic impacts based on the location of the station	-1	Some traffic impacts would occur.	0	Traffic impacts would be negligible
TRANSIT OPERATIONS					
Ridership	Do ridership projections support a station at this site?	1	ridership would support a station at this site but the location is not centered on the optimal catchment area	1	ridership would support a station at this site but the location is not centered on the optimal catchment area
Green Line Operational Impacts	Would there be impacts to existing Green Line operations based on station spacing, run time, and distance between light rail stations?	0	Somewhat unbalanced spacing with adjacent stations	1	relatively well balanced spacing with adjacent stations
Impact to Commuter/Freight Operations	Would there be permanent impacts to existing Commuter/freight train operations such as altering speeds, headways etc?	2	There would be no permanet impacts to the existing operations	2	There would be no permanet impacts to the existing operations
	Would existing tracks need to be relocated?	-1	The main line would require some track displacement	-1	The main line would require some track displacement
Intermodal Connections	Are there other modes (commuter rail, heavy rail, BRT, etc) that are planned to connect with the proposed location.	0	No connections planned at this time	0	No connections planned at this time
Adequate R-O-W	Does the proposed location have adequate right-of-way to accommodate a 300' long platform?	-2	There would be significant R-O-W acquisition required for this option.	-2	There would be significant R-O-W acquisition required for this option.
Safety and Security	Would the station be located in an open, well-lit area?	2	The station area would be open, and well-lit.	1	The station area would be faily open and well-lit.
	Can several access points be accommodated?	0	From Havard Street	1	From Boston Avenue and from Broadway
Track Configuration	Is the site located along a tangent section of track?	2	The site is located along a tanget section of track for the optimal operations	2	The site is located along a tanget section of track for the optimal operations
LAND USE COMPATIBILITY					
Compatible with Land Development Plans	Does the location meet the land development goals of the municipality and support the regional MPO Comprehensive Plan?	2	Would be benefitial to have a station site at this location	2	Would be benefitial to have a station site at this location
Development Opportunities	Are there re-development or transit-oriented development opportunities adjacent to the station?	1	There are some development opportunities.	1	There are some development opportunities.
Environmental Concerns	Would this location have negative impacts on environmental issues such as wetlands, noise & vibration, etc.	-1	There is a sensitive receptor in this area and therefore noise & vibration is of concern	-1	There is a sensitive receptor in this area and therefore noise & vibration is of concern
Public Perception	Does the station location have the general support of the community and local decision makers?	0	The City of Somerville supports a station at this site while some citizens oppose	2	The public favors this option more.
Impact to Abutters	Would station location adversely alter abutting parcel access or effect parcel "usability"?	1	Impacts to abutter would be marginal	1	Impacts to abutter would be marginal
PROJECT COSTS					
Capital Costs	Would the station location require large capital construction costs (moving existing commuter rail/freight tracks, tunneling, bridge replacement etc)?	-1	Construction cost associated with the proposed tunneling under Harvard Street would potentially be required to accommodate the proposed station.	-2	Construction cost associated with two sets of vertical circulations and their maintenance would potentially be required to accommodate the proposed station.
	Would this station site add additional cost to the project?	0	This location would not add additional cost to the project	0	This location would not add additional cost to the project
Impact to Commuter Rail/Freight Ops	Would construction require existing transit operations to be altered causing a reduction in revenue or loss of ridership?	0	Construction could take place completely independent of any existing operations	0	Construction could take place completely independent of any existing operations
Property Acquisition	Does the alternative require acquisition of privately owned property or the relocation of tenants, owners or users of adjacent private property?	-1	Access to this site would likely have some impacts on adjacent parcels	-1	Access to this site would likely have some impacts on adjacent parcels
	Totals	3		10	

Criteria Rating Legend

-2 Very unfavorable condition, criteria has a significant impact on station siting
-1 Unfavorable condition, criteria has some impact on station siting
0 Neutral, criteria has little or no impact on station siting or Not Applicable
1 Favorable condition, criteria has some benefit on the station siting
2 Very favorable condition, criteria has many benefits on the station siting

Green Line Extension Station Site Alternatives Analysis - The Combined College Avenue/Winthrop Street Station Alternative

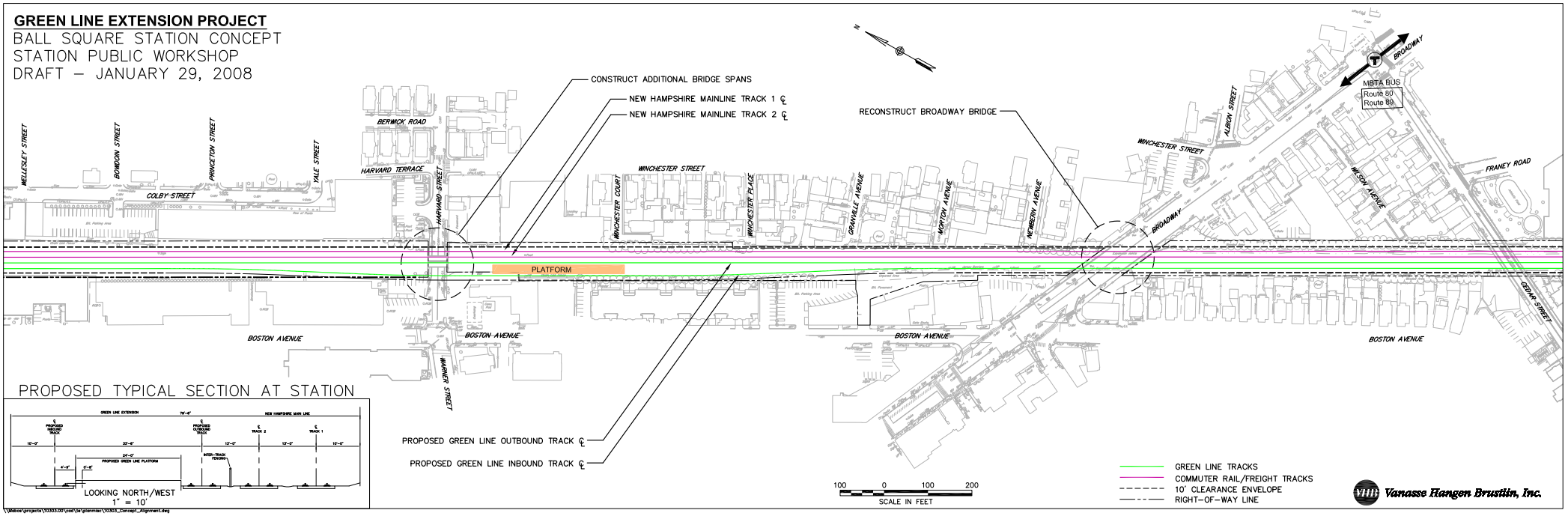
Criteria	Justification	College Avenue & Winthrop Street Separate Stations		Combined College Ave/ Winthrop Street	
		Rating	Justification	Rating	Justification
STATION ACCESS					
ADA Consistency	Does the proposed location have ADA compliant infrastructure embedded in the adjoining build environment (ie. complete sidewalks, curb ramps etc)?	1	There appears to be ADA compliant infrastructure in these two locations. Some minor modifications would be necessary to accommodate station access	1	Some minor modifications would be necessary to accommodate station access
	Is there a barrier or fatal flaw for ADA compliance?	1	No fatal flaw but some construction is required to mitigate the steep grades on College Avenue	1	No fatal flaw but some construction is required to connect Boston Avenue and Brookings Street
Kiss & Ride	Would right-of-way acquisition or significant construction be required to accommodate kiss and ride, taxi and local bus feeder route activities?	-1	The areas around Winthrop Street and College Avenue will not easily allow for a pick-up/drop-off area without significant construction and/or land acquisitions	1	Railroad Right-of-Way could be used to accommodate a pick-up/drop-off area for this location
Transit Connections	Is direct access available from existing local bus stops?	2	Yes, there are existing bus stops along Boston Avenue and Winthrop Street	2	Yes, there are existing bus stops along Boston Avenue
Pedestrian and Bicycle	Are there existing or planned non-motorized, regional infrastructure that can be linked to the location (ie. the Community Path)?	0	Currently no plans	0	Currently no plans
	Is there an on-street bike route?	-1	Currently there is no on-street bike route	-1	Currently there is no on-street bike route
	Can bike storage areas be accommodated?	1	Bike storage can be accommodated	1	Bike storage can be accommodated
Signalized Intersections/Crosswalks	Are there pedestrian/bicycle crossing enhancements (ie crosswalks, pedestrian count-down timers etc) at the adjacent intersections?	1	Signalized intersections/crosswalks currently exist at Boston Ave/Winthrop Street and Boston Ave/College Ave	-1	There is no crosswalk or signalized intersction directly adjacnet to this site
Traffic	Would there be traffic impacts based on the location of the station	-1	Any additional traffic introduced at these two locations would have a negative impact	-1	Any additional traffic introduced at this location would have a negative impact
TRANSIT OPERATIONS					
Ridership	Do ridership projections support a station at this site?	2	having two separate station sites in this area create a larger catchment area and thus more ridership	1	ridership projections in this area are enough to support a single station site at this location
Green Line Operational Impacts	Would there be impacts to existing Green Line operations based on station spacing, run time, and distance between light rail stations?	1	Run-times would be slightly longer with two station sites in this area	2	This combined option allows for a shorter run-time and the elimination of the equivalent of one station dwell time
Impact to Commuter/Freight Operations	Would there be permanent impacts to existing Commuter/freight train operations such as altering speeds, headways etc?	2	There would be no permanent impacts to existing operations	2	There would be no permanent impacts to existing operations
	Would existing tracks need to be relocated?	-1	The NHML would be shifted to the east	-1	The NHML would be shifted to the east
Intermodal Connections	Are there other modes (commuter rail, heavy rail, BRT, etc) that are planned to connect with the proposed location.	0	No connections planned at this time	0	No connections planned at this time
Adequate R-O-W	Does the proposed location have adequate right-of-way to accomodate a 300' long platform?	-1	Some sliver takings would be required to build stations in these locations	-1	Some sliver takings would be required to build a station at this location
Safety and Security	**Would the station be located in an open, well-lit area?**	**2**	These station locations are located adjacent to well-traveled areas and busy intersections, in an open cut section	**1**	this location has a well-traveled road on one side but is somewhat secluded from other pedestrian/vehicular traffic
	Can several access points be accommodated?	0	Winthrop Street, College Avenue and possibly Boston Avenue	1	Boston Avenue and Brookings Street
Track Configuration	Is the site located along a tangent section of track?	2	The site is located along a tanget section of track for the optimal operations	2	The site is located along a tanget section of track for the optimal operations
LAND USE COMPATIBILITY					
Compatible with Land Development Plans	Does the location meet the land development goals of the municipality and support the regional MPO Comprehensive Plan?	1	The area is already dense predominantly both institute-based and residential, and little opportunities for further developments exist	1	The area is already dense predominantly both institute-based and residential, and little opportunities for further developments exist
Development Opportunities	Are there re-development or transit-oriented development opportunities adjacent to the station?	-1	There are very limited opportunities for re-development in this area	-1	There are very limited opportunities for re-development in this area
Public Perception	Does the station location have the general support of the community and local decision makers?	-1	There is general support for a station in this area but the community seems to be split on a specific loctation	-1	There is general support for a station in this area but the community seems to be split on a specific loctation
Impact to Abutters	Would station location adversely alter abutting parcel access or effect parcel "usability"?	1	Parcel usability would remain the same	1	Parcel usability would remain the same
PROJECT COSTS					
Capital Costs	Would the station location require large capital construction costs (moving existing commuter rail/freight tracks, tunneling, bridge replacement etc)?	-1	Separate stations would require reconstruction of both Winthrop Street and College Ave bridges	1	This site would save the reconstruction of two roadway bridges
	Would this station site add additional cost to the project?	-1	Two separate stations are more than one	0	This location would not add additional cost to the project
Impact to Commuter Rail/Freight Ops	Would construction require existing transit operations to be altered causing a reduction in revenue or loss of ridership?	0	Minor operational impacts would occur as a resiut of the construction proximity to the active commuter rail tracks	0	Minor operational impacts would occur as a resiut of the construction proximity to the active commuter rail tracks
Property Acquisition	Does the alternative require acquisition of privately owned property or the relocation of tenants, owners or users of adjacent private property?	-1	Access to these sites would likely have some impacts on adjacent parcels	-1	Access to this site would likely have some impacts on adjacent parcels
	Totals	7		10	

Criteria Rating Legend

-2 Very unfavorable condition, criteria has a significant impact on station siting
-1 Unfavorable condition, citeria has some impact on station siting
0 Nuetral, criteria has little or no impact on station siting or Not Applicable
1 Favorable condition, criteria has some benefit on the station siting
2 Very favorable condition, criteria has many benefits on the station siting

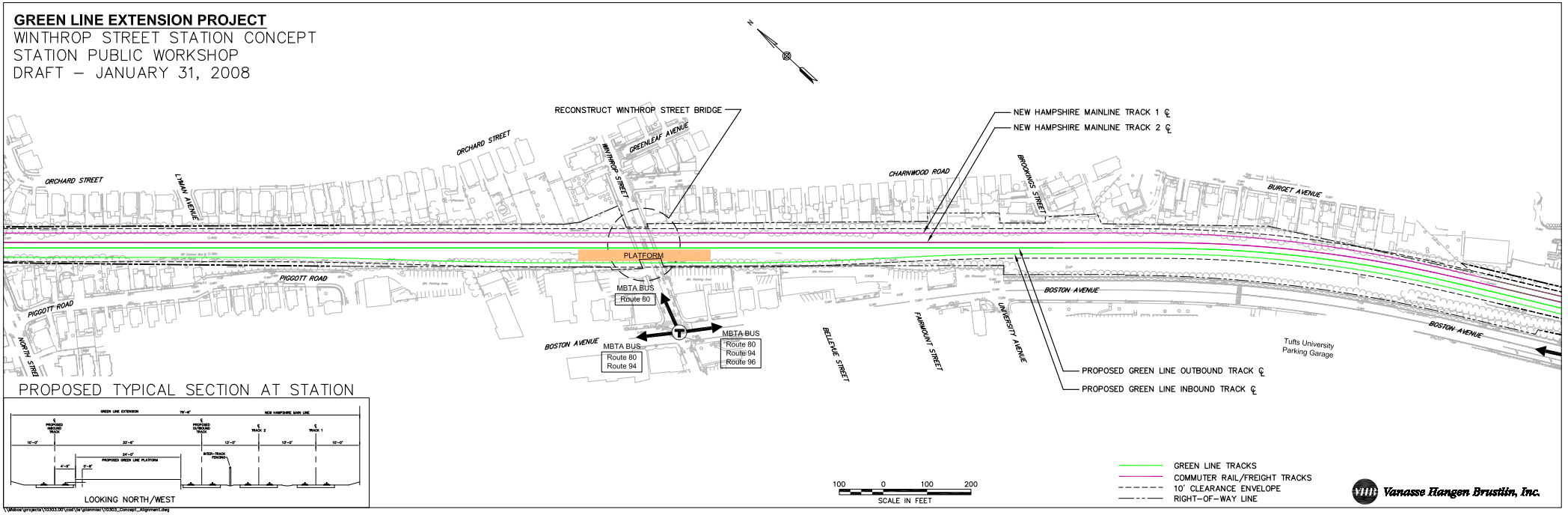
Attachment 2

Medford
Branch Station Concept Plans


GREEN LINE EXTENSION PROJECT
BALL SQUARE STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 29, 2008
CONSTRUCT ADDITIONAL BRIDGE SPANS
NEW HAMPSHIRE MAINLINE TRACK 1 ℄
NEW HAMPSHIRE MAINLINE TRACK 2 ℄
RECONSTRUCT BROADWAY BRIDGE
PLATFORM
PROPOSED GREEN LINE OUTBOUND TRACK ℄
PROPOSED GREEN LINE INBOUND TRACK ℄
WELLESLEY STREET
BOWDOIN STREET
PRINCETON STREET
YALE STREET
COLBY STREET
BERWICK ROAD
HARVARD TERRACE
HARVARD STREET
WINCHESTER STREET
WINCHESTER COURT
WINCHESTER PLACE
GRANVILLE AVENUE
MORTON AVENUE
NEWBERN AVENUE
BROADWAY
ALBION STREET
WILSON AVENUE
FRANEY ROAD
CEDAR STREET
BOSTON AVENUE
WARNER STREET
MBTA BUS
Route 80
Route 89
PROPOSED TYPICAL SECTION AT STATION
LOOKING NORTH/WEST
1" = 10'
100 0 100 200
SCALE IN FEET
GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT-OF-WAY LINE
Vanasse Hangen Brustlin, Inc.

GREEN LINE EXTENSION PROJECT

WINTHROP STREET STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 31, 2008



PROPOSED TYPICAL SECTION AT STATION

LOOKING NORTH/WEST

100 0 100 200
SCALE IN FEET

GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT–OF–WAY LINE

Vanasse Hangen Brustlin, Inc.

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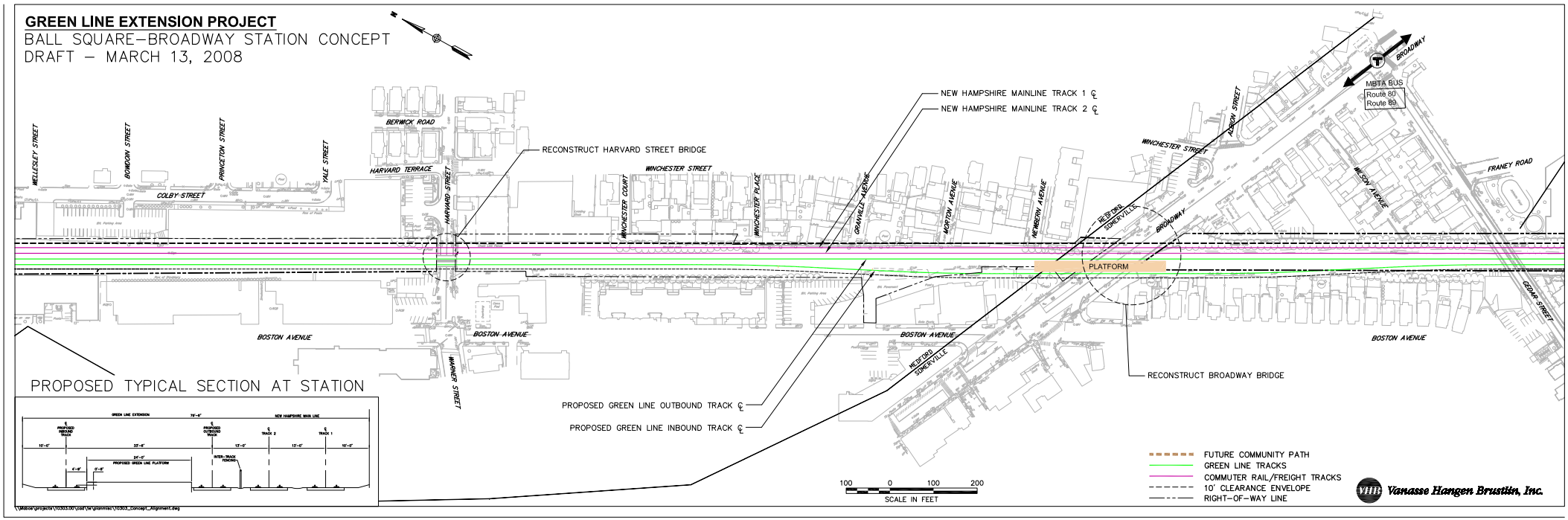
GREEN LINE EXTENSION PROJECT

BALL SQUARE–BROADWAY STATION CONCEPT

DRAFT – MARCH 13, 2008



PROPOSED TYPICAL SECTION AT STATION

Vanasse Hangen Brustlin, Inc.

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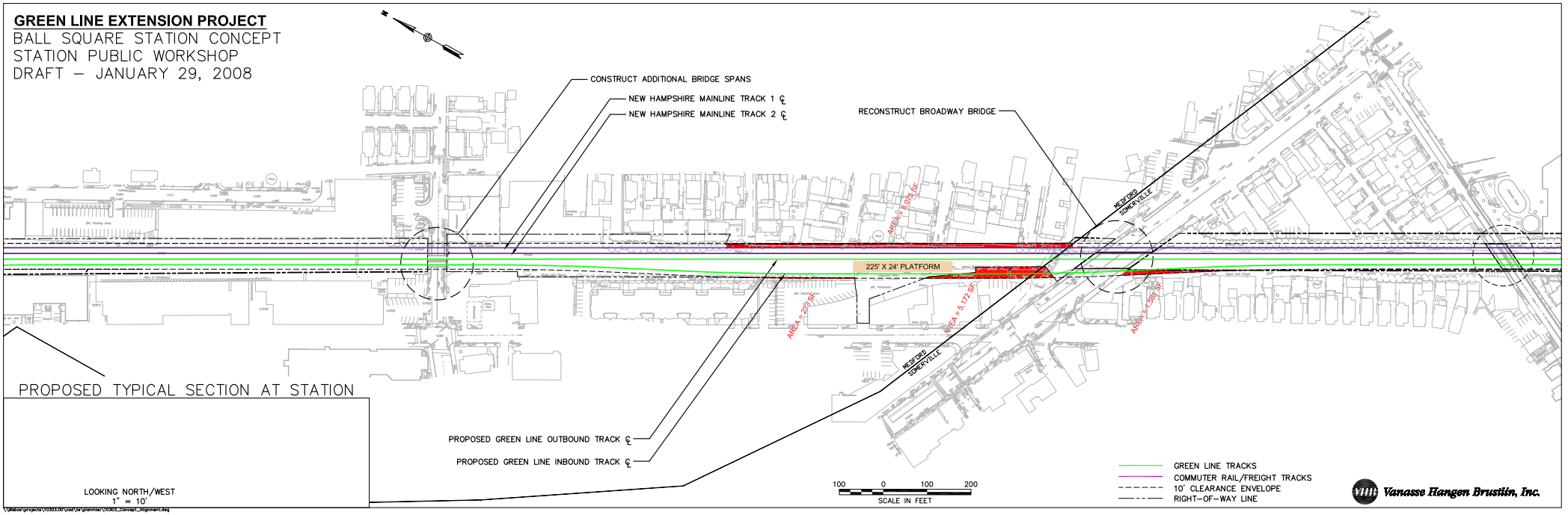
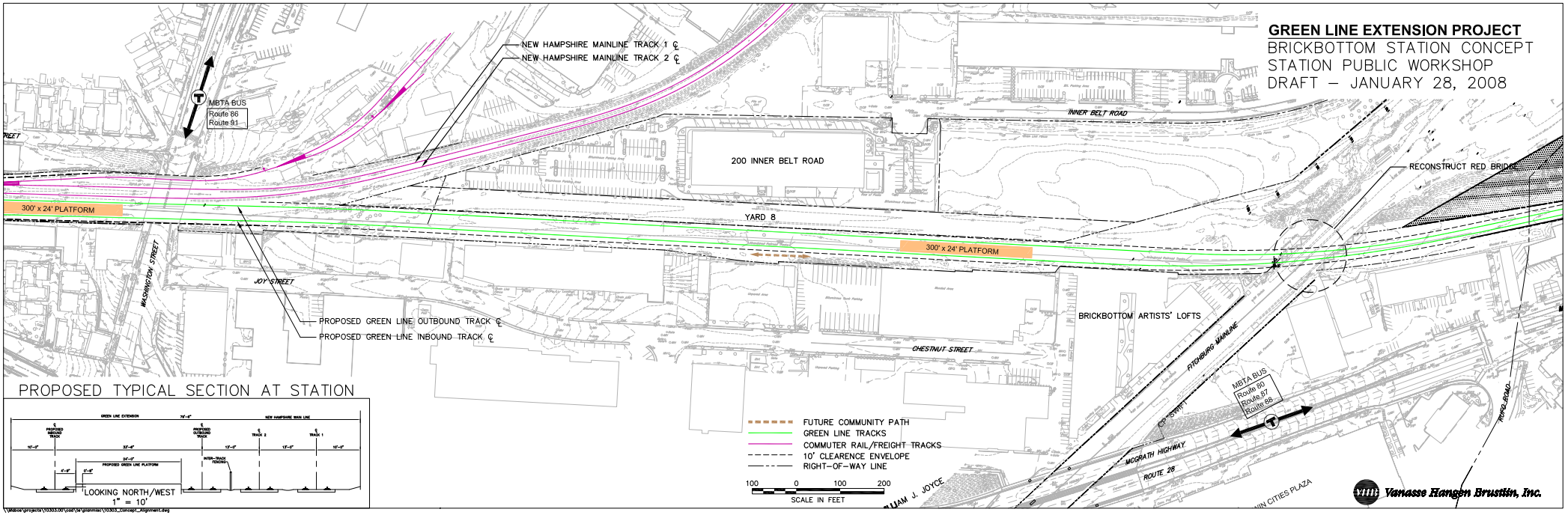
GREEN LINE EXTENSION PROJECT

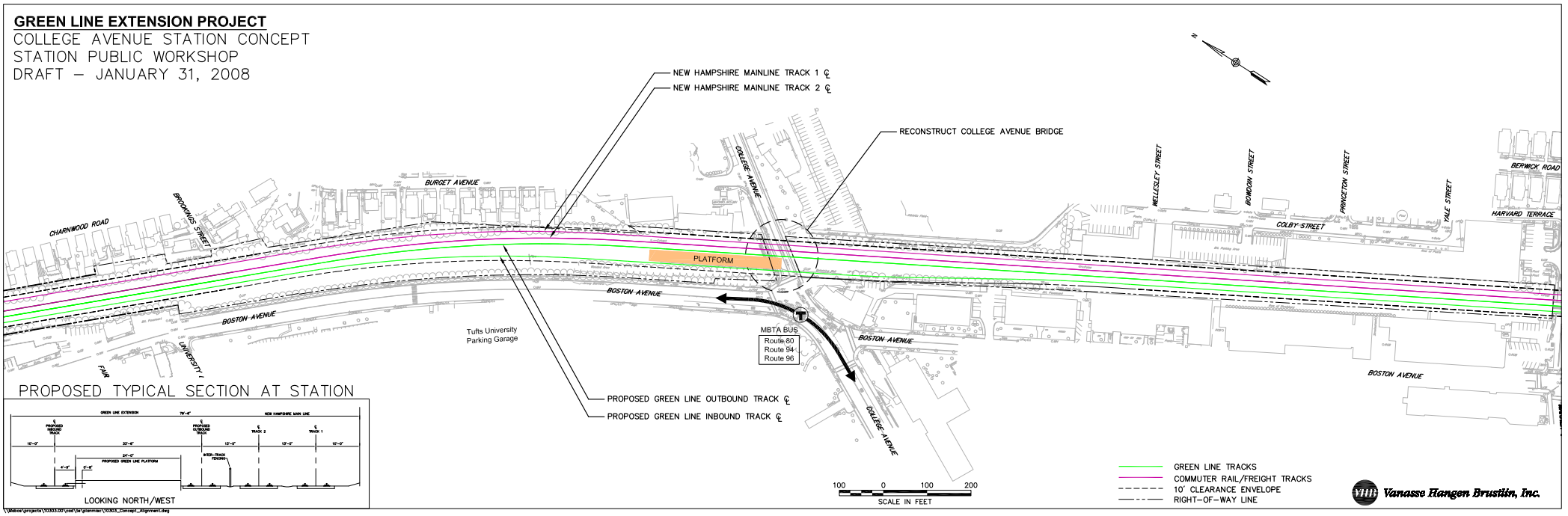
BALL SQUARE STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 29, 2008




GREEN LINE EXTENSION PROJECT
BRICKBOTTOM STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 28, 2008
NEW HAMPSHIRE MAINLINE TRACK 1 ℄
NEW HAMPSHIRE MAINLINE TRACK 2 ℄
MBTA BUS
Route 86
Route 91
INNER BELT ROAD
200 INNER BELT ROAD
RECONSTRUCT RED BRIDGE
300' x 24' PLATFORM
YARD 8
300' x 24' PLATFORM
WASHINGTON STREET
JOY STREET
PROPOSED GREEN LINE OUTBOUND TRACK ℄
PROPOSED GREEN LINE INBOUND TRACK ℄
BRICKBOTTOM ARTISTS' LOFTS
CHESTNUT STREET
FITCHBURG MAINLINE
MBTA BUS
Route 80
Route 87
Route 88
MCGRATH HIGHWAY
ROUTE 28
PROPOSED TYPICAL SECTION AT STATION
LOOKING NORTH/WEST
1" = 10'
FUTURE COMMUNITY PATH
GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARENCE ENVELOPE
RIGHT-OF-WAY LINE
100 0 100 200
SCALE IN FEET
Vanasse Hangen Brustlin, Inc.

GREEN LINE EXTENSION PROJECT

COLLEGE AVENUE STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 31, 2008



PROPOSED TYPICAL SECTION AT STATION

LOOKING NORTH/WEST

Vanasse Hangen Brustlin, Inc.

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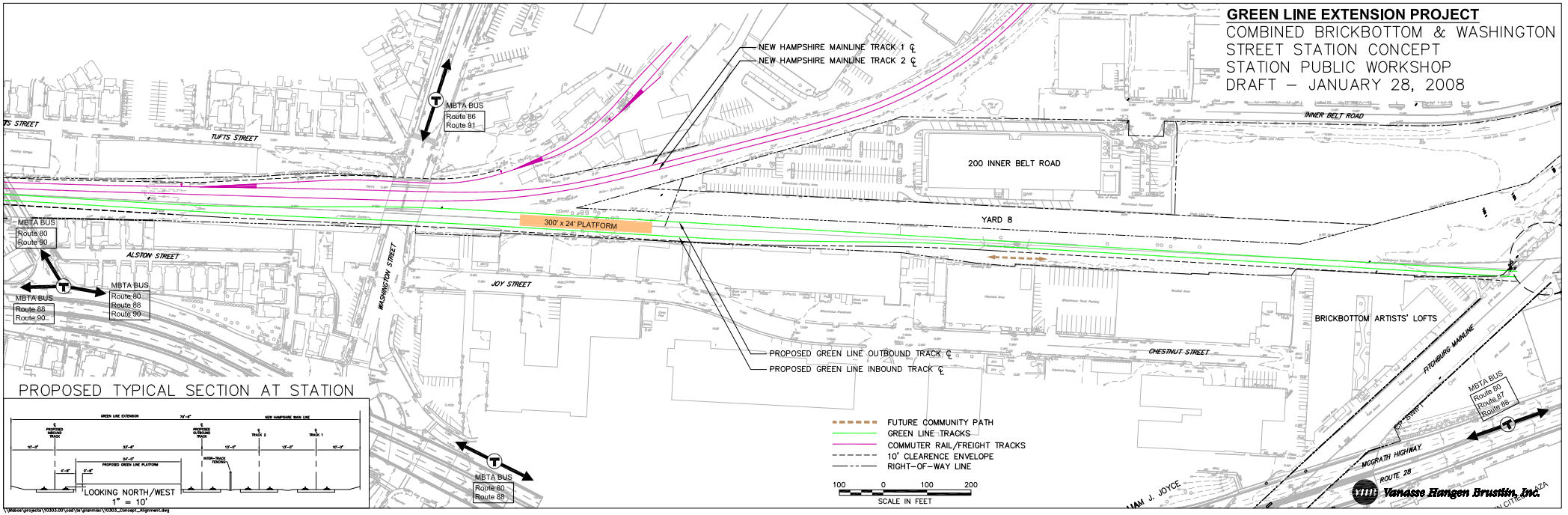
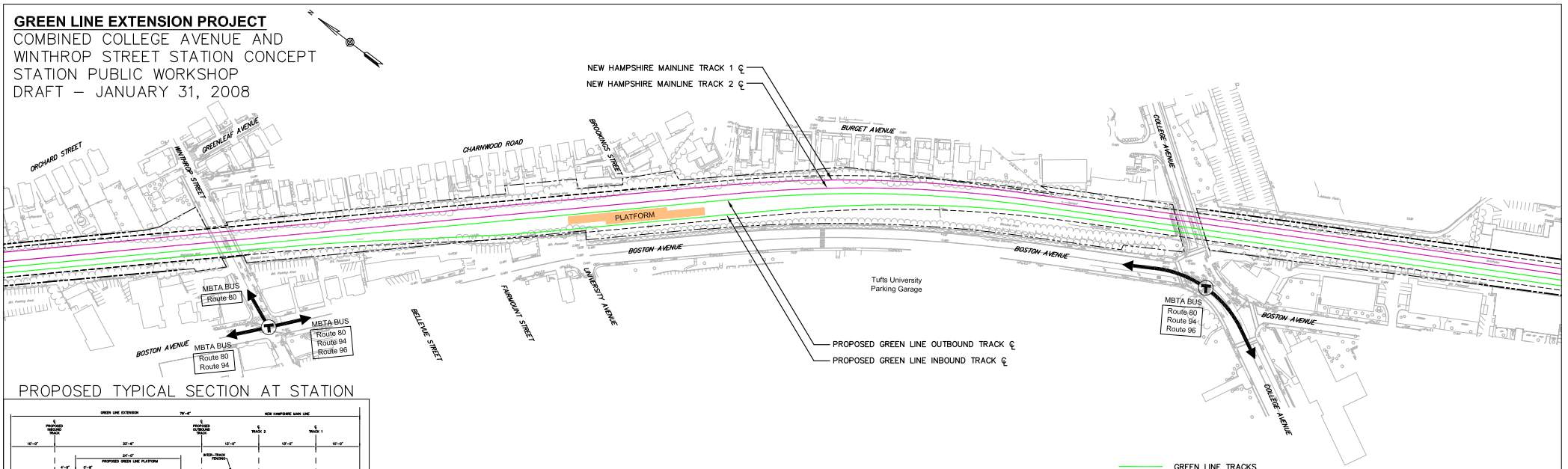
GREEN LINE EXTENSION PROJECT

COMBINED BRICKBOTTOM & WASHINGTON STREET STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 28, 2008



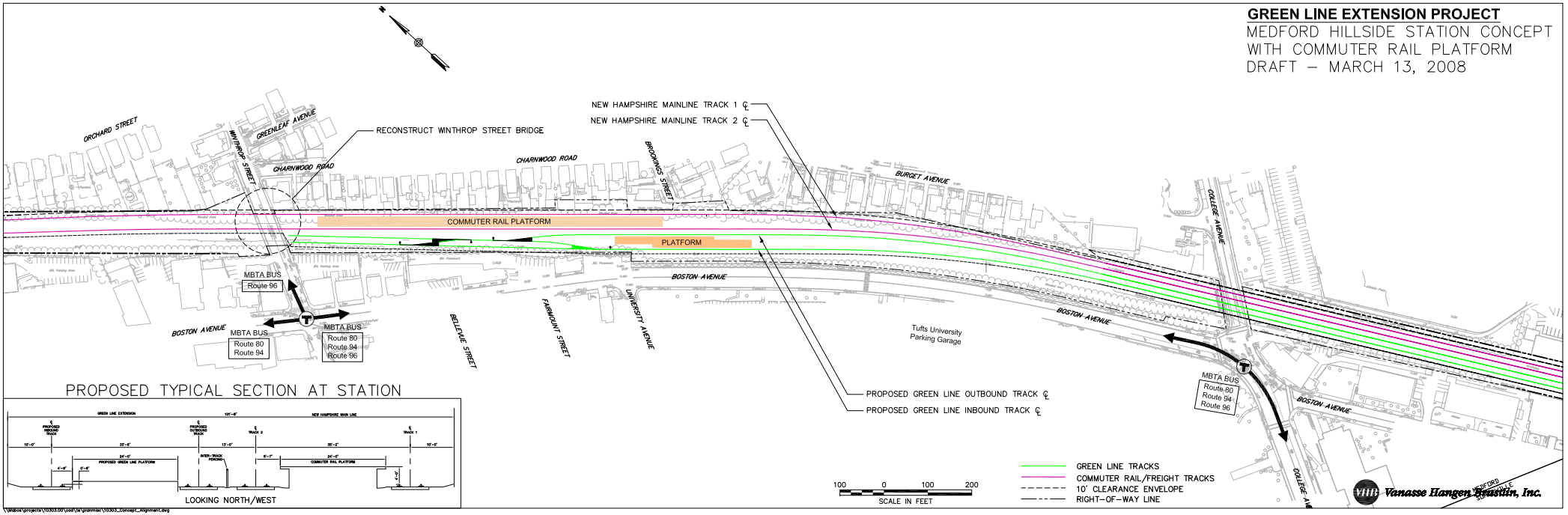
PROPOSED TYPICAL SECTION AT STATION

Vanasse Hangen Brustlin, Inc.


GREEN LINE EXTENSION PROJECT
COMBINED COLLEGE AVENUE AND
WINTHROP STREET STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 31, 2008
NEW HAMPSHIRE MAINLINE TRACK 1 ℄
NEW HAMPSHIRE MAINLINE TRACK 2 ℄
ORCHARD STREET
GREENLEAF AVENUE
WINTHROP STREET
CHARNWOOD ROAD
BROOKINGS STREET
BURGET AVENUE
COLLEGE AVENUE
PLATFORM
BOSTON AVENUE
Tufts University
Parking Garage
MBTA BUS
Route 80
Route 94
Route 96
BELLEVUE STREET
FAIRMOUNT STREET
UNIVERSITY AVENUE
PROPOSED GREEN LINE OUTBOUND TRACK ℄
PROPOSED GREEN LINE INBOUND TRACK ℄
PROPOSED TYPICAL SECTION AT STATION
LOOKING NORTH/WEST
100 0 100 200
SCALE IN FEET
GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT-OF-WAY LINE
Vanasse Hangen Brustlin, Inc.

GREEN LINE EXTENSION PROJECT

MEDFORD HILLSIDE STATION CONCEPT
WITH COMMUTER RAIL PLATFORM
DRAFT – MARCH 13, 2008



PROPOSED TYPICAL SECTION AT STATION

LOOKING NORTH/WEST

Vanasse Hangen Brustlin, Inc.

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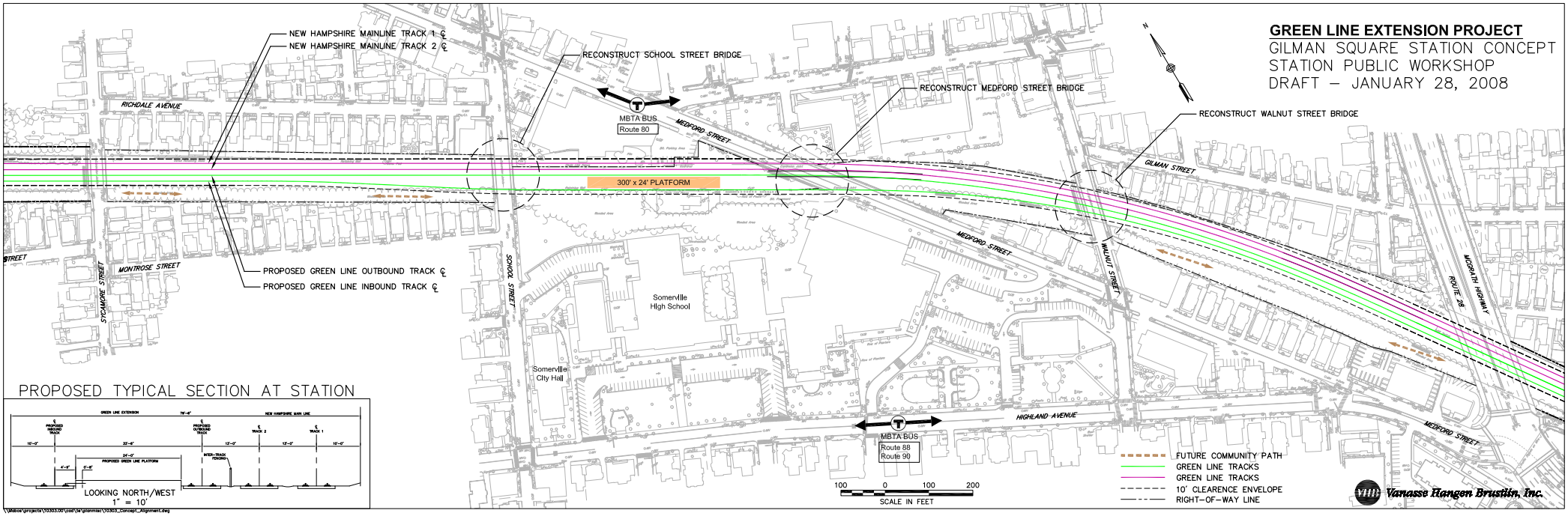
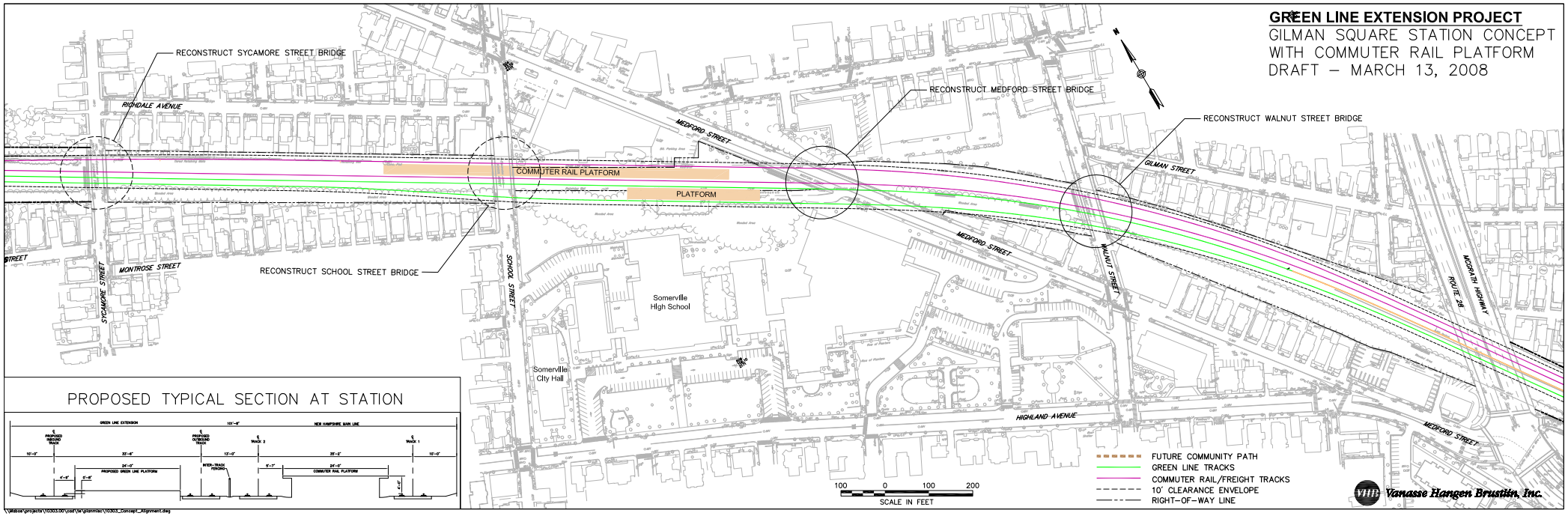

GREEN LINE EXTENSION PROJECT
GILMAN SQUARE STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 28, 2008
NEW HAMPSHIRE MAINLINE TRACK 1 ℄
NEW HAMPSHIRE MAINLINE TRACK 2 ℄
RECONSTRUCT SCHOOL STREET BRIDGE
RECONSTRUCT MEDFORD STREET BRIDGE
RECONSTRUCT WALNUT STREET BRIDGE
RICHDALE AVENUE
MBTA BUS
Route 80
MEDFORD STREET
300' x 24' PLATFORM
GILMAN STREET
MONTROSE STREET
SYCAMORE STREET
SCHOOL STREET
PROPOSED GREEN LINE OUTBOUND TRACK ℄
PROPOSED GREEN LINE INBOUND TRACK ℄
Somerville High School
Somerville City Hall
WALNUT STREET
ROUTE 28
McGRATH HIGHWAY
HIGHLAND AVENUE
MBTA BUS
Route 88
Route 90
FUTURE COMMUNITY PATH
GREEN LINE TRACKS
GREEN LINE TRACKS
10' CLEARENCE ENVELOPE
RIGHT–OF–WAY LINE
100 0 100 200
SCALE IN FEET
Vanasse Hangen Brustlin, Inc.
PROPOSED TYPICAL SECTION AT STATION
LOOKING NORTH/WEST
1" = 10'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GILMAN SQUARE STATION CONCEPT
WITH COMMUTER RAIL PLATFORM
DRAFT – MARCH 13, 2008
RECONSTRUCT SYCAMORE STREET BRIDGE
RICHDALE AVENUE
RECONSTRUCT MEDFORD STREET BRIDGE
RECONSTRUCT WALNUT STREET BRIDGE
MEDFORD STREET
COMMUTER RAIL PLATFORM
PLATFORM
GILMAN STREET
MEDFORD STREET
WALNUT STREET
MONTROSE STREET
RECONSTRUCT SCHOOL STREET BRIDGE
SCHOOL STREET
SYCAMORE STREET
Somerville High School
Somerville City Hall
HIGHLAND AVENUE
MCGRATH HIGHWAY
ROUTE 28
MEDFORD STREET
PROPOSED TYPICAL SECTION AT STATION
FUTURE COMMUNITY PATH
GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
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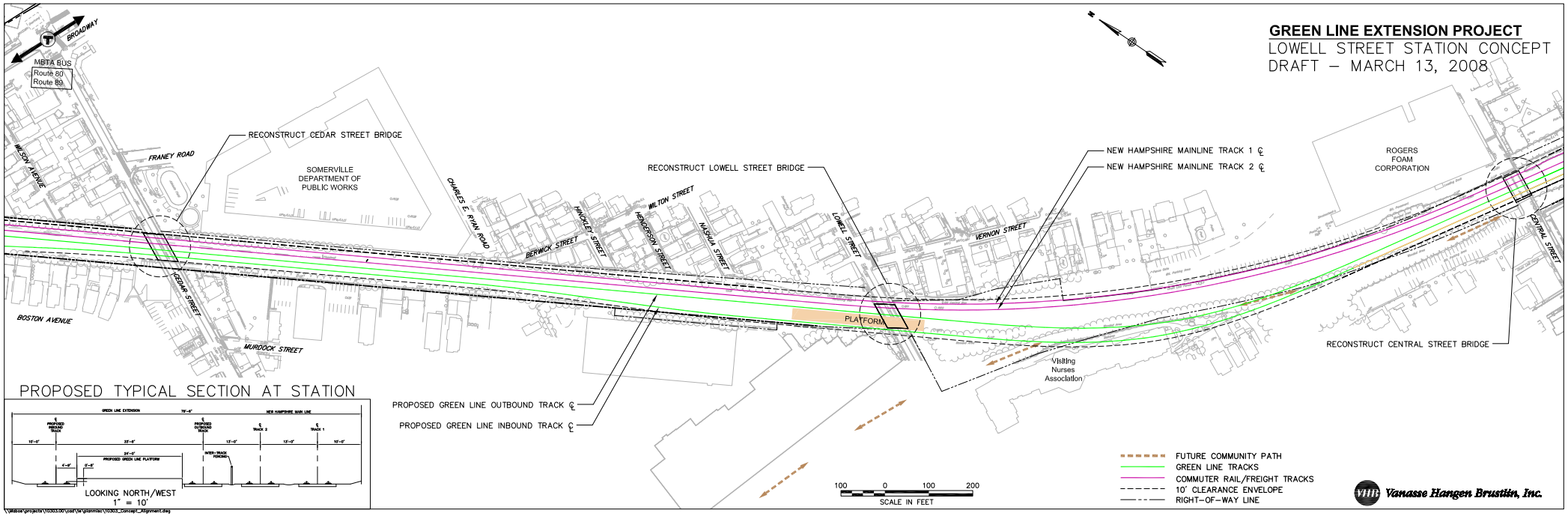
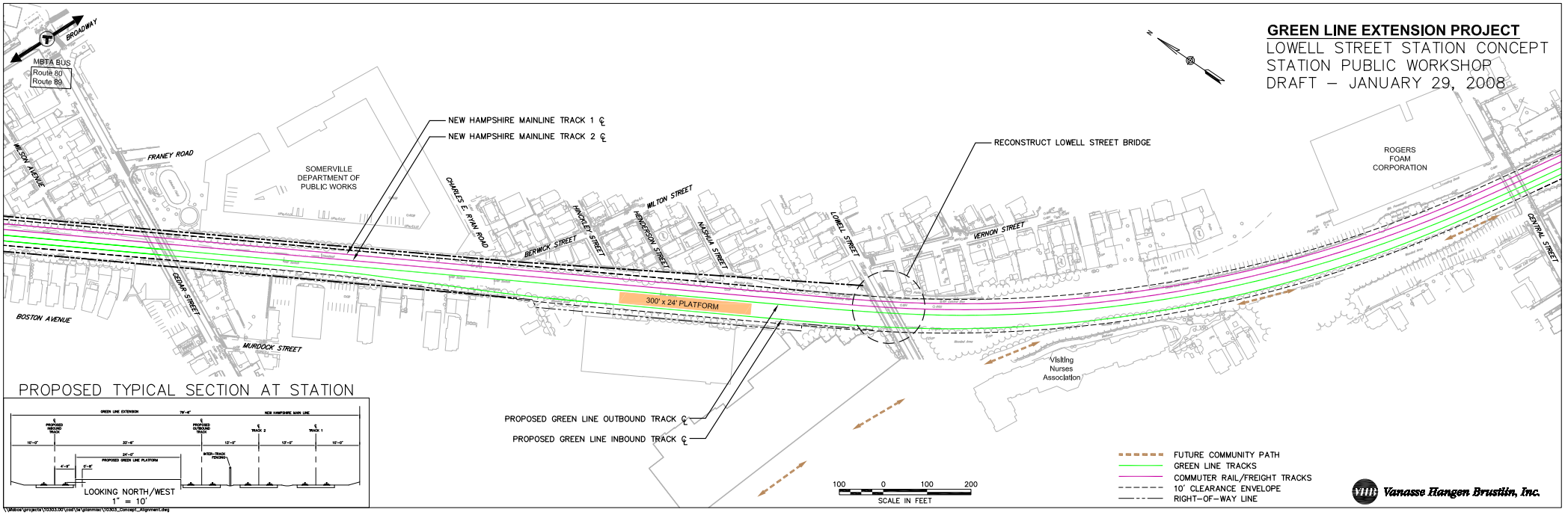
Vanasse Hangen Brustlin, Inc.

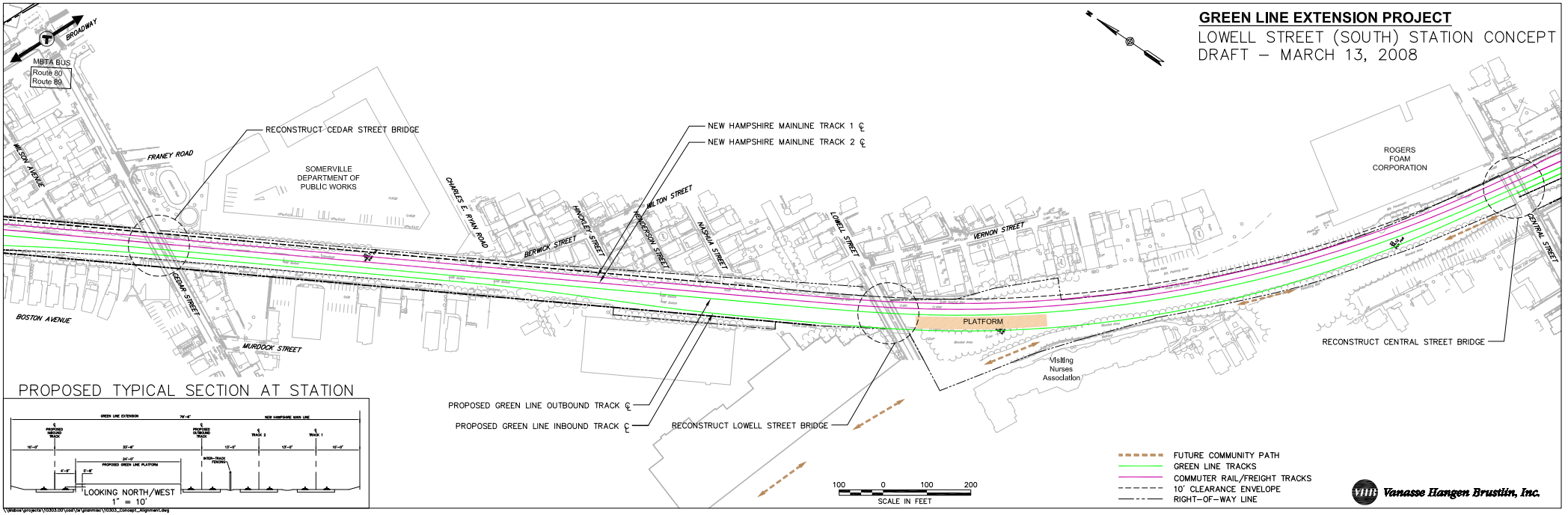

GREEN LINE EXTENSION PROJECT
LOWELL STREET STATION CONCEPT
DRAFT – MARCH 13, 2008
BROADWAY
MBTA BUS
Route 80
Route 89
WILSON AVENUE
FRANEY ROAD
RECONSTRUCT CEDAR STREET BRIDGE
SOMERVILLE
DEPARTMENT OF
PUBLIC WORKS
CHARLES E. RYAN ROAD
BERWICK STREET
HINCKLEY STREET
MILTON STREET
HENDERSON STREET
NASHUA STREET
RECONSTRUCT LOWELL STREET BRIDGE
LOWELL STREET
VERNON STREET
NEW HAMPSHIRE MAINLINE TRACK 1 ℄
NEW HAMPSHIRE MAINLINE TRACK 2 ℄
ROGERS
FOAM
CORPORATION
CENTRAL STREET
CEDAR STREET
BOSTON AVENUE
MURDOCK STREET
PLATFORM
RECONSTRUCT CENTRAL STREET BRIDGE
Visiting
Nurses
Association
PROPOSED GREEN LINE OUTBOUND TRACK ℄
PROPOSED GREEN LINE INBOUND TRACK ℄
PROPOSED TYPICAL SECTION AT STATION
LOOKING NORTH/WEST
1" = 10'
100 0 100 200
SCALE IN FEET
FUTURE COMMUNITY PATH
GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT–OF–WAY LINE
Vanasse Hangen Brustlin, Inc.


GREEN LINE EXTENSION PROJECT
LOWELL STREET STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 29, 2008
BROADWAY
MBTA BUS
Route 80
Route 89
WILSON AVENUE
FRANEY ROAD
SOMERVILLE DEPARTMENT OF PUBLIC WORKS
NEW HAMPSHIRE MAINLINE TRACK 1 ℄
NEW HAMPSHIRE MAINLINE TRACK 2 ℄
CHARLES E. RYAN ROAD
BERWICK STREET
HINCKLEY STREET
HENDERSON STREET
WILTON STREET
NASHUA STREET
LOWELL STREET
RECONSTRUCT LOWELL STREET BRIDGE
VERNON STREET
ROGERS FOAM CORPORATION
CENTRAL STREET
CEDAR STREET
BOSTON AVENUE
MURDOCK STREET
300' x 24' PLATFORM
Visiting Nurses Association
PROPOSED GREEN LINE OUTBOUND TRACK ℄
PROPOSED GREEN LINE INBOUND TRACK ℄
PROPOSED TYPICAL SECTION AT STATION
LOOKING NORTH/WEST
1" = 10'
100 0 100 200
SCALE IN FEET
FUTURE COMMUNITY PATH
GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT-OF-WAY LINE
Vanasse Hangen Brustlin, Inc.

GREEN LINE EXTENSION PROJECT

LOWELL STREET (SOUTH) STATION CONCEPT

DRAFT – MARCH 13, 2008



PROPOSED TYPICAL SECTION AT STATION

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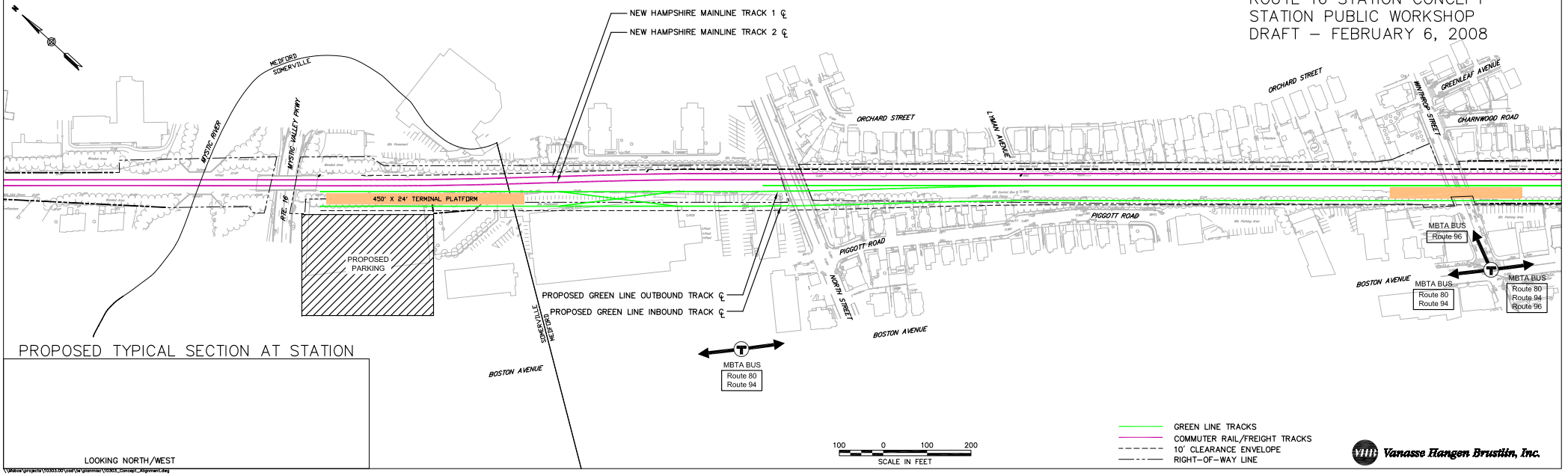
*EVALUATION OF MYSTIC VALLEY PARKWAY STATION REQUIRED
BY THE SECRETARY'S CERTIFICATE – DECEMBER 1, 2006

GREEN LINE EXTENSION PROJECT
ROUTE 16 STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – FEBRUARY 6, 2008



PROPOSED TYPICAL SECTION AT STATION

LOOKING NORTH/WEST

100 0 100 200
SCALE IN FEET

GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT–OF–WAY LINE

Vanasse Hangen Brustlin, Inc.

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*EVALUATION OF MYSTIC VALLEY PARKWAY STATION REQUIRED
BY THE SECRETARY'S CERTIFICATE – DECEMBER 1, 2006

GREEN LINE EXTENSION PROJECT
ROUTE 16 STATION CONCEPT
STATION PUBLIC WORKSHOP
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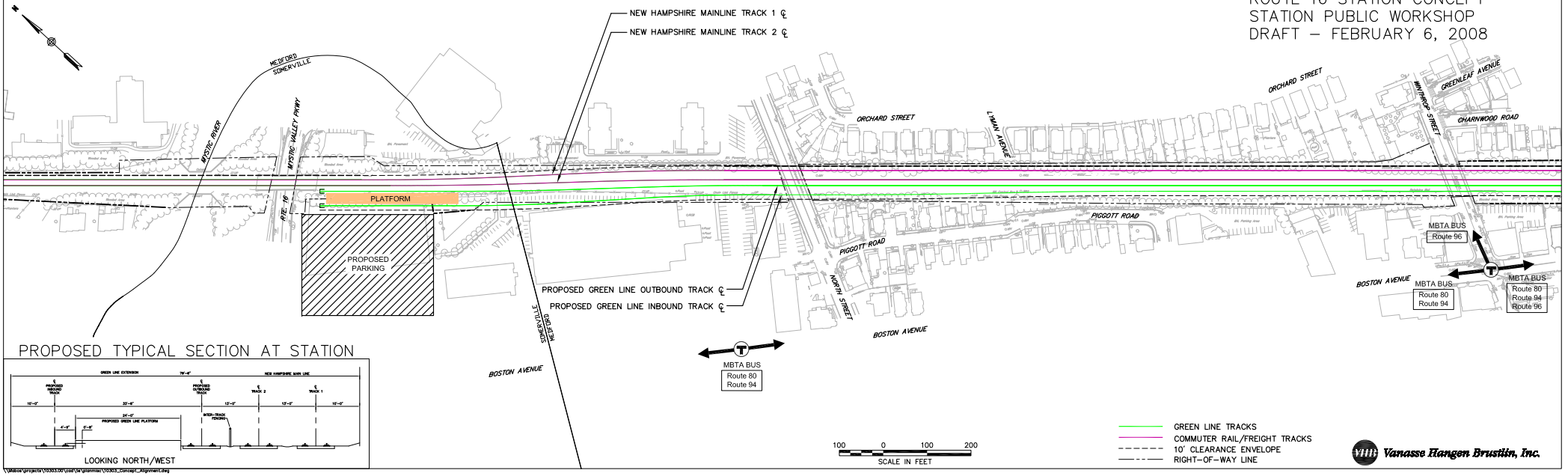

PROPOSED TYPICAL SECTION AT STATION

LOOKING NORTH/WEST

100 0 100 200
SCALE IN FEET

GREEN LINE TRACKS
COMMUTER RAIL/FREIGHT TRACKS
10' CLEARANCE ENVELOPE
RIGHT–OF–WAY LINE

Vanasse Hangen Brustlin, Inc.

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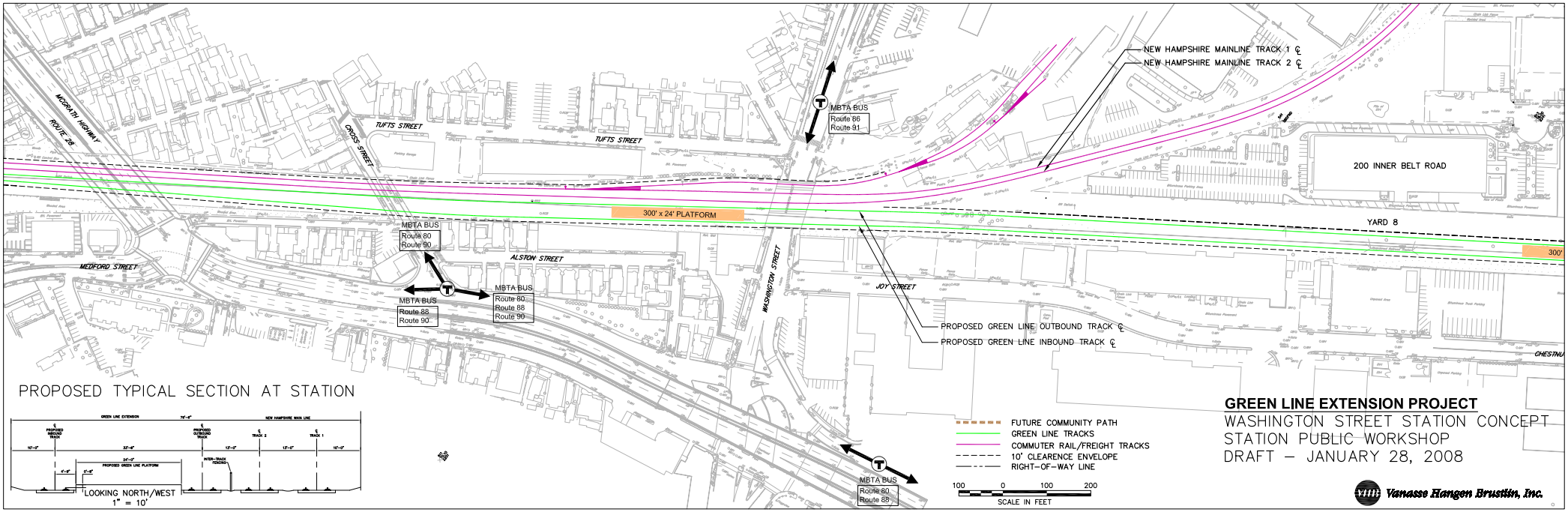


PROPOSED TYPICAL SECTION AT STATION

LOOKING NORTH/WEST
1" = 10'

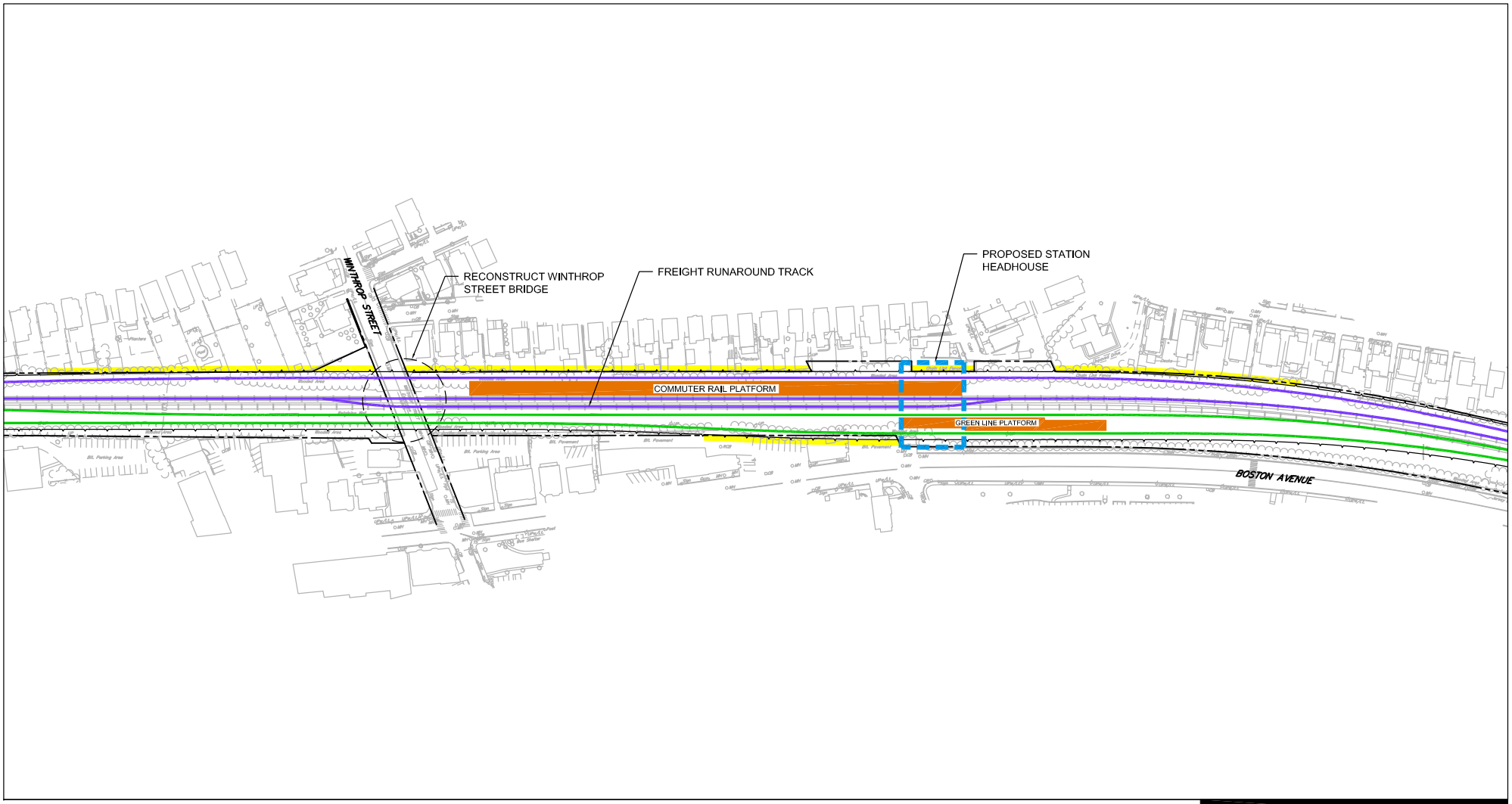
GREEN LINE EXTENSION PROJECT

WASHINGTON STREET STATION CONCEPT
STATION PUBLIC WORKSHOP
DRAFT – JANUARY 28, 2008

Vanasse Hangen Brustlin, Inc.

Attachment 3

Joint Green Line Station/Commuter Rail Conceptual Plans



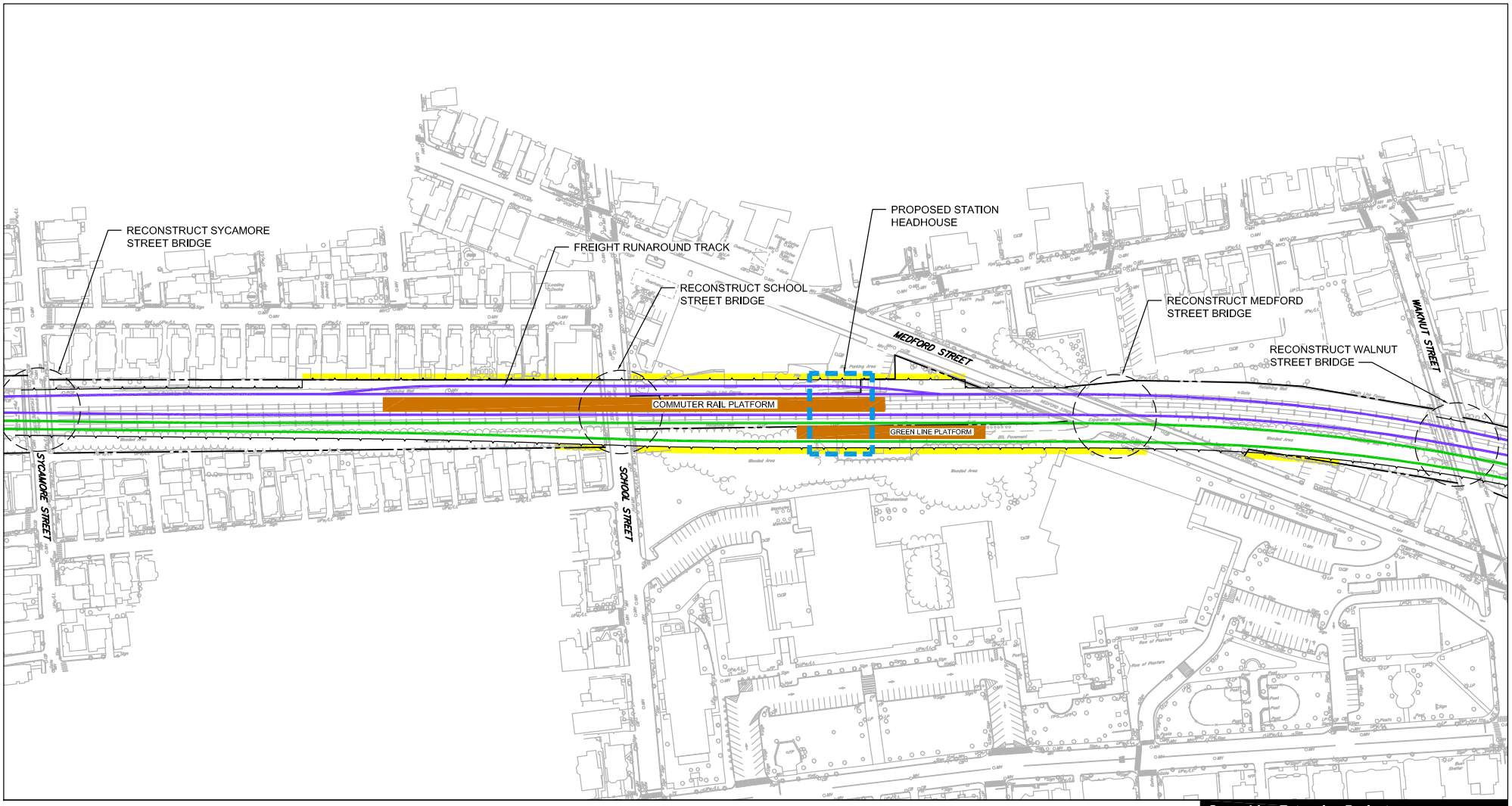
Green Line Extension Project

Legend

- Existing Right-of-Way
- Proposed Green Line Track
- Proposed Commuter Rail Track
- Proposed Wall
- Affected Property

0 75 150 Feet

College Avenue Station
Combined Green Line Station and Commuter Rail Station



Green Line Extension Project

Legend

- Existing Right-of-Way
- Proposed Green Line Track
- Proposed Commuter Rail Track
- Proposed Wall
- Affected Property

0 75 150 Feet

EOT

Gilman Square Station
Combined Green Line Station and
Commuter Rail Station

Attachment 4

Union Square Branch Alternatives Conceptual Plans and Rating Summaries

Table 1:

Green Line Extension Evaluation of Union Square Street-Running Variations

November 2008

		Street-Running Variations	
Criteria	***Definition***	**Option 2A: Somerville Avenue Only**	**Option 2B: Loop**
STATION ACCESS			
ADA Consistency	*Does the proposed location have ADA compliant infrastructure embedded in the adjoining build environment (ie. complete sidewalks, curb ramps etc)?*	1	1
	Is there a barrier or fatal flaw for ADA compliance?	2	2
Kiss & Ride	*Would right-of-way acquisition or significant construction be required to accommodate kiss and ride, taxi and local bus feeder route activities?*	-2	1
Transit Connections	*Is direct access available from existing local bus stops?*	2	2
Pedestrian and Bicycle	*Is there an on-street bike route?*	-1	-2
	Can bike storage areas be accommodated?	2	2
Signalized Intersections/Crosswalk	*Are there pedestrian/bicyle crossing enhancements (i.e. crosswalks, pedestrian count-down timers, etc.) at the adjacent intersections?*	-1	-1
Traffic Impact	*Would there be traffic impacts based on the station location?*	-2	2
	Would there be traffic impacts based on the general traffic operations?	-2	-1
TRANSIT OPERATIONS			
Ridership	*Do ridership projections support a station at this site?*	0	0
Green Line Operational Impacts	*Would there be impacts to existing Green Line operations based on station spacing, run time, and distance between light rail stations?*	-2	-1
Impact to Commuter/Freight Operations	*Would there be permanent impacts to existing Commuter/freight train operations such as altering speeds, headways etc?*	0	0
	Would existing tracks need to be relocated?	-1	-1
Intermodal Connections	*Are there other modes (commuter rail, heavy rail, BRT, etc) that are planned to connect with the proposed location?*	0	0
Adequate R-O-W	*Does the proposed location have adequate right-of-way to accomodate a platform?*	0	0
Safety and Security	*Would the station be located in an open, well-lit area?*	2	1

		Street-Running Variations	
Criteria	***Definition***	**Option 2A: Somerville Avenue Only**	**Option 2B: Loop**
LAND USE COMPATIBILITY			
Compatible with Land Development Plans	*Does the location meet the land development goals of the municipality and support the regional MPO Comprehensive Plan?*	1	1
Development Opportunities	*Are there re-development or transit-oriented development opportunities adjacent to the station?*	1	2
Environmental Concerns	*Would this location have negative impacts on environmental issues such as wetlands, noise & vibration, etc. ?*	0	0
Public Perception	*Does the station location have the general support of the community and local decision makers?*	2	1
Impact to Abutters	*Would station location adversely alter abutting parcel access or effect parcel "usability"?*	0	-1
PROJECT COSTS			
Capital Costs	*Would the station location require large capital construction costs (moving existing commuter rail/freight tracks, tunneling, bridge replacement etc)?*	0	0
Impact to Commuter Rail/Freight Ops	*Would construction require existing transit operations to be altered causing a reduction in revenue or loss of ridership?*	0	0
Property Acquisition	*Does the alternative require acquisition of privately owned property or the relocation of tenants, owners or users of adjacent private property?*	-1	-2
	Totals	**1**	**6**

Criteria Rating Legend

-2	Very unfavorable condition, criteria has a significant impact on station siting
-1	Unfavorable condition, citeria has some impact on station siting
0	Nuetral, criteria has little or no impact on station siting or Not Applicable
1	Favorable condition, criteria has some benefit on the station siting
2	Very favorable condition, criteria has many benefits on the station siting

Green Line Extension
Union Square Branch Alternatives

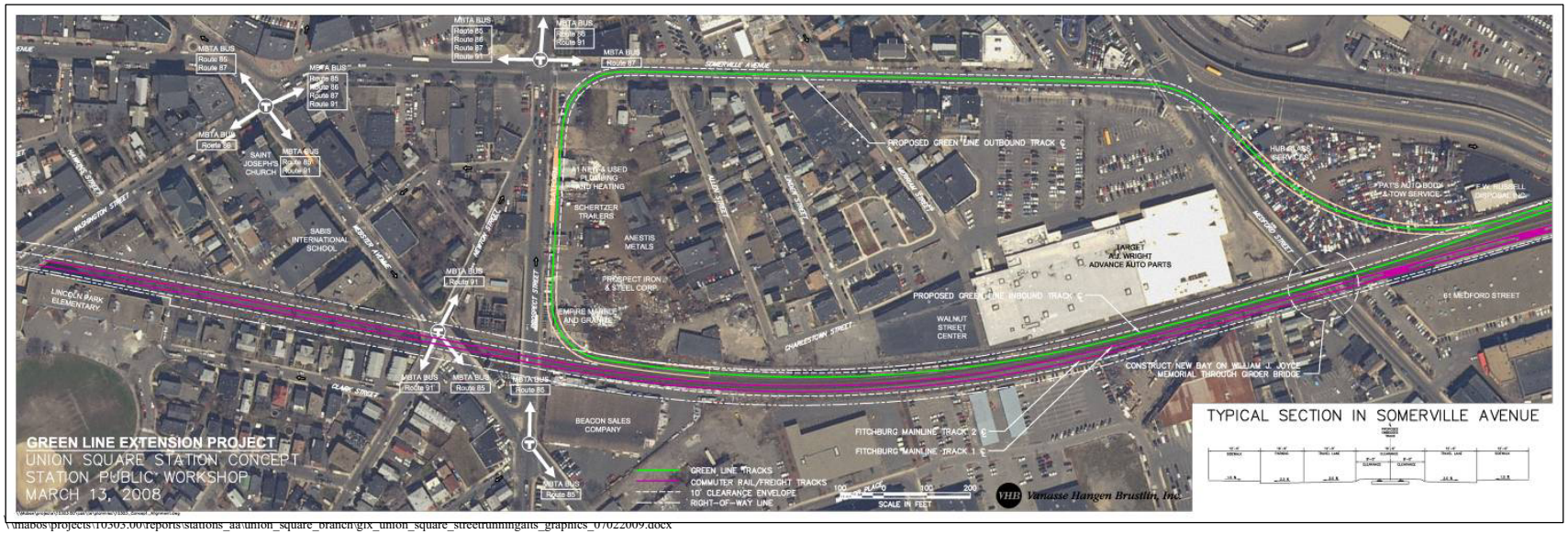
Union Square Branch Alternative 1 – Railroad Corridor



Union Square Branch Alternative 2A—Somerville Avenue Only



Union Square Branch Alternative 2B—Loop



Attachment 5

Tunnel Alignment Memorandum

Technical Memorandum

Consideration of Tunnel Alignment Alternatives

Green Line Extension Project

Prepared for **Executive Office of Transportation & Public Works**
Boston, Massachusetts

Prepared by  **/Vanasse Hangen Brustlin, Inc.**
Boston, Massachusetts

PB Americas, Inc.
Boston, Massachusetts

November 2008

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1

Introduction

This chapter will provide an overview of the intent of this document, as well as an overview of the various tunnel alignments proposed.

1.1 Overview

A number of suggestions for incorporating tunnel alignments into the proposed Green Line extension have been suggested by members of the Advisory Committee and the general public. The proposals offer the potential of mitigating some impacts of the extension (e.g., noise and vibration during and after construction) as well as allowing for some variations in the alignment that would be possible with a tunnel alignment.

This memorandum will summarize the proposals received, consider alternative tunnel construction methodologies, examine the feasibility of the tunnel alignment alternatives, and present order-of-magnitude construction cost comparisons.

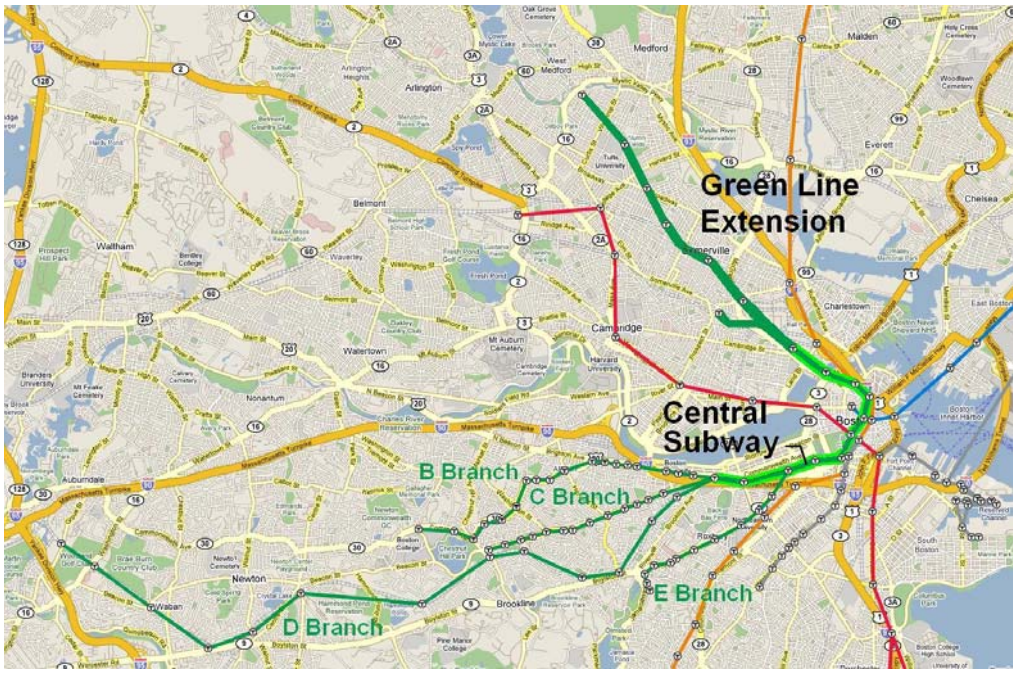
1.2 Overview of Green Line Extension Proposal

The Green Line extension is proposed to include the following elements:

- Relocated Lechmere Station
- Mainline extension along the Lowell Line to College Avenue or Mystic Valley Parkway
- Spur to Union Square

See Figure 1-1.

Figure 1-1: Existing Green Line with Proposed Extension to Somerville and Medford



1.3 Tunnel Alignment Proposals

The following tunnel alignment alternatives have been proposed:

- **Proposal T-1 – Clarendon Hill Tunnel:** Tunnel from Ball Square to Alewife Station via Powder House Square and Clarendon Hill (GLAM tunnel proposal)
- **Proposal T-2 – Medford Hillside Tunnel**: Tunnel from College Avenue to Mystic Valley Parkway/ Route 16
- **Proposal T-3 – Union Square Tunnel**: Tunnel from Prospect Street under Union Square
- **Proposal T-4 – Mainline Tunnel:** Complete tunnel alignment from Lechmere to Mystic Valley Parkway/ Route 16 with branch to Union Square

Consideration of each of these proposals is presented in Sections 2 through 5 of this report.

1.4 Tunnel Construction Technologies

This section presents an overview of typical tunnel construction technologies that are used in urban environments:

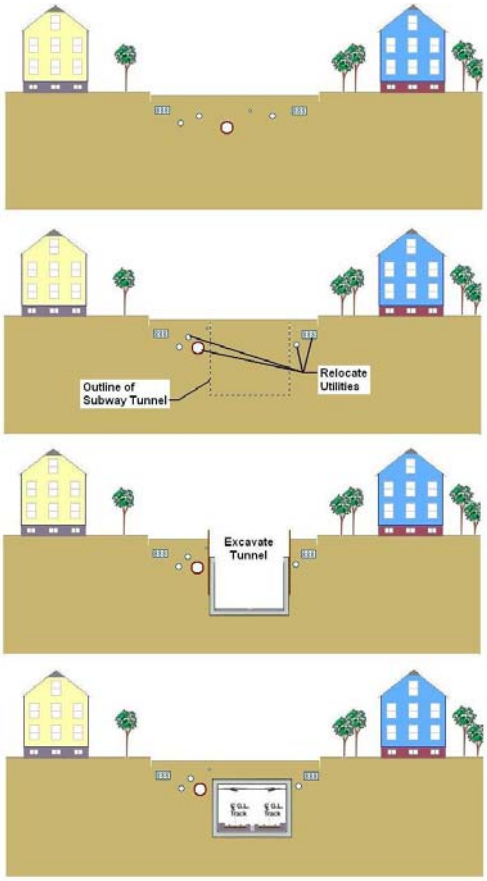
- Cut and cover tunneling
- Depressed section with decking
- Deep bore tunneling

1.4.1 Cut and cover tunneling

Cut and cover tunneling involves excavating the tunnel in an open cut. Excavation begins at the surface and extends downward. The sides of the excavation must be protected by retaining walls, which may be either temporary (e.g., sheeting) or permanent (e.g., slurry walls or traditional reinforced concrete walls). In preparation for excavation, utilities must be relocated or supported in place. Also, traffic must be detoured to create a work zone to perform the excavation.

After the excavation is completed and the permanent wall constructed, the tunnel roof (typically, reinforced concrete) is installed. Figure 1-2 illustrates the steps in constructing a cut and cover tunnel.

Figure 1-2: Cut and Cover Tunneling



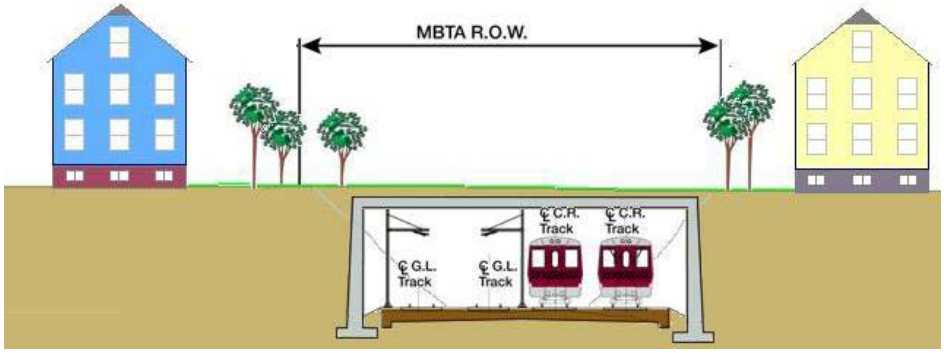
1.4.2 Depressed section with decking

Much of the Green Line extension along the Lowell Line is in a depression or cut section, where the trackbed is about 15 to 20 feet below street level. This provides the opportunity for decking over the tracks, creating sections of tunnel. This approach is used throughout the MBTA's Southwest Corridor.

For the section north of College Avenue, the option of decking over the tracks creates a tunnel section at a lower incremental cost than other methods. Typically, the walls

would be required to retain the embankment and widen the trackbed from the existing two tracks to four tracks. Thus, the incremental cost is the decking[1].

Figure 1-3: Depressed Section with Decking – Green Line and Commuter Rail



The decking can provide a visual and noise buffer between the tracks and adjacent residences. The decking can also be landscaped to restore lost vegetative cover due to widening of the trackbed.

1.4.3 Deep bore tunneling

Deep bore tunneling is a mining technique that uses a tunnel boring machine (TBM) operating well below the ground surface. The TBM bores horizontally, creating a circular tunnel. The TBM can drill through rock or any kind of soil. However, the type of TBM used for rock differs from the type used for soil.

The diameter of a tunnel boring can vary from as little as 3 feet to as much as 60 feet. In earth, tunnels are typically about 2 diameters below the surface. For a 20-foot bore, the top of the tunnel would be about 40 feet down or deeper.

Subway deep bore tunnels are often accomplished as twin bores – one tunnel for each track. This method was used for the Red Line from Harvard Square to Davis Square. See Figure 1-4. For the Green Line, each bore would be about 24 feet, outside diameter.

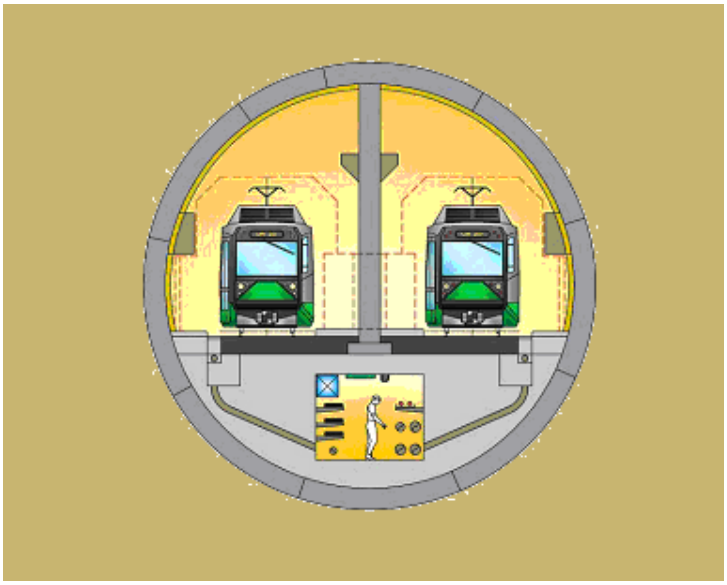
An alternative approach would be a single larger bore with both tracks in one tunnel. See Figure 1-5. The larger cross section would cost considerably more due to the size of the boring machine required.

[1] The decking also braces the tops of the retaining walls, thus reducing the moment load in the walls. Therefore, even though the walls must carry the additional load of the deck itself, the net benefit of horizontal bracing creates a more efficient wall section.

Figure 1-4: Deep Bore Section below City Street (Twin Bore Configuration)



Figure 1-5: Single Bore Tunnel for Green Line



Source: EOTPW Draft Environmental Impact Report for Urban Ring (Figure 2-20)

2

T-1 – Clarendon Hill Tunnel: Tunnel from Ball Square to Alewife Station via Powder House Square and Clarendon Hill

At the October 25, 2007 Advisory Group meeting, the Green Line Advisory Group for Medford (GLAM) officially submitted a proposal for an Alternative Study for the Green Line Extension project. The request is to perform an additional analysis on this alternative route as an addendum to the current Green Line Extension Draft Environmental Impact Report (DEIR) study.

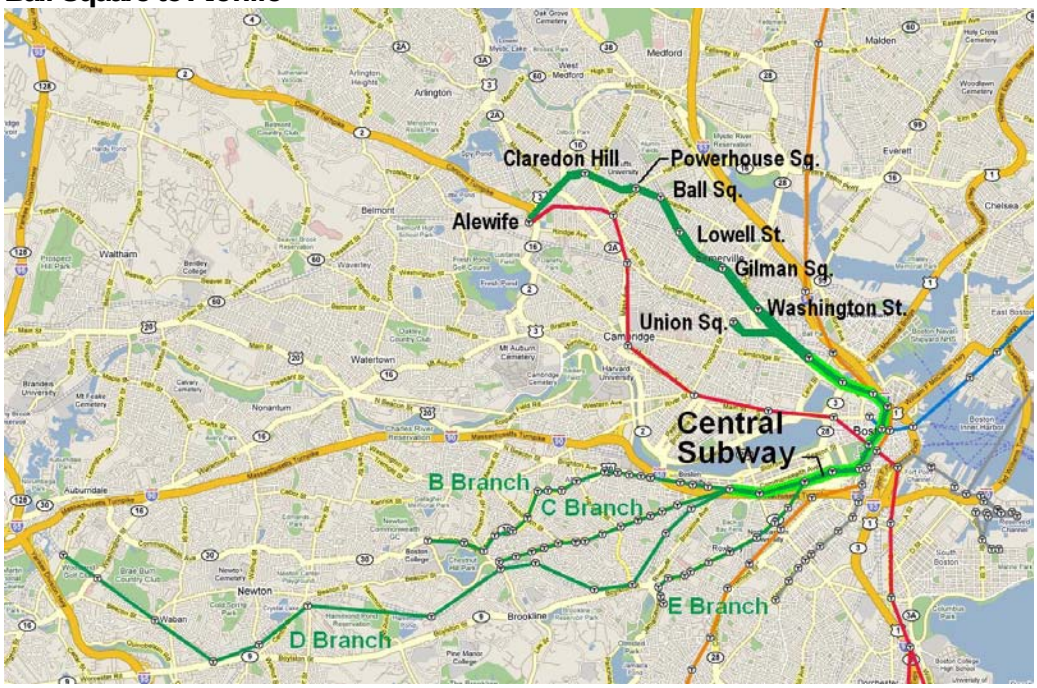
2.1 Description of Proposal

The alignment proposed by GLAM in an October 25, 2007 letter would redirect the current proposed Green Line alignment beginning at Ball Square. Rather than follow the currently proposed alignment along the Lowell Line, the GLAM proposal proposes an alternative alignment that would have it generally follow Broadway in Somerville through Teele Square/ Clarendon Hills until reaching Route 16/ Alewife Brook Parkway. At this point, the proposal suggest the alignment should follow Route 16/ Alewife Brook Parkway until ending at the MBTA's Alewife Station, where it would be co-terminating with the existing Red Line and share the existing parking garage located at the junction of Route 2.

Due to the lack of an existing surface right-of-way (ROW), GLAM has proposed putting the service underground for the majority of its deviation from the currently proposed Green Line alignment. The GLAM proposal suggests stations at Ball Square, Powder House Boulevard, and Clarendon Hill, as well as at the existing Alewife Station. See Figure 2-1 for a map of this proposed alignment.

Additional capacity improvements advocated in the GLAM alternative include expansion of the garage at Alewife to accommodate more riders and the development of a commuter rail/ Green Line intermodal station at Ball Square.

Figure 2-1: T-1 Clarendon Hill Tunnel: Green Line Extension with Tunnel from Ball Square to Alewife



Note: Tunnel segment is from Ball Square to Alewife

2.1.1 Stations Locations and Spacing

Beginning with the diversion from the presently proposed route at Ball Square, stations would be located at intervals of approximately 0.4 to 1.1 miles, as indicated in Table 2-1.

Table 2-1 Station Spacing between Ball Square and Alewife

Segment	Length (Miles)	Route
Ball Sq. to Powder House Sq.	0.4	Broadway
Powder House Sq. to Clarendon Hill	0.8	Broadway
Clarendon Hill to Alewife	1.1	Rt. 16/Alewife Brook Parkway
Tail tracks (600 feet includes switches)	0.1	
TOTAL LENGTH	**2.4**	

Ball Square Station

The alignment approaching Ball Square is along the west side of the Lowell Line right-of-way. At Ball Square, the alignment would curve westward to follow Broadway heading towards Powder House Square.

To transition vertically to the depth of a tunnel, the tracks would need to descend prior to Ball Square, thus making Ball Square an underground station. A likely location for the station might be under Broadway, just west of Boston Avenue. See Figure 2-2.

Figure 2-2: Tunnel T-1 at Ball Square



Powder House Station

The alignment would follow Broadway from Ball Square to Powder House Square in Somerville.

The proposal envisions an underground station at Powder House Square. This station would accommodate Tufts University and the surrounding Somerville neighborhoods. Portions of Medford would also be within walking distance.

The Powder House Station would be about 0.5 miles from the existing Davis Square station, providing some overlap of the catchment areas, but also providing two transit line alternatives for riders in neighborhoods between the stations.

Clarendon Hill Station

The alignment would continue to follow Broadway from Powder House Square past Teele Square to Clarendon Hill.

The proposed station would be located near the MBTA Clarendon Hill bus turn-around. This location is the site of the former streetcar yard. Currently the MBTA owns a small parcel of land that serves as the off-street terminus of bus routes 87 and 88. The proposed station would serve as an intermodal transfer point with these bus lines.

This station would serve the immediate neighborhood and would be within walking distance of Teele Square. It is also within walking distances of residential neighborhoods in Arlington, Somerville and Medford. The site is adjacent to existing high-density housing, an elderly housing project, and low income housing located between Broadway and Powder House Boulevard. This station would also be about 0.5 miles from the existing Davis Square station, providing some overlap coverage and two options for riders who live in between.

Alewife Station

From Clarendon Hill, the alignment would continue west along Broadway to Alewife Brook Parkway. The alignment would turn south and follow the Parkway to the existing Alewife station.

This proposal suggests that the Green Line be co-terminal with the Red Line at the existing Alewife station complex. This would provide a connection between the Red and Green Lines outside the downtown core of the subway system. The Green and Red Lines would share a common garage. The proposal envisions an expansion of the capacity of the garage.

Located at the eastern end of the Route 2 expressway, the station's capture area includes Arlington, Lexington, and other communities in the Route 2 corridor as well as towns along the I-95/ Route 128 corridor.

The Green Line tunnel would need to pass under the Red Line tunnel, which is fairly shallow. A series of interconnecting stairs, escalators and elevators would provide access between the two station platforms and the station fare collection and entrance areas.

Tail Tracks

Typical of all terminal stations on the MBTA subway system, tail tracks would be provided after the platforms at Alewife Station. This allows for temporary storage of an extra train during operating hours as well as a place to temporarily park a disabled train until it can be moved to the maintenance facility. A typical configuration would be 2 or 3 tracks, with turnouts (switches) which connect each tail track with each station track.

2.1.2 Advantages of the Alignment

According to GLAM, benefits of this underground Green Line extension would include:

- The alignment would serve an Environmental Justice (EJ) community near Clarendon Hill/ Teele Square in Somerville
- The underground construction would lessen airborne contaminants for the local community compared to an above ground construction and operation
- There are no environmentally hazardous sites along the proposed alignment whereas there are some sites adjacent to Lowell Line
- Underground construction "lessens the risk of eminent domain" takings

2.2 Consideration of Tunnel Methodology

This alignment deviates from the existing MBTA commuter rail right-of-way and runs under city streets and other roadways. Two tunnels methodologies could be employed:

- Cut and cover
- Deep bore

2.2.1 Cut and Cover Tunnel

Section 1.4.1 and Figure 1-2 present an overview of the cut and cover tunnel construction methodology.

For this methodology to be feasible, the alignment must follow either existing roadways or other undeveloped land where surface construction is possible. As this alignment generally follows both Broadway and Alewife Brook Parkway, it would be possible to construct a cut and cover tunnel.

A second important consideration for this methodology is traffic interruption. As Figure 1-2 illustrates, during the tunnel construction, the roadway would be greatly reduced in width or possibly closed to traffic. This would be difficult, due to the high traffic volumes along both Broadway and especially Alewife Brook Parkway.

The parkway corridor also includes both wetlands associated with Alewife Brook itself and the DCR park reservation. Construction would also impact both these wetland resource areas and the parklands along the corridor.

Other impacts during construction would include noise, vibrations, dust, construction vehicle traffic, and temporary disruptions/ inconveniences to access to businesses and residences.

2.2.2 Deep Bore Tunnel

Section 1.4.3 and Figures 1-4/ 1-5 present an overview of the deep bore tunnel construction methodology.

While the tunnel could be bored from either end, for the purposes of this conceptual analysis, it is assumed that it would be bored from the Ball Square end. A mining shaft would be built near Ball Square to the depth of the tunnel. The tunnel boring machine (TBM) would be lowered in the shaft and tunnel boring would commence.

Though the main tunnel would be bored from underground, surface construction would be required at stations, ventilation shafts and access shafts. For safety during construction, periodic access shafts (about 5,000 feet apart) would be needed for emergency access and evacuation. At these surface construction locations, the impacts would be similar to that of cut-and-cover tunneling.

2.2.3 Conclusions

Based on a preliminary consideration of each method, the use of deep bore tunneling would have less surface impacts along a corridor that includes dense urban development as well as parklands and wetlands.

2.3 Order of Magnitude Additional Cost

An order-of-magnitude estimate was made of the additional cost of this tunnel alternative. The "additional cost" represents the difference between the preferred at-grade alignment along the Lowell Line right-of-way and this tunnel alignment. As such, the costs common to any alternative (e.g., track, power and signals) are not included. Also, no estimate was made of the real estate costs for property takings and easements for the tunnel, stations, shafts and other support facilities including power substations.

Included	Not Included
Tunnel construction	Trackwork
Additional cost of underground stations	Traction power
Tunnel ventilation including ventilation shafts	Signals and communications
Access shafts	
Tunnel lighting	Real estate costs
Tunnel fire protection (dry standpipes)	
Tunnel drainage	

Table 2-2 includes the estimated quantities of work and the additional cost for either a single or double bore tunnel.

Table 2-2 T-1 – Clarendon Hill Tunnel Additional Construction Costs

Item	Quantity	Double Bore	Single Bore
Tunnel Construction	2.4 miles		
Number of Underground Stations	4		
Ventilation Shafts	7		
Access Shafts	3		
Tail Tracks	600 feet		
Tunnel Lighting	2.4 miles		
Tunnel fire protection	2.4 miles		
Tunnel drainage	2.4 miles		
TOTAL LENGTH	**2.4 miles**	**$1.54 billion**	**$2.13 billion**

3

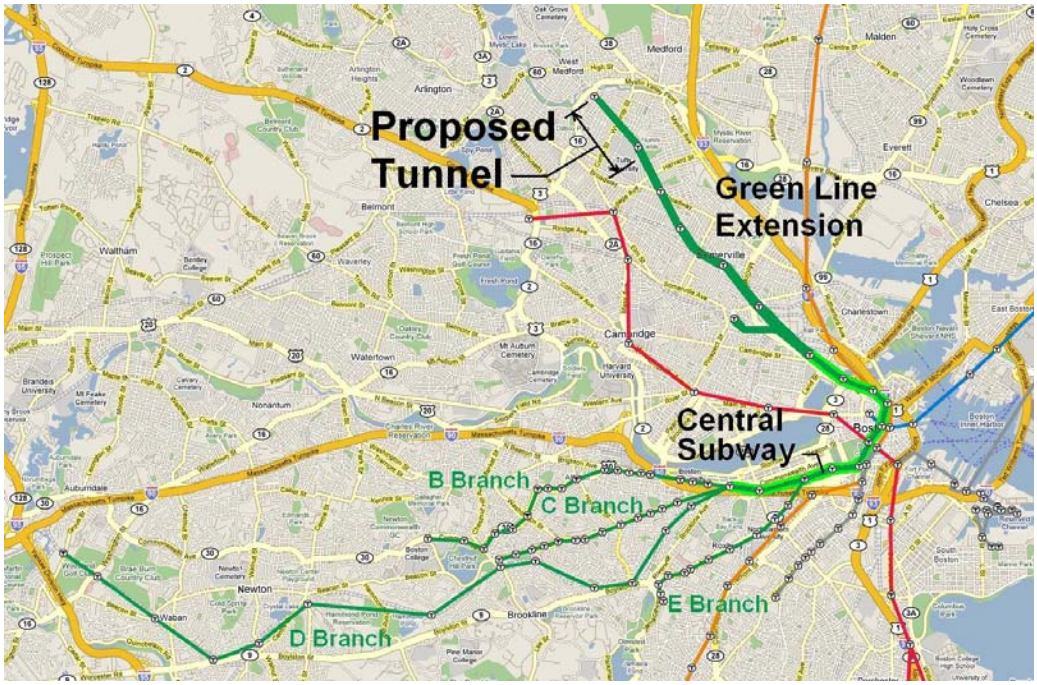
T-2 – Medford Hillside Tunnel: Tunnel along Lowell Line from College Avenue to Mystic Valley Parkway/Route 16

At various Advisory Group meetings, proposals to consider a tunnel alignment within Medford were put forth. The overall alignment would be the same, with stations at College Avenue and Mystic Valley Parkway/ Route 16. However, instead of widening the track bed and relocating the commuter rail tracks, this proposal would have the Green Line run below the ground, thus, minimizing the temporary construction and permanent impacts on the community.

3.1 Description of Proposal

The proposal is to substitute a tunnel alignment in place of the proposed alignment that would locate the Green Line and commuter rail tracks side-by-side in the existing railroad right-of–way. See Figure 3-1.

Figure 3-1: T-2 Medford Hillside Tunnel: College Avenue to Mystic Valley Parkway/Route 16



This proposal was put forth because of the potential benefits of reduced impacts both during construction and thereafter:

- Less impacts during construction:
  - No construction in right-of-way (no removal of trees, no earthwork and construction of retaining walls
  - No relocation of commuter rail tracks to the east side of the right-of-way
- Less impacts after construction:
  - Little to no noise or vibrations from Green Line operations
  - Retains visual buffer of existing vegetation along right-of-way

3.2 Review of Proposal

While the initial proposal would be for a deep bore tunnel under the right-of-way, there are a number of alternative approaches to constructing this segment of the Green Line extension in a tunnel. These options include:

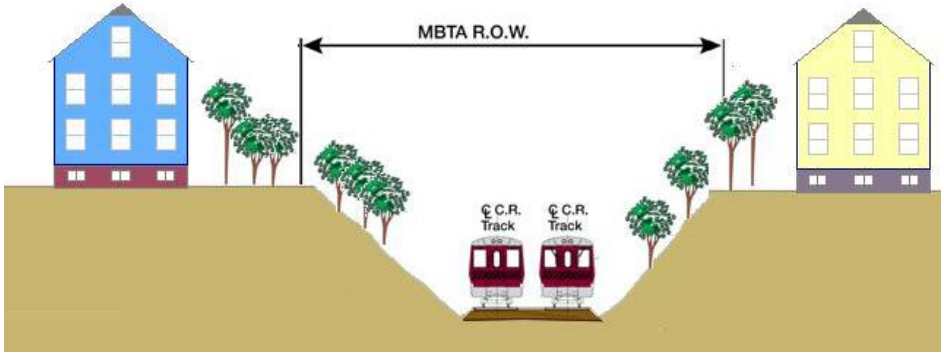
- Deep bore tunnel under MBTA right-of-way
- Deep bore tunnel under Boston Avenue.
- Decking over tracks in MBTA right-of-way

Figures 3-2 through 3-6 provide a comparison of these alternatives with existing conditions and with the proposed Green Line extension next to the commuter rail tracks in an open cut.

3.2.1 Existing Conditions

Figure 3-2 shows the existing two commuter rail tracks in a cut section with vegetated slopes on either side and residential structures near the right-of-way.

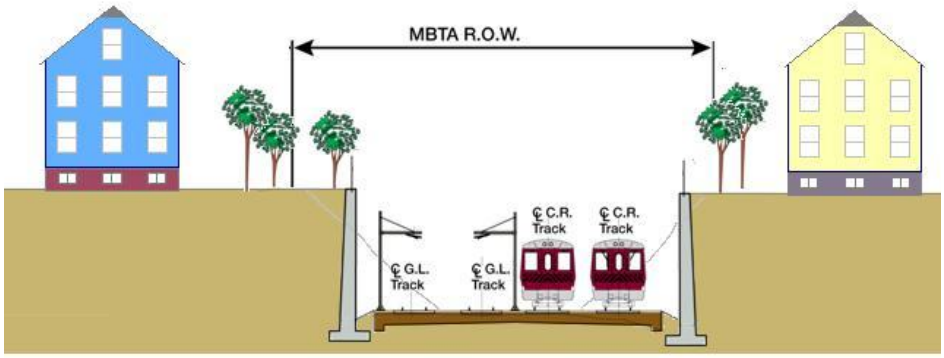
Figure 3-2: Existing Section Looking North



3.2.2 Proposed Extension in Open Cut

Figure 3-3 shows the widening of the cut by installing retaining walls on either side and excavating the slopes, resulting in a loss of the existing vegetation on the slopes. The commuter rail tracks are shifted to the east side of the widened cut. The new Green Line tracks are built along the west side.

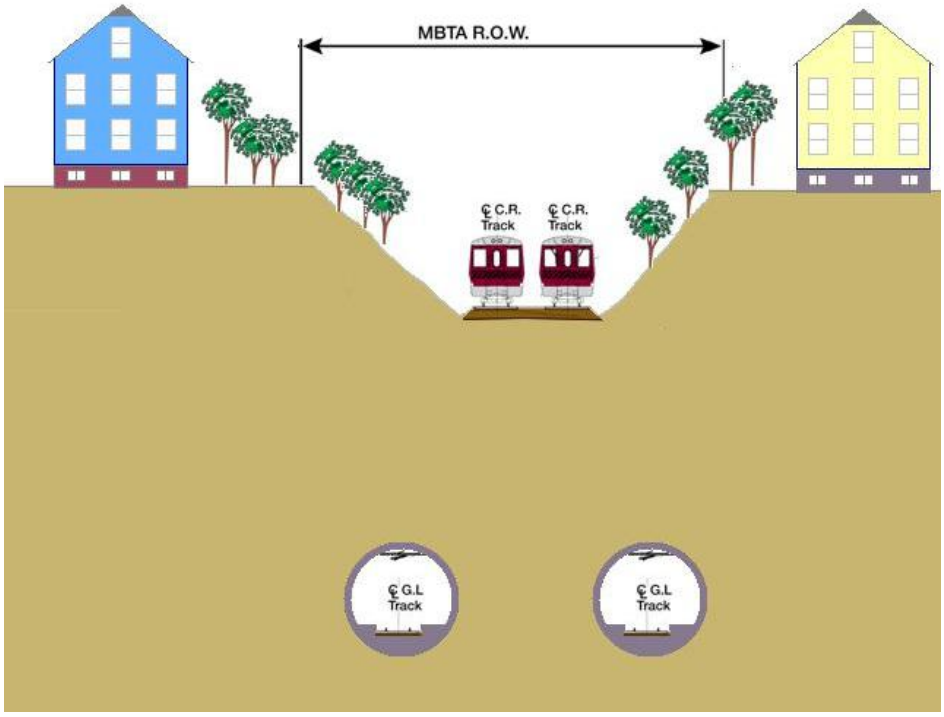
Figure 3-3: Open Cut – Green Line and Commuter Rail



3.2.3 Proposed Deep Bore Tunnel under Right-of-Way

Figure 3-4 shows the Green Line extension in a deep bore twin-tunnel under the right-of-way. To provide at least 2 diameters of cover on the tunnels, the Green Line tracks would be in the order of 60 feet below the existing track bed, or about 80 to 90 feet below street level.

Figure 3-4: Green Line in Deep Bore Tunnel in Right of Way

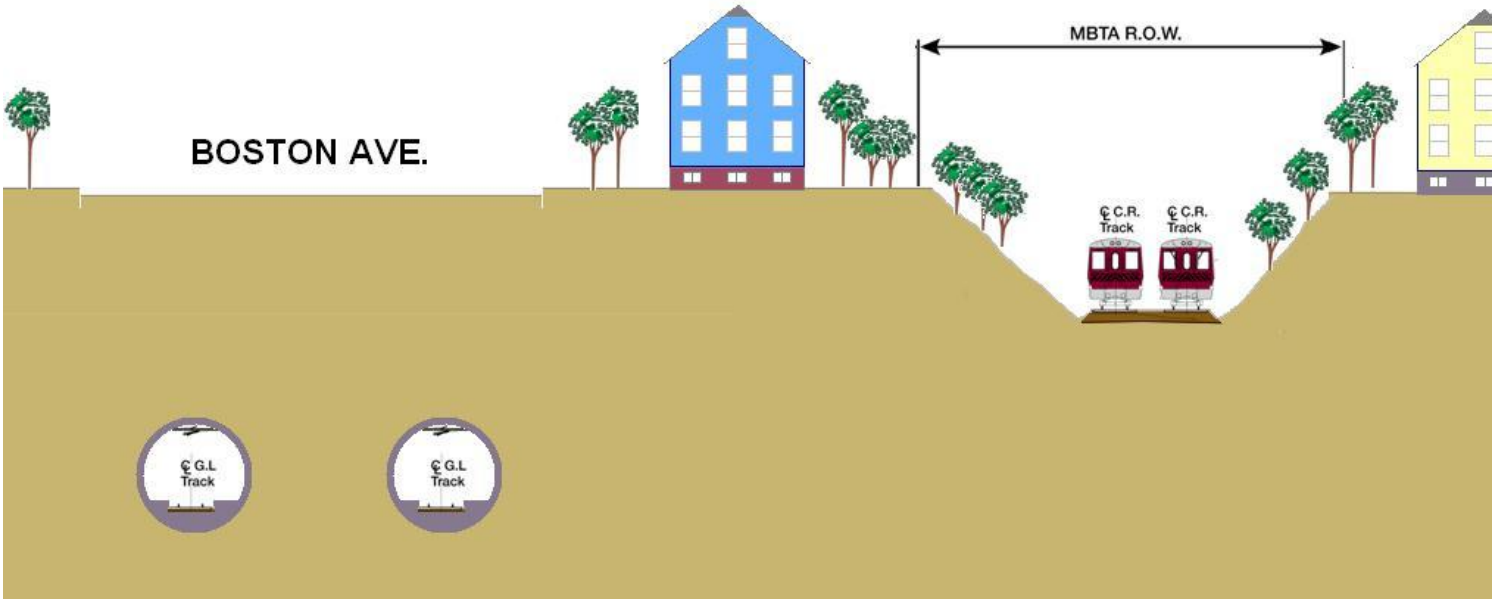


3.2.4 Proposed Deep Bore Tunnel under Boston Avenue

Since a deep bore alignment directly the Lowell Line right-of-way would result in very deep stations (80 to 90 feet below street level), consideration was given to a deep bore alignment under Boston Avenue. With deep bore tunneling, the alignment does not have to follow the MBTA right-of-way exactly. The tunnel would be well below utilities and building foundations, so there are more options with regard to the horizontal alignment.

By following Boston Avenue, the tunnels could theoretically be shallower. In general, Boston Avenue is about 20 feet higher than the existing Lowell Line trackbed, so the tunnel could also be about 20 feet shallower. See Figure 3-5.

Figure 3-5: Green Line in Deep Bore Tunnel under College Avenue



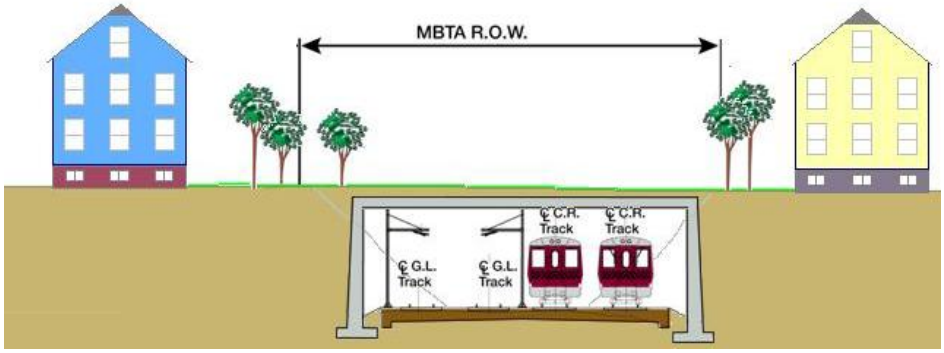
In order to make a final determination, it would be necessary to have detailed subsurface information as to soils types and the depth of bedrock. Current information is limited to some borings at the existing bridges over the tracks at College and Winthrop Avenues.

3.2.5 Alternative Tunnel: Cut & Deck Section

An alternative to deep bore tunneling would be decking over the tracks in the Lowell Line right-of-way. See Figure 3-6.

This alternative would be constructed much in the same way as the proposed extension. The existing cut is widened, the slopes are excavated, retaining walls are installed and the four tracks constructed. The difference is that a deck (or roof) is constructed over the tracks, thus, creating a tunnel.

Figure 3-6: Decking over Tracks – Green Line and Commuter Rail



As Figure 3-6 illustrates, the deck provides a number of advantages to the abutters:

- Removes the visual impact of the tracks
- Reduces noise
- Allows for landscaping over the deck

This alternative would be similar to the Southwest Corridor, where both transit and commuter rail tracks are in a depressed cut with sections of the cut covered in decking.

With this alternative, a key issue is ventilation for the commuter rail tracks, as the passenger and freight trains use diesel locomotives. One approach is to provide sections of decking alternating with sections that are open to the air. The open air sections provide the necessary ventilation.

3.3 Order of Magnitude Additional Cost

An order-of-magnitude estimate was made of the additional cost of this tunnel alternative. The "additional cost" represents the difference between the preferred at-grade alignment along the Lowell Line right-of-way and this tunnel alignment. As such, the costs common to any alternative (e.g., track, power and signals) are not included. Also, no estimate was made of the real estate costs for property takings and easements for the tunnel, stations, shafts and other support facilities including power substations.

Included	Not Included
Tunnel construction	Trackwork
Additional cost of underground stations	Traction power
Tunnel ventilation including ventilation shafts	Signals and communications
Access shafts	
Tunnel lighting	Real estate costs
Tunnel fire protection (dry standpipes)	
Tunnel drainage	

Table 3-1 includes the estimated quantities of work and the additional cost for the single or double bore tunnel, as well as for the decking option. There is no significant cost difference whether the deep bore tunnel is under the Lowell Line or under Boston Avenue.

Table 3-1 T-2– Medford Hillside Tunnel Additional Constructions Costs

Item	Quantity	Double Bore	Single Bore	Decking
Tunnel Construction	1.2 miles			
Number of Underground Stations	2			
Ventilation Shafts	3			
Access Shafts	1			
Tail Tracks	600 feet			
Tunnel Lighting	1.2 miles			
Tunnel fire protection	1.2 miles			
Tunnel drainage	1.2 miles			
TOTAL LENGTH	**1.2 miles**	**$1.02 billion**	**$0.76 billion**	**$0.40 billion**

4

T-3: Tunnel under Union Square

A number of comments were received regarding the use of a tunnel for part or the entire Union Square spur. A tunnel could allow the Union Square station to be located closer to the heart of the square, which is a comment mentioned during the public meetings.

These proposals differ from the Beyond Lechmere Study alternative that would have diverted the mainline through Union Square via the Fitchburg Line right-of-way with a tunnel under Union Square and Prospect Hill and connecting with the Lowell Line right-of-way south of Medford Street. This alternative was eliminated during the Beyond Lechmere Study.

4.1 Description of Proposal

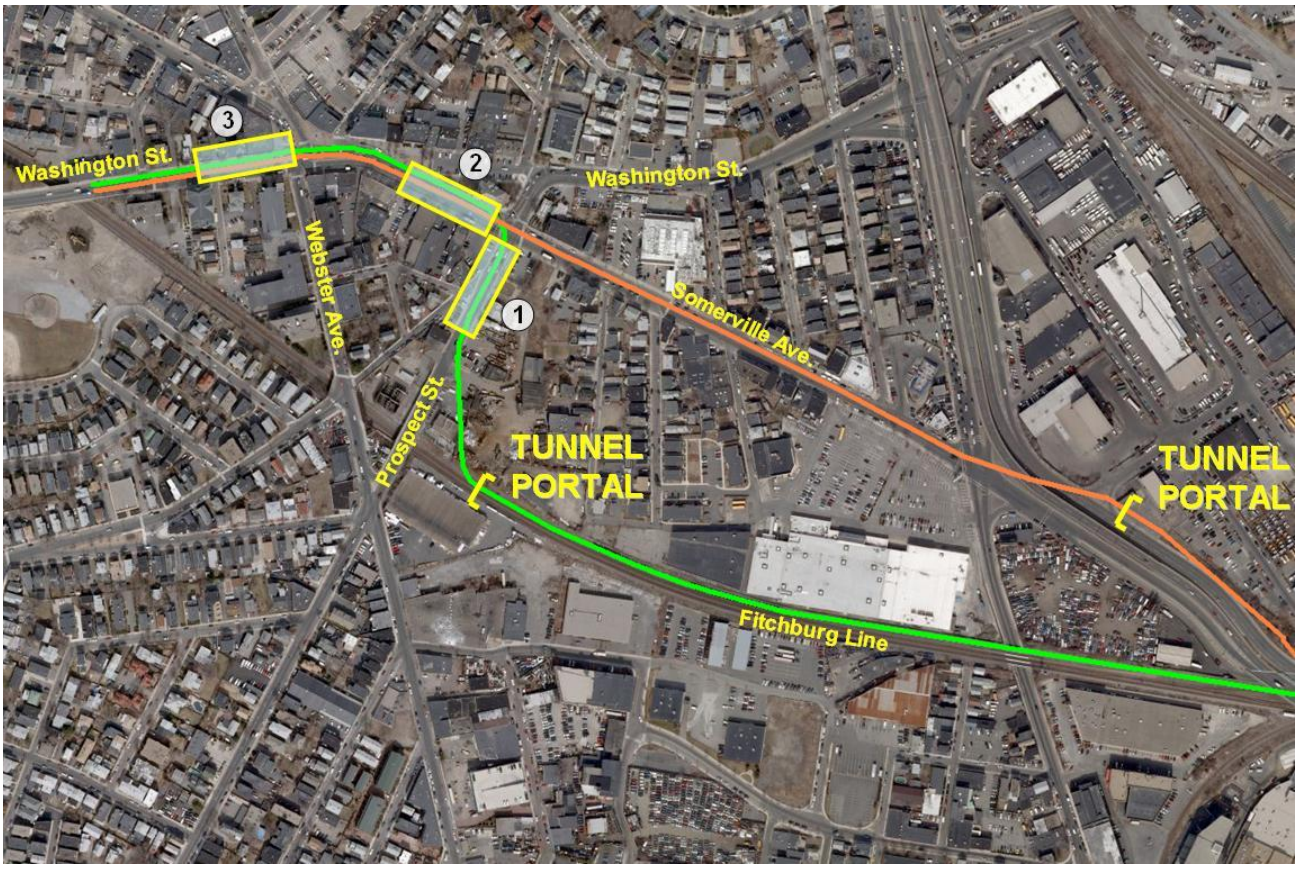
While a specific alignment was not proposed, the objective of the proposal would be to locate the new station under the heart of Union Square. To achieve this, various alignment options are possible. For the sake of this evaluation, the options include:

- Tunnel under Somerville Avenue with portal in Brickbottom area
- Tunnel under Prospect and Washington Streets with portal along the Fitchburg Line

Also, for the sake of this option, three station sites were considered (see Figure 4-1):

- 1. Vicinity of intersection of Prospect Street and Somerville Avenue (Fitchburg alignment, only)
- 2. Somerville Avenue west of Prospect Street (Somerville Ave. alignment, only)
- 3. Vicinity of intersection of Somerville Avenue, Washington Street and Webster Street (either alignment)

Figure 4-1 Options for Union Square Tunnel Alignment and Station Locations



4.2 Evaluation of Options

4.2.1 Tunnel from Fitchburg Alignment

This option would include an at grade alignment along the Fitchburg Line right-of-way. West of Medford Street, the tracks would descend to a portal just east of Prospect Street. The objective would be to minimize the tunnel length and cost by maximizing the at-grade portion of the alignment.

After the portal, the tracks would curve to the north under private property and then under Prospect Street. Option 1 for the station would be just south of the intersection of Prospect Street and Somerville Avenue. If the station is not at the Option 1 site, the tracks would curve west under Somerville Avenue and then under Washington Street. Option 3 for the station would be just beyond the intersection of Washington

Street, Webster Avenue and Somerville Avenue. Tail tracks would be included just beyond the station.

Tunnel Method

Due to the relative short length of this tunnel (about 1,500 feet), cut and cover methods were considered. However the down side of cut and cover would be the extensive impact on Union Square, coming after the current disruption for the major sewer and drain construction along Somerville Avenue.

4.2.2 Tunnel under Somerville Avenue

This option would leave the Fitchburg right-of-way just west of the Brickbottom residential building. Running parallel to McGrath Highway, it would descend into a tunnel portal before crossing under McGrath Highway and following the alignment of Somerville Avenue into Union Square. For illustrative purposes, Figure 4-1 shows the alignment turning under Washington Street just west of Union Square. However, an alignment continuing west under Somerville Avenue could be considered.

The station options include Site 2 just west of Prospect Street and Site 3 just west of Union Square itself.

Tunnel Method

Due to the congestion and heavy existing utility infrastructure, deep bore tunneling is assumed for this option.

4.2.3 Evaluation of Station Options

Figure 4-1 illustrates 3 possible locations for a Union Square subway station. Since it is a stated objective of this tunnel option to have the station in Union Square, only station option 3 provides for that. Therefore, station option 3 will be considered the preferred station location.

4.3 Order of Magnitude Additional Cost

An order-of-magnitude estimate was made of the additional cost of this tunnel alternative. The "additional cost" represents the difference between the preferred at-grade alignment along the Lowell Line right-of-way and this tunnel alignment. As such, the costs common to any alternative (e.g., track, power and signals) are not included. Also, no estimate was made of the real estate costs for property takings and easements for the tunnel, stations, shafts and other support facilities including power substations.

Included	Not Included
Tunnel construction	Trackwork
Additional cost of underground stations	Traction power
Tunnel ventilation including ventilation shafts	Signals and communications
Access Shafts	
Tunnel lighting	Real estate costs
Tunnel fire protection (dry standpipes)	
Tunnel drainage	

Tables 4-1 and 4-2 include the estimated quantities of work and the additional cost for the single or double bore tunnel for the Fitchburg and Somerville Avenue alignment options.

Table 4-1 T-3a– Union Square via Fitchburg Line Tunnel Additional Construction Costs

Item	Quantity	Double Bore	Single Bore
Tunnel Construction	0.3 miles		
Number of Underground Stations	1		
Ventilation Shafts	2		
Access Shafts	0		
Tail Tracks	600 feet		
Tunnel Lighting	0.3 miles		
Tunnel fire protection	0.3 miles		
Tunnel drainage	0.3 miles		
TOTAL LENGTH	**0.3 miles**	**$500 million**	**$600 million**

Table 4-2 T-3b– Union Square via Somerville Ave. Tunnel Additional Construction Costs

Item	Quantity	Double Bore	Single Bore
Tunnel Construction	0.8 miles		
Number of Underground Stations	1		
Ventilation Shafts	3		
Access Shafts	0		
Tail Tracks	600 feet		
Tunnel Lighting	0.8 miles		
Tunnel fire protection	0.8 miles		
Tunnel drainage	0.8 miles		
TOTAL LENGTH	**0.8 miles**	**$620 million**	**$820 million**

5

T-4: Mainline Tunnel from Lechmere to Mystic Valley Parkway/Route 16

5.1 Description

This proposal is simply to construct the mainline extension by deep bore tunnel instead of an at-grade alignment along the Lowell Line right-of-way.

5.2 Review of Proposal

5.2.1 Horizontal Alignment

It is assumed that the alignment would generally follow the Lowell Line and that stations would be at the same locations as the at-grade proposal. Although the deep bore method does not require the alignment to follow the Lowell Line right-of-way, for evaluation purposes the alignment will be assumed to generally follow the rail line.

5.2.2 Vertical Alignment

Consideration was given to where the extension would transition into the tunnel. The relocated Lechmere station is proposed to be an elevated station. Proceeding

outbound, a transition could be made prior to the Fitchburg Line crossing. The downsides of this approach would be the steep slope required to pass under the Fitchburg Line and the complexity of the junction with the Union Square spur.

A transition near Yard 8 provides for a gentler transition slope into the tunnel and retains the junction with the Union Square branch as designed.

The six mainline stations from Washington Street north would all be in the tunnel.

Tail tracks would be provided after Mystic Valley station.

5.3 Order of Magnitude Cost

An order-of-magnitude estimate was made of the additional cost of this tunnel alternative. The "additional cost" represents the difference between the preferred at-grade alignment along the Lowell Line right-of-way and this tunnel alignment. As such, the costs common to any alternative (e.g., track, power and signals) are not included. Also, no estimate was made of the real estate costs for property takings and easements for the tunnel, stations, shafts and other support facilities including power substations.

Included	Not Included
Tunnel construction	Trackwork
Additional cost of underground stations	Traction power
Tunnel ventilation including ventilation shafts	Signals and communications
Access Shafts	
Tunnel lighting	Real estate costs
Tunnel fire protection (dry standpipes)	
Tunnel drainage	

Table 5-1 includes the estimated quantities of work and the additional cost for the single or double bore tunnel.

Table 5-1 T-4 – Mainline Tunnel Additional Construction Costs

Item	Quantity	Double Bore	Single Bore
Tunnel Construction	3.7 miles		
Number of Underground Stations	6		
Ventilation Shafts	11		
Access Shafts	4		
Tail Tracks	600 feet		
Tunnel Lighting	3.7 miles		
Tunnel fire protection	3.7 miles		
Tunnel drainage	3.7 miles		
TOTAL LENGTH	**3.7 miles**	**$2.1 billion**	**$3.0 billion**

6

Conclusions

6.1 Comparison of Tunnel Alternatives

This technical memorandum considered 4 tunnel alternatives:

- **Proposal T-1 – Clarendon Hill Tunnel:** Tunnel from Ball Square to Alewife Station via Powder House Square and Clarendon Hill (GLAM tunnel proposal)
- **Proposal T-2 – Medford Hillside Tunnel**: Tunnel from College Avenue to Mystic Valley Parkway/ Route 16
- **Proposal T-3 – Union Square Tunnel**: Tunnel from Prospect Street under Union Square
- **Proposal T-4 – Mainline Tunnel:** Complete tunnel alignment from Lechmere to Mystic Valley Parkway/ Route 16 with branch to Union Square

Table 6-1 presents a summary of the alternatives and respective additional costs.

Note that the order-of-magnitude construction cost estimates represent only the additional cost of each tunnel alternative. The "additional cost" represents the difference between the preferred at-grade alignment along the Lowell Line right-of-way and the tunnel alignment. As such, the costs common to any alternative (e.g., track, power and signals) are not included. Also, no estimate was made of the real estate costs for property takings and easements for the tunnel, stations, shafts and other support facilities including power substations.

Table 6-1 Comparison of Tunnel Alternatives

Item

	T-1: Clarendon Hill Tunnel	T-2: Medford Hillside Tunnel	T-3a: Union Sq. Tunnel via Fitchburg Line	T-3b: Union Sq. Tunnel via Somerville Ave.	T-4: Mainline Tunnel
	Ball Sq. to Alewife Station	Ball Sq. to Mystic Valley Parkway	Prospect St. to Union Sq.	Poplar St. to Union Sq.	Brickbottom to Mystic Valley Pkwy.
Length of Tunnel	2.4 miles	1.2 miles	0.3 miles	0.8 miles	3.7 miles
Number of Underground Stations	4	2	1	1	6
Ventilation Shafts	7	3	2	3	11
Access Shafts	3	1	0	0	4
Estimated Additional Construction Cost (Twin Bores)	1.54 billion	$1.02 billion	$500 million	$620 million	$2.1 billion
Estimated Additional Construction Cost (Single Bore)	$2.13 billion	$760 million	$600 million	$820 million	$3.0 billion
Estimated Additional Construction Cost (Decking)	N/A	$400 million	N/A	N/A	N/A

6.2 Technical Issues

6.2.1 General

All tunnel alternatives are technically feasible, in that a tunnel could be constructed along any of the alignments proposed. In all cases, the existing subsurface soils information currently available is sufficient to determine that tunneling is feasible, but not sufficient to determine other details, such as whether a bored tunnel would be in rock, soil, or mixed rock and soil conditions.

6.3 Conclusion

While the tunnel alternatives would reduce surface disruption during construction as well as post-construction noise and visual impacts, these impacts, under the surface alternative, are not expected to be significant and can be mitigated cost effectively. Therefore, the additional costs of tunnel construction are not warranted.

Appendix C
Green Line Support Facility Alternatives Analysis

Alternatives Analysis

Green Line Support Facility

Green Line Extension Project

Prepared for **Executive Office of Transportation & Public Works**
Boston, Massachusetts

Prepared by ***VHB*/Vanasse Hangen Brustlin, Inc.**
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PB Americas, Inc.
Boston, Massachusetts

NOVEMBER 6, 2008

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Executive Summary

For the Executive Office of Transportation and Public Work's (EOT's) Green Line Extension Project, this report has been developed to document the thorough and comprehensive analysis that was utilized to determine the preferred site for locating a support facility that will allow the extension of the Green Line service to operate efficiently and reliably.

The purpose of this document is to assess the Massachusetts Bay Transportation Authority's (MBTA's) maintenance and storage needs and additional requirements resulting from the extension of the Green Line from Lechmere Station to Somerville and Medford; review existing storage and support facilities required for servicing the Green Line once the extension of service is in place; identify and evaluate potential sites for a support facility to accommodate the Green Line Extension Project; provide an analysis of alternative sites for a new Green Line support facility; and recommend a preferred alternative for the new facility.

Program Requirements

When planning a new service, there are several important considerations in locating a support facility. Considerations include the proximity to the service as well travel times, cost, and impacts on service reliability. Understanding the current capacity constraints as well as the impact that a new service will have on the existing system is also critical. The existing Green Line fleet is currently stored at the following facilities: Reservoir, Riverside, Lake Street, Lechmere and the subway tunnel tracks. Maintenance support is only available at the Reservoir, Riverside and Lake Street facilities; all located on the west end of the Green Line system. There are currently no maintenance facilities located on the north side of the system, in proximity to the proposed service expansion. The existing facilities are operating beyond their planned capacity and expansion of these facilities to accommodate the Green Line Extension Project is impractical in terms of logistics, service reliability and operating costs. Therefore, the Green Line Extension Project will require a new support facility on the north-side of the Green Line system to be used for storage of cars; inspection, light maintenance and repair of cars; and to provide a base for the maintenance and repair of the track, power, and signal systems.

For the Green Line Extension Project, it is essential to store a number of cars on the north-side of the proposed service to provide cars for start up in the morning, provide a convenient location for overnight and off-peak storage as cars come out of

service, and minimize the distance a disabled train has to travel to reach a support facility; which will also eliminate much of the need to otherwise move cars to the west-side facilities each night and back to the north-side in the early morning, which could interfere with critical overnight maintenance work for track, signal, and power systems. Additionally, car storage is not only required for the overnight storage of cars. It also includes day-time storage of cars between the morning and evening peak hours. In addition, when a Green Line car becomes disabled, it is essential that the car be moved to the closest support facility to get it out of the way of revenue service trains and to a location where it can be serviced. In order to provide a service that is reliable, cost-efficient and does not adversely impact the remainder of the Green Line system, it is necessary that a support facility be provided on the north-side of the system.

In general, the program for the new Green Line Extension Project support facility consists of an area for vehicle storage and a support structure for vehicular inspection, servicing, maintenance and repairs. The storage yard needs to accommodate approximately 80 cars, which includes the 72 cars needed for the service and allows for additional capacity. Specific requirements for the facility are described in more detail later in this memorandum, however in general consist of: optimal track layouts that provide operational flexibility (i.e., parallel "ladder" tracks with access from both ends of the facility); sufficient track lengths; an adequate number of tracks and equipment for the various types of vehicle maintenance required; and a support facility building that includes storage room, loading docks, administrative offices, and employee welfare facilities. In order to meet these program objectives, the site must be approximately 10-12 acres in size.

Purpose and Need

The purpose of this analysis is to consider sites for a Green Line support facility that would serve the proposed Green Line Extension Project to Medford Hillside and Union Square for the purposes of:

- Storage of Green Line cars
- Inspection, light maintenance and repair of Green Line cars
- Provision of a base for the maintenance and repair of the track, power, and signals systems for the extension

The existing Green Line service operates under the constraint of having exceeded the practical capacity of its vehicle storage, support, and repair facilities. Of critical concern is having the ability to adequately store and service vehicles as part of the daily operating routine. This has serious implications in terms of service quality, reliability, and operating costs for both existing and any new services.

The proposed service extension will require the expansion of the existing Green Line fleet by an estimated 38 vehicles. There are currently 34 cars that are stored variously

at Lechmere Station (20 cars) and on tracks within the subway (14 cars), without access to overnight support and maintenance facilities. The required increase in vehicles for the Green Line Extension Project, combined with the existing fleet of 34 cars that presently provide service to Lechmere represent a total fleet of approximately 72 vehicles that will be in need of a dedicated storage and support facility.

With the proposed extension in place, it would be impractical to depend on the existing west-side support facilities (Riverside, Reservoir and Lake Street). Without a north-side support facility it would be necessary to:

- "Dead head" cars to Medford Hillside and Union Square for the morning start of service
- "Dead head" cars from Medford Hillside and Union Square for the nighttime end of service
- Tow or push cars that become disabled north of Lechmere back through the entire length of the Central Subway

The long travel times add to operating costs and lack of flexibility (e.g., the ability to add a car in service to replace a disabled car), all translating into less reliable service for the MBTA's patrons of the Green Line. Negative impacts associated with increased deadheading are:

- Operating costs, such as maintenance and transportation
- Additional "wear and tear" on vehicles
- Noise impacts in the early morning and evening
- Limits on time available for critical infrastructure maintenance

Therefore, it is essential to store a number of cars on the north-side of the proposed Green Line Extension Project to provide cars for start up in the morning, provide a convenient location for overnight and off-peak storage as cars come out of service, and minimize the distance a disabled train has to travel to reach a support facility. This will also eliminate much of the need to otherwise move cars to the west-side facilities each night and back to the Medford Hillside and Union Square termini in the early morning, which could interfere with critical overnight maintenance work for track, signal, and power systems.

Sites Evaluated

According to the requirements of the December 1, 2006 Executive Office of Environmental Affairs (EOEA) Secretary's Certificate on the Green Line Extension Expanded Environmental Notification (EENF), several sites were considered to support the new Green Line facility, including the Boston Engine Terminal (BET) and Yard 8. Based on suggestions by members of the Project Advisory Group and various project stakeholders, EOT evaluated many more sites than required by the

Secretary's Certificate. Additional sites or variations of these sites were also suggested by representatives of the Cities of Medford and Somerville, by Project Advisory Group members and by the public. The density of the project study area limited the potential sites to evaluate. However, in working with the project stakeholders, a number of sites were identified for evaluation as potential support facility locations. These sites were put through a multi-step screening process to determine which site(s) best met the program requirements.

Tier One Screening

A list of alternative sites was compiled based on suggestions from the City of Somerville, the City of Medford, and members of the Green Line Extension Advisory Group members. Although the EOEA Secretary's Certificate on the EENF for this project required consideration of only two sites, the MBTA's Boston Engine Terminal (BET) Commuter Rail Maintenance Facility and Yard 8, the Project Team evaluated significantly more sites and variations of sites. As part of the Tier One Evaluation, the following sites were evaluated:

1. Gilman Square at Medford Street
2. City of Somerville DPW Yard
3. Wild Oats site at Route 16
4. U-Haul site at Boston Avenue/Route 16
5. 200 Boston Avenue Site (Cummings Park)
6. Medford Hillside Boston and College Avenue at Tufts
7. Pat's Tow Lot-Somerville Avenue at Medford Street
8. MBTA Boston Engine Terminal (BET) Commuter Rail Facility
9. Yard 8
10. Yard 8 with Adjacent Parcel-the neighboring undeveloped lot for the support facility
11. Yard 7/8 (a split operation using a combination of sites to reduce activity on Yard 8)

These sites were evaluated based on their ability to meet the required program, which includes size and configuration of the site(s) and proximity to the proposed extension. Those sites that were determined to be too small to accommodate the program and/or required a crossing of the MBTA's commuter rail Lowell Line in order to access the sites were eliminated from further consideration. Sites unable to meet the program because they were largely constrained by size or configuration or were unable to make direct track connections to the proposed extension line were also disqualified. Sites # 1 through 6 did not meet the basic program requirements and were eliminated from further consideration. Sites # 7, 8, 9, 10 and 11 were selected to progress into the Tier Two evaluation.

Tier Two Screening

The sites that moved beyond the Tier One screening process were more rigorously evaluated for their ability to accommodate the MBTA's program requirements for a Green Line support and storage facility. The Tier Two analysis evaluated sites based on conceptual operating plans, program requirements, safety provisions, and the size and configuration of the sites. Issues that deemed sites not feasible included lack of capacity, different maintenance requirements, unsafe conditions due to car types, and poor configuration of the site. The following table provides a summary of the Tier Two findings:

Table ES-1 Tier Two Alternatives

Site	Location	Options	Comments	Recommendation
7	Pat's Tow Lot (Somerville Avenue at Medford Street)	Utilize full site for Green Line support facility	Does not accommodate car storage (would have to be on nearby site) Support facility barely fits "Single-ended" facility not ideal	Not recommended on the basis of operational shortcomings and "dead-end" configuration
8	MBTA Commuter Rail Maintenance Facility (BET)	Joint Use of Existing Facility Dedicated Green Line Facility at Existing Site Combination of BET site and Yard 7 Relocation of existing BET operations	Safety and operational issues and lack of capacity Lack of capacity/ operational differences in car types Configuration and capacity issues, as well as operational differences Not feasible	Not recommended as there is insufficient space at the at-capacity BET commuter rail facility and does not provide configurations suited for train storage
9	Yard 8	Combine MBTA and PAR portions of Yard 8 for Green Line support facility	Accommodates car storage, but does not provide enough space for support facility building	Yard 8 alone is not large enough to accommodate the support facility in addition to the required car storage
10	Yard 8 with Adjacent Parcel (Yard 8 with the neighboring undeveloped lot for the support facility)	Combine usable portions of Yard 8 with adjacent undeveloped parcel of land	Accommodates car storage and support facility building in accordance with the required program outlined in Chapter 2	This site is recommended on the basis of accommodating all of the program requirements
11	Yard 7/8 (a split operation using a combination of sites to reduce activity on Yard 8)	Combine usable portions of Yard 8 with Yard 7	Storage and support facility connected via a shuttle Support facility barely fits	Less desirable due to separating storage from the support facility, resultant moves inefficient and operations limited

Based on the Tier Two screening, Site 10, Yard 8 with the Adjacent Parcel, was found to accommodate the car storage and the support facility while offering the site flexibility and operational flexibility that is needed at this facility.

Additional Alternatives Analysis

The alternatives analysis of the initial alternative sites yielded the conclusion that Site 10 ("Yard 8 with Adjacent Parcel") was the preferred site and the location that would best meet the required program and functionality requirements. However, it was requested by members of the Project Advisory Group and other project stakeholders that the alternatives analysis take a more in-depth look at other sites where some or all of the functions could be located. Particular focus was centered around further analysis of two sites with former or existing rail operations:

- MBTA-owned land at its BET Commuter Rail Maintenance Facility
- Yard 7, owned by the Pan Am Railways (PAR), which generally refers to the undeveloped portions of the ongoing NorthPoint development, which were formerly rail yards.

A variety of options and sites within these areas were considered. For each site, engineered conceptual plans (or "schemes") were developed to lay out the storage yard, maintenance building, and all connecting tracks. The initial objective was to fit as much of the program as possible at each location.

A total of eight schemes (A through G), shown in the Table ES-2, were developed. In addition to the eight locations, a site on the north side of Inner Belt Road, within the loop area, was proposed by the City of Somerville. Including the preferred Tier 2 Alternative of Site 10 ("Yard 8 with Adjacent Parcel"), the further analysis evaluated a total of 10 additional possible configurations for the maintenance yard.

Each of these schemes was initially screened by criteria related to meeting the MBTA's basic operational requirements for the Green Line Extension Project. Criteria included the ability to provide a vehicle maintenance building with a run-through structure for double-ended access and the ability to provide one building in which to perform the support facility functions. Where a scheme did not meet these criteria, one of the following actions was taken:

- The layout was modified so that it met the required functionality
- A scheme that was similar in layout and did meet the required functionality was advanced
- The scheme was eliminated from further consideration

The initial screening consolidated the list of schemes from ten to five. As required by the Certificate and by the public, the schemes that utilized the MBTA's BET Commuter Rail Maintenance Facility were determined to be unsuitable to support

the program due to their configurations, varying impact on the proposed NorthPoint development and, as prescribed by Federal Railroad Administration (FRA) regulations (use of both commuter rail and light rail within the same facility is incompatible). Schemes that were removed from further considered (Schemes B, C, E, F, and G) are highlighted in Table ES-2.

The remaining schemes (Schemes A, D2, J, H and Site 10) were retained and were analyzed for operations, vehicle storage capacity, vehicle maintenance functionality, cost, property takings, potential for air rights overbuild, and compatibility with other proposed transportation projects including the Urban Ring, Somerville Community Path, and North-South Rail Link. Also assessed were the schemes' potential impacts on implementation of the schedule and cost on the Green Line Extension Project.

Table ES-2 Additional Schemes

Alternative	Vehicle Storage Location	Double-ended Maintenance Building?	Single Maintenance Building?	Conclusion
Scheme A	Yard 8	Yes	Yes	Retain for additional consideration
Scheme B	Yard 8	No	Yes	Eliminated; Use Scheme A, which is the same plan, but with a double-ended building
Scheme C	Yard 8	No	Yes	Eliminated; Building too small; Use Scheme D2, which is the same plan with larger, double-ended building
Scheme D	Yard 8	No	Yes	Modify; Scheme D can be modified to provide a double-ended building – See Scheme D2
Scheme E	Yard 7 (partly on BET land, partly at back of Lots C/D/E/F of NorthPoint)	No	Yes	Eliminated; Use Scheme H which is a similar storage yard, but with a double-ended building
Scheme F	Yard 7 (Lots C/D/E/F of NorthPoint)	Yes/No	No	Eliminated; Use Scheme H, which is similar and provides all functions in one double-ended building
Scheme G	Elevated Green Line storage yard above existing commuter rail storage yard	Yes/No	No	Eliminated; while a modification could be made to provide a single, double-ended building, the cost of constructing an elevated storage yard is too high
Scheme H	Yard 7 (partly on BET land, partly at back of Lots C/D/E/F of NorthPoint)	Yes	Yes	Retain for additional consideration
Scheme J (City Scheme)	Inner Belt Road site east of Yard 8	No	Yes	Modify; Scheme J developed to provide double-ended building and improve storage yard
Site 10	Yard 8	Yes	No	Retain for additional consideration

Conclusions

The analysis indicates that there is more than one location where a functional support facility could be constructed. Depending on which factors are weighted the heaviest, any of the alternatives could be viewed as feasible. Based on discussion with officials and staff of EOT, MBTA, and the City of Somerville, three of the five schemes (see Table ES-3) emerged as having advantages.

Table ES-3 Final Alternatives

Alternative	Description	Overview of Advantages
Scheme D2	Storage at Yard 8, with Support Shop at Yard 7, inside the Union Sq. jughandle	- Operationally feasible - Locates maintenance building on least developable lot
Scheme J	City's Scheme (Inner Belt Road site east of Yard 8)	- Compatible with City of Somerville's vision for Inner Belt redevelopment - Air rights development would visually screen the facility
Site 10	Yard 8 with Adjacent Parcel (Yard 8 with the neighboring undeveloped lot for the support facility)	- Least overall risk of schedule slippage - Air rights development would visually screen the facility - Only alternative that is a single facility next to main line

While more than one layout could provide a functional support facility, only one alternative minimizes the risk of either schedule delays or added project costs. Given the Commonwealth's commitment to the 2014 implementation milestone, only Site 10 (Yard 8 with Adjacent Parcel) minimizes the risk of failing to meet that date while maximizing the chances of federal participation in funding the project.

Site 10 (Yard 8 with Adjacent Parcel) is located immediately adjacent to the Green Line main line tracks. The property has a historic railroad use and the land to be acquired is least costly with regard to relocation and demolition. This location also provides significant air rights opportunities for development and sufficiently meets the MBTA's program necessary for the Green Line Extension Project.

As this project advances, any potential environmental impacts on the surrounding area of Yard 8 with the Adjacent Parcel facility will be identified and mitigation measures will be evaluated. Additionally, EOT will continue to work with the public and with the City to evaluate opportunities to have the support facility work with the City's plans to have future development within the nearby vicinity of Yard 8 (i.e. considering air rights opportunities, etc.).

1

Introduction

1.1 Overview

The purpose of this document is to assess the additional maintenance and storage needs resulting from the extension of the Green Line from Lechmere Station to Somerville and Medford; review existing storage and support facilities required for servicing the Green Line once the extension is in place; identify and evaluate potential sites for a support facility to support the Green Line Extension Project; provide an analysis of alternative sites for a new Green Line support facility; and recommend a preferred alternative for the new facility.

1.2 Purpose and Need

The purpose of this analysis is to consider sites for a Green Line support facility that would serve the proposed Green Line Extension Project to Medford Hillside and Union Square for the purposes of:

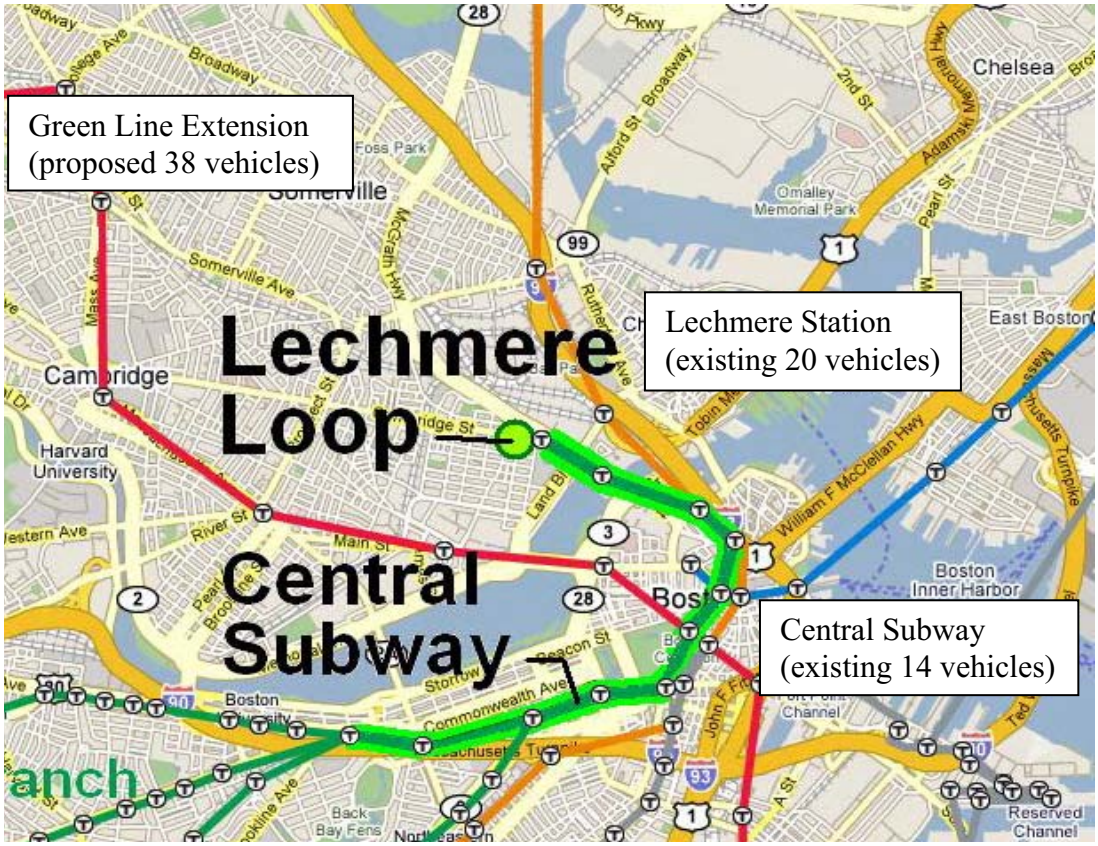
- Storage of Green Line cars
- Inspection, light maintenance and repair of Green Line cars
- Provision of a base for the maintenance and repair of the track, power, and signals systems for the extension

The existing Green Line service operates under the constraint of having exceeded the practical capacity of its vehicle storage, support, and repair facilities. Of critical concern is having the ability to adequately store and service vehicles as part of the daily operating routine. This has serious implications in terms of service quality, reliability, and operating costs for both existing and any new services.

The proposed service extension will require the expansion of the existing Green Line fleet by an estimated 38 vehicles (32 vehicles for the daily service with an additional six vehicles to provide an additional 20% spare vehicles). There are currently 34 cars

that are stored variously at Lechmere Station (20 cars) and on tracks within the subway (14 cars), without access to overnight support and maintenance facilities. The required increase in vehicles for the Green Line Extension Project, combined with the existing fleet of 34 cars that presently provide service to Lechmere represent a total fleet of approximately 72 vehicles that will be in need of a dedicated storage and support facility.

Figure 1-1: Storage Areas for North-Side Service



With the proposed extension in place, it would be impractical to depend on the existing west-side support facilities (Riverside, Reservoir and Lake Street). Without a north-side support facility it would be necessary to:

- "Dead head" cars to Medford Hillside and Union Square for the morning start of service
- "Dead head" cars from Medford Hillside and Union Square for the nighttime end of service
- Tow or push cars that become disabled north of Lechmere back through the entire length of the Central Subway

Due to the lack of sufficient storage and maintenance capacity at Lechmere, the MBTA's Green Line Operations currently moves four cars twice daily between Reservoir and Lechmere. These trains are operated in revenue service from Reservoir onto the Heath St.-Lechmere E Line route (termed "revenue deadheading") and then remain in service on the E Line route. However, if Lechmere provided sufficient storage for the four "Reservoir cars" and the 10 cars currently stored on the Brattle Loop at Government Center, Green Line Operations would avoid approximately $50,000, as well as an extra 20,000 miles per year, in "deadheading" costs annually. Negative impacts associated with increased deadheading are:

- Operating costs, such as maintenance and transportation
- Additional "wear and tear" on vehicles
- Noise impacts in the early morning and evening
- Limits on time available for critical infrastructure maintenance

As shown in Table 1-1, the travel time from Lechmere Station to the west end support yards would range from 38 minutes to 1 hour. An additional 5 to 12 minutes travel time is required between Union Square or Medford Hillside and Lechmere. Therefore, without a north end support facility:

- It would take 50 to 72 minutes for a train coming out of service at Mystic Valley Parkway/Route 16 (the furthest destination under consideration under the current project scope) to "dead-head" back to a west-side yard
- It would take considerably longer to tow or push a disabled train over these routes at "restricted speed"

Table 1-1 Green Line Travel Times

Location	Route	Peak Hour Travel Time
North of Lechmere	Mystic Valley to Lechmere	12 min.
	Union Square to Lechmere	5 min.
West of Lechmere	Lechmere to Riverside	60 min.
	Lechmere to Reservoir via Beacon Street	48 min.
	Lechmere to Reservoir via Highland Branch	38 min.
	Lechmere to Lake St.	56 min.

Notes:
1. Times west of Lechmere are based on MBTA Trip Planner for rush hour.
2. Times north of Lechmere are based on project team trip time estimates.

Therefore, it is essential to store a number of cars on the north-side of the proposed Green Line Extension Project to provide cars for start up in the morning, provide a convenient location for overnight and off-peak storage as cars come out of service, and minimize the distance a disabled train has to travel to reach a support facility. This will also eliminate much of the need to otherwise move cars to the west-side facilities each night and back to the Medford Hillside and Union Square termini in

the early morning, which could interfere with critical overnight maintenance work for track, signal, and power systems. Failure to locate a north-side facility would translate into unreliable operations for any expansion of service, as well as for current services.

1.3 Existing Facilities

The proposed extension of the MBTA's Green Line service north of Lechmere Station to Somerville and Medford will significantly alter the configuration of the existing Green Line. Currently, the Green Line consists of a downtown portion (known as the "Central Subway") fed by four branches to the west, as shown in Figure 1-1:

- "B" Boston College-Government Center, 6.50 miles;
- "C" Cleveland Circle-North Station, 5.59 miles;
- "D" Riverside-Government Center, 11.89 miles; and
- "E" Heath Street-Lechmere, 5.54 miles.

Lechmere Station Loop



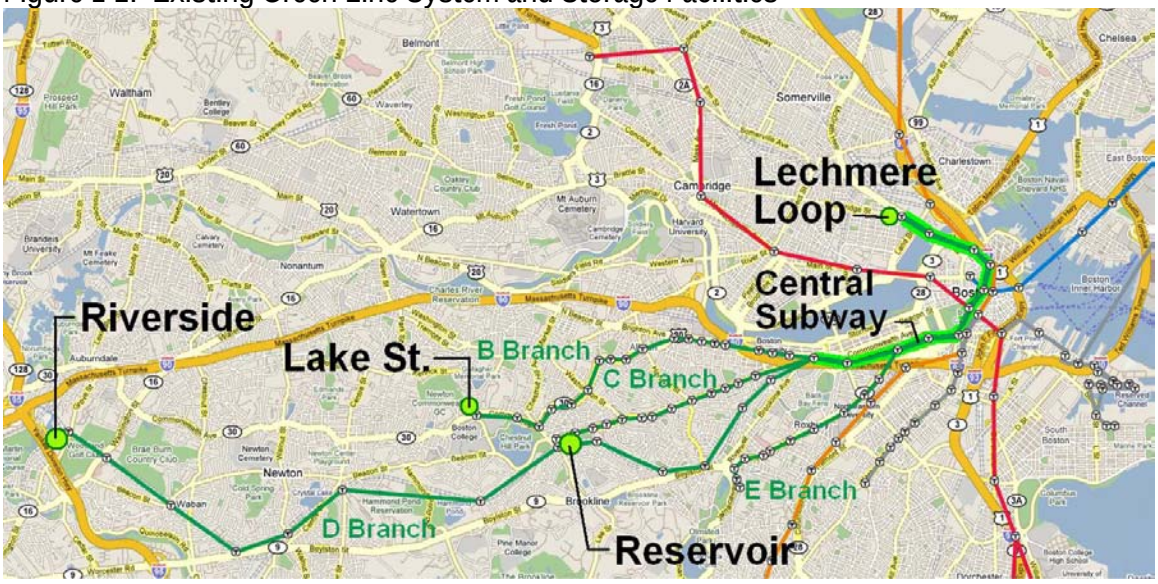
The proposed extension of Green Line service beyond Lechmere Station would add a new branch of approximately 4.5-miles to Medford Hillside and would provide a 0.5-mile branch line to Union Square, as shown in Figure 1-2. This represents a mileage increase of approximately 16 percent to the existing Green Line system.

Figure 1-2 shows the existing Green Line network and the locations of the MBTA's existing support facilities. The support facilities are generally located at the westerly ends of the existing branches. The E Branch (Heath Street) lost its support facility at the Arborway when the line was truncated at Heath Street in 1986. In lieu of having a formal support facility, the E Branch cars, which currently provide service to Lechmere Station, are stored in the Lechmere Station "Loop." This loop site consists of several tracks, some of which are configured for turning Green Line vehicles when in service and some are short dead-ended tracks that are used for storage when trains are out of service.

The loop configuration for turning trains is a vestige of the operation of old single-ended trolley cars. Present-day Green Line cars are now double-ended and can be

reversed without having to turn the entire car. The total storage capacity of the Lechmere Loop is utilized by storing cars on the loop tracks overnight, which is not desirable for overnight track maintenance operations.

Figure 1-2: Existing Green Line System and Storage Facilities



By necessity, additional E Branch cars are stored overnight within the subway. This is not an ideal situation, as these cars do not have the opportunity to receive maintenance or repair work overnight. Operating crews must be delivered to these remote locations to retrieve the cars, and the occupied subway tracks are blocked from use by overnight track, signal, power, and maintenance activities. The present vehicle storage capacity of the MBTA's storage sites is summarized in Table 1-2:

Table 1-2 MBTA Vehicle Storage Capacity

Storage Facility	Yard Capacity Revenue Cars	Comments
Riverside	90	
Reservoir	51	
Lake Street	22	
Lechmere Loop	17	Car storage only
Brattle Loop (Gov't Ctr)	10	Car storage only
Total Capacity to support	190	Storage for revenue cars assumes free movement about yard. Use can exceed capacity through occupancy of critical tracks and facility tracks.
Present fleet size	*209*	Since storage only accommodates 190 cars, at least 19 cars are in repairs shops or stored in a yard in a location that impedes free movement.

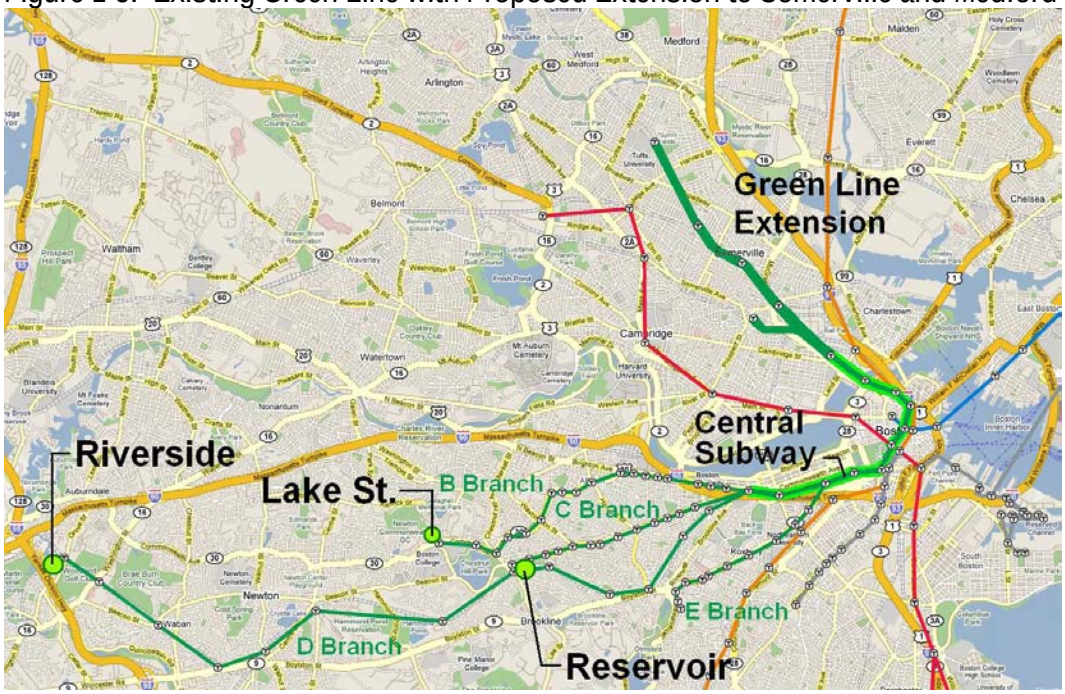
Source: Data furnished by MBTA Green Line Operations in January 2008.

The MBTA's system yields a total overnight storage capacity of 190 cars as compared to its current fleet of 209 cars. The identified storage capacity for revenue cars assumes free movement about the yard. In order to accommodate the present fleet, which exceeds the calculated capacity, cars are stored on active servicing and switching tracks at these facilities. This type of storage complicates and delays servicing and maintenance operations. For example, the Lechmere Loop is used to store 20 cars, as compared to its capacity of 17, thereby blocking the station tracks. This situation is further exacerbated by the need to accommodate non-revenue cars, consisting of maintenance and construction rail cars. Simply stated, the existing facilities are operating beyond their intended capacity and, thusly, does not allow for any additional service expansions to the Green Line system.

Figure 1-2 shows the location of existing support (maintenance) facilities as they relate to the Green Line Extension Project. It is currently intended that the existing Lechmere Station will be relocated to the east side of the McGrath Highway as part of the ongoing NorthPoint development project. Consequently the existing Lechmere Loop track area as identified on Figure 1-1 will be removed, and replacement car storage will be needed. Plans for the NorthPoint development have assumed that the "existing Lechmere" cars can be stored on a short continuation of MBTA-owned tracks immediately beyond the new Lechmere Station. However, the extension of service over these tracks to Medford Hillside/Union Square will eliminate the ability to use them for vehicle storage. Additionally, ten E Line "Lechmere-Heath Street" cars are currently stored on the Brattle Loop at Government Center, which has been identified as an impossible constraint to run any extension of service. These vehicles also serve the north side of the Green Line and will be needed for the extension of Green Line service.

The three west-side facilities that provide maintenance support for the Green Line revenue (passenger carrying) vehicle fleets are configured as follows:

Figure 1-3: Existing Green Line with Proposed Extension to Somerville and Medford



Reservoir: The Reservoir facility, approximately 6.5 acres in size, is located at the end of the E Branch of the Green Line in Brookline near Cleveland Circle and primarily performs running repairs. Running repairs are defined as repairs that can be completed within 24 hours after the vehicle has arrived at the shop. The facility contains a car wash, car storage, a three-track car inspection area, truck (wheel assemblies) removal and repair areas, electronics repair, and a parts storage facility.

Riverside: The Riverside facility, approximately 16 acres in size, is located at the end of the D Branch of the Green Line in Newton near the junction of Route 128 and the Massachusetts Turnpike. It is a large maintenance facility that is typically used for the Green Line's heavy repair operations. Heavy repairs are defined as those that require more than 24 hours to complete after the vehicle arrives at the facility. The facility includes a car wash, inspection and repair areas, blowing pit, wheel truer, resistor and pantograph repair area, equipment and truck removal areas, paint booth, parts storage, lube room, battery room, and employee welfare areas. The facility has the capability of performing major carbody repairs.

Lake Street: The Lake Street facility, approximately 2 acres in size, is located at the end of the B Branch of the Green Line on the Boston/Newton line at the terminus of the Boston College Branch. It is the smallest of the three facilities. Daily inspections and minor repair work are performed at this location, with all other major repairs being handled by the Reservoir and Riverside facilities. If required, some specialized major repairs are performed off-line at the Everett Shops, manufacturers or other

third parties. This requires transport of the vehicles or their components by highway trucks.

In addition to the previously identified storage capacity constraints, the situation is further complicated by the northerly direction of the Green Line Extension Project. Even if the existing facilities on the western end of the system could be expanded, the logistics and operating costs associated with shuttling 72+ vehicles to these maintenance facilities at night and then back out to the Medford Hillside/Union Square termini in the early morning would create significant operating concerns and costs. Moreover, this type of operation would impede overnight maintenance activities on track, power, and signal systems, which are critical to providing reliable service. Table 1-3 shows the maintenance function that each facility performs, while the locations of these facilities are shown on Figure 1-2.

Table 1-3: Maintenance Functions by Facility

Functions	Riverside	Reservoir	Lake Street
Capacity for vehicle inspection and repair	38	15	2
Vehicle Inspections	X	X	X
Cleaning & daily maintenance	X	X	X
Car Wash	X	X	
Minor Repairs	X	X	X
Running Repairs	X	X	
Heavy Repairs	X		
Program Modifications	X	X	X
Wheel Truer	X		
Equipment and truck removal	X	X	
Carbody repairs	X		
Paint booth	X		
Parts storage	X	X	
Lube room	X		
Battery room	X		
Electronic Clean Room	X		
Employee Welfare	X	X	

Source: Data furnished by MBTA Green Line Operations in January 2008.

To summarize, existing maintenance capacity cannot sustain a reliable extension of Green Line service to Somerville and Medford.

2

Program and Requirements

2.1 Program

The program for the support facility was developed in consultation with MBTA operations and vehicle maintenance staff. The MBTA initially developed a briefing memorandum identifying the need for a vehicle support facility sited adjacent to the Green Line Extension corridor. Subsequently the Project Team, in consultation with MBTA staff, developed a detailed program of activities, equipment and space requirements for the new support facility, as described below.

A well-designed support facility for light rail transit vehicle operations should provide a variety of functions, ranging from daily servicing to short-term repairs to long-term overhauls and upgrades of the vehicles. These functions may be categorized as follows:

- **Daily Maintenance**
  - Vehicle Interior Cleaning – This work can be take place out-of-doors in the storage yard lay-up area. Interior cleaning is typically performed when the vehicles are out of service during off peak hours or non-service (overnight) hours. The equipment required includes basic hand tools (mops, brooms buckets, etc.). Indoor space will be required for storage of the cleaning equipment and the chemicals necessary to perform the task. The spacing of the yard tracks needs to allow for aisles for personnel to access the vehicles. Space also is needed within the yard for trash bins to deposit trash removed from the vehicles.

  - Vehicle Exterior Cleaning – This is accomplished with the use of an automated car wash. This self-contained system sprays cleaner onto the vehicle, allows for a dwell time for cleaner reaction, brushes the exterior of the vehicle after the cleaner application and dwell, then rinses the vehicle. Drip pans and drains are used to facilitate the recycling of water.

- Vehicle Sanding – The vehicles use a sanding feature for traction assist (sand applied to the track rails) for both braking traction and propulsion traction. Sand is stored on-board the vehicles and must be replenished periodically. There are two alternative methods for accomplishing this task. One is a sanding tower that utilizes an air pressure system to deliver dry sand through a pipe/hose system to a nozzle. The nozzle is then used to deliver the sand to the hopper box on the vehicle. The other alternative is to use bagged sand and manually fill the vehicles' sanding units. The space required for this task is to store the materials required to accomplish the task.

➢ **Inspections**

- Daily/Safety Inspections – Inspection entails an exterior "walk-around" and interior "walk-through" examination to ensure the safe, clean, timely operation of the vehicle. This inspection can be performed by a mechanic and/or the operator of the vehicle prior to its release for revenue service operations. This inspection can be performed in the storage yard, and focuses on visual inspection of truck mounted equipment for secure mounting and state of good repair of the braking equipment. The walk-through task looks at lighting, door operations, mounted equipment (mirrors, etc.), and includes a terminal brake test (verifying safe brake operation). The space required to perform this inspection is included in the storage yard area. Aisles between storage tracks will be spaced to allow inspectors to walk completely around the vehicles when they are stored.

- Cyclical/Periodic Inspections – A typical Cyclical/Periodic Inspection or Preventive Maintenance Program (PMP) includes inspecting each vehicle in the fleet on a 90-day cycle, with the purpose of improving reliability through early detection of failing components and the timely correction of minor defects. During the inspection, the proper functioning of all systems including cab signals, event recorders, air brakes, and propulsion systems and controls are verified and defects are corrected. On a 2-year cycle, the PMP includes truck removal for center casting inspection and also includes scheduled replacement of other major components, such as air valves, shock absorbers and the master controller. On a 5-year cycle, the PMP includes all of the above elements with the addition of a full truck and wheel set rebuild. Other components are also rebuilt based on the manufacturer's suggested maintenance schedule. The space required to accomplish these tasks include a track with a depressed pit for performance of inspections and a track to perform trucking removal when required. A roof level platform (either fixed or mobile) will be required to access roof mounted equipment.

➢ **Running Repairs**

- These are defined as repairs that can be easily accomplished by taking the vehicle off the line, out of revenue service, into the facility and completing the repairs in less than approximately four hours. Examples of Running Repair incidents are broken/missing passenger glass, propulsion failure

indication lights, and door system malfunctions. The space required to accomplish these tasks include a train-length track with a pit for performance of the subject repairs. A roof-level platform (either fixed or mobile) is required to access roof-mounted equipment for diagnostics and repair. These same tracks can be shared access with inspection/preventive maintenance tasks.

- **Component Change-Out**
  - Component change-out can be required for either a repair or a cyclical maintenance item.
  - When a major component fails it will need to be removed and replaced. Space and equipment are allocated to perform component change-out of roof level equipment and truck mounted equipment.
  - When a major component has reached the end of it predictable service life, it will need to be removed, rebuilt, and replaced. This would relate to the 5-year cyclical inspection/preventive maintenance program, as described above.

- **Heavy Repairs – Accident Damage**
  - Heavy Repairs are defined as any repair that requires the vehicle to be taken out of service for predetermined amount of time to facilitate body repair. Vehicles are removed from service whenever they are involved in an incident and the resulting repairs may consume a considerable amount of time before being put back into service.

- **Overhauls**
  - Time or mileage based cyclical maintenance activity that entails the removing, rebuilding, replacing of all major components involved with the state of good repair of the subject vehicle. This relates to the 5-year cyclical inspection/preventive maintenance program, as described above.

- **Wheel True**
  - This activity restores wheel diameter parity and profile due to the stresses of track wear, drift, spalling, and wheel flat spots. Wheel true machine is installed in a pit just below track level for ease of operation.

- **Support Shops**
  - These are areas designated for the repair of subcomponents removed from the vehicles for repair. Support shops for a typical electrified light rail vehicle fleet would include;
    - Air valve/brake shop - To facilitate the repair and rebuild of components utilized for vehicle braking and control.
    - Electrical Shop – To facilitate the repair and rebuild of components utilized within the electrical system and power supply system.

- Electronic/Communications Shop – To facilitate the repair of components and circuit boards utilized in the communications and train control of the vehicles
- Mechanical Component Shop – To facilitate the repair of couplers, draft gears and related sub-components.
- HVAC Shop – To facilitate the repair and replacement of vehicle HVAC systems and their sub-components.
- Truck Shop – To facilitate the removal and replacement of sub-components mounted on the vehicle trucks.
- Wheel and Axle Shop – To facilitate the Repair, rebuilding and testing of the wheelset assemblies utilized on the subject vehicle fleet.
- Truck Wash/Component Clean – To facilitate the power washing of vehicle trucks and cleaning of components prior to repair.
- Stores/Storeroom – To facilitate the shipping, receiving and storage of related parts and material required to maintain the subject vehicles, facility and support equipment for the associated personnel.

- **Vehicle Storage**
  - The vehicles should be stored within close proximity to the associated support facility. The storage yard must have aisles wide enough to facilitate vehicle interior cleaning, ground inspections and minor adjustments. Areas are designated for trash receptacles for refuse collected from the vehicles.

Conversations between the Project Team and the MBTA confirmed that the Authority would prefer to have the proposed support facility for the Green Line Extension include all of the program elements that are listed below. However, the MBTA realizes that site constraints limit the amount of those elements that can be included. As a result of those meetings, the belief is that the program elements, identified in Table 2-1, to be included at the new facility are sufficient to provide a safe, dependable and reliable vehicle fleet to service the riding public. However, any further elimination of program elements would compromise the provision of that service.

Table 2-1 PROPOSED VEHICLE SUPPORT FACILITY PROGRAM ELEMENT INCLUSION				
PROGRAM ELEMENT	**INCLUDED?**			**REMARKS**
	YES	**NO**	**LIMITED**	
DAILY MAINTENANCE	√			
INSPECTIONS	√			
RUNNING REPAIRS	√			
COMPONENT CHANGE OUT	√			
HEAVY REPAIRS/ACCIDENT DAMAGE		√		
OVERHAULS			√	Component change-out only
WHEEL TRUE	√			
SUPPORT SHOPS AIR VALVE/BRAKE SHOP		√		
SUPPORT SHOPS ELECTRICAL SHOP		√		
SUPPORT SHOPS ELECTRONIC/COMMUNICATION		√		
SUPPORT SHOPS MECHANICAL SHOP		√		
SUPPORT SHOPS HVAC SHOP		√		
SUPPORT SHOPS TRUCK SHOP			√	Component change-out only
SUPPORT SHOPS WHEEL & AXLE SHOP		√		
SUPPORT SHOPS TRUCK WASH/COMPONENT CLEAN		√		
STORES /STOREROOM	√			
VEHICLE STORAGE	√			

2.2 Facility Space Requirements

The current program for a support facility includes both car lay-up (storage) and a support building (inspection, servicing, maintenance, and repairs):

- Lay-up capacity on-site: approximately 80 cars (based on a calculated requirement of 72 cars and allowing for some additional capacity):
  - Storage on multiple tracks
  - Each track with double-ended access by ladder tracks
- At least two access points each with a yard track lead to accommodate a 3-car train
- Support building including:
  - 2 run-through tracks for inspection/repairs: 4 cars on each track
  - 1 run-through track with wheel truer and overhead cranes for removal of roof-top equipment
  - 2 tracks for truck removal/repair work
  - Storage room and loading dock
  - Administrative offices for supervisors
  - Employee welfare facilities including locker rooms, rest rooms, and lunch rooms
- Bi-directional car wash
- Connecting tracks between lay-up tracks and support building tracks

This program would require:

- About 6,000 feet of lay-up track (Each car is 72 feet long. For the planning of the storage yard, 75 feet per car was used to allow some space between cars.)
- Yard track leads of at least 250 feet (between the clearance point for "fouling" or obstructing the main line and the switch points for the storage yard ladder track)
- Support building complex of 52,500 square feet or about 350 feet by 150 feet
- Overall site of approximately 10 to 12 acres, depending on configuration

The program is summarized in Table 2-2.

Table 2-2 Program Requirements

Layover Components	Requirement
Size of Parcel	5.5 Acres
Vehicle Capacity	80 Vehicles
Yard Leads	300 feet minimum
Yard Configuration	Double-ended (redundant ladder tracks)

Support Facility Components	Requirement
Size of Parcel	5.0 Acres
Service Tracks	5 (Total)
Pit Tracks	2 Tracks
Hoist/Lift Tracks	2 Tracks
Wheel Truer Track	1 Track
Track Configuration	Double-ended (redundant ladder tracks)
Support Shops	Truck Repair Ship, Store Room with Loading Dock
Support Facility Building/Structure-Total	50,000 SF
Inspections and Running Repairs	21,000 SF
Heavy Maintenance	14,000 SF
Office Space	5,000 SF
Truck Shop	5,000 SF
Parts/Equipment Storage	5,000 SF

Other Components	Requirement
Size of Parcel	1.0 Acres
Employee Parking	105 Spaces

Summary of Support Facility Program	Requirement
Layover Yard	5.5 Acres
Support Facility	5.0 Acres
Employee Parking	1.0 Acres
Total	11.5 Acres

The proposed spatial requirements for the Green Line Extension Project support facility are being programmed efficiently for a facility of this type. Comparisons to other similar facilities of this type throughout the country are shown in Table 2-2. These figures indicate that the proposed facility for the Green Line Extension Project with 80 cars contained in approximately 10 to 12 acres is conservative in design.

Table 2-3 Maintenance Facility Examples

Agency	City	Area		Vehicle Capacity
		SQ. FT (building)	Acres (site)	
Valley Metro Rail Inc. (METRO)	Phoenix, AZ	136,000	35.00	100
San Francisco Municipal Transportation Agency	San Francisco, CA	180,000	13.00	80
Sound Transit	Seattle, WA	162,000	25.00	104
Santa Clara Valley Transportation Authority	San Jose, Ca	110,000	25.00	100
Denver Regional Transportation District	Englewood, CO	105,000	9.50	100

2.2.1 Car Storage

Car storage is not only required for overnight storage. It also includes day-time lay-up of cars between the morning and evening peak hours. In addition, when a Green Line car becomes disabled, it is essential that the car be moved to the closest support facility to get it out of the way of revenue service trains and to a location where it can be serviced.

A new north-side support facility would need to provide replacement for the car storage presently assigned to the Lechmere Loop (20 cars), which will be removed as part of the Lechmere Station relocation. Additionally, to operate current north-side Green Line service to Lechmere Station (and beyond, in the future), there are presently 14 vehicles stored at the Brattle Loop in Government Center Station. For operation of the extension of the Green Line service beyond Lechmere Station, storage of these vehicles needs to be accommodated in the project. In addition, the facility would also provide storage for the estimated 38 additional cars needed for the extension. Due to the high ridership forecast for the extension, to serve peak-hour ridership north of Lechmere, approximately 45 percent of the total operating fleet would be assigned to routes terminating north of Lechmere.

A rail vehicle storage yard is typically trapezoidal in shape, fanning at each end from a single lead track to several storage tracks, with one yard track left clear to "runaround" the yard. The lead tracks for a Green Line yard should extend long enough to allow a 3-car train to clear all the yard switches and the main line turnout. Overall, this results in a yard about 1,500 feet long with lead tracks of about 300 feet on either end.

2.2.2 Support Building

The support building will provide a range of scheduled and unscheduled inspection, servicing, and repairing of Green Line cars:

- Periodic scheduled inspection of cars
- As-needed running repairs (e.g., repairing a door mechanism that has failed in service)
- Scheduled maintenance
- Car washing (exterior)

2.2.3 Other Functions

The new facility would also serve as a base for the maintenance and repair of track, power, and signal systems of the Green Line. The support facility will provide a location where track, power, and signal maintenance crews can dispatch rail or hi-rail maintenance vehicles to locations on the line where work needs to be done. A hi-rail pad will be provided.

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3

Tier One Screening of Sites

3.1 Tier One List of Sites

Based on the program developed for a north-side support facility, a number of potential sites were considered. Using a two-tier screening process, each site was analyzed as to whether it could accommodate the proposed program. A list of Tier One alternative sites was compiled based on suggestions from the City of Somerville, the City of Medford, and members of the Green Line Extension Advisory Group members. Although the EOEA Secretary's Certificate on the EENF for this project required consideration of only two sites, the MBTA Commuter Rail Maintenance Facility (Boston Engine Terminal) and Yard 8, the Project Team evaluated significantly more sites and variations of sites. The following sites, shown in Figure 3-1, were considered:

1. Gilman Square at Medford Street
2. City of Somerville DPW Yard
3. Wild Oats site at Route 16
4. U-Haul site at Boston Avenue/Route 16
5. 200 Boston Avenue Site (Cummings Park)
6. Medford Hillside Boston and College Avenue at Tufts
7. Pat's Tow Lot-Somerville Avenue at Medford Street
8. Boston Engine Terminal (BET)-MBTA Commuter Rail Facility
9. Yard 8
10. Yard 8 with Adjacent Parcel-the neighboring undeveloped lot for the support facility
11. Yard 7/8 (a split operation using a combination of sites to reduce activity on Yard 8)

Figure 3-1


NORTHPOINT DEVELOPMENT
(8) MBTA BET STORAGE AREA 6.13 ACRES
(11) YARD 7 & 8 SPLIT OPERATION AREA 3.26 ACRES
ADJACENT PARCEL AREA 4.25 ACRES
(1) GILMAN SQUARE AREA 1.2 ACRES
(10) YARD 8 & ADJ PARCEL AREA 10.22 ACRES
(9) YARD 8 AREA 5.97 ACRES
(7) PAT'S TOW LOT AREA 3.35 ACRES
(2) DPW YARD AREA 3.71 ACRES
(6) SITE AREA 1.50 ACRES
(5) SITE AREA 1.86 ACRES
(4) UHAUL AREA 3.06 ACRES
(3) WILD OATS AREA 3.92 ACRES
MEDFORD
SOMERVILLE
CAMBRIDGE
GREEN LINE EXTENSION PROJECT
ALTERNATIVE SUPPORT FACILITY SITES
EOT
Vanasse Hangen Brustlin, Inc.

A general description of the alternative sites is presented in Table 3-1.

Table 3-1 Alternative Support Facility Sites

Site	Location	Area (Acres)	Current Owner
(1) Gilman Square at Medford Street	Medford & School Streets, Somerville	1.2	City of Somerville
(2) Somerville DPW Yard	Franey Road between Cedar Street and Ryan Road	3.7	City of Somerville
(3) Wild Oats site at Route 16	Route 16 & Auburn Street, Somerville & Medford	3.9	Private
(4) U-Haul site at Boston Avenue / Route 16	Boston Avenue, Somerville	3.1	Private
(5) 200 Boston Avenue Site (Cummings Park)	Boston Avenue, Medford	1.9	Private
(6) Medford Hillside – Boston and College Avenue at Tufts	Boston Avenue, Medford	1.5	Private (Tufts)
(7) Pat's Tow Lot – Somerville Avenue at Medford Street	Medford Street and O'Brien Highway	3.4	Private
(8) BET-MBTA Commuter Rail Facility	Somerville & Boston	6.2	MBTA
(9) Yard 8	Inner Belt Road, Somerville, MA	6.0	MBTA/Pan Am Railways (PAR)
(10) Yard 8 with Adjacent Parcel (Yard 8 with the neighboring undeveloped lot for the support facility)	Inner Belt Road, Somerville, MA	10.2	MBTA/PAR + Private
(11) Yard 7/8 (a split operation using a combination of sites to reduce activity in Yard 8)	Yard 7 is located south of the Fitchburg Line	9.3	MBTA/PAR

3.2 Tier One Screening

Table 3-2 outlines the Tier One screening of the sites. This screening was based on the size and configuration of each site and its proximity to the Green Line Extension project..

Table 3-2 Tier One Screening of Alternative Sites for Support Facility

Site Alternative	Area (Acres)	Proximity to Green Line Extension	Comments	Conclusion
(1) Gilman Square at Medford Street	1.2	Adjacent to right-of-way, but on opposite side from proposed Green Line tracks	Site is too small; not expandable due to adjacent streets (Medford and School Streets)	Not suitable
(2) Somerville DPW Yard	3.7	Adjacent to right-of-way, but on opposite side from proposed Green Line tracks	Site is too small and is located next to commuter rail tracks – would require a crossing for Green Line access. Also orientation of site would result in a single-ended shop and storage yard.	Not suitable
(3) Wild Oats site at Route 16	3.9	Adjacent to right-of-way, but on opposite side from proposed Green Line tracks	Site is too small and is located next to commuter rail tracks – would require a crossing for Green Line access	Not suitable
(4) U-Haul site at Boston Avenue / Route 16	3.1	Adjacent to right-of-way and adjacent to proposed Green Line tracks	Site is too small	Not suitable
(5) 200 Boston Avenue Site (Cummings Park)	1.9	Adjacent to right-of-way and adjacent to proposed Green Line tracks	Site is too small	Not suitable
(6) Medford Hillside Boston & College Ave.	1.5	Adjacent to right-of-way and adjacent to proposed Green Line tracks	Site is too small	Not suitable
(7)Pat's Tow Lot – Somerville Avenue at Medford Street	3.4	Adjacent to right-of-way for Union Sq. spur; no direct access from main line of extension	a) Street running alternatives to Union Sq. bisect this site; b) Fitchburg ROW Alt.. to Union Sq. is adjacent to site c) Development would be a tight fit on this site. Layout would require a single-ended shop and storage yard which are not well suited for operations	Possibly suitable for support building – see 4.1.1 for further discussion
(8)BET-MBTA Commuter Rail Facility	6.2	Adjacent to right-of-way and adjacent to proposed Green Line tracks	This operational railroad site has numerous concerns with respect to available space, regulations and logistical issues. For a detailed consideration, see Section 3.3.2	Not suitable; See 4.1.2 for further discussion
(9)Yard 8	6.0	Adjacent to right-of-way and adjacent to proposed Green Line tracks	Site is sufficient for car storage; would require acquisition of Adjacent Parcel for support building	Suitable for car storage; see 4.1.3 for further discussion
(10) Yard 8 with adjacent undeveloped lot	10.2	Adjacent to right-of-way and adjacent to proposed Green Line tracks	Site is sufficient for car storage and support building	Suitable for full program, see 4.1.4
(11) Yard 7/8 (a split operation using a combination of sites)	9.3	Adjacent to right-of-way and adjacent to proposed Green Line tracks	Site is sufficient for car storage and support building	See further discussion see 4.1.5

3.3 Tier One Summary

Alternatives that did not provide a sufficiently sized or configured parcel for the facility or that could not provide direct access to the Green Line tracks were dropped from further consideration.

As a result of this screening process, the following list of alternatives was carried forward to be further analyzed for operational issues and costs:

- (7) Pat's Tow Lot-Somerville Avenue at Medford Street
- (8) BET-MBTA Commuter Rail Facility
- (9) Yard 8
- (10) Yard 8 with Adjacent Parcel (Yard 8 with the neighboring undeveloped lot for the support facility)
- (11) Yard 7/8 (a split operation using a combination of sites to reduce activity on Yard 8)

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4

Tier Two Screening of Sites

4.1 Tier Two Sites

The sites that moved beyond the Tier One screening process were more rigorously evaluated for their ability to accommodate the MBTA's program requirements for a Green Line support and storage facility. The operational details and concerns for each site were considered and are presented as follows.

4.1.1 Site #7: Pat's Tow Lot - Somerville Avenue at Medford Street

Pat's Tow Lot, a private business for storing towed vehicles, is located in Somerville, bordered by McGrath Highway, Medford Street, and the MBTA's Fitchburg Commuter Rail Line. Depending on the alignment alternative selected for the Union Square branch, this site may be immediately adjacent to the Green Line Extension Project or the extension may pass through the site:

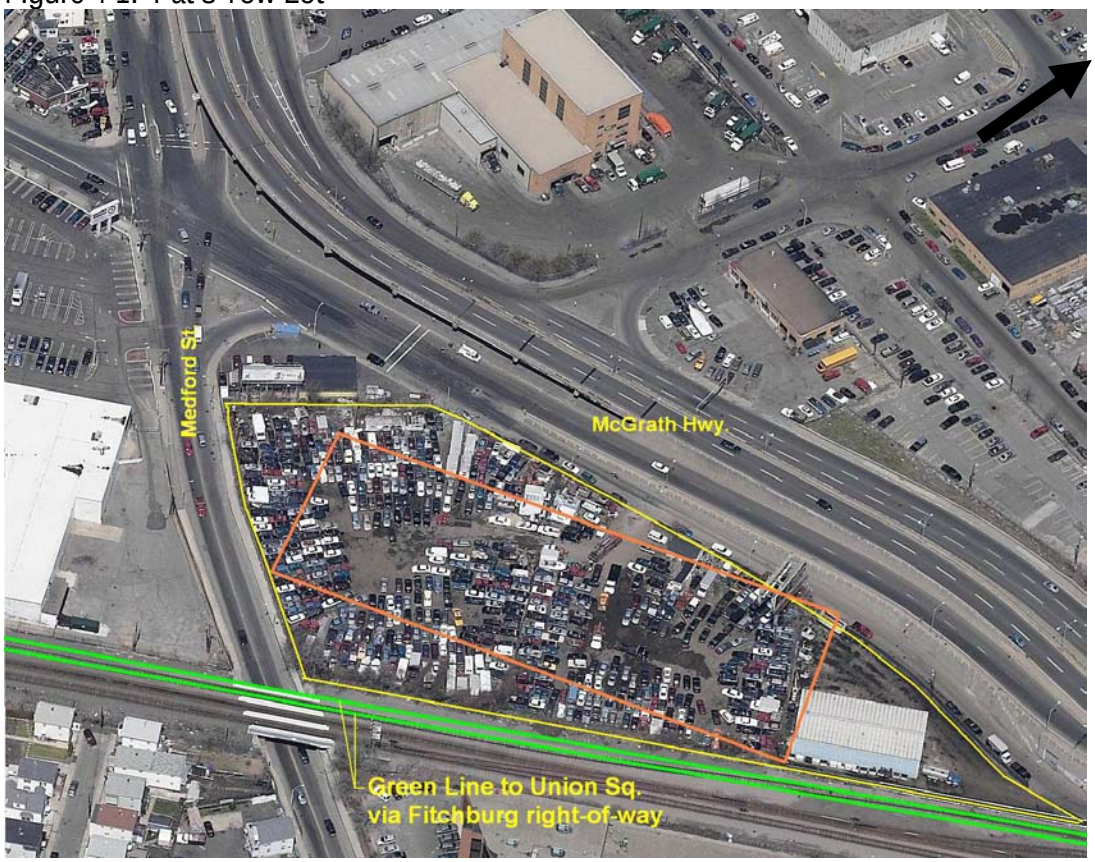
- Union Square via MBTA Fitchburg Line: Site is adjacent to Green Line Extension Project.
- Union Square via Somerville Avenue: Branch would pass through the site.
- Union Square Loop: Inbound track would pass through site.

Figure 4-1 shows Pat's Tow Lot. The yellow line indicates the approximate property line. The orange line indicates the approximate footprint of a support facility building.

If the full site is utilized, it could accommodate a single-ended support facility accessed via a connection from the Green Line main line tracks at the east end of the site at McGrath Highway. Due to spatial constraints, vehicle storage would have to occur within the existing Yard 8 area with the support shop building being located at this location. This arrangement would have several shortcomings:

- The support facility is distant from the storage yard at Yard 8, requiring deadheading of cars along revenue service track between these two locations that would impact system mobility.
- There is no room for tracks outside the building to store cars temporarily prior to or after inspection, servicing, or repair work is performed.
- A single-ended facility would have reduced capacity and is operationally infeasible by the MBTA's standards.

Figure 4-1: Pat's Tow Lot



A single (or "dead") end facility is not ideally suited for support and light maintenance work because such work is usually performed on a relatively fast progression or assembly line basis. The single-ended facility requires that cars be reversed back out of the facility after having been serviced, resulting in a more time consuming and inefficient process. In addition, if an arriving car were to experience failures resulting in its inability to be moved, this would "trap" the previously arrived cars on the service track ahead of it. As a result of the operational limitations of a single-ended facility, the MBTA does not consider a facility configured this way to be feasible for the Green Line Extension Project.

Although this site is suitable in terms of acreage for a support shop and surrounding land uses, it is not recommended on the basis of its operational shortcomings. Additionally, the "dead end" configuration of this site would render it operationally

unfeasible for the storage of cars by virtue of the same concerns about disabled cars "trapping" other cars on the tracks. Thus, this site would not accommodate car storage.

If the Union Square "one-way" loop alternative were to be implemented, then the facility could be developed so that the one-way main line track would run partially through the facility, entering at the east end and exiting at the west end. While this would technically avoid a single-end facility layout, this would require all departing vehicles to run out along the single track loop through Union Square before returning to main line services. The site would thus be further compromised by main line tracks traversing the site.

Conclusion: Based upon this evaluation, Pat's Tow Lot is not a suitable site for car storage. A support building would be limited by being single-ended and lacking lead tracks long enough for temporary storage of cars awaiting repairs. Therefore, this site is not suitable for a Green Line support facility.

4.1.2 Site #8: MBTA Boston Engine Terminal Commuter Rail Facility

The MBTA's Boston Engine Terminal (BET) Commuter Rail Maintenance Facility includes a large maintenance building surrounded by yard tracks, parking, and material storage areas. The EOEA Secretary's Certificate on the EENF specifies consideration of the BET as an alternative site for a Green Line support facility, as specified as follows:

> "Maintenance and storage of Green Line vehicles are an integral part of this project. Many commenters have raised concern with the location of a support facility at Yard 8 and suggested that expansion of the Boston Engine Terminal (BET) should be considered as an alternative. The DEIR should analyze feasible alternatives to the Yard 8 site, including but not limited to the BET, and evaluate how impacts related to the Yard 8 site can be avoided, minimized, and mitigated."

As a preamble to the evaluation of the BET as a site for storage and maintenance of Green Line vehicles, it should be noted that the BET was constructed in 1997 to serve as the main repair, maintenance, and inspection facility for the MBTA's commuter rail system. When the facility first opened in 1998, the coach fleet numbered 363. Since construction, commuter rail service has been inaugurated on the three Old Colony Lines and service enhancements and fleet expansions continue to be implemented. As a result, the facility is now responsible for supporting the operations of a fleet of 410 coaches, as well as a fleet of 83 locomotives. As a result of the continued expansion in commuter rail services, the facility is operating at or beyond capacity.

Existing BET Facility

The BET is a large facility which performs multiple maintenance, repair, inspection, and storage functions for the Authority's commuter rail fleet, including both the north-side and south-side services. The first portion of the BET analysis is an overview of the current facility, subdividing the land area by function. The main areas of the site, as shown in Figure 4-2 are:

- Maintenance Building and Lead Tracks
- Storage, Layover, and Lay-up Tracks
- Valley Tracks [principal operating route for freight movements by CSX and Pan Am Railways]
- Fitchburg Line Tracks
- Employee Parking Lot
- Outside Storage Area and Tracks

Figure 4-2: MBTA BET Commuter Rail Facility Overview



Maintenance Building & Lead Tracks

The maintenance building floor plate can be divided into the component functions in each area as shown in Figure 4-3, starting at the north end:

- The shops and stores contain support facilities. The shops perform repairs on components removed from coaches and locomotives. The stores contain spare parts and equipment used in repair work.
- Truck repairs include bays with lifts where the coach or locomotive can be lifted so that the trucks (the wheel assembly) can be removed for repairs or replacement.

- Coach repairs include bays where the coaches receive major repair work.
- Locomotive repairs include bays where repairs are made to the four types of locomotives used for revenue service.
- The periodic inspection bays include pits where a train can be inspected.
- The service and repair bays are for regularly scheduled servicing and minor repair work.

Outside each of the bays, some of the lead track is used to stage coaches or engines before or after repair.

Figure 4-3: MBTA BET Commuter Rail Facility-Maintenance Building



Storage, Layover, and Lay-up Tracks

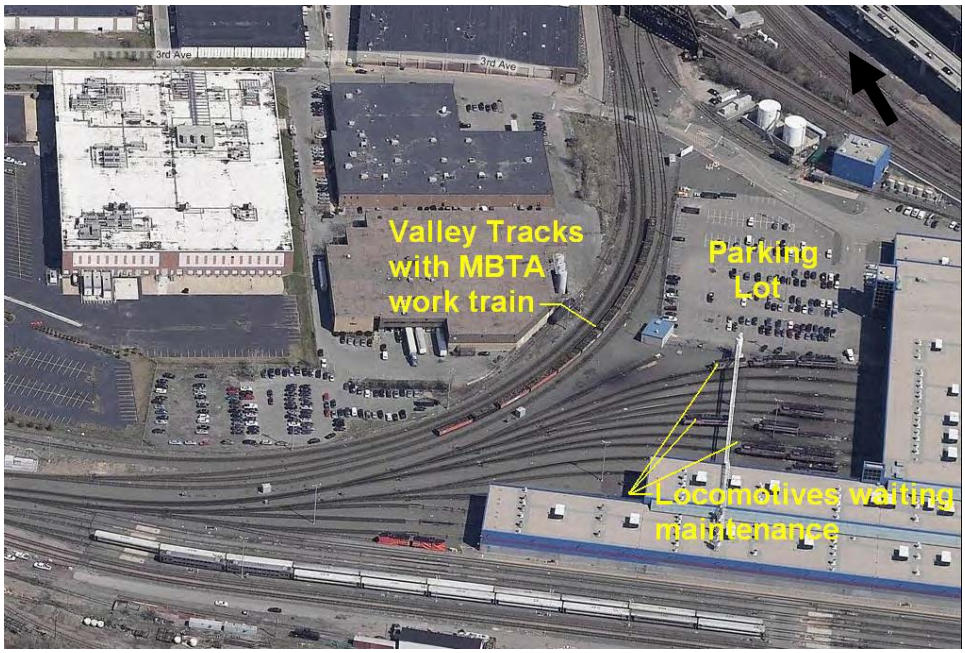
There are five tracks south of the maintenance building used for temporary storage, layover, or lay-up of commuter rail equipment. Temporary storage includes coaches awaiting service, inspection, and/or repair work at the maintenance building. Layover refers to overnight storage of train sets. Lay-up refers to storage of train sets between runs. More trains reach North Station in the morning peak hours than are needed until afternoon peak hours. Excess equipment is stored on the lay-up tracks.

Valley Tracks

There are four tracks in a crescent alignment to the west of the maintenance building, known as the "Valley Tracks" as they appear to be in a valley between the elevated MBTA Lowell Commuter Rail Line to the north and the embankment of the Yard 8

and Yard 7 tracks approaching Red Bridge to the south. See Figure 4-4. These tracks connect to the Fitchburg Line and Grand Junction Branch to the south and to the Eastern and Western Main Lines to the north. They are not used for MBTA revenue commuter rail operations. However, they are the principal operating routes for freight movements by both CSX and Pan Am Railways (PAR, formerly Guilford Rail System). The Valley is part of CSX's Grand Junction Branch from Beacon Park Yard in Allston to Everett and typically sees one round trip per day between these end points.

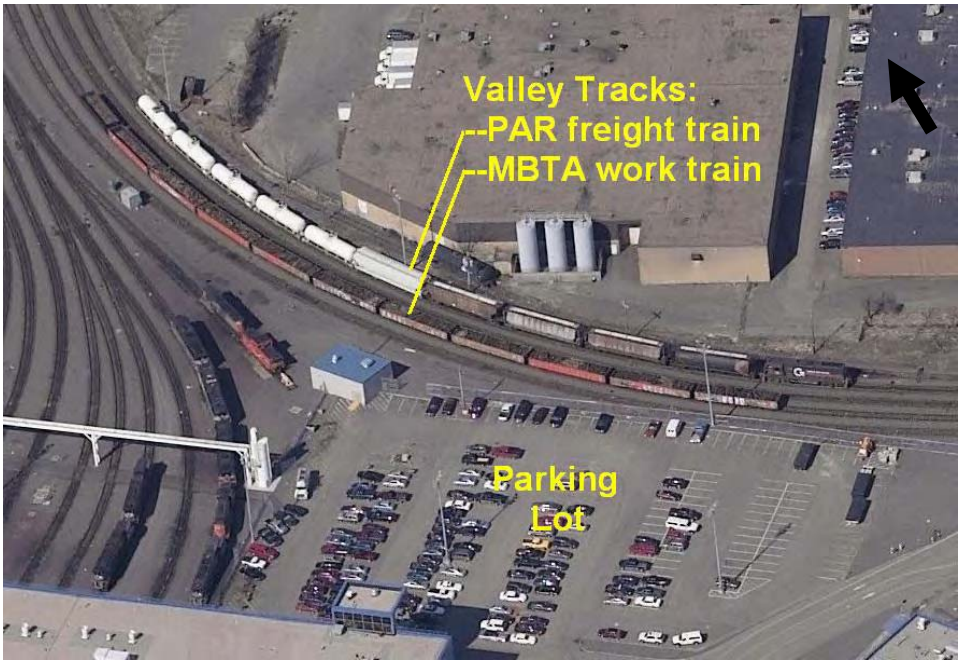
Figure 4-4: Valley Tracks



The Valley Tracks are a key node for PAR's freight operations. Currently, all PAR freight traffic reaches the Valley Tracks by traveling south on the MBTA Lowell Line, taking the "high and wide" (a term used to denote higher and wider clearance requirements for freight traffic on sections of track) crossover at Walnut Street to access Yard 8 where some freight cars are stored. From Yard 8, PAR reaches the Valley Tracks via the Wiley track, a curved track that slopes down from Yard 8 to the Valley Tracks. PAR operates up to four to six trains daily, including the "gravel train" serving Boston Sand and Gravel near the BET and local freight serving all customers from Boston to Peabody via the Eastern Route. These trains travel east through the Valley Tracks to reach the Eastern Route, next to I-93. PAR also parks its Boston-based locomotives on the Valley Tracks. See Figure 4-5.

The MBTA uses the Valley Tracks to park its maintenance-of-way (MOW) trains, as well as for some movements into and out of the maintenance facility.

Figure 4-5: Valley Tracks



Fitchburg Line Tracks

South of the layover and lay-up tracks are the two Fitchburg Line tracks, used for all commuter rail service on the MBTA Fitchburg Line. These tracks are separated from the yard tracks by a fence.

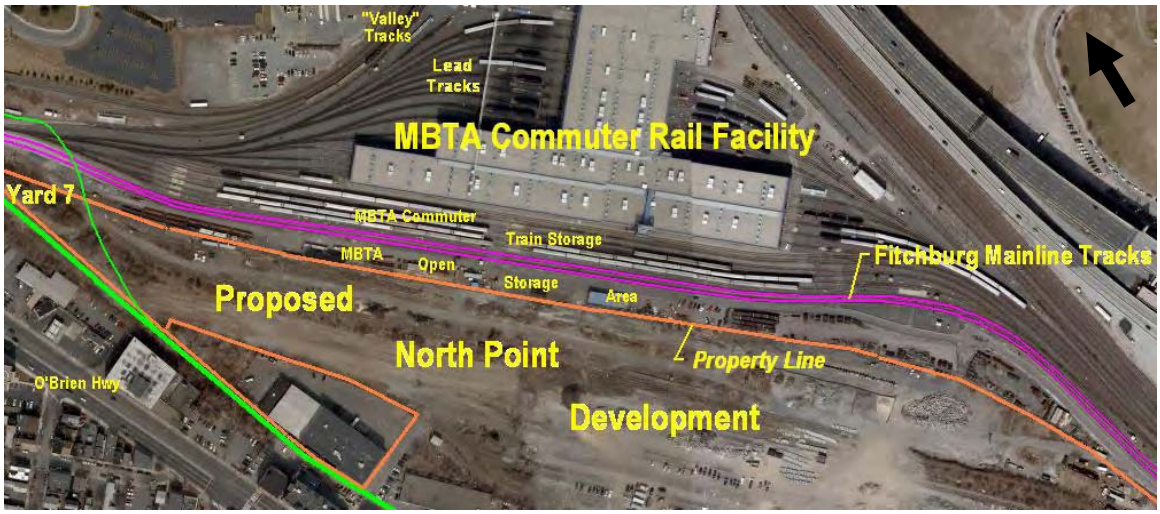
Employee Parking Lot

The 242-space employee parking lot is located northwest of the maintenance building and serves both employees and visitors.

Outside Storage Area and Tracks

The outside storage area and tracks are located immediately south of the Fitchburg Line tracks and immediately north of the proposed NorthPoint development site. Note the location of the property line between MBTA and the proposed NorthPoint development in Figure 4-6.

Figure 4-6: MBTA BET Commuter Rail Facility Tracks



This portion of the site for the NorthPoint development is currently undeveloped and vacant. It is owned by PAR. The proposed NorthPoint development is described in that project's Draft and Final Environmental Impact Reports (EOEA #12650).

There is a fence along the property line separating the MBTA outside storage area and the vacant NorthPoint development land. For the purpose of this alternatives analysis, only the MBTA-owned land at the BET is under consideration as the alternative site that was referenced in the EOEA Secretary's Certificate on the EENF. Therefore, none of the NorthPoint development site adjacent to the MBTA-owned land is under consideration for this alternative site.

Potential Opportunities for Green Line Support Facility at the BET

While the Secretary's Certificate is not specific as to which portions of the BET site should be examined, comments received during the Advisory Group meetings outlined a number of suggestions to be explored. They include:

A. Joint Use of Existing Facility: This option involves the sharing of the maintenance bays and storage tracks between Green Line equipment and the existing commuter rail equipment.
B. Dedicated Green Line Facilities at the Existing Site: This option involves creating dedicated space for Green Line facilities at the existing site to include separate maintenance bays and storage tracks for the Green Line equipment.

C. Combination of Existing Facility with Yard 7: This option involves expanding the existing facility and utilizing Yard 7 to accommodate separate maintenance bays and storage tracks for the Green Line equipment.
D. Relocation of Existing Operations to a New Site: This option involves relocation of some or all of the existing commuter rail operations to a new site to accommodate the Green Line equipment.

A. Joint Use of Existing Facility

Vehicle Safety

This option requires the Green Line equipment to share existing facilities, such as storage tracks and maintenance building bays, with the commuter rail equipment. To determine if this is a feasible option, it is important to review safety and capacity requirements at the site, as well as operations and staffing capabilities.

In rail operations, safety is always the first and most important consideration. Based on safety considerations, the Federal Railroad Administration (FRA) has developed regulations regarding operation of vehicles of different designs, such as is the case for Green Line and commuter rail equipment. While both vehicle types travel on rail of the same standard gauge, the Green Line cars are smaller and lighter than commuter rail cars. The Green Line floor height is also lower than the floor of commuter rail equipment. These structural differences translate into a greater safety risk for the lighter vehicle in the event of a collision between different equipment types. Thus, the FRA has developed specific regulations regarding the shared use of track by both "FRA-compliant" vehicles (e.g., commuter rail) and "non-FRA-compliant" vehicles (e.g., Green Line cars).

The FRA regulations are not arbitrary, but are based on safety considerations. In the more than 175 years of rail operations in North America, much has been learned regarding safety issues. The FRA regulations originated by providing for the safe operation of trains by the railroads (private freight railroad and public passenger rail operators) on a national system where operations overlap and equipment is transferred from one railroad's property to another. The railroads realized that standards were needed to achieve compatibility of operations: Using the same track gauge (distance between the rails), the same platform or floor height, the same type of couplers, etc. This allowed one railroad to be able to pass on freight or passenger cars to another, eliminating the lengthy process of unloading one car and loading another. Subsequent rules are based on "lessons learned" often from accidents or similar events. The common element of all the conventions, rules, and regulations is the safe operation of all railroads in a national system of overlapping operations.

If a "light railway" physically connects to another railway, FRA has jurisdiction. This stems from an expansion of FRA oversight approved by Congress and included in a joint FRA/FTA statement dated July 10, 2000. What this means is that if the rails of the Green Line were to connect to the rails of the commuter rail, the FRA could

assume jurisdiction over the entire Green Line. At that point, either all Green Line cars must become FRA-compliant or the MBTA would be required to file for a waiver for "temporal separation of operations", meaning time separation between commuter rail and light rail operations.

Most urban rail transit systems, such as the MBTA, operate isolated from the FRA-regulated railway system. With the MBTA, each of the four lines (Red, Blue, Orange and Green) is, in effect a "closed track" where each line's cars operate only with similar cars on its own line. There is no interoperation between lines. For example, the Green Line cars remain on the tracks of the Green Line and do not use the tracks of the Orange or Blue Lines. The main reason for this is the incompatibility of the vehicles of each line. Each line's cars are different in terms of weight, width, height, floor height, and length.

As long as Green Line equipment is operating on the Green Line, the structural requirements of the Code of Federal Regulations (CFR) Title 49 §238, which governs vehicle characteristics, are not applicable. But if Green Line equipment were to be moved over commuter rail or freight rail lines, 49 CFR §238 would mandate that the Green Line equipment meet the structural requirements in §238.203 though §238.223.

Not only are the Green Line cars not compatible with other transit lines (Orange, Blue and Red), they are not compatible with commuter rail equipment. The commuter rail cars and locomotives are wider, taller, heavier, and have a higher floor height than the Green Line cars. Also, the Green Line cars are not built to the structural requirements of commuter rail equipment (namely, that specified in 49 CFR §238.203 though §238.223.

Table 4-1 compares Green Line cars to the vehicles on the other MBTA lines.

Table 4-1: Comparison of Green Line Vehicles with Other MBTA Lines

	Green Line[1]	Blue Line[2]	Orange Line[3]	Red Line[4]	Commuter Rail[5]
Floor Height above top of rail	2' - 10"	3' – 5-1/2"	3' – 8-3/4"	4' - 0"	4' - 0"
Coupler Type and Height (above top of rail)	Fully automatic 1' – 9"±	Fully automatic 2' – 1"	Fully automatic 2' – 6-1/4"	Fully automatic 2' – 7-5/8"	Knuckle 3' – 10-1/2"
Width	8' - 8"	9'-3"	9'-3"	10'-0"	10'-0"
Roof Height above top of rail	11' – 10"	11' – 8-1/2"	11' – 11-3/4"	12' – 4"	12' – 8" (1) 15' – 6" (2)
Length	72' - 0" or 74' - 0"	48' - 6"	65' - 0"	69' – 9-1/4"	85'-0"
Weight of car (empty)	43 tons	30 tons	34 tons	36 tons[6]	44 tons (1) 63 tons (2) 130 tons (3)

(1) Single level commuter rail coach
(2) Bi-level commuter rail coach
(3) Typical commuter rail locomotive (F40PH or G40)

Therefore, due to its weight, floor height, and buffer strength, the Green Line vehicles are not FRA-compliant. As such, they cannot operate in revenue operations with commuter rail equipment or freight trains. This means the Green Line cars cannot operate on commuter rail main line tracks, such as the Lowell or Fitchburg Lines at the same times that FRA-compliant vehicles are operating, unless temporal or time-sharing separation is in place.

While FRA regulations govern revenue operations, they do not apply to non-revenue operations, such as the movement of equipment around the BET site. However, the same safety considerations that apply to revenue operations still apply to maintenance operations. Workers at the facility would be at risk while moving equipment around the yard. A collision of commuter rail equipment with Green Line equipment could result in partial crushing ("telescoping") of vehicles, which could cause severe injuries to workers, as well as costly damage to the cars. Light rail vehicles typically cost over $2.5 million each.

▼

[1] MBTA Light Rail Accessibility Feasibility Study *Draft Final Report*, 1991.
[2] MBTA Date Sheet for Blue Line Rapid Transit Cars
[3] MBTA Date Sheet for #12 Orange Line Rapid Transit Cars, May 31, 1990.
[4] General Arrangement MBTA Red Line (No. 2 Red Line Cars) prepared by UTOC, Inc.
[5] MBTA commuter rail vehicle specifications SR-27 (single level coaches) and SR-19 (bi-level coaches)
[6] MBTA Data Sheet for #5 Cambridge Rapid Transit Cars, April 1, 1963.

Facility Compatibility

Green Line and commuter rail vehicles are different and cannot be serviced utilizing the same maintenance bays. Maintenance bays typically include work platforms designed to facilitate access to the car interior and to equipment on the car. Work platforms that would suit the commuter rail cars would be at the wrong height for Green Line cars and vice versa. The Green Line cars (particularly the Type 8 low floor cars) have much of their equipment on the roof, and maintenance bays need to be set up with platforms to facilitate the inspection, removal, and installation of rooftop equipment. These platforms are not needed for commuter rail coaches where the equipment is mostly located under the car floor. The maintenance bays are set up to work on one specific type of equipment and are not well-suited for maintenance of other types of cars. In addition, the Green Line requires an overhead live catenary wire, and the commuter rail maintenance crews are not trained to work safely in the yard around overhead wires.

Operations and staffing capabilities are also an issue with a joint use facility. There are different maintenance workers dedicated to each type of vehicle maintenance. The Green Line vehicle maintenance staff consists of MBTA employees, while the commuter rail equipment is maintained by personnel employed by the private firm of the Massachusetts Bay Commuter Railroad (MBCR). Each staff is trained for its vehicle type and is not qualified to work on other vehicle types. Because of the requirements established by the unions of the different transit and commuter rail employees, the Green Line and commuter rail crews would require separate welfare facilities, which would require adding space for the Green Line staff.

In summary, joint use of this facility is not feasible because there exists:

- Safety implications due to the size and weight difference of the Green Line cars and the commuter rail locomotives
- Different maintenance requirements and bay sizes for Green Line cars and commuter rail vehicles
- Operational challenges with staff members

B. Dedicated Green Line Facilities at the Existing Site

This option explores whether it is feasible for each type of equipment to have its own tracks and maintenance bays within the same overall facility. This could be accomplished through the use of dedicated Green Line maintenance bays at the existing facility, constructing a double-deck facility, or utilizing other portions of the BET site.

As previously noted, the existing BET maintenance capacity is barely adequate to maintain the existing commuter rail fleet There is no excess capacity at the BET to use some of the maintenance bays for other uses, such as Green Line maintenance. Even if there were excess capacity so that one or more bays could be dedicated to

Green Line maintenance, other problems would then arise, such as how to construct Green Line tracks to these bays and the conversion of the bays to maintain Green Line equipment, as described below:

The Fitchburg Line and Valley Tracks lie between the BET Building and the proposed Green Line alignment. For Green Line tracks to reach the BET Building, they would need to cross the Fitchburg and/or Valley tracks either at grade or by bridging over the tracks. At-grade crossings would present safety concerns (similar to joint use of tracks) and operating difficulties (one line would have to wait for the other line to clear). To bridge over the Fitchburg and Valley tracks, the Green Line tracks would have to be about 25 feet higher. This would require a long ramp (about 500 to 600 feet long) down to reach the building. There is simply not enough distance between the building and the Valley or Fitchburg tracks to have the Green Line tracks ramp down.

Reuse of an existing maintenance bay would require substantial reconfiguration of all aspects of the bay, including work platforms, overhead cranes, etc. The two types of vehicles have different dimensions and different locations of equipment.

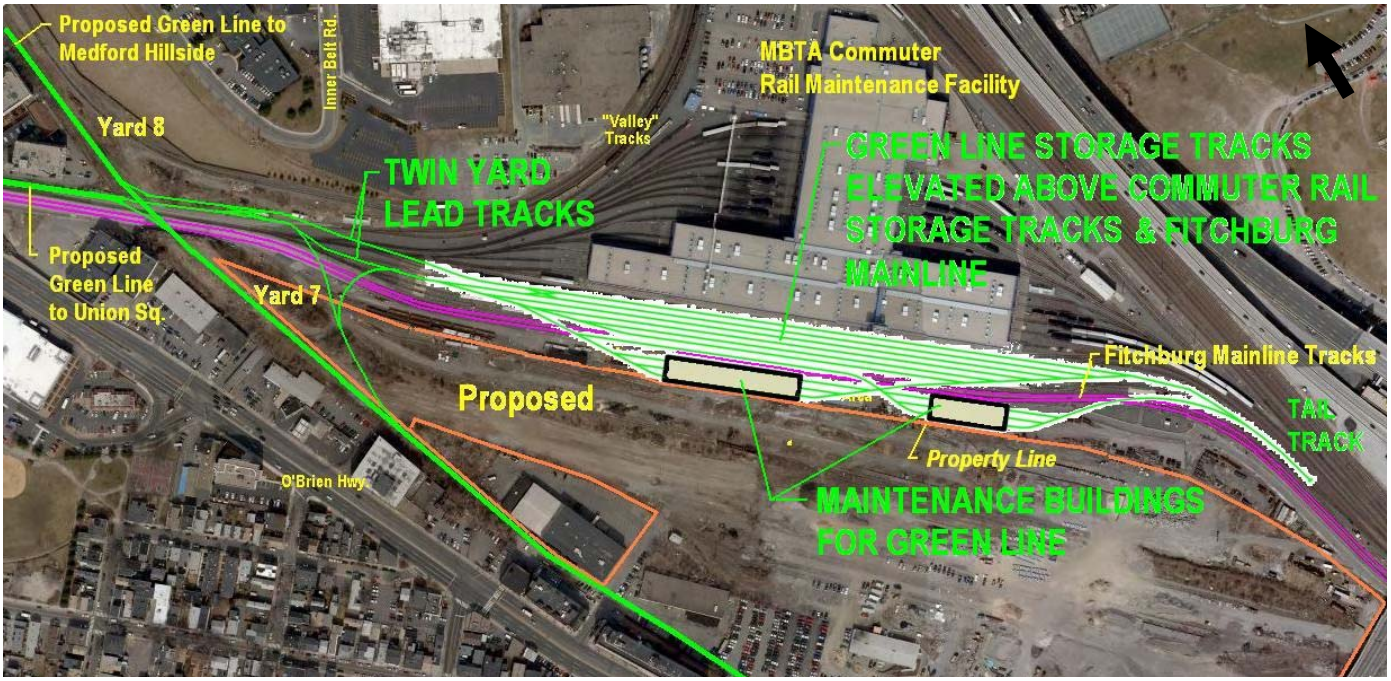
Based on the lack of capacity at the existing facility and the conversion required to make existing bays compatible with Green Line cars, dedicating some of the existing maintenance bays to Green Line cars is not a feasible option.

Constructing a double-deck Green Line storage facility elevated over the existing commuter rail facility was proposed and analyzed. This concept eliminates the need for any transitional ramp-downs, as the Green Line tracks would connect to the elevated yard at a height above the Fitchburg and/or Valley tracks. A conceptual layout has been developed for this proposal (See Figure 4-7 on the following page). The maintenance buildings are sited on MBTA land in the portion of the BET called the "open storage area." Based on that concept, the following was determined:

- The storage yard would be constructed at a level above the existing commuter rail storage tracks and a portion of the Fitchburg Line.
- Storage can only accommodate 60 cars, instead of the 80 cars needed.
- The yard would be single-ended, with a single tail track at the east end of the facility.
- Twin lead tracks are provided for redundancy in the case of a disabled train blocking access to the yard given only a single lead track.
- New ventilation and lighting for the commuter rail yard below would be needed.
- The available space precludes construction of a single vehicle maintenance building, so that at least two smaller, separate buildings would be required.
- Because there is not available space at ground-level in this concept, the maintenance buildings would have all their service, inspection, and repair bays at an elevation about 25 feet above the existing ground level. These bays (usually located at ground level) would be located on the 3rd floor of the building, adding considerable complexity and cost to the building.

- Construction of the elevated yard (including supports and footings) would have operating impacts on the existing MBTA Fitchburg Line and within the existing commuter rail maintenance facility.

Figure 4-7: Elevated Green Line Storage/Support Facility over Existing Commuter Rail Storage Tracks



- Construction of the Green Line maintenance building would preclude future realignment of the Fitchburg Line to allow for additional commuter rail storage tracks to be added in the future.

Based on this information, the construction of a double-decked facility is not a feasible approach to accommodating Green Line equipment on the site. The construction of an elevated yard (including provision of ventilation and lighting for the commuter rail tracks below) would be excessively expensive and the storage capacity is less than the program requirements.

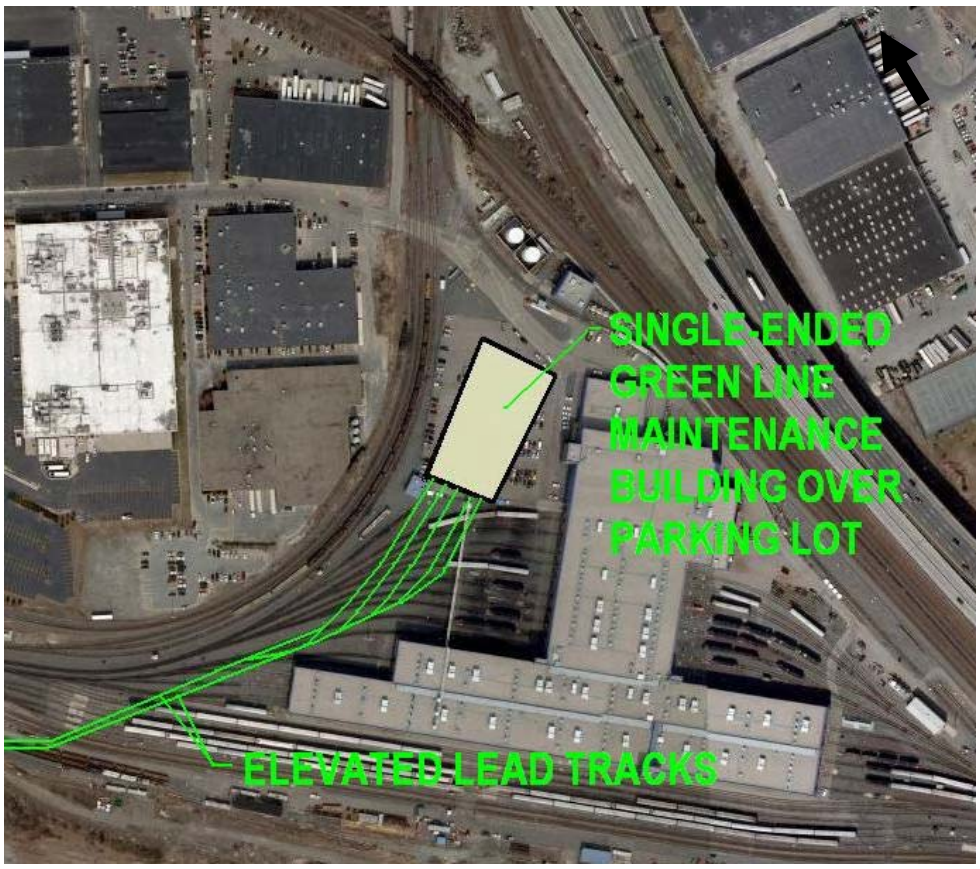
The existing employee and visitor parking area is approximately 360 feet by 270 feet or just over two acres. It has been proposed that the existing parking lot could be relocated elsewhere on the site or onto a parking deck or underground garage to allow space for the Green Line facilities. Preliminary analysis indicates that an underground garage would be unfeasible due to the high construction cost resulting from a high groundwater table, which is also contaminated. Additionally, the parking area is rectangular and not the elongated trapezoid shape that would best suit the storage yard. Figure 4-8 below shows that the footprint of the parking lot is much smaller than the footprint of a storage and maintenance yard that would meet the program requirements.

Figure 4-8: Comparison of Footprint of Green Line Yard with Footprint of Existing Parking Lot



If the parking lot area were used for a vehicle maintenance building, it would be singled ended, which would have similar limitations to those described in Section 4.1.1 for Site #7 (Pat's Tow). The parking area is also distant from the Green Line and would require long lead tracks that bridge over the Valley Tracks and/or the west lead tracks, adding costs to this option. This would result in a double-deck configuration with the yard or maintenance building about 25 feet above the parking area. Due to the configuration and location of the existing parking area, it is not feasible for a Green Line storage or maintenance area (See Figure 4-9).

Figure 4-9: Layout of a Single-Ended Green Line Maintenance Building over the Existing Parking Lot



There are open, paved areas on either side of the maintenance building that could also be considered for construction of dedicated Green Line facilities. These areas are even smaller than the existing parking area. These would require an elevated approach and the use of these areas would be in the same double-deck configuration that the parking area required, considerably adding cost to this option. Based on their size and location, the open, paved areas are not feasible for Green Line facilities.

There is an outside storage area and tracks south of the Fitchburg Line Tracks that could be evaluated as a potential location for dedicated Green Line facilities. This area is shown in Figure 4-2 and is labeled "MBTA Open Storage Area" between the Fitchburg Line Tracks (in purple) and the property line (in orange).

This open storage area already has both existing and proposed uses that are important to the operation and growth of the MBTA commuter rail system. The existing uses include storage of materials (e.g., ties) and work equipment (including work trains) for the maintenance of the MBTA commuter rail system. Future MBTA plans call for shifting the Fitchburg Line tracks over the edge of its property adjacent to the proposed NorthPoint development. This would create an area between the

relocated main line and the existing layover/lay-up yard tracks to provide more storage tracks, particularly for mid-day lay-up of trains. This additional storage will be needed to support ridership and service growth for the MBTA commuter rail system, particularly for the lines on the north-side of the system.

This outside storage area is also the location of the proposed portal for the North-South Rail Link, which is a project that is planned to someday connect North Station to South Station in Boston. The North-South Rail Link currently proposes to run along the Fitchburg Line close to and parallel to the NorthPoint property line, with the line sloping downward towards a tunnel portal near the Gilmore Bridge. It is intended that the Green Line Extension Project should not preclude the potential of making this connection in the future.

Even if this area were not needed for commuter rail purposes and/or the proposed Fitchburg Line portal of the North-South Rail Link, it would not make a suitable support facility for the Green Line. While the length of the area is long enough to store about 80 cars, the width is tight and would result in a few very long tracks. To compensate for the atypically long storage tracks, intermediate crossovers would be needed so that it would be possible to remove cars in the middle of each long storage track.

Also, the facility would be single-ended in that only the west end would be able to connect to the main line tracks of the Green Line Extension Project. As noted previously, single-ended yards are undesirable and do not allow optimal operational flexibility. As such, in this alternative, it would be necessary to dedicate one of the long tracks as a "run through" track with no car storage. This would allow for a second access to the storage tracks at the east end of the yard. Figure 4-10 shows the configuration of a Green Line storage yard in the open storage area. Note that the area is not large enough to fit the entire storage yard, without the acquisition of some land from the proposed NorthPoint development.

Additionally, there is no location suitable for the support building. This narrow strip of land is not wide enough for the support building and storage tracks.

Based on the existing and proposed uses of the open storage area and its size and configuration constraints, this is not a feasible option for the construction of dedicated Green Line facilities on the BET site.

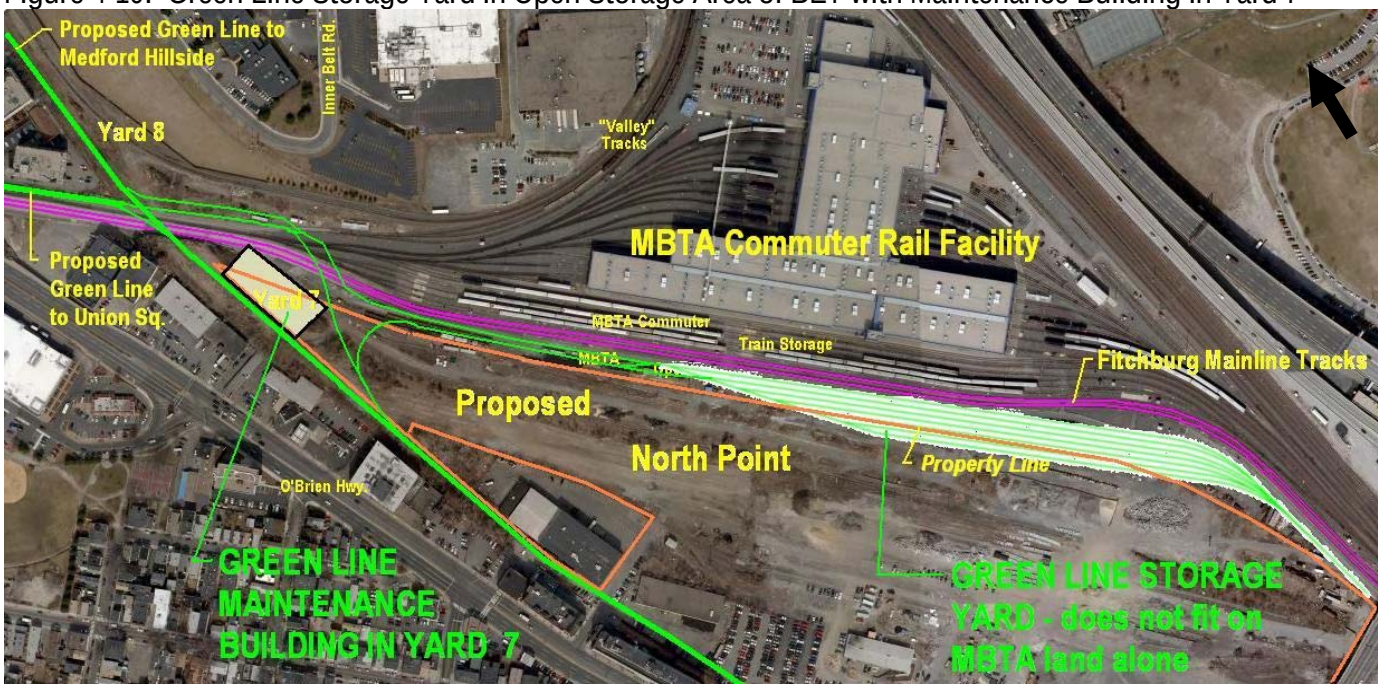
C. Combination of the Existing BET Facility with Yard 7

This option explores the possibility of siting a Green Line facility utilizing space both at the BET and at Yard 7. The BET site is adjacent to Yard 7 and is mostly still owned by PAR (as part of the proposed NorthPoint development), except for a small area adjacent to Red Bridge.

Several options were considered, including:

- Green Line storage at the BET storage tracks and a support facility on the MBTA-owned land at the west end of Yard 7. As previously discussed, Federal regulations would not allow Green Line equipment to mingle with commuter rail equipment, so this first option is not permissible.
- Storage tracks in the "Open Storage Area" of the BET and a support facility at the west end of Yard 7 (See Figure 4-10 below). The Green Line storage tracks do not fit within the "Open Storage Area" and land would have to be obtained from the NorthPoint development. This would result in two undesirable arrangements: a single-ended storage yard and a maintenance building separated from the storage yard. The maintenance building in the west end of Yard 7 is a tight fit, and most of the footprint would be on PAR-owned land that is part of the proposed open space for the NorthPoint development. The portion of the storage yard that would be within the NorthPoint development is within an area proposed for structured parking with proposed building space over the garage.
- All of the NorthPoint land that would be needed for the Green Line facilities would be located along the BET property line of NorthPoint. The impacted land has already been identified as part of the permitted NorthPoint project in the Final Environmental Impact Report (FEIR) and a master plan developed per

Figure 4-10: Green Line Storage Yard in Open Storage Area of BET with Maintenance Building in Yard 7

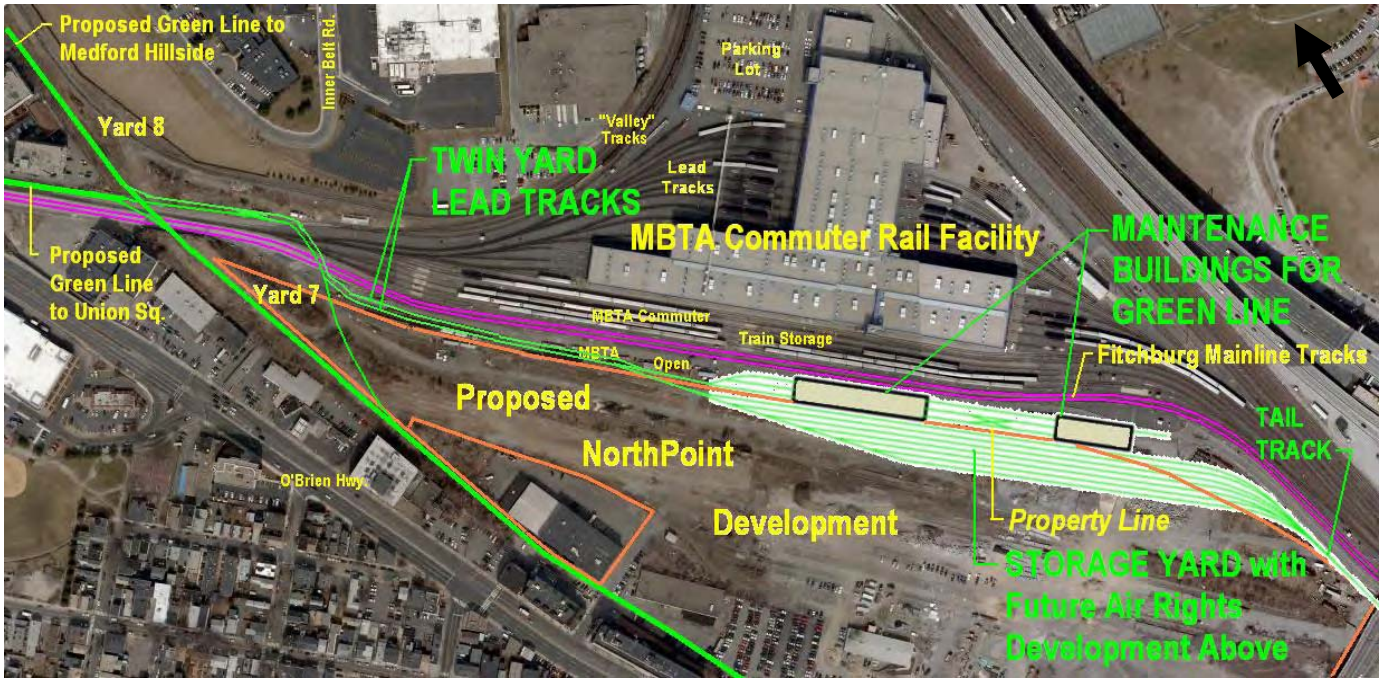


Cambridge's overlay zoning for the area. By changing the original scope of the NorthPoint project, there would be significant financial impacts to both the project developer and the three municipalities (Boston, Cambridge, and Somerville). Impacts would result in terms of increased structural costs to span the storage yard with parking or buildings; height restrictions that would limit the occupied use of the proposed buildings (a building over the tracks would increase the building height by about 20 feet); and a potential reduction in

annual revenue to the project owner (and also tax losses to the three cities) if less gross square feet of building can be built.

- Storage tracks in Yard 7 (PAR-owned/proposed NorthPoint development) in a configuration that would allow the proposed garages at NorthPoint to be built above the storage tracks and a support facility in the "Open Storage Area" of the BET site. See Figure 4-11 on the following page. As with the previous option, this would result in a single-ended storage yard, which is undesirable. Also, this would require the acquisition of rights to construct the storage tracks on PAR-owned land within the NorthPoint development, which would further increase the project costs.

Figure 4-11: Green Line Storage Yard in Yard 7 with Future Air Rights Development, with Maintenance Buildings in the "Open Storage Area" of the BET Site



It is not feasible to construct a Green Line facility using the BET site and Yard 7 together. There is no excess capacity at the BET site to store any cars other than the commuter rail and freight cars that are already stored and serviced there. Even if a joint use is considered, there are significant operational and safety implications that would make this unfeasible. The "open storage area" in the BET is not large enough to accommodate the required storage yard without acquisition of additional property. Such a yard would be highly undesirable, as it would be a long, narrow, singled-ended yard. Yard 7 can tightly accommodate a support facility building, but the movement of cars would be in a restricted, requiring additional switching and shuttle moves. Additionally, due to access issues, it would be difficult for supervisory and administrative personnel to oversee all operations.

D. Relocation of Existing Operations to a New Site

This option would require a new major commuter rail maintenance facility to be built at another location along the MBTA commuter rail system. The new facility would need to be of the size to allow all or some of the existing BET building to become available for Green Line maintenance.

While the MBTA acknowledges that there is a need to expand and augment the existing facilities to maintain the commuter rail fleet and to meet future needs for service expansion, no location has been determined to build a new facility, whether as a separate project or as part of any proposed expansion. The planning, design, permitting, and construction of such a facility could take up to 10 years. Even an optimistic schedule for such a project would not allow the existing BET to be vacated and renovated for Green Line use by the 2014 start-up date for the extension. This is not a feasible option at this time.

Overall Evaluation of Site #8 MBTA BET Facility

None of the areas within the BET property are available or suitable for use as a Green Line support facility. The existing BET facility is barely adequate for current commuter rail needs. Most of the site is already in use for train operations. The parking lot is too far from the Green Line, would require long bridges over the existing tracks, and is not a configuration suited for train storage. The open storage area is important forcurrent and future needs of existing commuter rail operations. Even if it were available, it is too long and narrow and not well-suited for a Green Line storage facility. Combining the BET site with Yard 7 does not offer a large enough site in the required configuration to accommodate a Green Line facility.

Conclusion: The MBTA BET site is not a suitable location for a Green Line support facility.

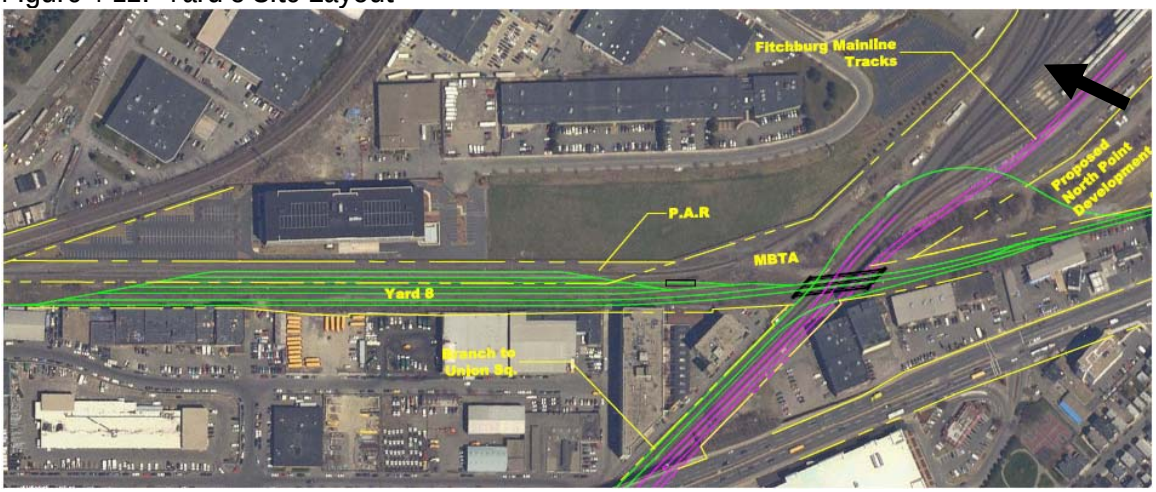
4.1.3 Site #9: Yard 8

Yard 8 was originally a Boston & Maine Railroad (B&M) freight classification yard. It is located along the original alignment of the Boston & Lowell Railroad (now the MBTA Lowell Line) and has been in continuous railroad use since the 1835 opening of the Boston & Lowell. The current yard (about 110 feet in average width) is considerably narrower than in the B&M days. The 1975 sale of commuter rail facilities from the B&M to the MBTA resulted in half of the yard being transferred to the MBTA while the B&M (now PAR) retains ownership of the easterly half of the yard.

In Figure 4-12, the yellow line indicates the approximate property lines. The area located to the northeast of Yard 8 is an undeveloped grass parcel which has been

identified as a potential site for expansion of an adjacent support facility in Site Alternative 10.

Figure 4-12: Yard 8 Site Layout



Combining the MBTA and PAR portions of Yard 8 would result in enough area to accommodate the main line of the Green Line Extension Project to Medford and a 5-track storage facility that could store the full 80-car program. The shape of Yard 8 is well-suited to providing a double-ended storage yard, with lead tracks at each end feeding ladder tracks which fan out to the 5 storage tracks. Additionally, the Yard 8 area is already currently being used for railroad purposes.

The Yard 8 site thus provides:

- Entirely sufficient vehicle storage capacity
- Full operational flexibility for layup of equipment
- Ideal access to the Green Line main line tracks
- No conflict with other rail operations

Conclusion: While Yard 8 is well-suited for car storage, it does not provide an area for a support facility building. For this reason, an alternative was evaluated that combines Yard 8 with the adjacent undeveloped lot on Inner Belt Road and is described in more detail in the following section.

4.1.4 Site #10: Yard 8 with Adjacent Parcel - Yard 8 with the Neighboring Undeveloped Lot for the Support Facility

This alternative adds an undeveloped grass parcel that is adjacent to Yard 8, immediately south of the current building at 200 Inner Belt Road.

This provides for a consolidated operation with more efficient use of personnel and allows for cars to be moved directly between the support facility and the storage

yard with minimum travel distance. This also allows for all such car movements to occur without having to enter onto the main line tracks, thereby foregoing any possible interference with revenue service and reducing safety concerns with the revenue operations.

The layout of the support facility complex in this alternative allows for cars entering on any of the tracks to be continually moved through the facility in one direction, thereby allowing for the servicing and storage of cars to be accomplished efficiently without requiring additional backup and switching moves.

Figure 4-13: Yard 8 with Adjacent Parcel



The Yard 8 and Adjacent Parcel Site provide:

- Entirely sufficient vehicle storage capacity
- Full operational flexibility for layup of equipment
- Ideal access to the Green Line main line tracks
- No conflict with other rail operations
- No need to shuttle employees and vehicles to "satellite" locations
- Immediately adjacent support facility complex
- A support facility able to progress vehicles in an assembly line manner to expedite work

- The ability for supervisory and administrative personnel to oversee all operations at a single location
- Employee parking and roadway access at the site

Concern has been expressed about the how activities at the facility would impact the neighboring area with regard to noise, lighting, and development potential. Suggestions have been raised that some of the activities be sited at nearby locations. Another possibility would be the use of Yard 7 in conjunction with Yard 8, as discussed in the following section.

Conclusion: This is the only alternative analyzed that provides sufficient contiguous land area to accommodate both the support facility and the car storage yard in a cost-effective manner.

4.1.5 Site #11: Yard 7/8 - A Split Operation Using a Combination of Sites

In order to reduce activity at the Yard 8 site, another former rail yard location, identified as Yard 7, has been considered for use. Yard 7, mostly owned by PAR, is situated approximately 500 feet south of Yard 8 on the southern side of the MBTA Fitchburg Commuter Rail corridor. Access between the two sites would thus have to be achieved by crossing over the MBTA Fitchburg Line via the Green Line main line tracks or via a separate yard track connecting the two facilities with a bridge over the MBTA Fitchburg Line.

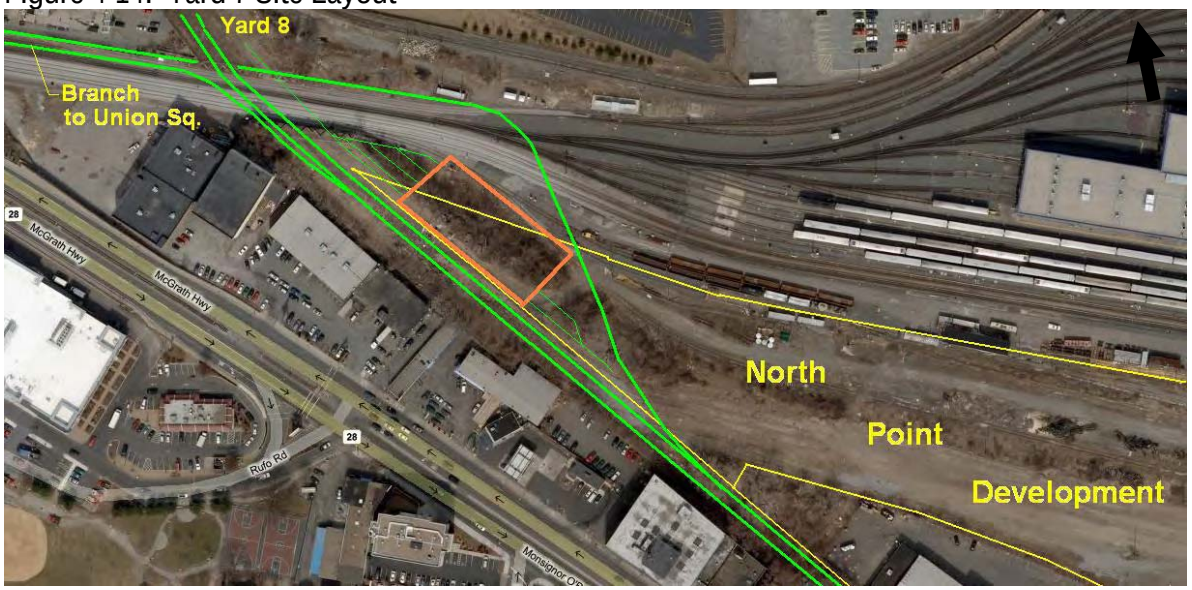
While most of what was Yard 7 is included in the proposed NorthPoint development project, the yard area is north of the developable lots, based on the development plans included in the Final Environmental Impact Report (FEIR) for the NorthPoint project. The portion of Yard 7 included in this discussion is beyond the limits of the proposed development parcels for the NorthPoint project.

The term "split operation" implies that the storage and support facility building and tracks would be split between the two yards. Since Yard 8 is ideally suited for car storage, the storage yard would be located immediately adjacent to the main line tracks at Yard 8, to allow for a double ended storage yard, with maximum flexibility for storage of cars. Additionally, it was always envisioned that, as part of the development of the NorthPoint project, Yard 8 would be used as a storage location because it is currently owned by the MBTA and has been historically used by the railroad.

The support facility is assumed to be located at the Yard 7 site, requiring a shuttle move between the storage yard and the support facility for cars undergoing servicing or repairs. The support facility could be configured similar to the layout proposed for the Yard 8 plus Adjacent Parcel site, but positioned in a southeast-northwest configuration parallel to the Fitchburg rail corridor.

Figure 4-14 shows Yard 7, with the yellow line indicating approximate property lines, while the orange line indicates the approximate footprint of a support facility building. There is very limited room for lead tracks to reach the support facility building.

Figure 4-14: Yard 7 Site Layout



The support facility would be accessed from the northwest-side and cars could be moved through the facility and exit on the southeast side onto a limited rear (or tail track) arrangement, then have to be moved westwards on a track running outside of the support facility buildings back to the connection with either the main line or storage yard.

The Yard 7 site is limited by the proposed "jug handle" track of the Union Square spur that would branch off the main line at the west end of the NorthPoint development. The support building would barely fit on the available portion of Yard 7. This tight fit would require retaining walls along the Fitchburg main line tracks. It would also result in very limited lead tracks on either end of the building. In addition, it would require one or more tracks spanning the Fitchburg line to connect Yards 7 and 8. Finally, the tight fit would preclude having a "runaround" track that would connect both ends of the building without passing through the building. Such a track would allow access to both ends of the building and would ensure the operational efficiency of the "work progression" through the building.

Conclusion: The Yard 7/8 Split Operation is limited by the jug handle connection of the Union Square Branch. The maintenance building size would be limited and not all functions could be provided. Also, truck access and employee parking would be difficult at this location. Although it could provide sufficient vehicle storage capacity at Yard 8, the Yard 7 location for the maintenance would move vehicles through the facility in a restricted assembly line, requiring additional switching and shuttle

moves, particularly because the maintenance building would be single-ended. Additionally, this alternative would provide limited flexibility and operational efficiencies.

4.2 Tier Two Screening

Table 4-2 summarizes the findings of the sites evaluated as part of the Tier Two screening analysis. This screening was based on an in-depth review of the size, configuration, operations, and compatibility of each site with the program requirements and needs of the Green Line support facility.

Table 4-2 Tier Two Screening of Alternative Sites for Support Facility

Site	Location	Options	Comments	Recommendation
7	Pat's Tow Lot (Somerville Avenue at Medford Street)	Utilize full site for Green Line support facility	Does not accommodate car storage (would have to be on nearby site) Support facility barely fits "Single-ended" facility not ideal	Not recommended on the basis of operational shortcomings and "dead-end" configuration
8	MBTA Commuter Rail Maintenance Facility (BET)	Joint Use of Existing Facility Dedicated Green Line Facility at Existing Site Combination of BET site and Yard 7 Relocation of existing BET operations	Safety and operational issues and lack of capacity Lack of capacity/ operational differences in car types Configuration and capacity issues, as well as operational differences Not feasible	Not recommended as there is insufficient space at the at-capacity BET commuter rail facility and does not provide configurations suited for train storage
9	Yard 8	Combine MBTA and PAR portions of Yard 8 for Green Line support facility	Accommodates car storage, but does not provide enough space for support facility building	Yard 8 alone is not large enough to accommodate the support facility in addition to the required car storage
10	Yard 8 with Adjacent Parcel (Yard 8 with the neighboring undeveloped lot for the support facility)	Combine usable portions of Yard 8 with adjacent undeveloped parcel of land	Accommodates car storage and support facility building in accordance with the required program outlined in Chapter 2	This site is recommended on the basis of accommodating all of the program requirements
11	Yard 7/8 (a split operation using a combination of sites to reduce activity on Yard 8)	Combine usable portions of Yard 8 with Yard 7	Storage and support facility connected via a shuttle Support facility barely fits	Less desirable due to separating storage from the support facility, resultant moves inefficient and operations limited

4.3 Tier Two Summary

The Tier Two analysis evaluated sites based on conceptual operating plans, program requirements, safety provisions, and the size and configuration of sites. Issues that deemed sites not feasible included lack of capacity, different maintenance requirements, unsafe conditions due to car types, and poor configuration of the site. Based on the Tier Two screening, only Yard 8 with the Adjacent Parcel can accommodate the car storage and the support facility while offering the site the operational flexibility that is needed at this facility.

5

Additional Analysis of Alternatives

The alternatives analysis of the initial alternative sites yielded the conclusion that Site 10 ("Yard 8 with Adjacent Parcel") was the preferred site and the location that would best meet the required the program and functionality requirements.

It was requested by the Project Advisory Group, municipalities and project stakeholders that the alternatives analysis take a more detailed look at several sites where some or all of the functions could be located. The evaluation was expanded to include the review of two sites:

- MBTA-owned land at its Commuter Rail Maintenance Facility, commonly known as the Boston Engine Terminal (BET).
- Yard 7, owned by the Boston & Maine Corporation [a subsidiary of Pan Am Railways (PAR)], which generally refers to the undeveloped portions of the ongoing NorthPoint development, which were formerly rail yards.

The approach was to consider a variety of options and sites within these areas. For each site, engineered conceptual plans (or "schemes") were developed to lay out the storage yard, maintenance building, and all connecting tracks. The initial objective was to fit as much of the program as possible at each location. A total of eight schemes (A through G) were developed.

In addition to the eight locations, a site on the north side of Inner Belt Road, within the loop area, was proposed by the City of Somerville. Including the preferred Tier 2 Alternative of Site 10 ("Yard 8 with Adjacent Parcel"), the further analysis evaluated a total of 10 additional possible configurations for the maintenance yard.

Each of these schemes was initially screened by criteria related to meeting the MBTA's basic operational requirements for the Green Line Extension Project. Criteria included the ability to provide a vehicle maintenance building with a run-through structure for double-ended access and the ability to provide one building in

which to perform the support facility functions. Where a scheme did not meet these criteria, one of the following actions was taken:

- The layout was modified so that it met the required functionality
- A scheme that was similar in layout and did meet the required functionality was advanced
- If either of the above could not be achieved, the scheme was eliminated from further consideration

The initial screening consolidated the list of schemes from ten to five. The secondary screening process analyzed the schemes for operations, vehicle storage capacity, vehicle maintenance functionality, cost, property takings, potential for air rights overbuild, and compatibility with other proposed transportation projects including the Urban Ring, Somerville Community Path, and North-South Rail Link.

5.1 Criteria/Considerations for the Development of Additional Alternatives

While the objective was to be as creative as possible with the siting and development of the scheme configurations, some basic criteria were applied. A fundamental criterion was that all new alternatives should provide for storage of approximately 80 cars and include a vehicle maintenance building.

Design Criteria for Layouts of All Schemes

The MBTA design guidelines for the Green Line were used for the layout of tracks both horizontally and vertically. Tight curves (under 150-foot radius in yards) were avoided, due to noise (wheel squeal), the wear on the rails and car wheels, and the increased risk of derailments. A maximum grade of 6% was used.[7]

Consideration of Overbuild Opportunities

In an effort to be sensitive to the community and municipal concerns and also to be a potential catalyst for economic development, schemes were developed to consider potential overbuild or air rights opportunities over the facility.

Considerations for Schemes within NorthPoint Site

The NorthPoint development project includes a proposal for structured parking to be provided along the north side of the site and adjacent to the BET property. Combined with the MBTA's expressed desire to have a covered storage yard, opportunities to explore potential overbuild options at NorthPoint were evaluated.

[7] The maximum grade along the Green Line is 6.5%.

- The MBTA would prefer a covered storage yard, as it reduces the cost of maintenance and operations (less heat or air conditioning needed at start-up, no snow to remove from yard in winter, less wear and tear with indoor storage vs. outdoor, etc.).
- The master plan for NorthPoint included above-grade structured parking at the north side of the site facing the MBTA BET site.

For any scheme that would attempt to integrate these two objectives, the following considerations were made:

- **Structure Parking Over Storage Tracks**
  All of the schemes use track spacing of 12 feet and 18 feet. This would allow for a 30-foot column spacing grid. As many parking garages are based on a 60-foot grid, the track spacing facilitates the construction of a garage over the storage tracks.

- **Building Use Frontage on Dawes Street**
  The NorthPoint Master Plan also envisions that the occupied uses (e.g., residential or office) would be along the south façade of this block. For the purposes of this analysis, it is assumed that a 60-foot depth from the back of sidewalk should be retained so that the "occupied uses" and lobbies and building cores (stairs, elevators) could be accommodated along the street front. Such a layout would mask the presence of the yard and parking garage from the street. Thus, the alternatives considered maintaining approximately a 60-foot offset from the back of sidewalk on Dawes Street to the edge of a storage yard.

Criteria for Schemes within the BET Site

For the purpose of these alternatives, it is assumed that none would displace existing functions of the BET. The BET is a vital and functional facility that is essential to the MBTA's commuter rail operations. Additionally, the facility is operating at capacity. Therefore, it is neither prudent nor cost-effective for the Commonwealth to remove some or all functions from its BET facility and relocate such functions to a yet-to-be-constructed facility that would result in delays to the implementation of the Commonwealth's commitment to the Green Line Extension Project.

Section 4.1.2 of this report describes the various components of the BET site. The only components of the site that could be modified/relocated without impacting current functionality would be the parking lot and the "outside storage area," as seen in Figures 4-2 through 4-6.

5.2 Description of Additional Alternatives

Table 5-1 provides an overview of the additional alternative siting schemes developed. Added to the list is a scheme developed by consultants to the City of Somerville, which is listed as "City Scheme or Scheme J". Figures for each of these schemes are provided on the following pages (Figures 5-1 to 5-11).

Table 5-1 Additional Alternative Siting Schemes

Alternative	Objective	Vehicle Storage Location	Vehicle Maintenance Location
Scheme A	Move Vehicle Maintenance Building	Yard 8	Yard 7 – "open storage area at BET plus NorthPoint Lots A & B (double-ended facility)
Scheme B	Move Vehicle Maintenance Building	Yard 8	NorthPoint Lots A & B (single-ended facility)
Scheme C (1)	Move Vehicle Maintenance Building	Yard 8	Yard 7, inside the Union Sq. jughandle (smaller, single-ended facility)
Scheme D (1)	Move Vehicle Maintenance Building	Yard 8	Yard 7, inside the Union Sq. jughandle (single-ended facility)
Scheme E	Move Vehicle Storage; allow Fitchburg St. cut-through	Yard 7 (partly on BET land, partly at back of Lots C/D/E/F of NorthPoint)	Adjacent to Yard 8 (singled-ended facility)
Scheme F	Move both functions	Yard 7 (Lots C/D/E/F of NorthPoint)	BET "open storage area" (split functions in 2 buildings)
Scheme G (2)	Move both functions	Elevated Green Line storage yard above existing commuter rail storage yard	BET "open storage area" (split functions in 2 buildings; maintenance functions are on "3rd floor" of buildings)
Scheme H	Move both functions (mix of Schemes A & E)	Yard 7 (partly on BET land, partly at back of Lots C/D/E/F of NorthPoint)	NorthPoint Lots A & B (double-ended facility)
Scheme J (City Scheme)	Move both functions; accommodate possible future stadium over yard	Inner Belt Road site east of Yard 8	Inner Belt Road site east of Yard 8
Site 10 (Yard 8 & Adjacent Parcel)	Retains both functions at or adjacent to Yard 8	Yard 8	Yard 8 and undeveloped parcel adjacent to it

(1) Schemes C and D are variations of Site 11 from Table 3-1.
(2) Scheme G is also described in the discussion of Site 8 (BET) in Section 4. See Figure 4-7.

Figure 5-1: Scheme A

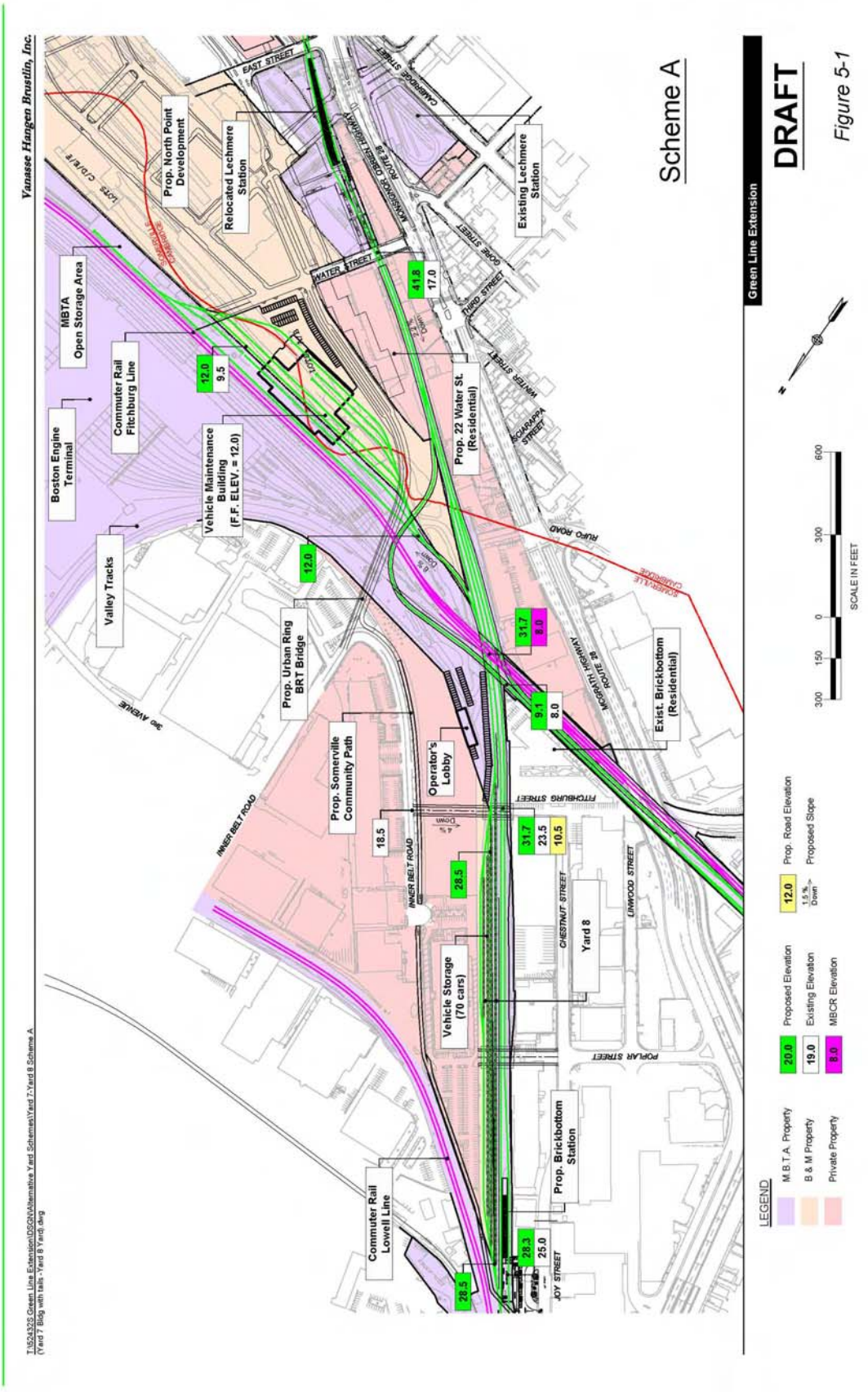


Figure 5-2: Scheme B

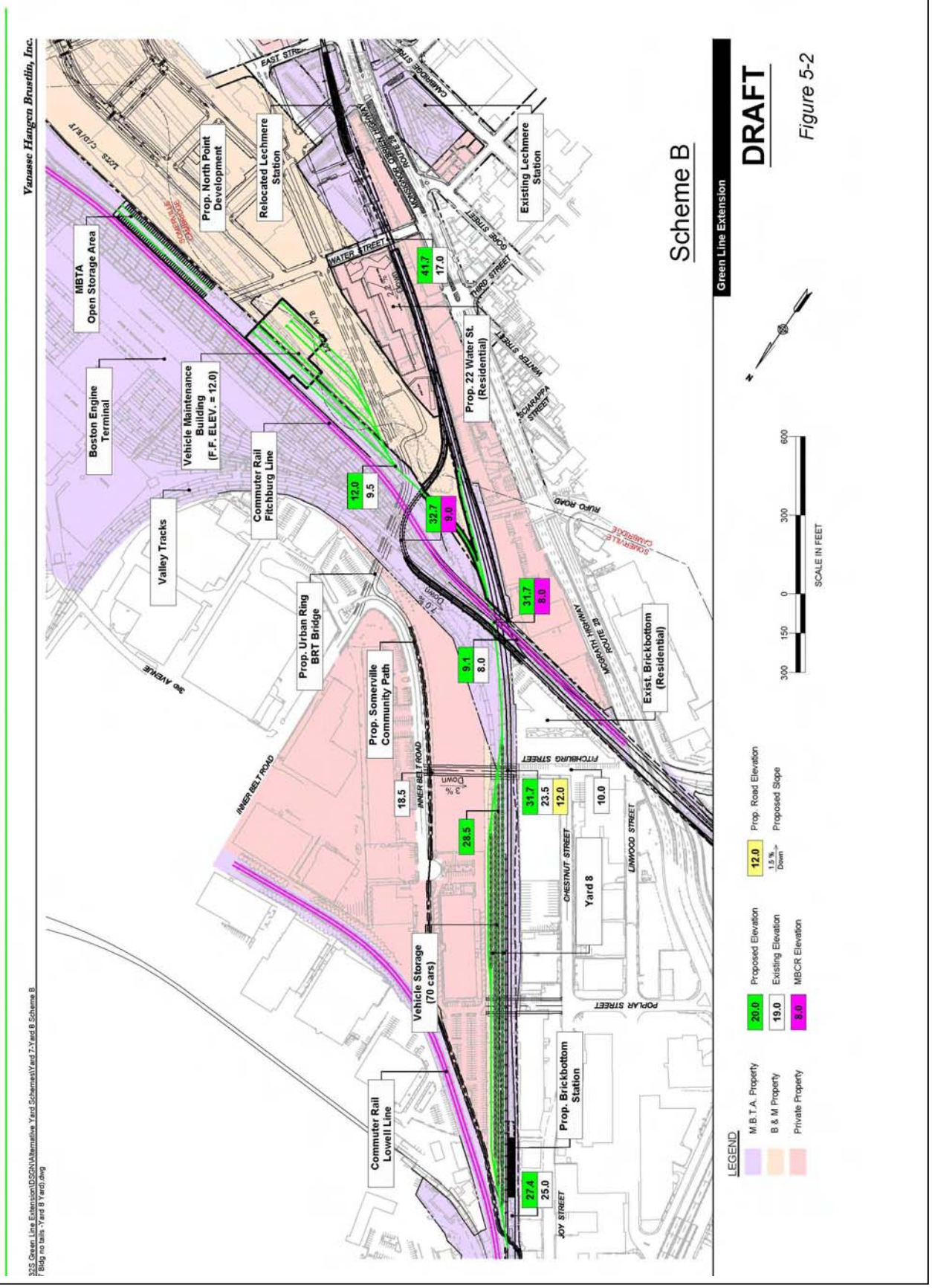


Figure 5-3: Scheme C

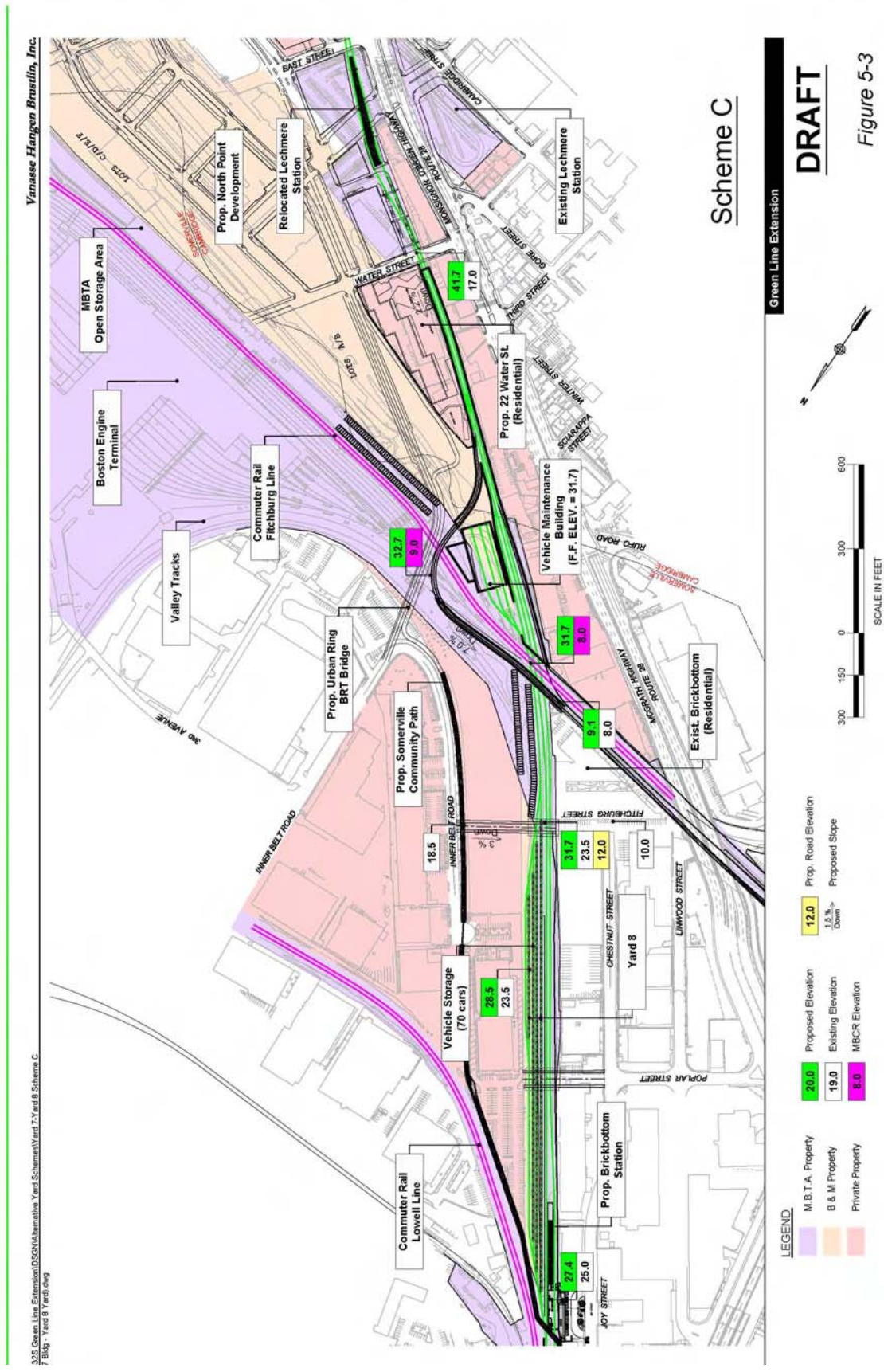


Figure 5-4: Scheme D

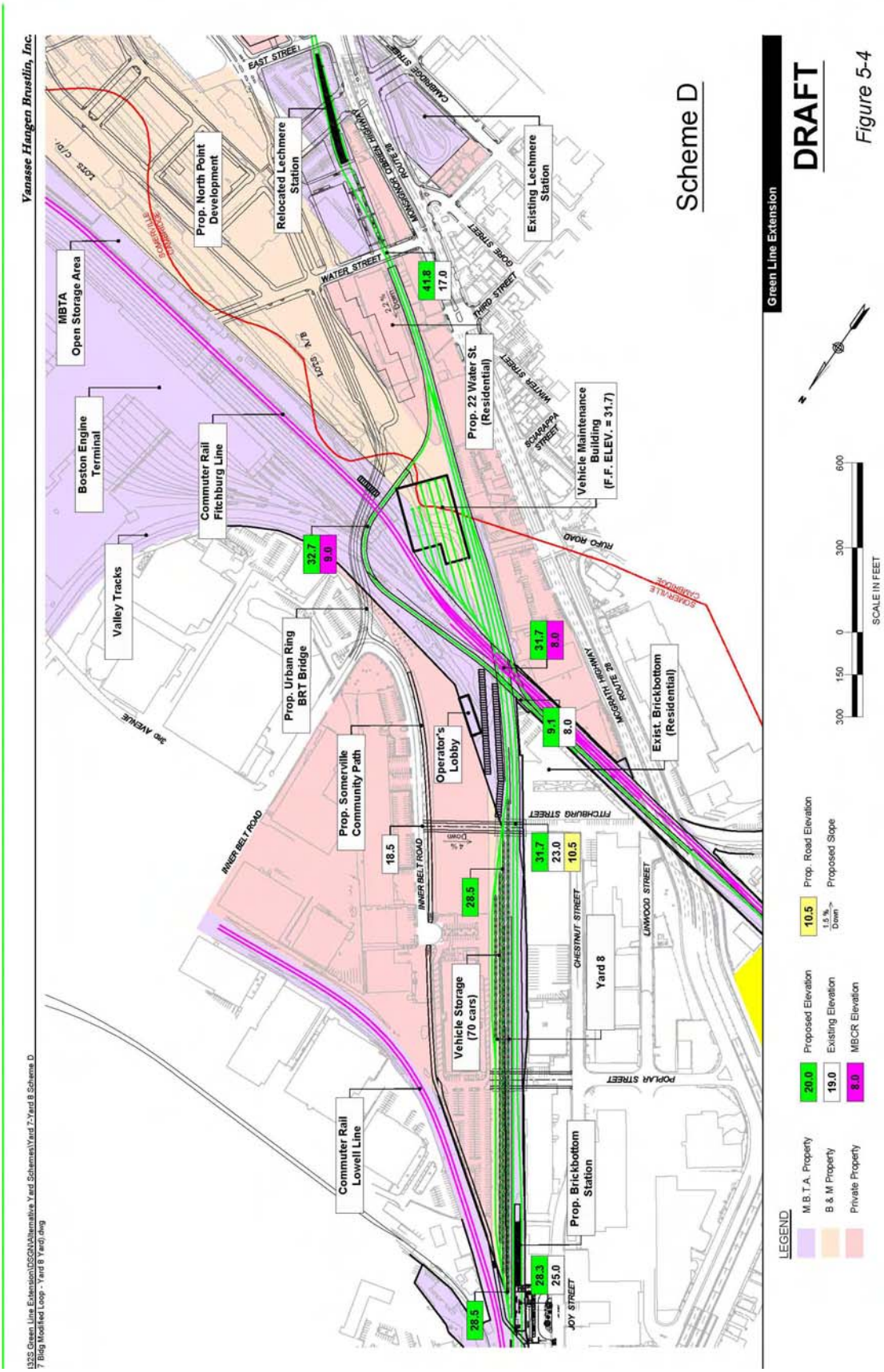


Figure 5-5: Scheme D2

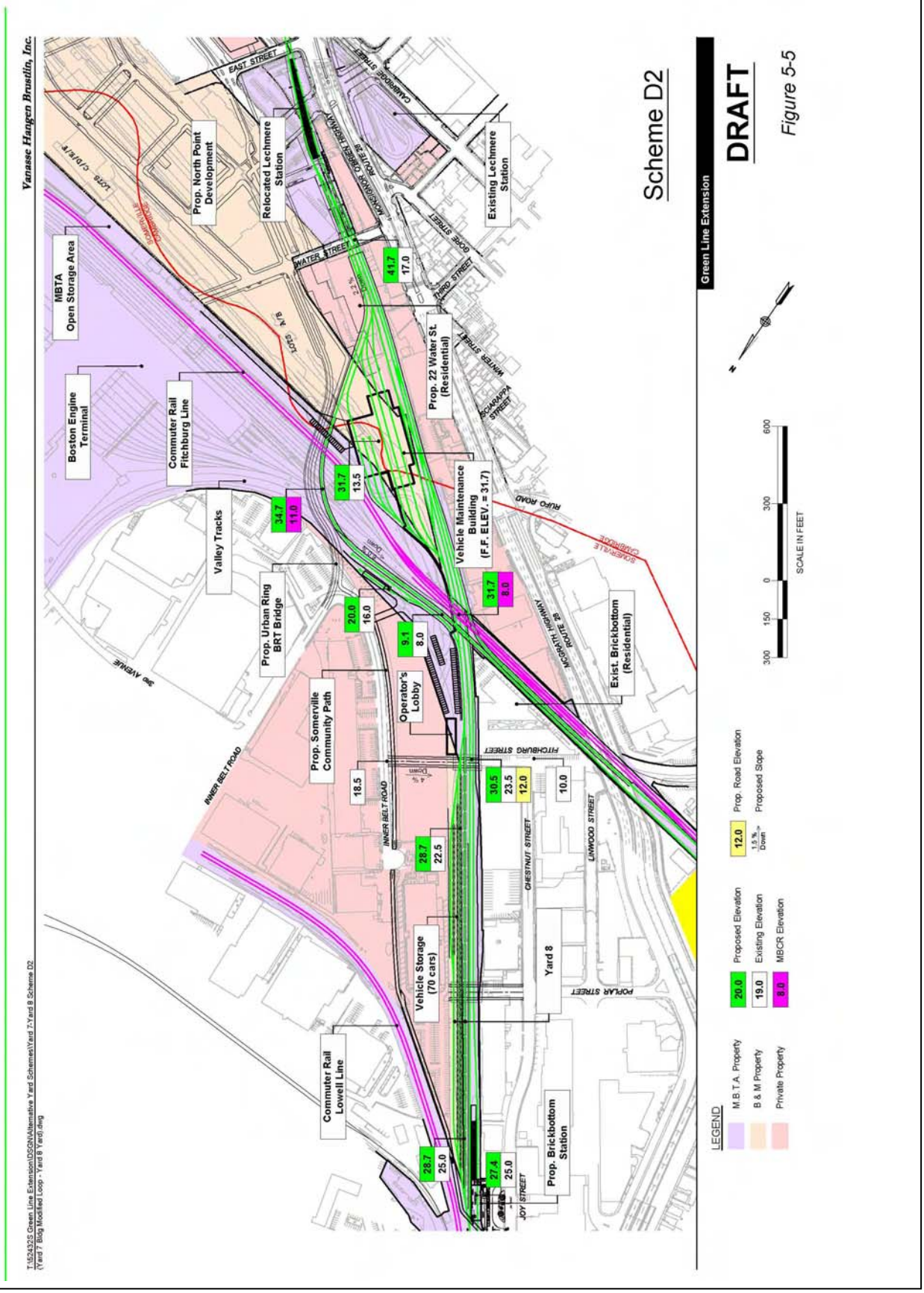


Figure 5-6: Scheme E

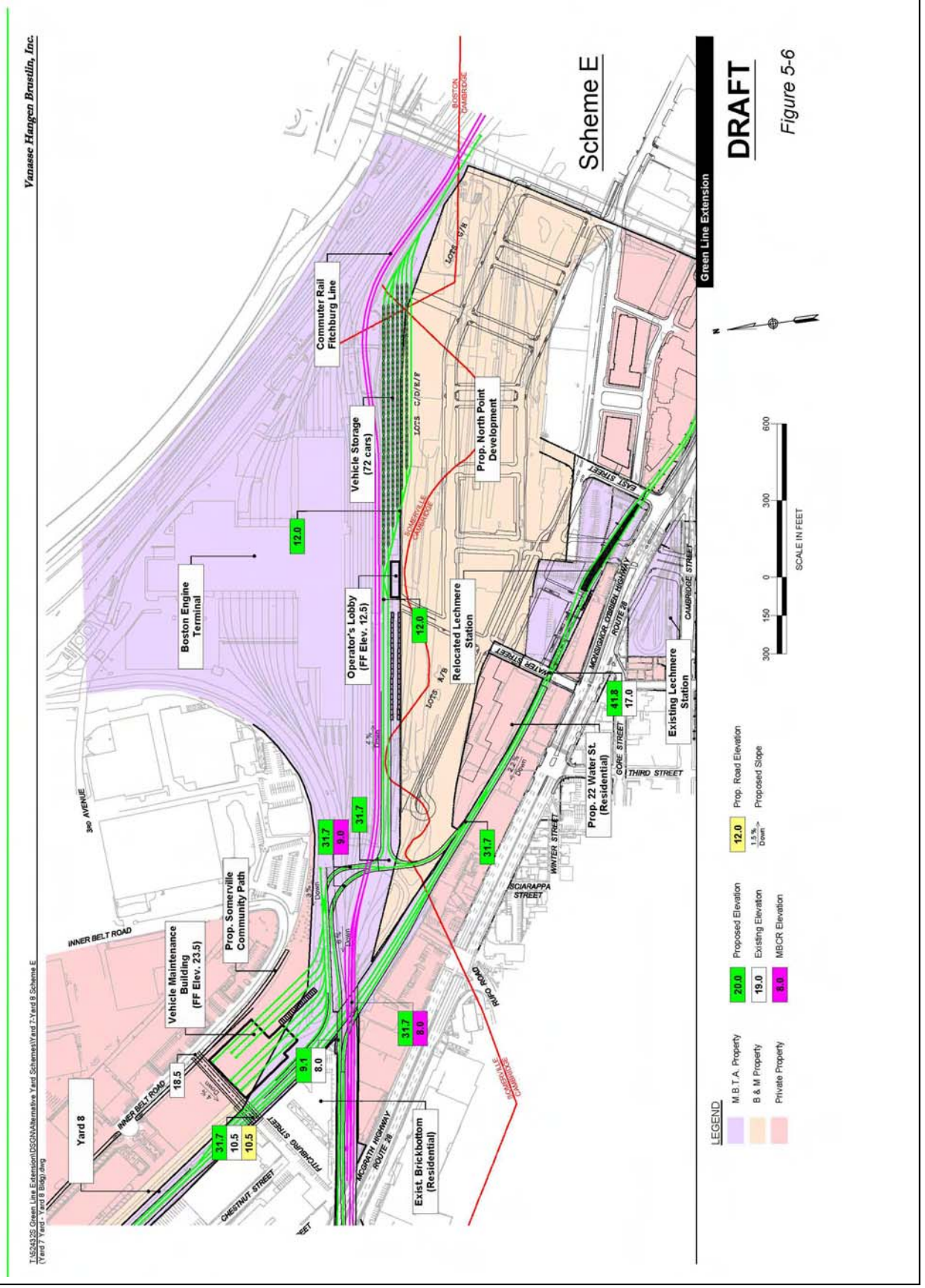


Figure 5-7: Scheme F

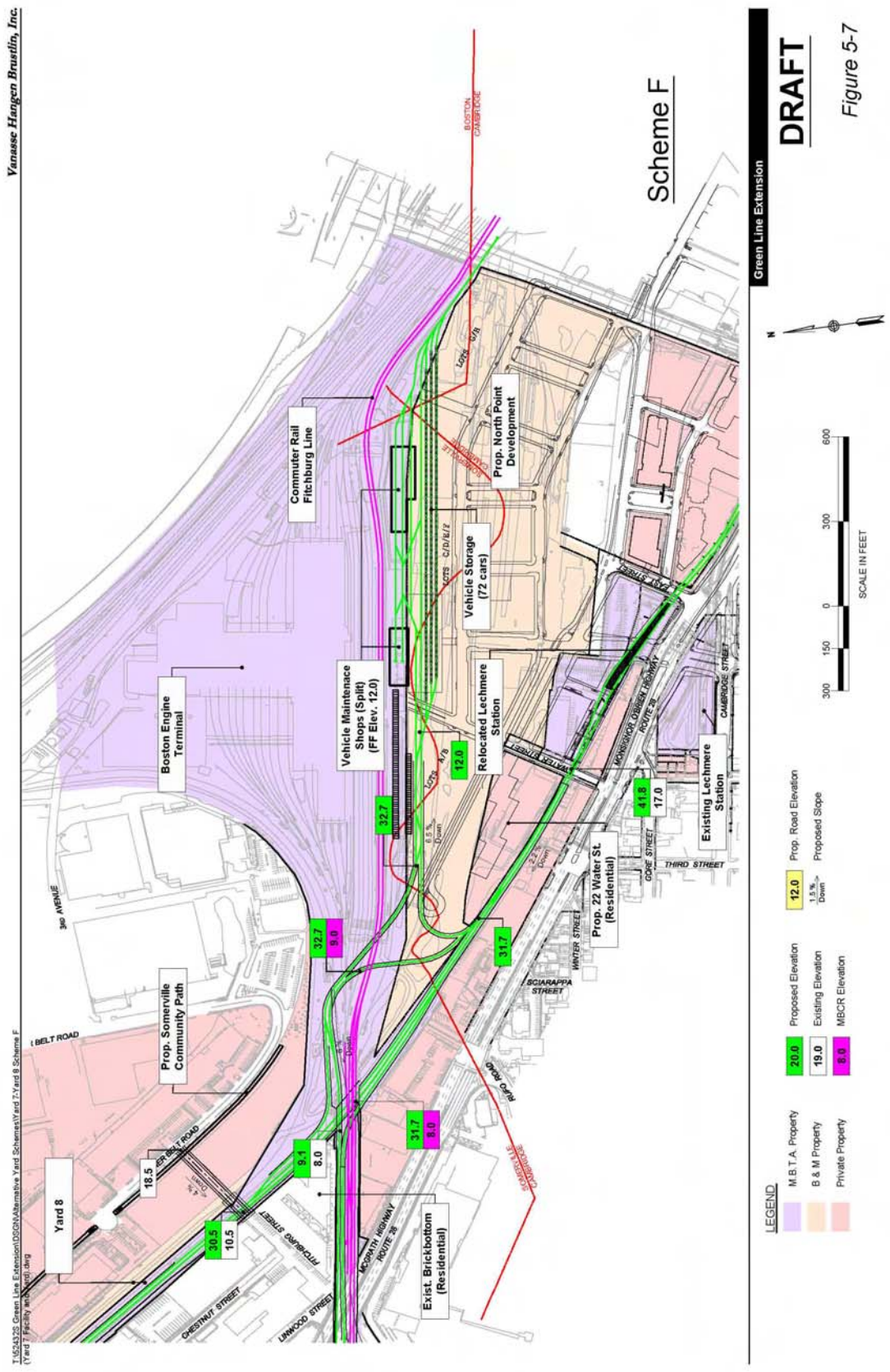


Figure 5-8: Scheme G

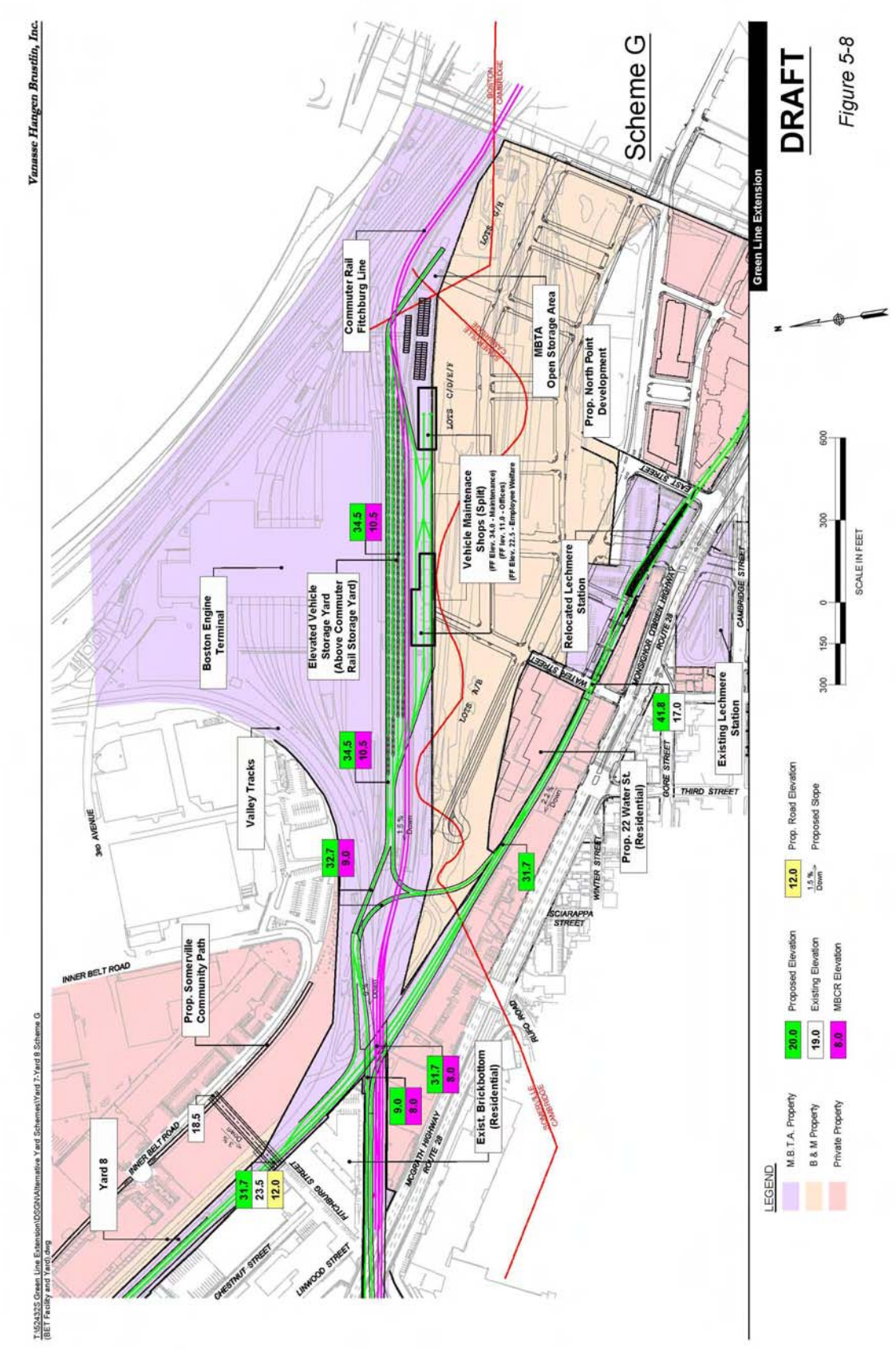


Figure 5-9: Scheme H

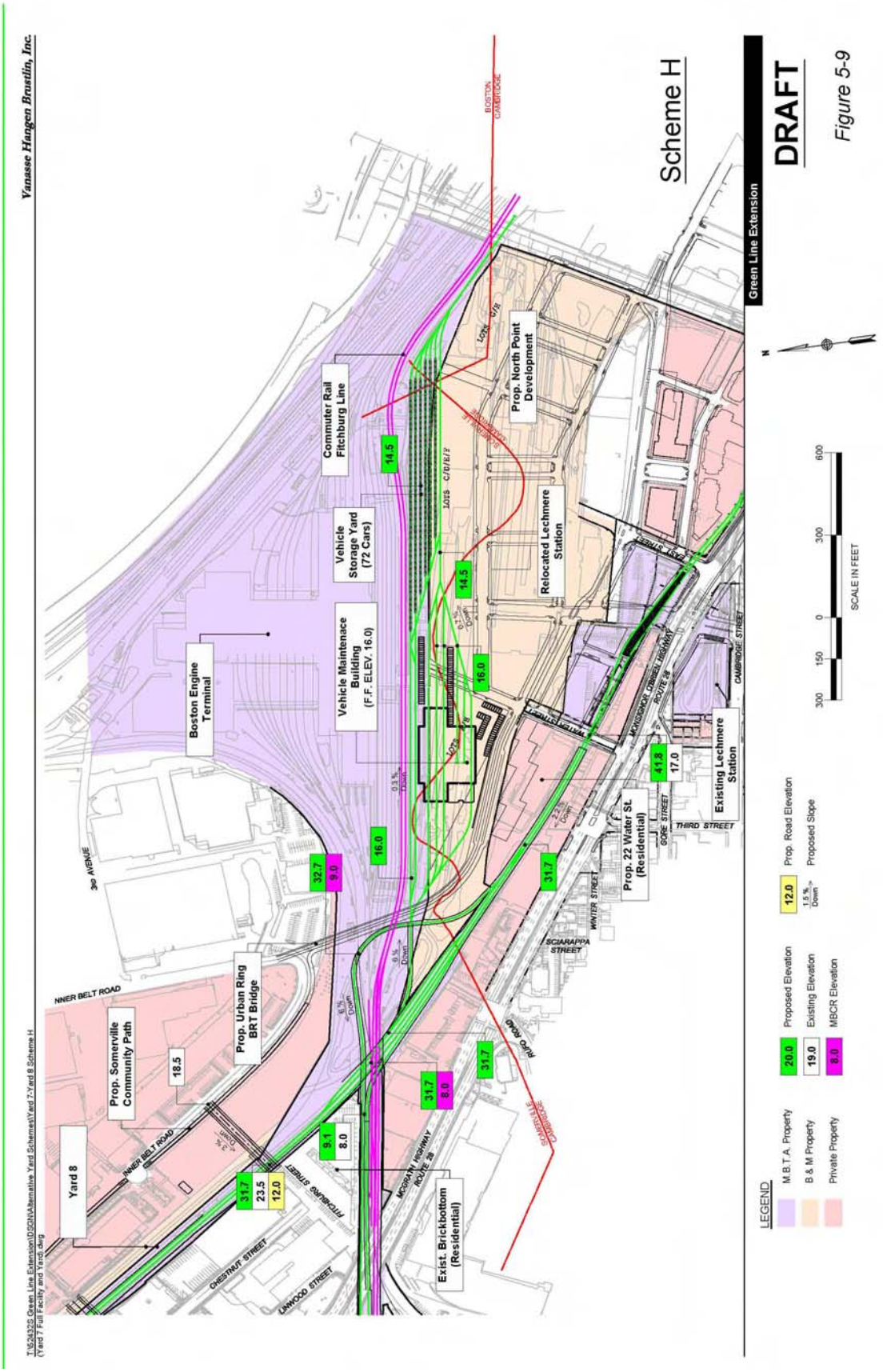


Figure 5-10: Scheme J

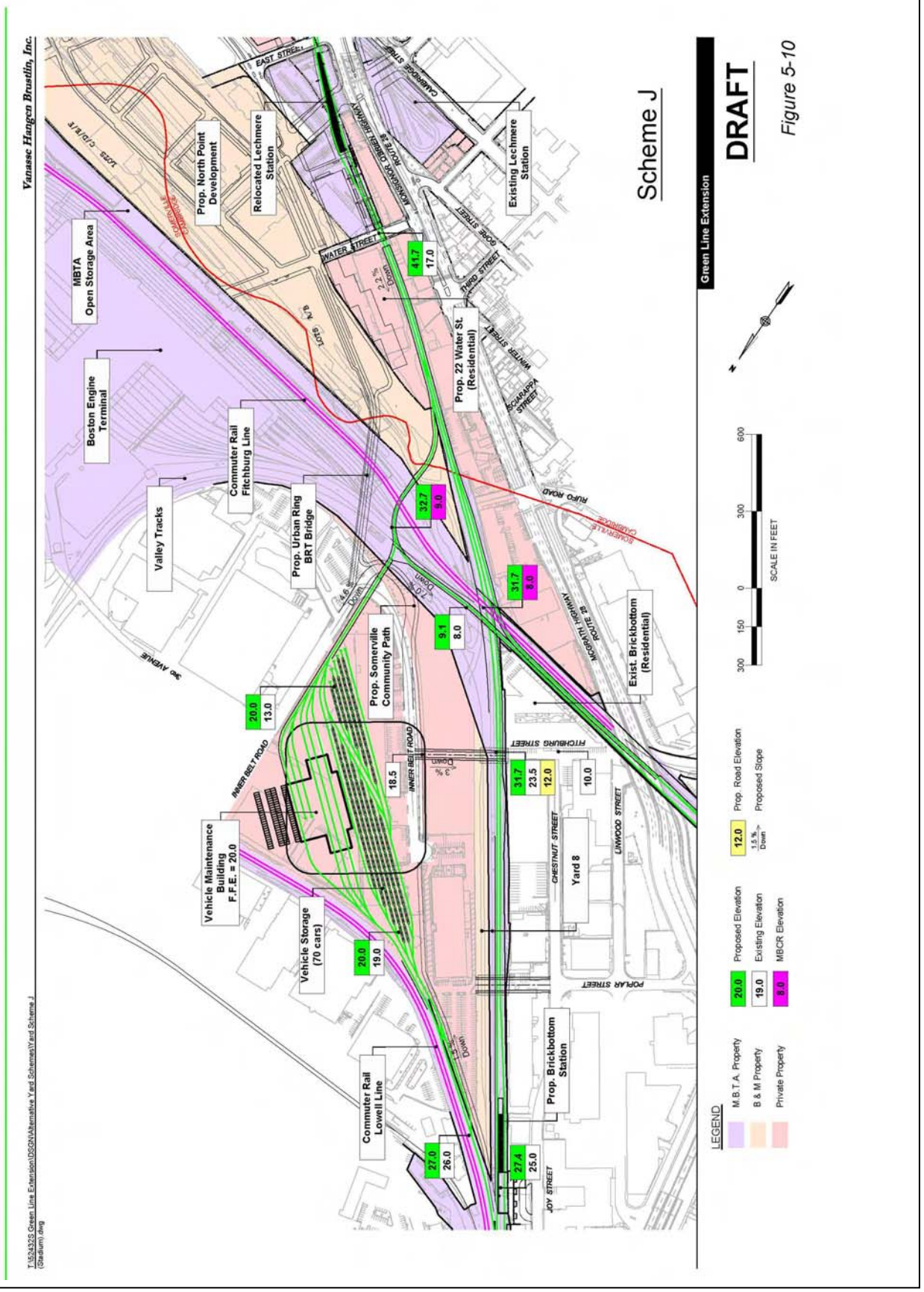
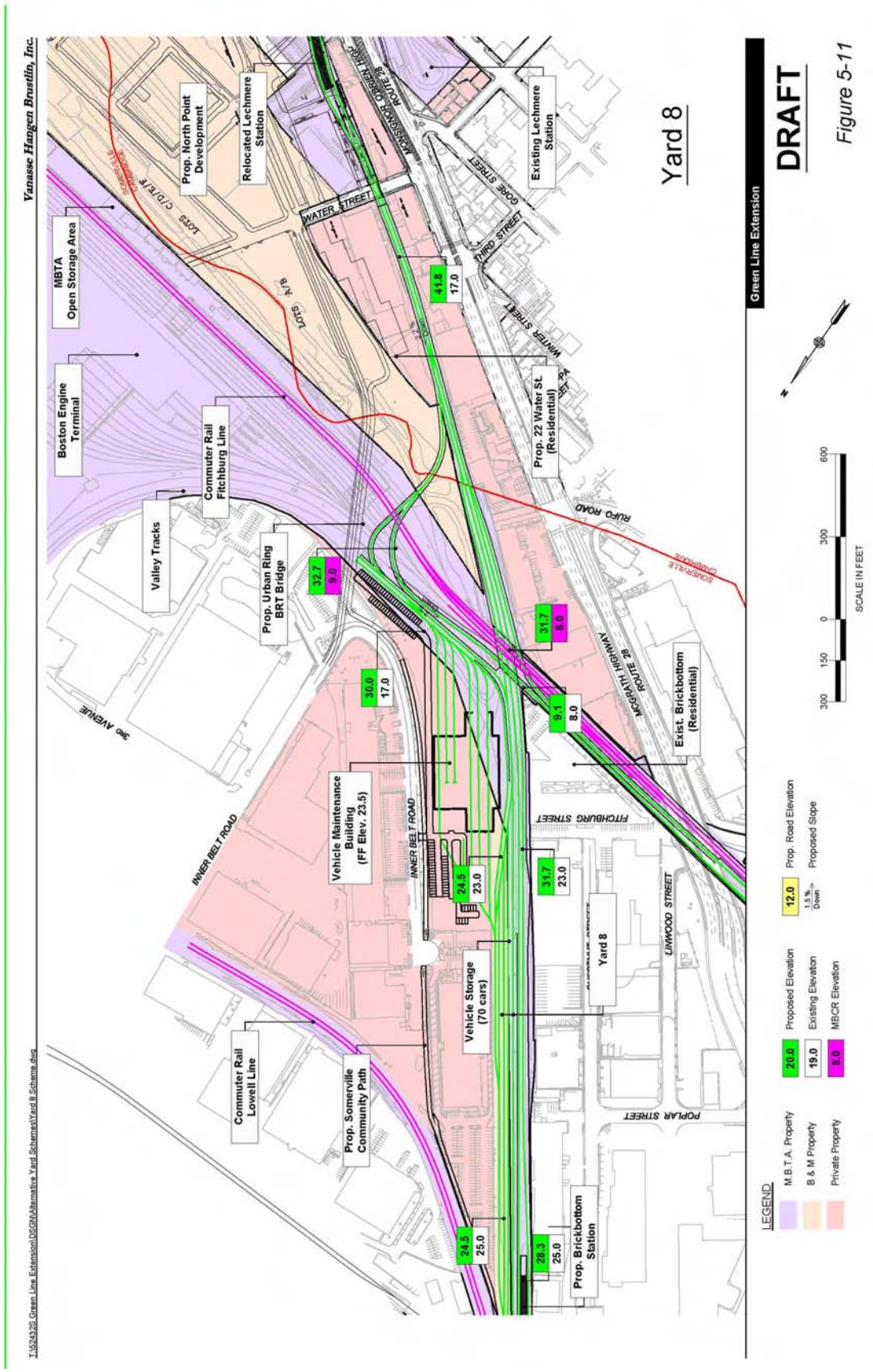


Figure 5-11: Site 10 (Yard 8 with Adjacent Parcel)



5.3 Initial Screening of Alternatives

After reviewing the schemes, MBTA vehicle maintenance staff provided the following input:

- The vehicle maintenance building must have double-ended access. There are no single-ended vehicle maintenance facilities on the Green Line system, and it would be inefficient and difficult to operate.
- A split of functions into two separate buildings is unworkable. Parts and materials are needed in both buildings and all other facilities use a common area for parts and material storage. Separate buildings would require moving parts and materials from one location to the other.

Table 5-2 presents the initial screening, including which schemes were retained for further analysis.

Table 5-2 Initial Screening of Additional Alternatives

Alternative	Double-ended Maintenance Building?	Single Maintenance Building?	Conclusion
Scheme A	Yes	Yes	Retain for additional consideration
Scheme B	No	Yes	Eliminated; Use Scheme A, which is the same plan, but with a double-ended building
Scheme C	No	Yes	Eliminated; Building too small; Use Scheme D2, which is the same plan with larger, double-ended building
Scheme D	No	Yes	Modify; Scheme D can be modified to provide a double-ended building – See Scheme D2
Scheme E	No	Yes	Eliminated; Use Scheme H which is a similar storage yard, but with a double-ended building
Scheme F	Yes/No	No	Eliminated; Use Scheme H, which is similar and provides all functions in one double-ended building
Scheme G	Yes/No	No	Eliminated; while a modification could be made to provide a single, double-ended building, the cost of constructing an elevated storage yard is too high
Scheme H	Yes	Yes	Retain for additional consideration
Scheme J (City Scheme)	No	Yes	Modify; Scheme J developed to provide double-ended building and improve storage yard

Table 5-2 indicates that Alternatives A and H are retained for additional analyses. Also, both Scheme D and the City Scheme (J) are retained in a modified form that provides for full functionality for vehicle maintenance.

5.4 Secondary Screening of Alternatives

The initial screening resulted in five alternatives remaining for the secondary screening process. These alternatives are listed in Table 5-3.

The secondary screening includes the following criteria:

- Operational viability
- Property impacts
- Cost and constructability
- Compatibility with other transportation proposals in project areas
- Compatibility with land use planning
- Risk to implementation schedule and cost for the Green Line Extension
- Fatal flaw analysis

Table 5-3 Alternatives Retained for Secondary Screening

Alternative	Objective	Vehicle Storage Location	Vehicle Maintenance Location
Scheme A	Move Vehicle Maintenance Building	Yard 8	Yard 7 – "open storage area at BET plus NorthPoint Lots A & B (double-ended facility)
Scheme D2	Move Vehicle Maintenance Building	Yard 8	Yard 7, inside the Union Sq. jughandle
Scheme H	Move both functions (mix of Schemes A & E)	Yard 7 (partly on BET land, partly at back of Lots C/D/E/F of NorthPoint)	NorthPoint Lots A & B (double-ended facility)
Scheme J (Modified City Scheme)	Move both functions; accommodate City overbuild potential	Inner Belt Road site east of Yard 8	Inner Belt Road site east of Yard 8
Site 10 (Yard 8 & Adjacent Parcel)		Yard 8	Yard 8 and undeveloped parcel adjacent to it

5.4.1 Operational Viability

The secondary round of screening relates to functionality, with an emphasis on operations. The objective is to compare these alternatives from the standpoint of ease of operations for the MBTA. The operational criteria include:

- Direct movements[8] from storage tracks to/from main line and Union Square Branch.
- Single facility or split facility[9]

[8] A direct movement is one which does not require backing up or changing direction. A direct movement is like pulling out of a parking space without backing up. An indirect movement would require a backup move.

[9] A single facility has the vehicle maintenance building adjacent to the storage yards. A split facility has the vehicle maintenance building away from the storage yards. A single facility allows for a single building to house the employee support and welfare facilities. A split facility requires the addition of a separate building for the operating staff at the storage yard.

- Direct movements from storage to support facility tracks
- Closeness of storage yard to main line.
- Double-ended storage tracks and maintenance building access
- Direct movements from maintenance tracks to main line and Union Square branch
- Flat grades entering yard.

Table 5-4 Secondary Screening of Alternatives – Operational Criteria

Alternative	Storage to/from WB[1] Main Line	Storage to/from EB[2] Main Line	Storage to/from Union Sq.	Single Facility	Storage to Maint.	Maint. To Storage	Storage Tracks Close to Main Line	Double-Ended Storage Tracks	Double-ended Maint. Bldg.
Scheme A	D	D	I/M	N	D	D	Y	N	Y
Scheme D2	D	D	I/M	N	D	D	Y	Y	Y
Scheme H	I	D	To: D; From: I-2	Y	D	I	N	N	Y
Scheme J (City Scheme)	D	D	I/M	Y	I	I	N	Y/N	Y
Site 10 (Yard 8 & Adjacent Parcel)	D	D	I/M	Y	I	I	Y	Y	Y

Notes:
1. Westbound (WB) is towards Park Street and Riverside
2. Eastbound (EB) is towards Medford

Table 5-4 (Continued) Secondary Screening of Alternatives – Operational Criteria

Alternative	Maint. to/from WB[1] Main Line	Maint. to/from EB[2] Main Line	Maint. to Union Sq.	Union Sq. to Maint.	Hi-Rail Pad to WB[1] Main Line	Hi-Rail Pad to EB[2] Main Line	Hi-Rail Pad to Union Sq.	Flat Grades to/from Yard	Points
Scheme A	I	D	I/M	I/M	I	I	I	N	15
Scheme D2	D	D	I	I-2	I	D	I-2	Y	23
Scheme H	I	D	D	I-2	I	D	I	N	20
Scheme J (City Scheme)	D	D	I/M	I/M	I	D	I/M	N	12.5
Site 10 (Yard 8 & Adjacent Parcel)	To: I; From: D	D	I/M	I/M	I	D	I/M	Y	18.5

Notes:
1. Westbound (WB) is towards Park Street and Riverside
2. Eastbound (EB) is towards Medford

Scoring:
D = Direct move (2 pts.)
I = Indirect move (one revere directions on yard track) (1 pt.)
I-2 = Indirect move (two reversals of direction on yard tracks) (0 pts.)
I/M = Indirect move (reverse direction on main line track) (-1 pt.)
Y = Yes (2 pts.)
Y/N = Yes for some tracks; no for other tracks (1 pt.)
N = No (0 pts.)

5.4.2 Property Impact s

Each of the proposals requires some land not currently owned by the MBTA. For each scheme, the impacted parcels may include one or more of the following:

- Portion of Yard 8 owned by PAR
- Portions the proposed NorthPoint development, owned by PAR
- The undeveloped lot adjacent to 200 Inner Belt Road
- Developed lots in the Inner Belt Area
- Permitted property at 22 Water Street

Table 5-5 Secondary Screening of Alternatives – Property Impacts

Alternative	MBTA-owned land [3]	PAR portion of Yard 8	NorthPoint Development Site		Vacant Lot adjacent to 200 Inner Belt Road	22 Water Street	Other	Total Taking
Status of Property	Unused	Rail use	Unused		Unused	Unused building	Buildings in use	
Scheme A	4.9 acres	2.0 acres	3.7 acres	Lots A/B	0.1 acres [2]	0 acres	0 acres	5.8 acres
Scheme D2	5.2 acres	2.0 acres	2.5 acres	Open space	0.1 acres [2]	1.1 acres	0 acres	5.7 acres
Scheme H	4.6 acres	0 acres	5.3 acres	Lots A/B & C/D/E/F	0 acres	0 acres	0 acres	5.3 acres
Scheme J (City Scheme)	0.5 acres	0 acres	0 acres		0 acres	0 acres	12.2 acres [4]	12.2 acres
Site 10 (Yard 8 & Adjacent Parcel)	3.7 acres	2.0 acres	0 acres		4.2 acres	0 acres	0 acres	6.2 acres

Notes:
1. Schemes A, D2 and H require the taking of area from the tip of the NorthPoint development for the Union Square main line loop track. This taking involves only the end of the open space, but not any developable lots.
2. For Schemes A and D2, there would be an access easement required for vehicle access to employee parking at Yard 8.
3. Use of land currently owned by the MBTA is not considered a "taking"
4. Taking of 8 existing lots within the loop of Inner Belt Road.

While most schemes require about six acres of property acquisition, Scheme J requires 12 acres. This is because the other schemes use existing MBTA-owned land at Yard 8 and/or the "open storage area" south of the BET facility.

5.4.3 Cost and Constructability

Criteria related to cost and constructability include:

- Construction site access: Is the site easily accessible for construction equipment and hauling material in and out of the site?
- Is the site a single site or is it split in two locations?
- What is the additional incremental cost above the cost for Site 10 (Yard 8 plus Adjacent Parcel)?

Table 5-6 summarizes the secondary screening of the alternatives as they relate to cost and constructability.

Table 5-6 Secondary Screening of Alternatives – Cost and Constructability

Alternative	Construction site access	Single site or split site	Cost Above Yard 8 (Site 10)	Overall Rating
Scheme A	Good	Split	$5 M less	Good
Scheme D2	Good (Yard 8); Difficult (Maint. Bldg.)	Split	$40 M more	Poor
Scheme H	Good	Single	$16 M less	Good
Scheme J (City Scheme)	Good	Single	$60M more	Poor
Site 10 (Yard 8 & Adjacent Parcel)	Good	Single	$0	Good

5.4.4 Compatibility with Other Transportation Proposals

This category includes a determination as to whether each scheme would accommodate the implementation of the following transportation proposals in the project area:

- Somerville Community Path (particularly the connection into the proposed NorthPoint development)
- Urban Ring Phase 2 (particularly the proposed bridge connection between Inner Belt Road and West Boulevard in the proposed NorthPoint development)
- North-South Rail Link (particularly the proposed portal and connection to the Fitchburg Line)
- MBTA Fitchburg Line Improvements:
  - Realignment of the reverse curve (or "S-curve") at Red Bridge
  - Shifting the Fitchburg main line tracks to the south as it passes the BET, to provide more room for additional layup and storage tracks at the BET

Table 5-7 summarizes the additional alternatives compatibility with other area transportation proposals.

Table 5-7 Secondary Screening of Alternatives – Compatibility with Other Transportation Proposals

Alternative	Somerville Community Path [1]	Urban Ring Phase 2 Bridge	North-South Rail Line Fitchburg Line Portal	Fitchburg Line Curve Realignment at Red Br.	Fitchburg Line Shift south of BET
Scheme A	Yes	Yes	Requires alignment modification	Yes	Partially
Scheme D2	Yes	Requires alignment modification	Yes	No	Yes
Scheme H	Yes	Yes	No	Yes	No
Scheme J (City Scheme)	Requires alignment modifications	Yes	Yes	Yes	Yes
Site 10 (Yard 8 & Adjacent Parcel)	Yes	Requires alignment modification	Yes	Yes	Yes

Notes:
1. It is proposed that the Somerville Community Path use the Phase 2 Urban Ring bridge between Inner Belt Road and the proposed NorthPoint development.

With only a few exceptions, all of the schemes accommodate other transportation proposals for the vicinity of the support facility. In some cases, an alignment modification may be required to accommodate other proposals. Schemes D2 and H are the only ones that do not accommodate some of the other projects:

- The location of the maintenance building for Scheme D2 precludes the proposed realignment of the S-curve at Red Bridge.
- The location of the storage yard and maintenance building in Scheme H precludes:
  - Shifting the Fitchburg Line to the south to expand the storage track area at the BET
  - Providing the Fitchburg Line portal location for the proposed North-South Rail Link

5.4.5 Compatibility with Land Use Planning

This category considers the compatibility of each scheme with existing land uses and proposed land uses.

The following is a summary of existing and proposed land uses that were considered:

- Brickbottom residences
- Inner Belt redevelopment planning, including:
  - Connection from Union Square through Brickbottom into Inner Belt and potentially to Rutherford Avenue, including other new roadway connections into Inner Belt from Brickbottom and from north side of Lowell Line embankment
  - New street grid for Inner Belt
  - Maximizes redevelopment potential in Inner Belt
- Possible redevelopment of industrial site in Brickbottom
- 22 Water Street – approved site plan for high rise residential structure with structured parking
- NorthPoint Development Master Plan

Table 5-8 presents a comparison of the schemes with regard to these land use issues. To evaluate the overall impacts, a point system is used in the table. There are two large development proposals (NorthPoint and Inner Belt) and two other developments (Brickbottom [existing] and 22 Water Street [proposed]). To be "community-neutral" each large development was given a total of six points and the smaller developments a total of two points. The last evaluating factor is a consideration of the general appropriateness of siting the facility with regards to existing and proposed land uses. This factor is given three points.

Table 5-8 Secondary Screening of Alternatives – Compatibility with Land Use Proposal

Alternative	Impact on Brickbottom Residences	Allows new connections Brickbottom to Inner Belt	Allows new street grid in Inner Belt	Allows future development of all lots in Inner Belt	Impact on 22 Water Street	Impact on NorthPoint	General Assessment of Land Use Compatibility	Overall Assessment
Points	(2 pts. total)	(6 pts. total for Inner Belt; 2 pts. for each factor)			(2 pts.)	(6 pts.)	(3 pts.)	
Scheme A	Storage yard nearby (0.5 pts.)	Poor: Must cross under yard tracks (0 pts.)	Yes (2 pts.)	Yes (2 pts.)	Visual, but no taking (1 pts.)	Taking of Lots A/B; future air rights possible (2 pts.)	- This Scheme has impacts in all 4 areas. (0 pts.)	8.5 pts.
Scheme D2	Storage yard nearby (0.5 pts.)	Poor: Must cross under yard tracks (0 pts.)	Yes (2 pts.)	Yes (2 pts.)	Taking (0 pts.)	Minor taking at end of Lots A/B (5 pts.)	- Puts undesirable use in least developable parcel (3 pts.)	12.5 pts.
Scheme H	None (2 pts.)	Good: only cross under main line (2 pts.)	Yes (2 pts.)	Yes (2 pts.)	Visual, but no taking (1 pts.)	Taking of Lots A/B; Partial taking of Lots C/D/E/F; Future air rights possible (0 pts.)	- Puts yard and building next to existing rail facility - Takes significant portion of NorthPoint, but offers potential for air rights development (1.5 pt.)	10.5 pts.
Scheme J (City Scheme)	None (2 pts.)	Good: only cross under main line (2 pts.)	No: yard location disrupts grid (0 pts.)	No: occupies key parcels (0 pts.)	None (2 pts.)	None (6 pts.)	- Positive: Air rights development hides facility; - Negative: Facility disrupts future Inner Belt street grid (2 pt.)	16 pts.
Site 10 (Yard 8 & Adjacent Parcel)	Storage yard nearby and maintenance building adjacent (0 pts.)	Poor: Must cross under yard tracks (0 pts.)	Yes (2 pts.)	No: takes on developable parcel (1 pt.)	None (2 pts.)	None (6 pts.)	- Impacts at Inner Belt/Brick Bottom; - Potential for air rights development over yard. (1 pts.; 2 pts. w/air rights)	12 pts. 13 pts. w/air rights

Table 5-8 indicates that Scheme J would be most compatible with existing and proposed land uses. This can be explained in part because the facility would be covered, maximizing the compatibility with surrounding uses in Inner Belt and Brickbottom. In addition, it does not impact NorthPoint or 22 Water Street.

Scheme D2 is a strong proposal in that it puts the maintenance building on the least developable site in the area. The building site is completely surrounded by tracks (Green Line and commuter rail) at two elevations. The biggest downside of Scheme D2 is the impact on 22 Water Street. To fit the support shop in the middle of the jughandle track requires the taking of this property. Formerly, the corporate headquarters of the Mac-Gray Corporation, the building sits vacant awaiting the construction of a high-rise residential structure, which has a site plan/special permit approval by the Cambridge Planning Board.

Site 10 (Yard 8 with the Adjacent Parcel) can also be a strong proposal when enhanced with air-rights development. Such development could provide visual screening for the facility while potentially providing pedestrian linkage between Brickbottom and Inner Belt.

Scheme H, which locates the facility at the north side of the NorthPoint development and partly on MBTA land south of the BET, represents a plan that places new light rail facilities next to existing commuter rail facilities. The storage yard presents an opportunity for structure parking on air-rights in a location where the NorthPoint developers envisioned structured parking as a buffer to the BET. On the other hand, the maintenance building occupies the entire Lot A/B parcel and is less compatible with conventional air-rights development, such as structured parking, residential, or office.

Scheme A is the least compatible, as it is the only one that scatters impacts on all four developments.

5.4.6 Risk to Implementation of Green Line Extension

The Commonwealth of Massachusetts is committed to an implementation schedule for the Green Line Extension with the key milestone being start-up of service on or before December 31, 2014.

A design change such as selecting an alternative site for part or all of the support facility would increase the risk of either a delay in implementation and/or increased project costs. Any significant delay would compromise the Commonwealth's ability to meet the 2014 milestone, a milestone which has been consistently endorsed by the project municipalities and stakeholders.

Further, any significant increase in project risk could jeopardize federal funding from the FTA. This increased risk might be the result of:

- Significant increase in cost to use an alternative site
- Uncertainty in the cost and timeline for property acquisition, particularly if the properties proposed for acquisition are being used by active businesses.

Table 5-9 presents a summary of risks associated with the various schemes for the support facility.

Table 5-9 Secondary Screening of Alternatives – Risk Assessment Related to Project Schedule and/or Cost

Alternative	Potential Delay to DEIR/EA	Potential Delay to Acquire Property	Potential Delay to Relocate Existing Businesses	Potential Delays and/or Costs to Demolish Existing Buildings	Significant Increase in Project Cost	Overall Risk Assessment
Scheme A	6 mos. [1]	High [2]	None	No	No	High
Scheme D2	6 mos. [1]	High [3]	None	Yes	Yes	High
Scheme H	6 mos. [1]	High [2]	None	No	No	High
Scheme J (City Scheme)	6 mos. [1]	High [4]	High [4]	Yes	Yes	Very High
Site 10 (Yard 8 & Adjacent Parcel)	None	Low [5]	None	No	No	Low

Notes:
1. Delay of 6 months is estimated to perform environmental site analyses of a new site for part or all of the support facility.
2. Requires acquisition of a portion of proposed NorthPoint development. This will also impact the re-negotiation of agreement with the NorthPoint developer whereby the developer is to construct the new Lechmere Station.
3. Requires acquisition of a portion or all of the parcel at 22 Water Street. This parcel currently has an approved site plan for a high-rise residential structure.
4. Requires Taking of 8 existing lots and relocating businesses within the loop of Inner Belt Road.
5. Requires taking of one undeveloped and empty lot adjacent to 200 Inner Belt Road.

5.4.7 Fatal Flaw Analysis

The previous analyses considered the relative merits and disadvantages of the five schemes with regards to various criteria. However, with any plan, there may be one fatal flaw that would make it unfeasible. Table 5-10 presents some potential fatal flaws for the various schemes and an overall assessment of the risk of a fatal flaw that might significantly delay the project.

Table 5-10 Secondary Screening of Alternatives – Fatal Flaw Analysis

Alternative	Operational Criteria	Property Impact Criteria	Cost and Constructability Criteria	Risk to Implementation (cost & schedule)	Overall Assessment
Scheme A	Long distance between storage and maintenance	Negotiations regarding NorthPoint [1]	N/A	- Delay to DEIR/EA - Cost of land acquisition; - Length of negotiations re: NorthPoint	High Risk
Scheme D2	N/A	Taking of 22 Water Street [2]	- Added cost for maintenance building	- Delay to DEIR/EA - Cost of land acquisition;	Very High Risk
Scheme H	N/A	- Negotiations regarding NorthPoint [1]	N/A	- Delay to DEIR/EA - Cost of land acquisition; - Length of negotiations re: NorthPoint	High Risk
Scheme J (City Scheme)	N/A	- Taking of parcels at Inner Belt [3] - Taking with questionable transportation benefits for project	- Added cost for land acquisition and relocation of businesses	- Delay to DEIR/EA - Cost of land acquisition; - Length of relocation of existing businesses	Very High Risk
Site 10 (Yard 8 & Adjacent Parcel)	N/A	Coordination with adjacent or air-rights development	N/A	N/A	Low Risk

Notes:
1. Requires acquisition of a portion of proposed NorthPoint development. This will also impact the re-negotiation of agreement with the NorthPoint developer whereby the developer is to construct the new Lechmere Station.
2. Requires acquisition of a portion or all of the parcel at 22 Water Street. This parcel currently has an approved site plan for a high-rise residential structure.
3. Requires Taking of 8 existing lots and relocating businesses within the loop of Inner Belt Road.

5.4.8 Summary of Secondary Screening

Table 5-11 presents a summary of Tables 5-4 through 5-10 as well as an overall assessment of each alternative

Table 5-11 Secondary Screening of Alternatives – Risk Assessment Related to Project Schedule and/or Cost

Alternative	Operational Criteria	Property Impact Criteria	Cost and Constructability Criteria	Compatibility with other Transportation Proposals	Compatibility with Land Use Planning	Risk to Implementation (cost & schedule)	Fatal Flaw Risk	Overall Assessment
Scheme A	Fair	Only undeveloped parcels [1]	Good	Yes	Poor	High risk	High risk	Poor
Scheme D2	Very Good	One developed parcel [2]	Poor	No	Good	High risk	Very High Risk	Good operationally & for land use; otherwise poor
Scheme H	Good	Only undeveloped parcels [1]	Good	No	Fair	High risk	High Risk	Mixed, but overall poor
Scheme J (City Scheme)	Poor	All occupied parcels [3]	Poor	Yes	Good	Very high risk	Very High Risk	Potentially compatible with Inner Belt development, but otherwise very poor
Site 10 (Yard 8 & Adjacent Parcel)	Good	Only undeveloped parcels [4]	Good	Yes	Good (with air rights development)	Low risk	Lower Risk	Good: least risk

Notes:

1. Requires acquisition of a portion of proposed NorthPoint development. This will also impact the re-negotiation of agreement with the NorthPoint developer whereby the developer is to construct the new Lechmere Station.
2. Requires acquisition of a portion or all of the parcel at 22 Water Street. This parcel currently has an approved site plan for a high-rise residential structure.
3. Requires Taking of 8 existing lots within the loop of Inner Belt Road.
4. Requires taking of one undeveloped and empty lot (a.k.a. "grassy knoll") adjacent to 200 Inner Belt Road.

5.5 Conclusions

The analysis indicates that there is more than one location where a functional support facility could be constructed. Depending on which factors are weighted the heaviest, any of the alternatives could be viewed as feasible.

Based on discussion with officials and staff of EOT, MBTA, and the City of Somerville, three of the five Schemes (see Table 5-12) emerged as having significant advantages from various perspectives.

Table 5-12 Final Alternatives

Alternative	Overview of Advantages
Scheme D2	- Operationally feasible - Locates maintenance building on least developable lot
Scheme J (City Scheme)	- Compatible with City of Somerville's vision for Inner Belt redevelopment - Air rights development would visually screen the facility
Site 10 (Yard 8 & Adjacent Parcel)	- Least overall risk of schedule slippage - Air rights development would visually screen the facility - Only alternative that is a single facility next to main line

5.6 Recommended Alternative

While more than one layout could provide a functional support facility, only one alternative minimizes the risk of either schedule delays or added project costs. Given the Commonwealth's commitment to the 2014 implementation milestone, only Site 10 (Yard 8 with Adjacent Parcel) minimizes the risk of failing to meet that date while maximizes the chances of federal participation in funding the project. Site 10 (Yard 8 with Adjacent Parcel) also is located immediately adjacent to the Green Line main line tracks. The property has a historic railroad use and the land to be acquired is least costly with regard to relocation and demolition. This location also provides significant air rights opportunities for development and sufficiently meets the MBTA's program for the Green Line Extension Project.

As this project advances, any potential environmental impacts on the surrounding area of the Yard 8 with the Adjacent Parcel facility will be identified and mitigation measures will be evaluated. Additionally, EOT will continue to work with the public and with the City to evaluate opportunities to have the support facility work with the City's plans to have future development within the nearby vicinity of Yard 8 (i.e. considering air rights opportunities, etc.).

Appendix D
Travel Demand Modeling Methodology

CENTRAL TRANSPORTATION PLANNING STAFF REGIONAL TRAVEL DEMAND MODELING METHODOLOGY AND ASSUMPTIONS

By: Scott A Peterson and Grace King

February 2009

General Description of the Model

The regional travel model set of the Central Transportation Planning Staff (CTPS) is based on procedures that have evolved over many years at CTPS. The model set is based on the traditional four-step urban transportation planning process of trip generation, trip distribution, mode choice, and trip assignment and is implemented in the EMME/2 software package. This process is employed to estimate daily transit ridership and daily highway traffic volumes, primarily on the basis of forecasts of study area demography and projected highway and transit improvements. The model set simulates travel on the entire eastern Massachusetts transit and highway system.

The Four Steps

In the first step, trip generation, the total number of trips generated by residents of the CTPS Modeling Area (the 101 MAPC cities and towns that make up the Boston Region Metropolitan Planning Organization [MPO] together with 63 communities outside of the MPO) is calculated using demographic and socioeconomic data. Similarly, the number of trips attracted to different types of land use, such as employment centers, schools, hospitals, shopping centers, etc., is estimated using land use data and trip generation rates obtained from travel surveys. This information is produced at the level of disaggregated geographic areas known as traffic analysis zones (TAZs). All calculations are performed at the TAZ level.

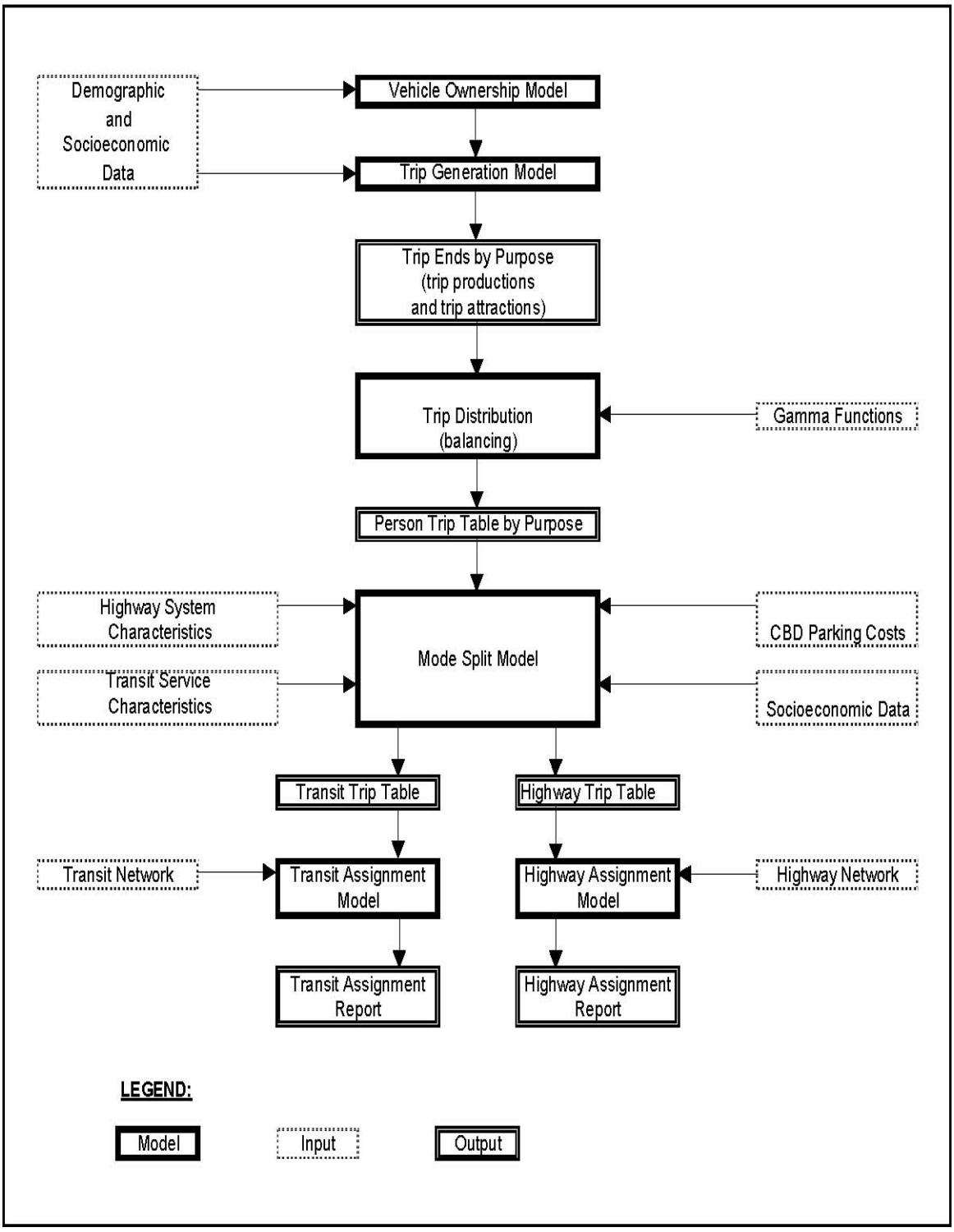
In the second step, trip distribution, the model determines how the trips generated in each TAZ are distributed throughout the region. Trips are distributed based on transit and highway travel times between TAZs and the relative attractiveness of each TAZ, which is influenced by the number of jobs available and the size of schools, hospitals, shopping centers, etc.

Once the total number of trips between each pair of TAZs is determined, the mode choice step of the model (step three) allocates the total trips among the available modes of travel. In our case, the available modes of travel are walk, auto (single-occupant vehicle [SOV] and carpool) and transit (subdivided by access mode: walking to transit or driving to transit). To determine the proportions of each mode, the model takes into account the travel times, number of transfers required, parking availability, and costs associated with these options. Other variables, such as auto ownership and household size, are also included in the model.

After estimating the number of trips by mode for all possible TAZ combinations, the model assigns them to their respective routes (this is the fourth and final step, trip assignment). This is necessary because there is often more than one highway route or transit service option between two TAZs.

Various reports showing the transit ridership on different transit modes (including estimates of passenger boardings on all the existing and proposed transit lines) and traffic volumes on the highway network are produced according to our needs. A schematic representation of the modeling process is shown in Figure 1.

FIGURE 1
The Four-Step Demand Modeling Process



Model Features

The model set uses the best component models, networks, and input data available to CTPS at this time. Some of the features of the model set are as follows:

- The model set incorporates motorized and non-motorized trips.
- The model is set up to simulate passenger and highway travel during four time periods of a typical weekday.
- The trip generation, trip distribution, and mode choice portions of the model set are well calibrated.
- The model set recognizes the parking lot capacity constraints when assigning park-and-ride trips.
- The transit assignment procedure can be constrained to a given transit line's capacity.
- The park-and-ride trips can be reassigned to the highway network for a more realistic highway assignment.
- EMME/2 software used in implementing the model is capable of performing multi-class, multi-path assignment that is superior to the traditional all-or-nothing assignment.
- The procedure that estimates air quality benefits is sophisticated and well integrated within the main model.

Description of Model Parameters

Modeled Area: The modeled area encompasses 164 cities and towns in eastern Massachusetts, which include the 101 Boston Region MPO cities and towns (shaded) and 63 communities outside of the MPO, as shown in Figure 2.

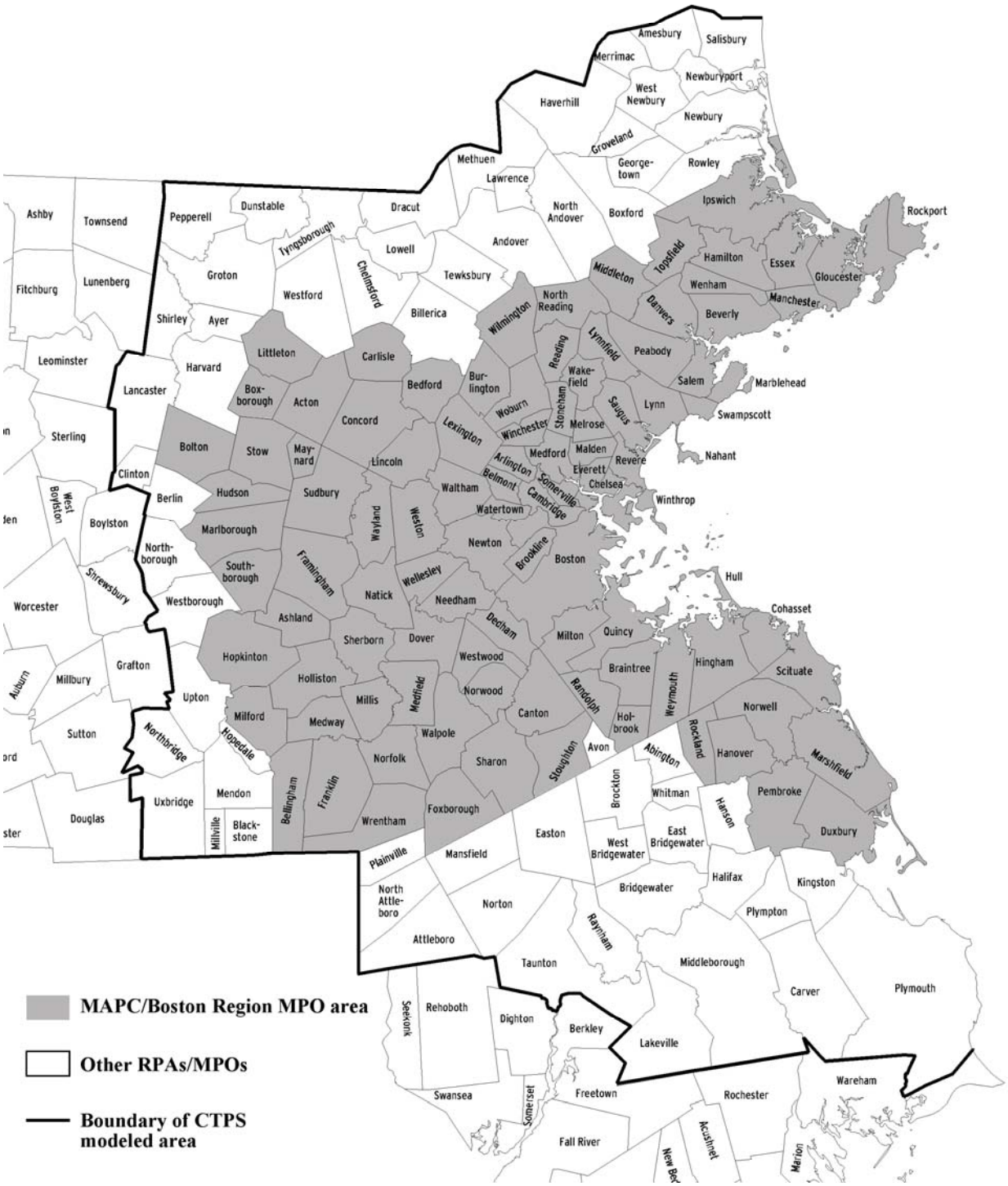
Zone System: The modeled area is divided into 2,727 internal traffic analysis zones (TAZs). There are also 101 external stations around the periphery of the modeled area that allow for travel between the modeled area and adjacent areas of Massachusetts, New Hampshire, and Rhode Island.

Transportation Networks: There are two types of network: transit and highway. Both are integrated in EMME/2. The highway network comprises express highways, principal and minor arterials, and local roadways. The transit network comprises commuter rail lines, rapid transit lines, and bus lines (MBTA and private carriers). The model contains service frequency (i.e., how often trains and buses run), routing, and travel time and fares for all lines.

Major Data Inputs: CTPS's travel model set underwent a major revision in 1993, and several important data sources were used in that revision. The following are the major data items underlying the model set:

Household Travel Survey: In 1991, CTPS conducted a household travel survey. The survey took the form of an activity-based travel diary that was filled out for one weekday. Approximately 4,000 households, generating some 39,000 weekday trips, were represented in the final database. The data were used to estimate new trip generation, auto ownership, trip distribution, and mode choice models.

Figure 2 CTPS Modeled Area



- External Cordon Survey: Also in 1991, a survey of automobile travelers bound for the modeled area from adjacent areas was performed. Survey results were used in trip generation and distribution to update estimates of external trips.

- Site-Level Employment Database: Employment estimates for 1991 were taken from state-provided sources and a commercial vendor's database purchased by CTPS, and combined into a single, unified regional employment database that was updated to the base year 2000.

- 2000 U.S. Census: Various census files were used in model estimation and calibration processes.

- Ground Counts: Transit ridership and highway traffic volume data representing early 1990s conditions were amassed into a database and used to calibrate the travel sub-models.

Analysis Year: The base year is 2000 and the horizon year is 2030.

Model Inputs: The model inputs include population/households, employment, transit level of service, transit fares, highway level of service, highway tolls, and automobile operating costs, including parking.

Highway Network

The regional highway network contains in excess of 100,000 links and 24,000 nodes. However, like any modeled network, it does not include some local and collector streets. Each link is coded with the appropriate free-flow speed, number of lanes, and lane capacity. A code is used to distinguish links open only to high-occupancy vehicles (HOVs) from all other links.

Transit Network

The transit network represents all MBTA bus and rail services in eastern Massachusetts, as well as private express buses and Boston Harbor ferries. Most-likely travel paths are built through the network and afterwards skimmed, and the resulting impedances are inputs to the trip distribution and mode choice models. After applying the mode choice model, the resulting transit trip tables by time of day are assigned to the network travel paths.

Time-of-Day Considerations

The mode choice and transit assignment are conducted for four time periods: AM peak period, midday, PM peak period, and early evening/night. The trip generation model however, is based on daily trips. The trip distribution model considers two time periods: peak and off-peak periods.

The highway and transit networks are built separately for each time period. Table 1 shows the time intervals associated with each time period. The highway vehicle trips created by the mode choice model are converted from production/attraction format to an origin/destination format prior to network assignment. Transit person trips are also transformed from production/attraction format to origin/destination format for each time period and assigned to the transit network.

The factors used in dividing the highway person trips into different time periods were obtained from the 1991 Household Travel Survey. The final trip tables created for each time period correspond to observed levels of congestion on the highway system. The results of the four assignments are summed to obtain daily (AWDT) results.

TABLE 1
Time Periods for Trip Assignment

Time Period	Highway Vehicle Trips	Transit Person Trips
AM Peak Period	6:00 am – 9:00 am	6:00 am – 9:00 am
Midday	9:00 am – 3:00 pm	9:00 am – 3:00 pm
PM Peak Period	3:00 pm – 6:00 pm	3:00 pm – 6:00 pm
Early Evening/Night	6:00 pm – 6:00 am	6:00 pm – 6:00 am

Population, Household, and Employment Forecasts

Households and employment by type are major inputs to the travel model process: they are the variables upon which trip generation is performed. The forecasts for the region were developed by combining household and employment predictions independently produced by the seven regional planning agencies/metropolitan planning organizations (RPAs/MPOs) in eastern Massachusetts: the Central Massachusetts Regional Planning Commission (CMRPC), Merrimack Valley Planning Commission (MVPC), Metropolitan Area Planning Council (MAPC), Montachusett Regional Planning Commission (MRPC), Northern Middlesex Council of Governments (NMCOG), Old Colony Planning Council (OCPC), and Southeastern Regional Planning and Economic Development District (SRPEDD). Forecasts for the 101 cities and towns that make up the MAPC area (also the Boston Region MPO area) were developed by MAPC based on its MetroFuture scenario, which emphasizes redeveloping town centers and urban areas with careful planning and investments to protect quality of life for existing residents, reduce local traffic impacts, and protect historic resources and community character.

Forecasts for the 63 communities in the model belonging to MPOs other than the Boston Region MPO were developed in a slightly different fashion. Each MPO independently maintains its own travel demand model, TAZ system, base-year estimates, and future-year forecasts. However, the Boston Region MPO's year 2000 base-year data have long been accepted as the best possible and most refined and detailed data set for the year 2000 for eastern Massachusetts, and significant faith has been invested in it. Future-year forecasts for these 63 communities pivoted off this accurate data, allowing for the growth projections envisioned by the individual MPOs by calculating and retaining the absolute change between the base year and future year for each category (population, households, and employment) projected by each individual MPO. For population and households, absolute change was calculated at each MPO's TAZ level and then converted into the Boston Region MPO's TAZ system for these 63 communities by use of a series of correspondence factors between the two sets of TAZs for each demographic category, based on geography and historical development patterns. The growth was then added to the Boston Region MPO's year 2000 TAZ data for the future population and household forecasts. Employment forecasts were developed differently but also pivoted off the Boston Region MPO's year 2000 data. The future-year Boston Region MPO distribution of employment by TAZ and by employment sector was retained, while the absolute employment change for each community

projected by each other MPO was used. This change was then added to the base-year Boston Region MPO employment data for the future-year forecasts.

This hybrid approach ensured the accuracy of the Boston Region MPO's widely accepted demographic data sets while still capturing and respecting the growth expressed and projected by the individual RPAs/MPOs for these other 63 communities.

Trip Generation Model

The first step in the model set is the trip generation model. This model uses socioeconomic characteristics of the region and basic information about regional transportation infrastructure, transportation services, and geography to predict the amounts of travel which will be produced by and attracted to the TAZs within the eastern Massachusetts region.

The trip generation model is composed of the nine parts listed below and subsequently described:

- Base-year inputs
- Future-year inputs
- Estimation of base-year input requirements for future years
- Estimation of detailed socioeconomic characteristics
- Estimation of vehicle ownership
- Estimation of trip productions and attractions
- Balancing of trip productions and attractions
- Elimination of Logan trip productions and attractions
- Preparation of files for other components of the regional model set

Base-Year Inputs:

The base-year inputs required for the trip generation model include the following: total households; total population; group quarters population; households by household size; households by income quartile; households by workers per household; households by size, income, and workers per household; population by age; basic employment; retail trade employment; services employment; school employment (K-12 and college); resident workers; dorm population; labor participation rates; land area; Logan person trips; external person trips; attraction and production terminal times; and transit walk access factors.

For the base-year trip generation applications, data from the 2000 U.S. census of population are used where available. Estimates for the year 2000 are generated for those variables that are still based upon 1990 U.S. census data through application of the forecast-year procedures described below.

Future-Year Inputs

The future-year inputs required for the trip generation model include the following: total households, total population, group quarters population, population by age, basic employment, retail trade employment, services employment, labor participation rates, Logan growth factors, external growth factors, and transit walk access factors. These data are used to estimate the

future-year levels for the variables listed as base-year input requirements following the procedures described below.

Estimation of Base-Year Input Requirements for Future Years

Various procedures are used to prepare the trip generation model input data for future years. The variables that are estimated in these procedures include the following: households by household size, households by income quartile, resident workers, households by workers per household, school employment (K-12 and college), dorm population, Logan person trips, external person trips, and attraction and production terminal times.

Household Size: The change in TAZ average household size is implied in the base-year inputs and future-year forecasts (total population minus group quarters population divided by total households). The new distribution of households by household size is estimated by first distributing the future-year households by size in the same proportions as in the base year. It is then assumed that all households capable of making the implied change (households of two or more for household size reductions; all households for household size increases) will have the same probability of changing in size by one. This probability of changing is set equal to the extent needed to match the forecast change in household size, and the resulting distribution of households by household size is used for the future scenario.

Household Income: The future-year distribution of households by income quartile is estimated by assuming the proportional distribution of households by income quartile remains constant within each TAZ.

Resident Workers per Household: The change in the number of resident workers at the town level is obtained by combining base-year and future-year estimates of over-age-15 population and labor force participation by gender and age cohort. Dividing the base-year and future-year estimates of town-level resident workers by the base-year and future-year number of households in the town, respectively, produces estimates of the base-year and future-year average workers per household. All of the TAZs within each town are assumed to have the proportional change in workers per household implied by these base-year and future-year town-level estimates.

Household Workers: The future-year TAZ number of households within each category of workers per household is estimated by using workers-per-household distribution curves developed by CTPS from the 2000 U.S. census. These curves indicate a default percentage distribution of households for the base-year and future-year TAZ estimates of average workers per household. The proportional changes in the default number of households within each category of workers per household implied by this comparison are applied to the actual base-year TAZ distribution of households to obtain the distribution of households by workers per household to be used for the future scenario.

K-12 Employment: The level of employment in schools providing kindergarten through 12th grade education is assumed to be proportional to the number of town residents of ages 5 to 19.

College Employment: The level of employment at all colleges within the region is assumed to be proportional to the number of regional residents of ages 20 to 24.

Dorm Population: The dorm population within a TAZ is assumed to be proportional to the total group quarters population within a TAZ.

Logan Person Trips: Base-year Logan passenger trips are factored up by projected passenger growth rates to the future year. Base-year Logan employee trips are factored up by projected Logan workforce growth rates to the future year.

External Person Trips: Base-year external person trips are factored up by population and employment growth rates implied in the forecasts of the neighboring regional planning agencies to the future year.

Attraction and Production Terminal Times: The attraction and production terminal times are estimated through the application of a model developed at CTPS. This model estimates terminal times as a function of household and employment density. Alternative estimates of the production and attraction terminal times for each TAZ are based on the household density ranges and employment density ranges. The larger of each pair of estimates is assigned to the TAZ. A few TAZs (locations of major generators such as an airport or large college) were assigned terminal times in the base year different from the terminal time model estimates. In these cases, the model is used to estimate changes in the terminal times.

Estimation of Detailed Socioeconomic Characteristics

A three-way distribution of the households within each TAZ by household size, income, and workers is required in order to estimate the distribution of households by vehicle ownership levels. While this is available from the U.S. census at the regional level, such distributions at the TAZ level must be estimated through iterative proportional fitting techniques. Using the regional matrix as a seed, the cell values are adjusted through 10 iterations to match row and column totals to the estimated ring-level totals to produce the three-way distribution of households for each geographical ring. Using these ring-level matrices as seeds, this process is then repeated for each TAZ within each ring.

Estimation of Vehicle Ownership

Household auto ownership is an input to trip generation and mode choice. It is forecast using a logit model developed with the 1991 Household Travel Survey and 1990 and 2000 U.S. census data. The model is integrated with the trip production procedures. The distribution of households by vehicle ownership is estimated through the application of a set of models developed at CTPS. These models estimate the probability of a household's owning a certain number of vehicles as a function of income, household size, workers per household, household density, employment density, household location, and transit walk access factors.

Estimation of Trip Productions and Attractions

The number of trip productions and trip attractions within a TAZ is estimated through the application of a set of models developed at CTPS. These models estimate the number of trip productions and attractions as a function of household size, workers per household, vehicles per household, income, household location, households, basic employment, retail employment, college employment, school employment, and service employment.

Balancing of Trip Productions and Attractions

Connecting a trip production with a trip attraction of the same trip purpose forms a trip. Therefore, the number of productions and attractions for each trip purpose must be equal. In order to achieve this, the trip productions and attractions are balanced. The balancing procedure is to set the total number of regional attractions equal to the difference between the grand total of productions and the total number of external attractions.

The large difference between regional employment and the number of resident workers and the large increase in external employment forecast by the neighboring regional planning agencies and states produced home-based work trip volumes which seemed to be too high. In order to restrict trip volumes to plausible levels, the following changes were made in the balancing procedure:

- Regional home-based work trip productions were adjusted so that the increase from the base-year total to the future-year total is proportional to the forecast change in regional resident workers.
- External home-based work productions were set equal to the difference between the grand total of home-based work attractions and the regional home-based work productions.

Elimination of Logan Trip Productions and Attractions

While the total number of trip productions and the total number of trip attractions are equal, they include trips produced and attracted to Logan Airport. Since a separate model is used to estimate travel patterns to and from Logan Airport, Logan trips have to be purged from the trip matrices. The trips produced by or attracted to the Logan TAZs are thus eliminated, and Logan Airport passenger and employee survey data are used to identify the productions and attractions of other TAZs which correspond to the Logan TAZ productions and attractions.

All of these Logan-related trips are eliminated from the original balanced estimates of trip productions and attractions, and files are produced which present estimates of the productions and attractions within each TAZ for home-based work, home-based personal business, home-based social and recreational, home-based school, home-based pick-up and drop-off, non-home-based work, and non-home-based other travel.

Preparation of Files for Other Components of Regional Model Set

In addition to trip productions and attractions, the results of the trip generation model also include several files used as inputs to other components of the regional model set.

Trip Distribution Model

The trip distribution model is the second step in the model set. It links trip productions with trip attractions in the region to create matrices of intraregional travel and a portion of interregional travel.

Distribution of Internal–Internal Trips

The procedure developed relies on the implementation of a three-dimensional trip balancing strategy, as provided by the EMME/2 transportation planning software. Three-dimensional trip balancing distributes productions and attractions, which constitute the first and second dimensions respectively, subject to a third constraint on the distributed trips, which is a combination of the scaled composite impedances and the total number of trips between districts. The 1991 transportation demand survey was used to define this third-dimension constraint.

When applying the transportation demand model to generate trip demand forecasts, the object of a trip distribution model is the estimation of trip matrices based on future productions and attractions (P's & A's) given new transportation supply conditions, which translate into new composite impedances. A transportation demand survey exists only for the "base case," and therefore can not be integrated in the procedure for evaluation of future scenarios. Thus, the object of the three-dimensional balancing procedure is broader than the generation of a trip matrix, which is the direct result of the balancing of productions and attractions. This step generates intermediate results useful for the calibration of a two-dimensional balancing for future-year studies. The multipliers associated with the third dimension of this procedure were used to estimate "gamma" functions. Such functions of scaled composite impedances then allow for the creation of seed matrices of the trip distribution procedure (two-dimensional) to apply in scenario studies. These gamma functions translate the "reaction" of the three-dimensional procedure to the third-dimension constraint and therefore account for this constraint when applied to define a seed matrix.

Inputs

The inputs of the procedure are:

- Matrices of trip utilities, which are an output of the mode choice procedure
- Split factor matrices, which provide the total number of trips between district pairs (our model area is divided into 40 districts, based on the location of travel corridors and distance to downtown Boston) for the peak and off-peak periods
- Trip-ends (production and attraction)
- Household survey trip data

Methodology

The procedure developed to distribute internal–internal trips relies on gamma functions derived from a three-dimensional balancing procedure and does not involve "friction factors" or "K factors." The gamma functions transform scaled composite impedances into seed values for the two-dimensional balancing. This procedure involved three steps:

- Three-dimensional balancing, in which geographical information is combined with scaled composite impedance values to define the third constraint

- Estimation of gamma functions
- Two-dimensional balancing for future-year productions and attractions, using the gamma functions to compute seed values

A three-dimensional balancing model was calibrated first with the 1991 data (productions, attractions, and household survey results) on 12 combinations of six trip purposes and two time periods. The six purposes considered were: home-based work, "WK"; non-home-based work, "NW"; non-home-based other, "NBO"; school, "SC"; socio-recreational, "SR"; and shopping, "SH." The two periods considered were: peak, "PK"; and off-peak, "OP." The "peak" context includes the AM and PM peak periods, while the "off-peak" context regroups the midday and evening periods.

The mode choice model generates sets of 4 utility matrices, one for each of 4 periods considered in the mode choice model: AM, PM, midday (MD), and early evening/night (NT). The AM and PM utilities are combined to compute PK composite impedances, and the MD and NT utilities are combined to compute OP composite impedances. Although 6 purposes are considered in this procedure, only 5 sets of utility matrices are used as input to the procedure, since the same utilities are applied to the shopping and socio-recreational purposes. There are 12 split factor matrices, corresponding to each purpose and period combination of the trip distribution procedure. These matrices provide the respective shares of AM and PM trips for the PK periods, and the shares of MD and NT trips for the OP periods. As a result, we get 12 pairs of productions and attractions (P's & A's) corresponding to each purpose and period combination of the trip distribution procedure.

The result of this effort leads to the estimation of some 60 gamma functions for the different combinations of period, purpose, and interchange category. Gamma functions were applied to compute the seed matrices of a two-dimensional balancing model for year 1991. Results of the two-dimensional balancing were compared to those obtained with the three-dimensional balancing. This comparison confirmed that the gamma functions used to generate seed values of the two-dimensional balancing were efficient in implicitly applying the third-dimension constraint of the three-dimensional balancing procedure. Then, the two-dimensional balancing strategy was applied to distribute the productions and attractions for the future year.

Internal–External Trip Distribution

Internal–external trip distribution refers to a process in which all internal and external TAZ average weekday daily traffic (AWDT) trip ends are distributed using AWDT highway impedances, but only the trips with one end in an internal zone and the other end in an external zone are retained. The term "internal–internal" distribution refers to a redistribution of the internal zone trip ends that the internal–external distribution matched with other internal zone trip ends. The trip ends are split into peak period trip ends and off-peak period trip ends. These trip ends are then distributed separately using mode choice derived log sums of disutilities, appropriately calculated to reflect either the peak period (combining AM and PM peak log-sums) or the off-peak period (combining midday and early evening/night log-sums).

At the core of the internal–external trip distribution is the EMME/2-based three-dimensional balancing strategy, the third dimension incorporating gamma functions replaces the "K factors" and "F factors" which were carried over from our model set was developed in the UTPS

software. This three-dimensional balancing strategy performs a balancing of a seed matrix to zonal productions, zonal attractions, and subclass totals representing characteristics of the origin-destination (O-D) trips of a transportation system—in this case, trip lengths as captured by highway impedances.

The basic output of the internal–external trip distribution model for the base year is an O-D trip matrix resulting from the three-dimensional trip distribution as well as third-dimension constraint and gamma functions. The base-year inputs required for internal–external trip distribution include:

- Production and attraction matrices by seven trip purposes output from the trip generation model: home-based work (WK); non-home-based work (NW); non-home-based other (NBO); school (SC); social-recreational (SR); shopping (SH); and pick-up and drop-off (PUDO).
- The internal–external survey trip tables by purpose.
- The AWDT external station highway skim files, one for time in minutes and another for tolls in cents. [Note: It was determined that a peak/off-peak factor split was unnecessary given their similarity within each trip purpose.]
- Production and attraction terminal times. The terminal times were modeled (in EMME/2) but then were modified at major external zones during the development of the internal–external distribution model. These elements were used to create AWDT highway impedances.

The core of future-year forecasting is the two-dimensional balancing strategy. It consists of preparing a seed matrix through application of the relevant gamma functions on scaled highway impedance values, and using the resulting seed matrix within a two-dimensional balancing procedure. For the future year, inputs required for internal–external trip distribution and PUDO trip distribution include:

- Production and attraction matrices by seven trip purposes output from the trip generation model: home-based work (WK); non-home-based work (NW); non-home-based other (NBO); school (SC); social-recreational (SR); shopping (SH); and pick-up and drop-off (PUDO)
- Production and attraction terminal times
- Nine gamma functions for each of six internal–external trip purposes computed from base-year three-dimensional balancing
- Nine gamma functions for internal–external PUDO trips computed from K and F factors derived from the UTPS AGM module
- Split factor matrices for allocating internal–external trips to four time periods based upon the 1991 external travel survey and the household survey
- SOV/HOV occupancy rates by time period to allocate internal–external trips and internal–internal PUDO trips

Mode Choice Model

Mode choice models by trip purpose were developed using 1991 Household Travel Survey data, travel impedances obtained from highway and transit networks, 1990 and 2000 U.S. census data, and other data sources. There were not enough survey records for each chosen mode to estimate

separate model parameters for home-based shopping/personal business and home-based social/recreational trips. Therefore, these two purposes were combined into one, and four mode choice models were developed. These were 1) home-based work and work-related (HBW); 2) home-based other (HBO), which includes home-based shopping, personal business, social, recreation, and other miscellaneous purposes; 3) home-based school (HBSC); and 4) non-home-based (NHB) trips. The available travel modes were: 1) walk-access transit, 2) drive-access transit, 3) SOV 4) HOV/HOV2; 5) HOV3+ (HBW trips only); and 6) walk. Specific transit mode selection, e.g., local bus, express bus, light rail, commuter rail, occurs during the transit assignment process.

Mode choice deals with intra-regional trips only. Trips to and from external areas are dealt with separately and assumed to be only auto trips. Mode choice results in a split of both interzonal and intrazonal trips; however, intrazonal are only split between the walk and auto modes (SOV, HOV/HOV2, and HOV3+). The transit modes do not capture intrazonal trips. The mode choice model variables are defined as follows:

Tree coefficient: This represents the combined utilities of the drive-access and walk-access components of the transit nest.

In-vehicle time: Time spent in a transit vehicle during the trip. For the shared-ride modes, in-vehicle and out-of-vehicle time are functions of drive-alone time.

Out-of-vehicle time: Includes all walk and wait time and drive-access time, unless the last is specified separately.

Drive-access time: Time, by automobile, to drive from a trip origin to a transit station.

Terminal time: The time spent getting in a vehicle at the production end and entering the modeled highway network and the time spent leaving the modeled network and parking the vehicle and walking at the attraction end of the trip. These times are as high as five minutes in the Boston central business district (CBD) and as low as one minute in suburban areas. They are assumed to remain constant in the future.

Fare: Transit fare, in dollars, including one-half of any park-and-ride charges (because fare per one-way trip is used). The adult cash fare is used, because that is what is coded within the transit network. Fares are assumed to remain constant over time.

Auto cost: Auto operating cost in dollars, which is computed using 9.8 cents per mile (1991 dollars) and toll costs, if any. Also, one-half of any applicable parking costs (because costs per one-way trip are used). Parking costs are computed at the district level based on the average parking costs reported by auto mode users in the 1991 Household Travel Survey. For shared-ride modes, total costs are divided by the appropriate auto occupancy. They are assumed to remain constant over time.

Household size: Persons per household. For 2030, population and household forecasts are provided by MAPC.

Vehicles/person: Total vehicles per person in the household. Vehicles are forecast for 2030 using the vehicle availability model described earlier.

Population density: Total population per acre.

Percent transit origins/destinations: The transit share of work trip ends in the TAZ, as computed by the home-based work mode choice model.

Work dummy: Equal to one, if the trip is work-related. Zero otherwise.

Input Data: The input files include: impedance matrices for each mode, the person trip tables to be split, pre-determined coefficients for utility equations and socioeconomic characteristics by TAZ.

Home Based Work Model

Home-based work (HBW) mode choice is the only trip purpose that distinguishes between two person carpools (HOV2) and three or more person carpools (HOV3+). The model specifications are shown in Table 2. Formerly, travel on HOV lanes was restricted to HOV3+ vehicles during peak hours. For the past several years, any 2-person vehicle may also use these facilities.

A transit nest is incorporated into the model on the basis that the decision to take transit over the other modes is done before selection of a particular transit mode. The transit coefficients are generic for both walk access (WAT) and drive access (DAT) and include a coefficient for in-vehicle, initial wait, transfer wait and total walk time. Drive access time and production terminal times are included in drive access transit as one parameter. The HBW model utilizes two transit impedances that are exclusive to this trip purpose model, the WAT transfers and DAT transfers. Survey data indicate that the number of transfers is critical to mode selection for work trips. The WAT fare includes the transit fare in dollars. For DAT, fare includes the transit fare, any parking cost and the drive access cost, with the latter being computed as 9.8 cents per mile. Population density by traffic zone, in people per acre, is included in walk access transit, and is positively correlated so that the greater the density, the more likely a traveler is to choose this mode. The zones with high population densities also have more transit stops. Vehicles per worker is a socioeconomic input unique to this trip purpose for DAT. It is also positively correlated, since a higher vehicle per worker ratio increases the likelihood of taking a vehicle to a park-and-ride lot.

The auto times and costs are generic for the three auto modes. For HOV2, the auto cost is divided by 2 and for HOV3+ it is divided by 3.66 to reflect splitting the cost between the vehicle occupants. Household size is included as a positively correlated variable for the shared-ride modes and has a somewhat greater impact for HOV3+ than HOV2.

Home-Based Other Model

The home-based other (HBO) mode choice model combines the home-based shopping and home-based recreational trip tables output from the trip distribution process into a single HBO trip table that is split. The model specifications are shown in Table 3. The model is similar to the HBW mode choice model, except for the following four differences. First, since there is only one shared-ride mode, shared-ride two-plus, household size is only a parameter for this one

TABLE 2
Home-Based Work Mode Choice Model Specifications

		Impedance Variables									Socioeconomic Variables		
	Nest Coeff	IVTT	Terminal Time	Walk Time	Initial Wait	Transfer Wait	Auto Access	Boarding Time	Fare ($)	Auto Cost ($)	Population Density	Vehicles/ Worker	HHld Size
Drive Alone													
Top Level	1	-0.05466	-0.292							-0.32			
Application Level		-0.05466	-0.292							-0.32			
Ratio to IVTT/VOT ($/hr)		1	5.34211							$ 10.25			
SR2													
Top Level	1	-0.05466	-0.292							-0.32			0.07322
Application Level		-0.05466	-0.292							-0.32			0.07322
Ratio to IVTT/VOT ($/hr)		1	5.34211							$ 10.25			-1.33955
SR3+													
Top Level	1	-0.05466	-0.292							-0.32			0.2168
Application Level		-0.05466	-0.292							-0.32			0.2168
Ratio to IVTT/VOT ($/hr)		1	5.34211							$ 10.25			-3.96634
Walk													
Top Level	1			-0.1007									
Application Level				-0.1007									
Ratio to IVTT/VOT ($/hr)													
Walk-Access Transit													
Top Level	0.6791	-0.05466		-0.1007	-0.11292	-0.11292		-0.05466	-0.32		0.01889		
Application Level		-0.08049		-0.14828	-0.16628	-0.16628		-0.08049	-0.47121		0.02781		
Ratio to IVTT/VOT ($/hr)		1		1.8423	2.06593	2.06593		1	$ 10.25		-0.34551		
Drive-Access Transit													
Top Level	0.6791	-0.05466	-0.292	-0.1007	-0.11292	-0.11292	-0.13665	-0.05466	-0.32	-0.32		0.2897	
Application Level		-0.08049	-0.42998	-0.14828	-0.16628	-0.16628	-0.20122	-0.08049	-0.47121	-0.47121		0.4266	
Ratio to IVTT/VOT ($/hr)		1	5.34211	1.8423	2.06593	2.06593	2.5	1	$ 10.25	$ 10.25		-5.30011	

IVTT = in-vehicle travel time
VOT =

TABLE 3
Home-Based Other Mode Choice Model Specifications

	Nest Coeff	Impedance Variables									Socioeconomic Variables			
		IVTT	Terminal Time	Walk Time	Initial Wait	Transfer Wait	Auto Access	Boarding Time	Fare ($)	Auto Cost ($)	Population Density	Vehicles/ Worker	HHld Size	Distance Dummy
Drive Alone														
Top Level	1	-0.01965	-0.2308							-0.22378				
Application Level		-0.01965	-0.2308							-0.22378				
Ratio to IVTT/VOT ($/hr)		1	11.7463							$ 5.27				
SR2+														
Top Level	1	-0.01965	-0.2308							-0.22378			0.1976	
Application Level		-0.01965	-0.2308							-0.22378			0.1976	
Ratio to IVTT/VOT ($/hr)		1	11.7463							$ 5.27			-10.0566	
Walk														
Top Level	1			-0.05895										0.9005
Application Level				-0.05895										0.9005
Ratio to IVTT/VOT ($/hr)														-15.2757
Walk-Access Transit														
Top Level	0.3722	-0.01965		-0.05895	-0.05895	-0.05895		-0.01965	-0.22378		0.00883			
Application Level		-0.05279		-0.15838	-0.15838	-0.15838		-0.05279	-0.60123		0.02373			
Ratio to IVTT/VOT ($/hr)		1		3.0002	3.0002	3.0002		1	$ 5.27		-0.44951			
Drive-Access Transit														
Top Level	0.3722	-0.01965	-0.2308	-0.05895	-0.05895	-0.05895	-0.04912	-0.01965	-0.22378	-0.22378		0.71239		
Application Level		-0.05279	-0.6201	-0.15838	-0.15838	-0.15838	-0.13198	-0.05279	-0.60123	-0.60123		1.914		
Ratio to IVTT/VOT ($/hr)		1	11.7463	3.0002	3.0002	3.0002	2.5	1	$ 5.27	$ 5.27		-36.2564		

IVTT = in-vehicle travel time
VOT =

TABLE 4
Non-Home-Based Work Mode Choice Model Specifications

	Nest Coefficient	Impedance Variables									Socioeconomic Variables		
		IVTT	Terminal Time	Walk Time	Initial Wait	Transfer Wait	Auto Access	Boarding Time	Fare ($)	Auto Cost ($)	Work Dummy	Distance Dummy	Percent SOV
Drive Alone													
Top Level	1	-0.03022	-0.3197							-0.1817	0.1926		0.00885
Application Level		-0.03022	-0.3197							-0.1817	0.1926		0.00885
Ratio to IVTT/VOT ($/hr)		1	10.5791							$ 9.98	-6.37326		-0.29295
SR2+													
Top Level	1	-0.03022	-0.3197							-0.1817	-0.7627		
Application Level		-0.03022	-0.3197							-0.1817	-0.7627		
Ratio to IVTT/VOT ($/hr)		1	10.5791							$ 9.98	25.2383		
Walk													
Top Level	1			-0.07525								0.493	
Application Level				-0.07525								0.493	
Ratio to IVTT/VOT ($/hr)												-6.5515	
Walk-Access Transit													
Top Level	1	-0.03022		-0.07525	-0.08333	-0.08333		-0.03022	-0.1817				
Application Level		-0.03022		-0.07525	-0.08333	-0.08333		-0.03022	-0.1817				
Ratio to IVTT/VOT ($/hr)		1		2.49007	2.75745	2.75745		1	$ 9.98				
Drive-Access Transit													
Top Level	1	-0.03022	-0.3197	-0.07525	-0.08333	-0.08333	-0.07555	-0.03022	-0.1817	-0.1817			
Application Level		-0.03022	-0.3197	-0.07525	-0.08333	-0.08333	-0.07555	-0.03022	-0.1817	-0.1817			
Ratio to IVTT/VOT ($/hr)		1	10.5791	2.49007	2.75745	2.75745	2.5	1	$ 9.98	$ 9.98			

IVTT = in-vehicle travel time
VOT =

mode. Second, the vehicles per person in a household is used, as opposed to vehicles per worker. Third, the number of transfers in the transit modes was not found to be a significant variable and therefore is not included. Finally, a distance dummy equal to one if the trip distance is less than a mile, zero otherwise, is added to the walk mode. This reflects the fact that people taking short trips for this purpose are more likely to walk than choose another mode.

Home-Based School Model

The home-based school (HBS) purpose was updated to make it compatible with Summit. The improvements to this purpose are documented in Appendix A.

Non-Home-Based Model

The non-home-based (NHB) model splits work trips and non-work trips. The model specifications are shown in Table 4. There is a work dummy variable in the two auto modes which is equal to one if the trip is a non-home-based work trip and zero otherwise. The coefficient is positive for SOV and negative for HOV. The percent of trips attracted to the origin and destination zones that are SOV is a variable in the drive alone mode. The percentage is taken from Journey to Work data and is positively correlated. Finally, the distance dummy in the walk mode is equal to one if the distance is less than a mile. It has a positive coefficient.

Pre-Assignment Procedure

The completion of the runs for the 16 mode choice applications (4 trip purposes by 4 time periods) results in the creation of 68 person trip tables. To prepare for subsequent highway and transit assignments, the trip tables must be converted from production-attraction to origin-destination formats (except for NHB trips, where they are the same). For the highway assignment it is necessary to convert person trips to vehicle trips by applying vehicle occupancy factors for HOV modes. These occupancy factors vary by trip purpose, and in the case of HBW trips a higher occupancy factor is applied to HOV3+ trips. Their values are the following:

Home-based work trips HOV3+ = 3.373
Home-based other trips HOV = 2.404
Home-based school trips HOV = 2.788
Non-home-based trips HOV = 2.385

In addition to the manipulation of the output matrices from mode choice, it is necessary to bring in vehicle tables produced outside of the mode choice process. These include:

- Truck – The truck trip tables that have been used up to the present are based on survey data.
- External Through – This matrix includes trips that pass through the study area without stopping and hence are exogenous to the travel model. The trips were estimated from the 1991 external travel survey and have been factored since that time based upon production and attraction growth.
- Taxi – The taxi vehicle trip table was originally developed from a 1993 survey and has since been revised several times based upon a factoring process. However, there has been no update of travel pattern data to create a true updated trip table.
- Logan Airport SOV & HOV – This trip table is developed from a separate modeling procedure, which was developed based on a Massport survey.

- Drive-Access-Transit Auto Access – DAT trips are determined through the mode choice process. Each DAT trip requires a vehicle access trip, with the total vehicle trips being slightly lower than the DAT total, as a small percentage of transit users carpool to park-and-ride-lots.
- Internal–External SOV & HOV – The internal–external trip tables are generated through the trip distribution process.
- Pick-up/Drop-off SOV & HOV – The pick-up/drop-off (PUDO) tables are those trips in which a person is dropped off at his or her destination (not an intermediate park-and-ride lot) by the driver. They are produced in the trip generation process along with other productions and attractions, then put through trip distribution.

Trip Assignment

Highway Assignment Model

The coding of the EMME/2 highway network basically follows the hierarchy of the functional classification system. Expressways, other than those passing through denser urban areas, are generally coded for 60 mph speeds and hourly capacity per lane of 1,950. Higher-level arterials are coded for speeds ranging from 45 to 50 mph and corresponding capacities of 1,050 to 1,100. Lower-level arterials and major collectors range from 35 mph to 40 mph, with capacities of 950 to 1,000. Minor collectors and local streets that are not in urban centers range from 23 mph to 30 mph, with capacity generally at 800. Streets in urban centers can have substantially lower speeds and capacities.

The highway assignment utilizes the BPR function, which is a traditional procedure for planning models. This curve, which is described in the Highway Capacity Manual, is parabolic in shape and depicts the relation between speed and traffic flow. The BPR curve is as follows:

$$\text{Congested Speed} = (\text{Free-Flow Speed})/(1 + 0.15[\text{Volume/Capacity}]^4)$$

For each time period the function is adjusted for apportioning the amount of demand to the number of hours. For the AM and PM peak periods, travel volume is apportioned to 3-hour periods, for the midday to 6 hours, and for the nighttime to 12 hours.

The highway assignment follows a straightforward procedure consisting of an equilibrium auto assignment. A multi-class assignment with generalized cost is applied. Generalized cost is computed as the combination of the travel time plus a fixed link cost. The multi-class assignment runs an assignment for the demand matrices of two modes, SOVs and HOVs, from the vehicle trip tables for each class, which are assigned by time period. Link tolls are contained in an extra attribute, @toll, which has average tolls along links where they are collected. A weight factor of five is applied to @toll to convert the cost in dollars to a time cost in hours. This factor is based on an assumed value of time of $12 per hour.

The number of iterations used to assign traffic to the regional model is 30. The model then asks for the stopping criteria for the relative gap. The relative gap is an estimate of the difference between the current assignment and a perfect equilibrium assignment, in which all paths used for a given O-D pair would have exactly the same time. The default is .5%, but .01% is selected, which should enable the full number of iterations to be carried out.

The other stopping criteria are the normalized gap (or trip time differential), which is the difference between the mean trip time of the current assignment and the mean minimal trip time. The mean trip time is the average trip time on the paths used in the previous iteration; the mean minimal trip time is the average trip time computed using the shortest paths of the current iteration. Again, a minimum level is selected, .01 minutes, in order for the designated number of iterations to be carried out. Note that the relative gap always decreases from one iteration to the next, whereas the trip time difference does not necessarily have this property. In a perfect equilibrium assignment, both the relative gap and the normalized gap are zero.

Transit Assignment Model

Defining Supply

A transit supply model is integral to the forecast of transit demand and of the performance of different scenarios of infrastructure investment. Interzonal travel impedances faced by those trip makers who walk to their transit access points are the product of the transit system skimming process. This process contributes the transit portion of impedance to drive access transit skims as well. For this purpose the park-and-ride lots are regarded as special intermediate origin-and-destination zones.

The real network of commuter trains, ferries, rapid transit trains, busway buses and local and express buses is represented digitally by an interconnected topology of infrastructure links. These links represent roadway and railway segments. Each link has a start node and an end node defined geographically with x-y coordinates. Each link also has a defined length and description as to which transit modes may traverse the link. In the case of commuter rail and rapid transit modes, a link travel time in minutes is also defined. In our representation of the network, buses may traverse all highway links, but commuter rail and rail rapid transit use exclusive links only. They also use exclusive nodes. There is always a walk link between buses and trains. The transit network building conventions are explained below.

Transit Links and Lines: Bus lines are overlaid on highway links and rail links are coded separately. Sequences of transit links are defined together as lines. Each line is represented for each time period of the day with its own headway (frequency of service) and points of boarding and alighting. Segments of the two rail modes take their travel time from the schedule or are provided by client or consultant. Segments of the bus modes have transit times based on the scheduled line times apportioned by distance. Thus highway congestion does not directly affect bus travel times in the model. But future-year bus speeds are estimated on the basis of future-year congested highway speeds.

Walk Access Links: Walk access times coded onto walk links represent the average walk time from all points in a zone to the transit node. These times were initially measured using the Arc/Info geographic information system (GIS) and then input to the EMME/2 transit network. Walking speed was assumed to be 3 mph. The catchment area of a transit station is defined as any TAZ that a person can walk to within one mile of the transit station, regardless of mode. Various on-board transit passenger surveys that have been conducted in this region show that this represents the maximum distance a person is willing to walk to access transit. A memo describing the development of walk access links in more detail is provided as Appendix B.

Drive Access Links: Each TAZ beyond the Boston core area is connected to the four closest park-and-ride nodes with drive-access links. Appropriate drive time and distance values were obtained from the highway network and coded onto these links. Each park-and-ride node is connected to its associated transit node by a walk link. In the Boston core, no drive-access links are provided. The parking lot fare is coded directly on the link connecting the park-and-ride node to the station node. In cases where more than one parking lot serves a station, an average of the lots' parking fees is coded.

Transfer Links: Transfer links are provided in the network where appropriate. For all downtown and some other rail stations, actual walking times from line to line were recently measured, and these values are coded onto the transfer links.

Walk Network: A walk network covers downtown Boston and serves as a circulator system between TAZs and transit stations/stops. In the CBD, travelers often alight from their line-haul line and then walk several blocks to their final destination instead of transferring from one line to another and traveling one or more stops within downtown before alighting. Prior to the introduction of the walk network, when each TAZ was directly connected to one or more stations, the pathbuilder usually found a path involving a transfer; hence, downtown transferring was overestimated. With the walk network, the pathbuilder finds more accurate paths. Each station and each TAZ is connected to the walk network, which then acts as a distribution system for the walk portion of downtown transit trips. The speed on the walk network is coded as 3 mph. Each downtown TAZ is connected to a node on the network with a distance of 0.1 mile. TAZs on the periphery of the walk network are connected using the actual distance involved.

Fare Coding Conventions: Fares are coded in the EMME/2 network at the appropriate transit nodes. Adult cash fares are used. Each mode is assigned a boarding fare and up to seven fare link codes. Because of the complexity of the area's fare system, not all private express bus, Green Line, and Red Line (Braintree branch) fares are represented exactly as they occur. Park-and-ride parking charges are coded onto the walk link that connects the park-and-ride node to the transit station node. Fares are expressed in minutes to allow them to be impedances that influence path selection. They are given the value of 1 minute for every 20 cents of fare (one hour for $12). Boarding fares are imposed at transit nodes to represent local bus fares and rail rapid transit fares. Special coding procedures are followed at free transfer points. There, a penalty is imposed on walk access links instead. On commuter rail and express bus lines there are also fare penalties imposed on each segment traversed.

Finally, each component of travel impedance is skimmed from the interzonal travel path separately and stored in its own interzonal matrix. Walk time is computed as link distance at 3 mph. In the path selection process, the walk time is considered as twice the weight of in-vehicle travel time. Wait time is stored separately for the initial boarding and subsequent (transfer) boardings. The wait time is also factored in accordance with the characteristics of the transit mode being boarded.

Each of the components of walk access transit impedance by time of day is input to the computation of drive access transit impedance and to the mode split process. They also become an element of the composite impedance upon which trip distribution is based.

Assigning Demand

After demand matrices of walk access and drive access transit trips have been forecast, these trips are assigned using our transit assignment model.

Drive access and walk access trips are combined by time period. The transit network and other parameters are the same for assignment as for the impedance skimming process. Currently, congestion of passengers at stops and terminals does not influence travel times or behavior in the model.

Calibration Process

The calibration process involved trying to match the base year 2006 highway and transit modes in the study area to best-observed data that was available to us at the time. For the highway mode, we examined screen lines around Boston and tried to match the total volume of traffic by time period coming into and leaving the city of Boston. On major highways we tried to match base year AWDT within 7% of counts. On the transit side, CTPS examined each mode and tried to match total daily ridership within 10% of the counts. Access mode and trip purpose were then compared to historical on-board travel surveys, in order to determine if the model was accurately predicting how a person got to the station and was the right type of activity for that trip.

Generally for a transit improvement study we would apply the model with the parking constraints at the new stations eliminated as well as not constrain the transit line capacity. The rational for this approach is to develop a service plan through an iterative process that would allow the service plan to be optimized as demand is identified from the modeling process. The normal process to develop a service plan and estimate demand would consist of the following steps:

1. Run the model with unconstrained parking and line capacities to identify total demand based on a preliminary service plan.
2. Examine demand and refine and optimize service plan relative to demand and costs.
3. Identify size of parking facility that is needed to serve the demand being forecasted for drive access.
4. Re-run model with parking and line capacity constraints in place for the new service.
5. Estimate new demand for service based on limitations identified above

This process was used in the Silver Line Phase III and the Urban Ring Phase 2 Studies but not the Green Line Extension. In doing this process, the previous studies demand estimates had the potential to exceed capacity on some of existing transit lines in addition to the new service in order for the project team to optimize the service plan to meet the demand. The reason this was not done is due to the fact that the existing Green Line services that were going to be extended had predefined headways that could not be improved upon. Since there was little to no opportunity to change existing headways on the Green Line branches, just change which lines that get extended, this project constrained line capacity for the Green Line as well as all of the other transit services in the transportation system. Parking constraints were included for existing transit stations, but were not implemented when a new transit station with parking was being proposed. This process of constraining the transit system to available capacity produces results that may differ from previous studies in regards to daily ridership on a given transit line,

specifically the Green Line, which showed less overall ridership than in the other recent studies being performed by CTPS.

Path-Building Conventions

The transit assignment implemented in EMME/2 is a multi-path assignment based on the computation of optimal strategies. The optimal strategy is the one that minimizes the total expected perceived travel time. The values shown in Table 5 are currently being used in estimating the perceived travel times between a given origin and destination. These values apply both to walk access transit and drive access transit and to all sub-modes. They relate to in-vehicle time. For example, a transfer wait time factor of 2.45 implies that travelers perceive a minute of such time as 2.45 times as onerous as a minute spent riding in a transit vehicle. Although these values are theoretically supposed to correspond to marginal rates of substitution implicit in mode choice model coefficients, their final values are also based on what is needed to find reasonable paths through the network within the pathbuilder.

TABLE 5
Current Pathbuilding Parameter Values

Parameter	Value
Initial wait time factor	1.1
Transfer wait time factor	2.45
Drive-access time factor	2.65
Walk-access time factor	1.6
Walk speed	3.0 mph
Fare factor	1.0

Air Quality Analysis

The air quality impacts of alternative transportation scenarios can be analyzed using our travel forecasting model. Our model estimates future traffic volumes, average highway speeds, vehicle miles traveled, and vehicle hours traveled within the transportation network at a highly disaggregate level. Since the amount of air pollution emitted by highway traffic depends on prevailing highway speeds and vehicle miles traveled on the network, it is possible to estimate air quality impacts with reasonable accuracy.

Typically, we estimate three major pollutants emitted by autos, trucks, and transit: carbon monoxide (CO), volatile organic compounds (VOC) and nitrous oxides (NOx). The model uses MOBILE 6.2 emission factors to calculate these three pollutants on a link-by-link basis. Four components make up traffic pollution, one of which is handled by the model. The remaining three are dealt with off-model.

The pollutants emitted by most auto and truck traffic are handled within the modeling process. The amount of a given pollutant that is produced by auto and truck traffic, excluding park-and-ride trips, is a function of four factors:

- Vehicle miles traveled (VMT)
- Speeds on the roadways
- Type of roadway
- Emission factor for the pollutant from MOBILE 6.2

Handled off-model**:**

- The pollutants emitted by the diesel locomotives of the commuter rail system
- The pollutants emitted by the MBTA bus system
- The automobile pollution resulting from park and ride trips

For most transit studies, the emission factor and roadways are constant between the no-build and build alternatives. Observed emission changes are due to mode shifts from auto to transit, resulting in lower VMT and possibly lower congested speeds on the roadway network. Hence, the more auto diversions there are, the more likely the air quality measures will improve.

SUMMIT Analysis

The Federal Transit Administration (FTA) distributed the SUMMIT software tool in 2002 for the purpose of calculating user benefits of transit projects. This specially defined user benefit measure is being used by the FTA to compare New Starts submissions from around the country. The concept of user benefits is based on consumer surplus, which reflects the difference in price or cost of travel, for all modes and for all users in the transportation system, between two alternatives.

User benefits are equal to all changes in times and costs for all modes—with the costs translated into equivalent time units so that they can be rolled in with actual time—that are associated with the provision of a particular transit service. There are many ways to express those benefits that may extend beyond the transit project itself and include such things as reduced congestion on area roadways and associated improvements in air quality. For its calculation of cost-effectiveness, FTA has developed a standardized methodology for expressing benefits in terms of hours of user benefits.

Travel forecasting models consider many variables in the process of determining how trips are made from one location to another. Variables such as time, transfers, and costs are all used by the mode choice model to split person trips into transit, auto, and non-motorized modes. The regional travel demand model supplies this information to SUMMIT, which in turn converts it all into units of time.

APPENDIX A

Updates to the HBS Mode Choice Model

DRAFT MEMORANDUM

TO: **CTPS Project Modeling Files** **July 25, 2007**

FROM: **Ian Harrington and David Kruse', CTPS**

RE: **Home-Based School Mode Choice Revisions to Make Purpose Consistent with FTA Guidelines and Summit User Benefit Software (Updated)**

INTRODUCTION

In 2004, the Central Transportation Planning Staff (CTPS) made a series of modifications to its mode choice models in order to meet Federal Transit Administration (FTA) guidelines and develop New Starts User Benefits consistent with the Summit software. In effecting the necessary modifications, CTPS decided not to include the home-based school (HBSc) trip purpose given time constraints and the judgment that this purpose would produce few user benefits for the projects under consideration. However, recent survey work on the model area college population and renewed interest in the Urban Ring project has led CTPS to reconsider this decision.

This memorandum documents the steps taken to restructure our HBSc trip purpose mode choice model to bring it into conformity with FTA guidelines and to make it compatible with the FTA's Summit software.

NEW HBSC MODE CHOICE DECISION STRUCTURE

The current HBSc mode choice model (summarized in Table 1) consists of a motorized mode nest (including the walk-access transit, drive-access transit, single-occupant vehicle, and high-occupancy vehicle modes) and the non-motorized mode. Since transit and non-transit modes are within the same nest, it is not possible to accurately estimate user benefits with the FTA's Summit software. As a result, we redesigned the decision tree used in the HBSc model by splitting the motorized grouping into two separate nests, one for transit (walk-access transit and drive-access transit) and the other for highway (single-occupant vehicle and high-occupancy vehicle). Since we did not have a data set available for estimating the coefficients with this new model structure, we assumed the transit and highway nests would both have a tree coefficient of the same value as the motorized nest (.5559) and that the coefficients for the other model variables would not be changed (if even possible, it would be difficult to estimate the tree coefficients for the new nests).

NEW HBSC IMPEDANCE VARIABLE UTILITIES

Analysis indicated that having mode-specific in-vehicle travel time coefficients could lead to problems in accurately estimating user benefits. In order to eliminate this potential problem, conform to FTA guidelines, and create a model that is consistent with the CTPS mode choice models for other trip purposes and consistent with the transit assignment model path choice parameters, we set about to create a set of variable coefficients that would meet the following criteria:

- The in-vehicle travel time, walk time, waiting time, and cost coefficients must each be the same at the top level (if within a nest, it is equal to the coefficient within the nest times the nest coefficient) for all modes.
- The in-vehicle time coefficient must fall within the range of -0.02 to -0.03.
- The ratio of the out-of-vehicle time coefficient to the in-vehicle time coefficient must fall within the range of 2 to 3.
- The ratio of the cost coefficient to the in-vehicle time coefficient must translate to a value of time of about $10 per hour.

In order to meet these criteria, the following changes were made:

- Since the original highway and transit in-vehicle time coefficients was less than -.03 and greater than -.02, respectively, at the top level and the weighted average (based upon the distribution of passengers by mode) of the transit and highway in- vehicle time coefficients is -.0305, the global in-vehicle time coefficient was set at -.0305.
- Since the original transit terminal time coefficient was greater than 3 times the original transit in-vehicle time coefficient and the weighted average (based upon the distribution of passengers by mode) of the ratio of the terminal time coefficient to the in-vehicle time coefficient was 2.97, the global terminal time coefficient was set at -.0904.
- Since the original walk time coefficient was 2.6 times the new global in-vehicle time coefficient, it is used as the global walk time coefficient. This was also used as the coefficient for other out-of-vehicle travel times.
- Since the drive access time coefficient was set at 2.5 times the global in-vehicle time coefficients in the CTPS mode choice models for other purposes, the global drive access time coefficient was set at 2.5 times -.0305.
- Since the original auto cost coefficient (-.3244) represents a value of time of about $10/hour – about the same as the similar home-based work and non-home-based purposes, it was used as the global cost coefficient.

The results of this effort are summarized in Table 2. The impacts of these changes in the model structure and coefficients include:

- SOV and HOV demands are less elastic and transit demand is more elastic to changes in in-vehicle travel time and terminal time.
- Transit demand is more elastic to walk time, wait time, and drive access time, but one minute of each of these times is equal to a smaller number of minutes of in-vehicle travel time.
- Transit demand is much more elastic to transit fare and auto costs, and the value of time implied by the highway and transit coefficients is reduced.
- The impact of population density is reduced.

MODE CHOICE CALIBRATION RESULTS

Before adopting the new model into our regional travel forecasting model we wanted to make sure it would be appropriate for such use. Therefore, we calibrated the new HBSc mode choice model to come within one percent of the estimated mode shares in the base year (2000) by adjusting the modal bias coefficients. The original HBSc mode choice model was then also calibrated to come within one percent of the estimated mode shares in the base year (2000) with the same trip table and network by adjusting the modal bias coefficients. The results of this effort – the two sets of HBSc mode choice model bias coefficients -- are presented in Table 3.

As can be seen in Table 3a, all of the bias coefficients have changed by geographic rings of analysis. A map of the rings is shown in Table 3b. The drive-access transit (DAT) bias coefficients were expected to change because they were now used to set the DAT mode shares relative to the walk-access transit (WAT) mode in the transit nest, while the previous DAT bias coefficients were used to set the DAT mode shares relative to the single-occupant vehicle (SOV) mode in the motorized nest. As a result, the new DAT coefficients are approximately equal to the difference between the original DAT and WAT coefficients (the "DAT-WAT Diff" column in Table 3).

The high-occupancy vehicle (HOV) bias coefficients change little, as in both cases they set the HOV mode shares relative to the SOV mode. The walk bias coefficients have changed some, which can be expected since they are now setting the walk mode shares relative to the highway nest mode share instead of the motorized nest mode share, and most highway and transit time and cost coefficients have been changed.

The new transit nest bias coefficients do not exhibit any relationship to the original bias coefficients. This is appropriate, as these coefficients relate the total transit mode shares to the highway nest mode shares, which was not done before. They do exhibit an

expected pattern – larger in magnitude for trips attracted to Rings 0 and 1, which are the parts of the region with the best transit service.

Since the new coefficients seem to meet expectations, the new model was deemed ready for further testing.

MODE CHOICE APPLICATION AND TRANSIT ASSIGNMENT RESULTS

Since model calibration adjusts the modal distribution to target mode shares, the application of the original model to the same base year trip table and network as used with the new model produced a nearly identical distribution of passenger trips by mode. A comparison of the results presented in Table 4 shows the new model yields a slightly higher (by less than .03%) number of transit trips and a slightly smaller (by about .01%) number of walk trips.

However, since the same path selection parameters are used with the transit assignment model for both the original and new model runs, the transit trip distributions of base year scenario trips change somewhat (see Table 5). Since the express bus and commuter rail trips are the longest and most costly and the new model is more sensitive to price, these trips are reduced more than are the other types of transit trips. Transit paths including transfers between transit services also tend to be longer and more expensive, so the new model produces fewer unlinked trips per linked transit trip. Since the number of linked transit trips remains nearly constant, the total number of unlinked transit trips will be smaller with the new model.

Similar patterns are observed when comparing the results of the 2030 No-Build scenario using the original and new home-based school models (see Tables 6 - 8). The original model estimated the linked HBSc walk-access and drive-access transit trips would rise by 6.2% and fall by 3.0%, respectively. The revised model estimated a 6.5% increase in walk-access transit trips and a 2.6% reduction in drive-access transit trips. As a result, the revised model run forecasts 0.5% more and 0.2% less linked HBSc transit and walk trips, respectively, for the 2030 No-Build scenario than does the original model run. This can be attributed to the new model's greater sensitivity to the travel time and cost improvements experienced between the base and future year scenarios.

The new model's greater elasticity to service time and cost changes also leads to larger increases (or smaller losses) in all transit sub-modes except the least expensive – local bus. Overall, 2030 No-Build scenario unlinked transit trips are forecast to be 1.2% lower with the new model, an increase over the base scenario of 2.5% instead of 2.4% as with the original model.

The new model's parameters (such as value of time and out-of-vehicle time/in-vehicle time ratio) are closer to those used in the transit assignment model, so the results should be more consistent with the changes expected as a result of service level changes between the base year scenario and future scenarios.

CONCLUSIONS

In order to have a home-based school mode choice model that can be applied to the Summit software, we revised the model structure and adjusted the coefficients so that they conform to FTA guidelines. The resulting modal bias coefficients are in some cases larger than desired, which can be attributed to the incorporation of coefficients which differ from those generated during the original model estimation process.

The distribution of trips by mode and transit sub-mode exhibits a slightly greater sensitivity to changes in travel times and costs. Since the new model parameters are more consistent with the transit path parameters, the new model may well produce results that are not just as reasonable as, but more reasonable than, the results obtained from the original model. Therefore, we feel it is appropriate to replace the original home-based school model with the revised version presented in this memorandum in all future regional model applications.

Table 1

Original Home-based School Mode Choice Model Coefficients

		Impedance Variables							Socio-Ec Variables
Home-Based School	**Nest Coefficient**	**IVTT (mins)**	**Terminal Time (mins)**	**Walk Time (mins)**	**Wait Time (mins)**	**Drive Access Time (mins)**	**Transit Fare (1991 $)**	**Auto Costs (1991 $)**	**Population Density**
SOV									
Top Level	0.5559	-0.0426	-0.1114					-0.1803	
Application Level		-0.0766	-0.2004					-0.3244	
Ratio to IVTT ($/hr)		1.0000	2.6165					$14.17	
HOV									
Top Level	0.5559	-0.0426	-0.1114					-0.1803	
Application Level		-0.0766	-0.2004					-0.3244	
Ratio to IVTT ($/hr)		1.0000	2.6165					$14.17	
WALK									
Top Level	1			-0.0791					
Application Level				-0.0791					
Ratio to IVTT ($/hr)									
WAT									
Top Level	0.5559	-0.0071		-0.0257	-0.0257		-0.0258		0.0150
Application Level		-0.0127		-0.0463	-0.0463		-0.0464		0.0270
Ratio to IVTT ($/hr)		1.0000		3.6441	3.6441		$16.44		-2.1260
DAT									
Top Level	0.5559	-0.0071	-0.0257	-0.0257	-0.0257	-0.0257	-0.0258	-0.0258	0.0150
Application Level		-0.0127	-0.0463	-0.0463	-0.0463	-0.0463	-0.0464	-0.0464	0.0270
Ratio to IVTT ($/hr)		1.0000	3.6441	3.6441	3.6441	3.6441	$16.44	$16.44	-2.1260

Table 2

Revised Home-based School Mode Choice Model Coefficients

		Impedance Variables							Socio-Ec Variables
Home-Based School	**Nest Coefficient**	**IVTT (mins)**	**Terminal Time (mins)**	**Walk Time (mins)**	**Wait Time (mins)**	**Drive Access Time (mins)**	**Transit Fare (1991 $)**	**Auto Costs (1991 $)**	**Population Density**
SOV									
Top Level	0.5559	-0.0305	-0.0904					-0.1803	
Application Level		-0.0548	-0.1626					-0.3244	
Ratio to IVTT ($/hr)		1.0000	2.9672					$10.14	
HOV									
Top Level	0.5559	-0.0305	-0.0904					-0.1803	
Application Level		-0.0548	-0.1626					-0.3244	
Ratio to IVTT ($/hr)		1.0000	2.9672					$10.14	
WALK									
Top Level	1			-0.0791					
Application Level				-0.0791					
Ratio to IVTT ($/hr)									
WAT									
Top Level	0.5559	-0.0305		-0.0791	-0.0791		-0.1803		0.0150
Application Level		-0.0548		-0.1423	-0.1423		-0.3244		0.0270
Ratio to IVTT ($/hr)		1.0000		2.5967	2.5967		$10.14		-0.4927
DAT									
Top Level	0.5559	-0.0305	-0.0904	-0.0791	-0.0791	-0.0762	-0.1803	-0.1803	0.0150
Application Level		-0.0548	-0.1626	-0.1423	-0.1423	-0.1371	-0.3244	-0.3244	0.0270
Ratio to IVTT ($/hr)		1.0000	2.9672	2.5967	2.5967	2.5018	$10.14	$10.14	-0.4927

Table 3a

Home-Based School Bias Coefficients, by Mode, Period, and Attraction ring: Original vs New

	Original HBSc					New HBSc			
	WAT Coeff	**DAT Coeff**	**HOV Coeff**	**WALK Coeff**	***DAT-WAT Diff***	**TrNest Coeff**	**DAT Coeff**	**HOV Coeff**	**WALK Coeff**
AM									
Ring 0	0.511	-1.552	1.643	5.544	*-2.063*	3.450	-1.724	1.445	7.276
Ring 1	0.752	-0.414	2.080	4.210	*-1.166*	2.479	-0.845	1.977	4.916
Rings 2-4	-1.298	-0.864	1.537	2.717	*0.434*	0.784	0.408	1.478	2.846
MD									
Ring 0	1.820	0.562	0.655	7.092	*-1.258*	5.099	-1.224	0.494	9.384
Ring 1	0.358	-0.914	0.314	3.762	*-1.272*	2.407	-1.066	0.255	4.511
Rings 2-4	-2.129	-3.186	0.612	2.045	*-1.057*	0.486	-1.703	0.536	2.149
PM									
Ring 0	1.097	-0.127	1.923	4.937	*-1.224*	3.761	-0.713	1.768	6.682
Ring 1	2.149	0.569	2.095	3.670	*-1.580*	3.454	-1.467	2.009	4.459
Rings 2-4	-0.971	-0.730	1.458	2.704	*0.241*	1.188	0.214	1.396	2.846
NT									
Ring 0	1.033	0.227	0.520	7.279	*-0.806*	4.028	-0.892	0.374	8.902
Ring 1	0.103	-1.060	0.340	3.665	*-1.163*	2.166	-0.948	0.278	4.320
Rings 2-4	-1.792	-2.504	0.596	1.991	*-0.712*	0.811	-1.423	0.523	2.101

Table 3b CTPS Rings

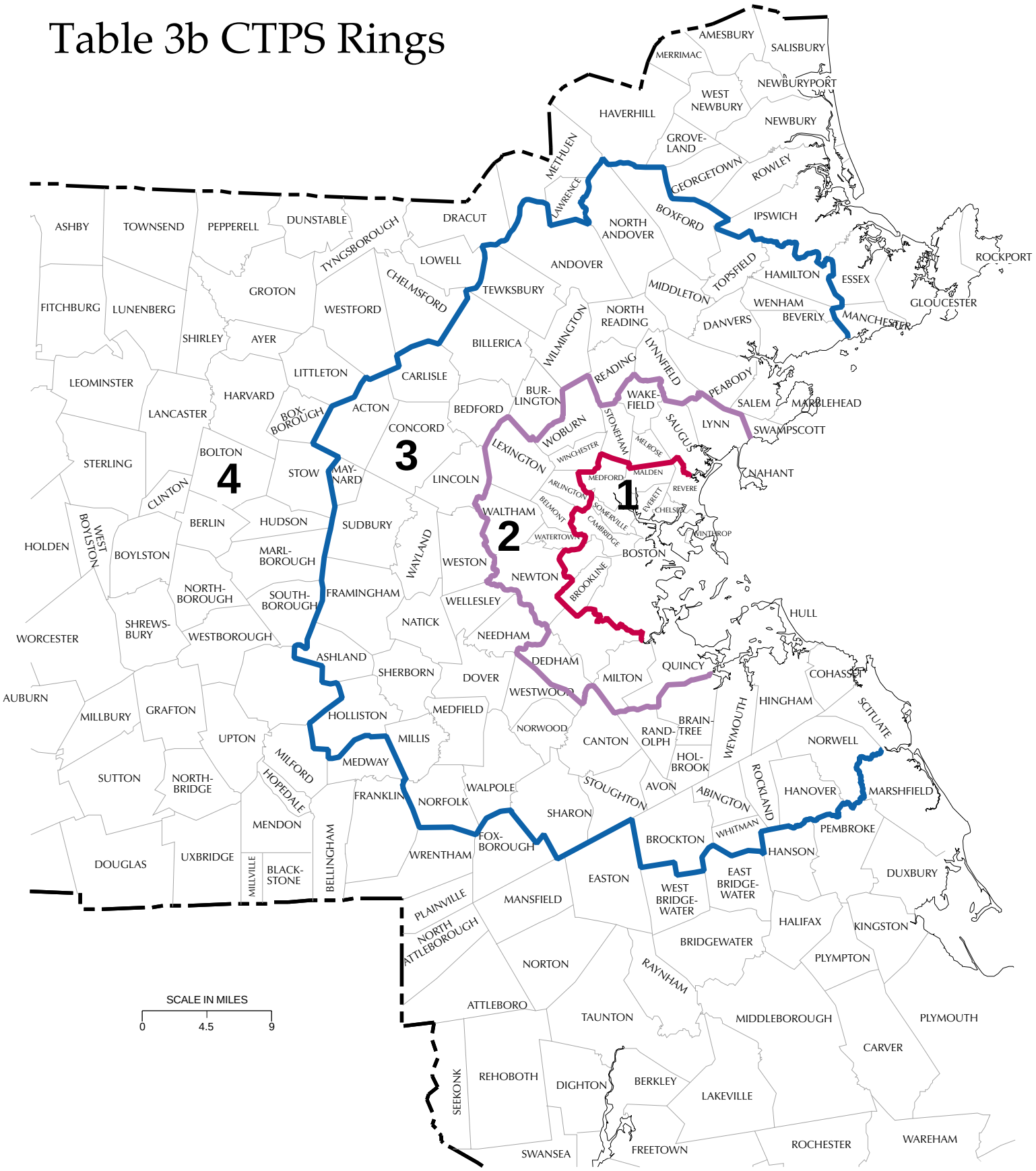


Table 4
Comparison of Intraregional Trips Modal Distributions
Original vs New Home-based School Mode Choice Models

	Base Case Scenario - Original HBSc Model (24Apr07)					Base Case Scenario - New HBSc Model (24Apr07)				
AM	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	130,895	16,051	31,783	7,906	**186,635**	130,895	16,051	31,873	7,906	**186,725**
DAT	30,888	1,893	6,741	2,267	**41,789**	30,888	1,893	6,742	2,267	**41,790**
SOV	699,041	171,464	42,976	163,315	**1,076,796**	699,041	171,464	42,974	163,315	**1,076,794**
HV2	127,917	171,511	195,909	71,424	**566,761**	127,917	171,511	195,894	71,424	**566,746**
HV3	29,148				**29,148**	29,148				**29,148**
WLK	47,938	69,102	203,217	46,851	**367,108**	47,938	69,102	203,143	46,851	**367,034**
TOT	**1,065,827**	**430,021**	**480,626**	**291,763**	**2,268,237**	**1,065,827**	**430,021**	**480,626**	**291,763**	**2,268,237**
MD	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	43,574	90,303	36,164	72,201	**242,242**	43,574	90,303	36,271	72,201	**242,349**
DAT	4,065	7,798	3,759	9,548	**25,170**	4,065	7,798	3,774	9,548	**25,185**
SOV	316,475	693,316	60,842	1,044,944	**2,115,577**	316,475	693,316	60,859	1,044,944	**2,115,594**
HV2	36,145	678,494	100,628	657,952	**1,473,219**	36,145	678,494	100,648	657,952	**1,473,239**
HV3	13,033				**13,033**	13,033				**13,033**
WLK	37,615	189,040	156,968	570,251	**953,874**	37,615	189,040	156,809	570,251	**953,715**
TOT	**450,907**	**1,658,951**	**358,361**	**2,354,896**	**4,823,115**	**450,907**	**1,658,951**	**358,361**	**2,354,896**	**4,823,115**
PM	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	82,493	44,356	17,216	55,086	**199,151**	82,493	44,356	17,229	55,086	**199,164**
DAT	23,084	6,332	3,283	12,868	**45,567**	23,084	6,332	3,284	12,868	**45,568**
SOV	523,030	634,684	16,604	601,374	**1,775,692**	523,030	634,684	16,603	601,374	**1,775,691**
HV2	89,693	587,161	69,619	312,251	**1,058,724**	89,693	587,161	69,617	312,251	**1,058,722**
HV3	26,700				**26,700**	26,700				**26,700**
WLK	36,887	240,461	70,332	211,718	**559,398**	36,887	240,461	70,320	211,718	**559,386**
TOT	**781,887**	**1,512,994**	**177,054**	**1,193,297**	**3,665,232**	**781,887**	**1,512,994**	**177,053**	**1,193,297**	**3,665,231**
NT	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	45,839	60,462	10,337	23,584	**140,222**	45,839	60,462	10,364	23,584	**140,249**
DAT	4,627	5,603	1,350	3,625	**15,205**	4,627	5,603	1,352	3,625	**15,207**
SOV	347,677	978,548	16,561	229,103	**1,571,889**	347,677	978,548	16,561	229,103	**1,571,889**
HV2	41,323	974,983	27,334	190,297	**1,233,937**	41,323	974,983	27,332	190,297	**1,233,935**
HV3	14,466				**14,466**	14,466				**14,466**
WLK	40,213	287,245	48,097	118,728	**494,283**	40,213	287,245	48,071	118,728	**494,257**
TOT	**494,145**	**2,306,841**	**103,680**	**565,337**	**3,470,003**	**494,145**	**2,306,841**	**103,680**	**565,337**	**3,470,003**
Total	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	302,801	211,172	95,500	158,777	**768,250**	302,801	211,172	95,737	158,777	**768,487**
DAT	62,664	21,626	15,133	28,308	**127,731**	62,664	21,626	15,152	28,308	**127,750**
SOV	1,886,223	2,478,012	136,984	2,038,736	**6,539,955**	1,886,223	2,478,012	136,997	2,038,736	**6,539,968**
HV2	295,078	2,412,149	393,490	1,231,924	**4,332,641**	295,078	2,412,149	393,491	1,231,924	**4,332,642**
HV3	83,347				**83,347**	83,347				**83,347**
WLK	162,653	785,848	478,614	947,548	**2,374,663**	162,653	785,848	478,343	947,548	**2,374,392**
TOT	**2,792,766**	**5,908,807**	**1,119,721**	**4,405,293**	**14,226,587**	**2,792,766**	**5,908,807**	**1,119,720**	**4,405,293**	**14,226,586**

Table 5
Comparison of Transit Unlinked Trip Distributions
Original and New Home-based School Mode Choice Models

Description of Model Changes	Base Case Scenario - Original HBSc Model (24Apr07)					Base Case Scenario - New HBSc Model (24Apr07)					
Regional Model Mode Choice & Transit Assignment Results	**AM**	**MD**	**PM**	**NT**	**Daily**	**AM**	**MD**	**PM**	**NT**	**Daily**	***Daily Change***
Unlinked transit trips by sub-mode	**330,025**	**364,796**	**348,962**	**205,509**	**1,249,292**	**322,635**	**360,721**	**345,752**	**204,323**	**1,233,431**	***-1.3%***
Commuter Rail Total	31,292	14,263	29,938	8,555	**84,048**	30,449	13,841	29,415	8,472	**82,177**	***-2.2%***
North Side Total	**9,467**	**6,161**	**11,497**	**2,958**	**30,083**	**9,337**	**5,940**	**11,415**	**2,928**	**29,620**	***-1.5%***
Newburyport/Rockport Line	4,024	2,501	4,678	967	**12,170**	4,040	2,436	4,659	954	**12,089**	***-0.7%***
Haverhill Line	2,715	1,470	2,718	755	**7,658**	2,640	1,407	2,699	746	**7,492**	***-2.2%***
Lowell Line	1,370	1,152	2,056	578	**5,156**	1,298	1,089	2,018	569	**4,974**	***-3.5%***
Fitchburg Line	1,358	1,038	2,045	658	**5,099**	1,359	1,008	2,039	659	**5,065**	***-0.7%***
South Side Total	**21,825**	**8,102**	**18,441**	**5,597**	**53,965**	**21,112**	**7,901**	**18,000**	**5,544**	**52,557**	***-2.6%***
Worcester Line	3,152	1,436	2,136	825	**7,549**	3,148	1,413	2,118	818	**7,497**	***-0.7%***
Needham Line	2,036	664	2,390	874	**5,964**	1,921	649	2,318	866	**5,754**	***-3.5%***
Franklin Line	3,462	1,373	3,120	989	**8,944**	3,439	1,338	3,106	981	**8,864**	***-0.9%***
Providence Line	3,076	1,580	1,984	1,217	**7,857**	2,935	1,544	1,941	1,209	**7,629**	***-2.9%***
Stoughton Line	2,339	1,220	3,223	919	**7,701**	2,267	1,185	3,133	913	**7,498**	***-2.6%***
Readville Line	966	781	807	378	**2,932**	940	770	794	376	**2,880**	***-1.8%***
Middleborough Line	4,642	558	2,821	235	**8,256**	4,512	530	2,759	226	**8,027**	***-2.8%***
Plymouth Line	2,152	490	1,960	160	**4,762**	1,950	472	1,831	155	**4,408**	***-7.4%***
Rapid Transit Total	**200,967**	**222,795**	**225,440**	**131,386**	**780,588**	**195,667**	**220,274**	**223,469**	**130,642**	**770,052**	***-1.3%***
Blue Line	24,254	20,473	22,072	10,661	**77,460**	23,341	20,232	21,862	10,595	**76,030**	***-1.8%***
Orange Line	38,129	36,330	41,451	16,701	**132,611**	37,141	35,590	41,027	16,496	**130,254**	***-1.8%***
Red Line	70,637	77,294	81,836	48,025	**277,792**	68,852	75,999	81,004	47,682	**273,537**	***-1.5%***
Green Line	67,947	88,698	80,081	55,999	**292,725**	66,333	88,453	79,576	55,869	**290,231**	***-0.9%***
Bus Rapid Transit	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Silver Line	0	0	0	0	**0**	0	0	0	0	**0**	
Local Bus	**90,212**	**123,148**	**87,960**	**63,607**	**364,927**	**89,470**	**122,114**	**87,508**	**63,278**	**362,370**	***-0.7%***
MBTA	82,523	110,072	80,172	62,097	**334,864**	81,329	108,861	79,498	61,756	**331,444**	***-1.0%***
Other RTA	7,689	13,076	7,788	1,510	**30,063**	8,141	13,253	8,010	1,522	**30,926**	***2.9%***
Express Bus	**7,094**	**4,577**	**5,502**	**1,942**	**19,115**	**6,605**	**4,480**	**5,242**	**1,913**	**18,240**	***-4.6%***
MBTA	6,599	4,513	4,811	1,813	**17,736**	6,164	4,418	4,577	1,787	**16,946**	***-4.5%***
Other RTA	16	0	12	6	**34**	16	0	12	6	**34**	***0.0%***
Private	479	64	679	123	**1,345**	425	62	653	120	**1,260**	***-6.3%***
Ferry Service	460	13	122	19	**614**	444	12	118	18	**592**	***-3.6%***
Linked Transit Trips	**228,424**	**267,412**	**244,718**	**155,428**	**895,982**	**228,515**	**267,534**	**244,732**	**155,456**	**896,237**	***0.0%***
Unlinked Trips per Linked Trip	**1.44**	**1.36**	**1.43**	**1.32**	**1.39**	**1.41**	**1.35**	**1.41**	**1.31**	**1.38**	***-1.3%***

Table 6
Comparison of Intraregional Trips Modal Distributions
Original vs New Home-based School Mode Choice Models

	2030 NoBuild Scenario - Original HBSc Model (2May2007)					2030 NoBuild Scenario - New HBSc Model (1May2007)				
AM	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	136,777	17,540	33,756	8,814	**196,887**	136,777	17,540	33,910	8,814	**197,041**
DAT	27,536	1,952	6,344	2,428	**38,260**	27,536	1,952	6,379	2,428	**38,295**
SOV	685,185	195,710	44,016	183,025	**1,107,936**	685,185	195,710	44,013	183,025	**1,107,933**
HV2	128,232	189,384	204,850	81,905	**604,371**	128,232	189,384	205,031	81,905	**604,552**
HV3	28,857				**28,857**	28,857				**28,857**
WLK	57,790	87,421	214,149	55,773	**415,133**	57,790	87,421	213,782	55,773	**414,766**
TOT	**1,064,377**	**492,007**	**503,115**	**331,945**	**2,391,444**	**1,064,377**	**492,007**	**503,115**	**331,945**	**2,391,444**
MD	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	47,047	80,004	38,742	63,292	**229,085**	47,047	80,004	38,951	63,292	**229,294**
DAT	3,683	8,979	3,930	9,762	**26,354**	3,683	8,979	3,882	9,762	**26,306**
SOV	308,523	787,861	61,961	1,167,327	**2,325,672**	308,523	787,861	62,099	1,167,327	**2,325,810**
HV2	36,159	747,553	104,912	743,772	**1,632,396**	36,159	747,553	105,157	743,772	**1,632,641**
HV3	13,021				**13,021**	13,021				**13,021**
WLK	42,835	262,037	165,198	676,268	**1,146,338**	42,835	262,037	164,655	676,268	**1,145,795**
TOT	**451,268**	**1,886,434**	**374,743**	**2,660,421**	**5,372,866**	**451,268**	**1,886,434**	**374,744**	**2,660,421**	**5,372,867**
PM	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	82,938	48,159	17,842	55,831	**204,770**	82,938	48,159	17,954	55,831	**204,882**
DAT	23,822	6,876	3,050	14,537	**48,285**	23,822	6,876	3,161	14,537	**48,396**
SOV	511,954	722,944	17,080	674,265	**1,926,243**	511,954	722,944	17,046	674,265	**1,926,209**
HV2	89,791	646,689	73,131	356,983	**1,166,594**	89,791	646,689	72,988	356,983	**1,166,451**
HV3	26,598				**26,598**	26,598				**26,598**
WLK	44,276	304,676	74,198	250,717	**673,867**	44,276	304,676	74,151	250,717	**673,820**
TOT	**779,379**	**1,729,344**	**185,301**	**1,352,333**	**4,046,357**	**779,379**	**1,729,344**	**185,300**	**1,352,333**	**4,046,356**
NT	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	49,718	52,094	11,081	17,987	**130,880**	49,718	52,094	11,143	17,987	**130,942**
DAT	5,252	6,769	1,356	4,141	**17,518**	5,252	6,769	1,337	4,141	**17,499**
SOV	338,096	1,108,007	16,845	259,932	**1,722,880**	338,096	1,108,007	16,881	259,932	**1,722,916**
HV2	41,512	1,070,245	28,492	218,371	**1,358,620**	41,512	1,070,245	28,543	218,371	**1,358,671**
HV3	14,575				**14,575**	14,575				**14,575**
WLK	45,539	388,709	50,495	143,111	**627,854**	45,539	388,709	50,367	143,111	**627,726**
TOT	**494,692**	**2,625,824**	**108,269**	**643,542**	**3,872,327**	**494,692**	**2,625,824**	**108,271**	**643,542**	**3,872,329**
Total	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**	**HBW**	**HBO**	**HBSc**	**NHB**	**TOTAL**
WAT	316,480	197,797	101,421	145,924	**761,622**	316,480	197,797	101,958	145,924	**762,159**
DAT	60,293	24,576	14,680	30,868	**130,417**	60,293	24,576	14,759	30,868	**130,496**
SOV	1,843,758	2,814,522	139,902	2,284,549	**7,082,731**	1,843,758	2,814,522	140,039	2,284,549	**7,082,868**
HV2	295,694	2,653,871	411,385	1,401,031	**4,761,981**	295,694	2,653,871	411,719	1,401,031	**4,762,315**
HV3	83,051				**83,051**	83,051				**83,051**
WLK	190,440	1,042,843	504,040	1,125,869	**2,863,192**	190,440	1,042,843	502,955	1,125,869	**2,862,107**
TOT	**2,789,716**	**6,733,609**	**1,171,428**	**4,988,241**	**15,682,994**	**2,789,716**	**6,733,609**	**1,171,430**	**4,988,241**	**15,682,996**

Table 7
Comparison of Transit Unlinked Trip Distributions
Original and New Home-based School Mode Choice Models

Description of Model Changes	2030 NoBuild Scenario - Original HBSc Model (2May2007)					2030 NoBuild Scenario - New HBSc Model (1May2007)					
Regional Model Mode Choice & Transit Assignment Results	**AM**	**MD**	**PM**	**NT**	**Daily**	**AM**	**MD**	**PM**	**NT**	**Daily**	***Daily Change***
Unlinked transit trips by sub-mode	**346,983**	**363,174**	**366,730**	**202,885**	**1,279,772**	**339,504**	**358,850**	**363,939**	**201,643**	**1,263,936**	***-1.2%***
Commuter Rail Total	32,387	16,750	30,698	9,745	**89,580**	31,811	16,402	30,380	9,685	**88,278**	***-1.5%***
North Side Total	**9,396**	**6,838**	**10,498**	**3,123**	**29,855**	**9,404**	**6,678**	**10,517**	**3,107**	**29,706**	***-0.5%***
Newburyport/Rockport Line	4,109	3,076	4,574	1,181	**12,940**	4,191	3,021	4,601	1,173	**12,986**	***0.4%***
Haverhill Line	2,602	1,402	2,261	703	**6,968**	2,568	1,353	2,266	696	**6,883**	***-1.2%***
Lowell Line	1,471	1,305	1,829	572	**5,177**	1,409	1,270	1,807	567	**5,053**	***-2.4%***
Fitchburg Line	1,214	1,055	1,834	667	**4,770**	1,236	1,034	1,843	671	**4,784**	***0.3%***
South Side Total	**22,991**	**9,912**	**20,200**	**6,622**	**59,725**	**22,407**	**9,724**	**19,863**	**6,578**	**58,572**	***-1.9%***
Worcester Line	3,811	2,340	3,176	1,380	**10,707**	3,793	2,317	3,158	1,375	**10,643**	***-0.6%***
Needham Line	1,555	611	2,569	992	**5,727**	1,500	599	2,523	986	**5,608**	***-2.1%***
Franklin Line	3,393	1,384	3,123	955	**8,855**	3,404	1,359	3,124	952	**8,839**	***-0.2%***
Providence Line	3,239	1,593	2,371	1,186	**8,389**	3,126	1,567	2,335	1,182	**8,210**	***-2.1%***
Stoughton Line	2,130	1,315	3,361	927	**7,733**	2,081	1,289	3,298	924	**7,592**	***-1.8%***
Readville Line	845	725	667	334	**2,571**	827	718	660	333	**2,538**	***-1.3%***
Middleborough Line	5,160	757	2,925	343	**9,185**	5,016	726	2,857	331	**8,930**	***-2.8%***
Plymouth Line	1,657	659	1,463	201	**3,980**	1,530	640	1,388	195	**3,753**	***-5.7%***
Greenbush Line	1,201	528	545	304	**2,578**	1,130	509	520	300	**2,459**	***-4.6%***
Rapid Transit Total	**198,177**	**200,388**	**222,909**	**120,754**	**742,228**	**192,897**	**197,952**	**221,202**	**120,054**	**732,105**	***-1.4%***
Blue Line	22,374	19,560	18,847	8,403	**69,184**	21,373	19,282	18,639	8,335	**67,629**	***-2.2%***
Orange Line	36,079	31,985	39,191	15,778	**123,033**	35,048	31,255	38,808	15,571	**120,682**	***-1.9%***
Red Line	71,771	71,904	86,261	46,279	**276,215**	70,014	70,566	85,514	45,932	**272,026**	***-1.5%***
Green Line	67,953	76,939	78,610	50,294	**273,796**	66,462	76,849	78,241	50,216	**271,768**	***-0.7%***
Bus Rapid Transit	**13,045**	**14,494**	**15,184**	**9,140**	**51,863**	**13,077**	**14,446**	**15,189**	**9,117**	**51,829**	***-0.1%***
Silver Line	13,045	14,494	15,184	9,140	**51,863**	13,077	14,446	15,189	9,117	**51,829**	***-0.1%***
Local Bus	**96,409**	**125,904**	**92,046**	**61,104**	**375,463**	**95,118**	**124,497**	**91,460**	**60,676**	**371,751**	***-1.0%***
MBTA	88,674	111,209	83,828	59,501	**343,212**	86,877	109,600	82,979	59,062	**338,518**	***-1.4%***
Other RTA	7,735	14,695	8,218	1,603	**32,251**	8,241	14,897	8,481	1,614	**33,233**	***3.0%***
Express Bus	**6,720**	**5,620**	**5,762**	**2,134**	**20,236**	**6,363**	**5,536**	**5,579**	**2,103**	**19,581**	***-3.2%***
MBTA	6,286	5,101	4,853	1,927	**18,167**	5,963	5,029	4,716	1,901	**17,609**	***-3.1%***
Other RTA	80	108	60	31	**279**	79	107	59	31	**276**	***-1.1%***
Private	354	411	849	176	**1,790**	321	400	804	171	**1,696**	***-5.3%***
Ferry Service	245	18	131	8	**402**	238	17	129	8	**392**	***-2.5%***
Linked Transit Trips	**235,147**	**255,439**	**253,055**	**148,398**	**892,039**	**235,336**	**255,600**	**253,278**	**148,441**	**892,655**	***0.1%***
Unlinked Trips per Linked Trip	**1.48**	**1.42**	**1.45**	**1.37**	**1.43**	**1.44**	**1.40**	**1.44**	**1.36**	**1.42**	***-1.3%***

Table 8

Comparison of Home-based School Linked Trip Distributions

	Base Scenario			2030 NoBuild Scenario			2030 NB/Base	
	Original	**New**	*New/Orig*	**Original**	**New**	*New/Orig*	**Original**	**New**
WAT	95,500	95,737	*0.2%*	101,421	101,958	*0.5%*	6.2%	6.5%
DAT	15,133	15,152	*0.1%*	14,680	14,759	*0.5%*	-3.0%	-2.6%
SOV	136,984	136,997	*0.0%*	139,902	140,039	*0.1%*	2.1%	2.2%
HV2	393,490	393,491	*0.0%*	411,385	411,719	*0.1%*	4.5%	4.6%
WLK	478,614	478,343	*-0.1%*	504,040	502,955	*-0.2%*	5.3%	5.1%
TOT	**1,119,721**	**1,119,720**		**1,171,428**	**1,171,430**			

Comparison of Total Unlinked Transit Trip Distributions

	Base Scenario			2030 NoBuild Scenario			2030 NB/Base	
	Original	**New**	*New/Orig*	**Original**	**New**	*New/Orig*	**Original**	**New**
CRR	84,048	82,177	*-2.2%*	89,585	88,279	*-1.5%*	6.6%	7.4%
RTL	780,588	770,052	*-1.3%*	742,228	732,105	*-1.4%*	-4.9%	-4.9%
BRT	0	0	*0.0%*	51,863	51,829	*0.0%*	0.0%	0.0%
Rapid	780,588	770,052	*-1.3%*	794,091	783,934	*-1.3%*	1.7%	1.8%
Local	364,927	362,370	*-0.7%*	375,463	371,751	*-1.0%*	2.9%	2.6%
Exp	19,115	18,240	*-4.6%*	20,236	19,581	*-3.2%*	5.9%	7.4%
Boat	614	592	*-3.6%*	402	392	*-2.5%*	-34.5%	-33.8%
	1,249,292	**1,233,431**	*-1.3%*	**1,279,777**	**1,263,937**	*-1.2%*	2.4%	2.5%
Ratio	1.39	1.38	*-1.3%*	1.43	1.42	*-1.3%*	2.9%	2.9%

APPENDIX B

Walk Access Link Generation

MEMORANDUM

TO: **Files** **November 28, 2005**

FROM: **Mark Scannell**

RE: **Update: Methodology for Estimating Transit Access Measures**

This memorandum provides an update of the methodology used at CTPS to estimate transit walk access measures for both the new 2727-zone Regional Model set and the older 986-zone models. The estimation of these measures involves the construction of walk access links between transit stops (bus, rapid transit, commuter rail and ferry) and all traffic zones within a one-mile service radius. The methodology was originally developed by Paul Reim and is documented in his May 8, 1997 memo, "Methodology for Estimating Transit Access Measures." While the inputs to this process have changed over the years and modifications have been made to improve ease of use and efficiency, the basic methodology remains unchanged. Since Paul's memo still remains the definitive reference document for the mechanics, this memo will concern itself with an overview of the process as well as a description of the current inputs.

Overview

The estimation of walk access links between transit stops and traffic zones is based on a measurement of the shortest path distances between the two along a walk network. The location of the transit end of the path is easily fixed, with the geographic position of transit stops taken directly from the modeling network. The location of the zonal end of the path is less definite. One option, which was initially considered and abandoned, was to use the walk network intersection closest to the zone centroid as the zonal end of the path. Problems associated with this choice included the somewhat arbitrary positioning of the centroid at the zonal center of land mass and the inability to model walk access when only a portion of the zone falls within the service area of a transit stop.

Given these concerns, a broader and more flexible interpretation on the zonal end of the path was implemented. The path-building process was opened up to include multiple paths, radiating from each transit stop to all walk network intersections within the one-mile service radius. The walk distance between a stop and a zone was then calculated by averaging the distances of the multiple paths that exist between that stop and all walk network intersections that lie within the zone. Where just a portion of a zone lies within the service area, only intersections within that area are considered. This method of averaging the distance of multiple paths has the additional benefit of skewing the zonal end of the paths toward areas with a greater density of intersections, presumably those areas with higher development densities.

Inputs to the Process

The implementation of this method involves three basic inputs:

- Walk Network Roadway Coverage - an arc coverage representing the universe of roadways suitable for walking within the study area. Path building and distance skimming between transit stops and zones will occur along this coverage.
- Walk Network Intersection Coverage - a point coverage representing the location of intersections within the walk network coverage. In the development of paths, these points can be considered the zonal end.
- Transit Stops Coverage - a point coverage representing transit stop locations within the modeled network. In the development of paths between stops and zones, these points can be considered the transit end.

A short discussion on the development of these inputs follows.

Development of Walk Network Roadway Coverage

The GIS-based walk network was derived from the most recent Digital Line Graph (DLG) coverage. In order to reduce overhead, this statewide coverage was first clipped to include only roadways within the Regional Model study area. Within this coverage, non-walkable roadways such as Interstates, limited-access highways and ramps were identified through their Highway Inventory codes and deleted. A manual review of the network was then performed to identify non-walkable roadways that may have been overlooked by this process. Additionally, a number of walk-only connectors were coded in the Boston core to augment the network.

Development of Walk Network Intersection Coverage

A point coverage of walk network intersections was derived from the walk network roadway coverage by converting arc endpoint nodes to stand-alone points. In order to identify the zonal end of paths during the estimation process, this point coverage was intersected with the zones coverage to assign an identifying zone number to every intersection point.

Development of Transit Stops Coverage

The point coverage of transit stops was derived from the CTPS modeling networks, which exist in EMME/2 link/node format. These networks can reflect either the new 2727-zone Regional Model set or the older 986-zone production model sets. The first step in developing the stops coverage is the conversion of an EMME/2-formatted link/node network to a comparable GIS-format network coverage. This process involves unbuilding an EMME/2 binary network to link and node records, reformatting these records and rebuilding the network in a GIS-format using the EMME/2 EMARC

functionality. Within the resulting network coverage, the node feature is converted to a stand-alone point coverage, with points retaining the identifying node numbering of the base network. Since only a fraction of these points actually represent transit stops, a culling process occurs. Using an Excel-based inventory of transit stop node numbering, it is possible to isolate and delete those points that do not represent transit stops, leaving a pure transit stop point coverage.

Conclusion

The methodology for the estimation of transit walk access measures is a stable, proven and flexible modeling tool. As with any tool, there will always be the need for updating and improvements. In the coming year, we will begin the process of migrating the programs from Arc/INFO to the newer ArcGIS platform. As time permits, we will also continue to verify the currency and accuracy of the input data. Given the broad, regional scope of this process, the tool can never be considered static or its development complete.

DRAFT MEMORANDUM

TO: **Green Line Project Files** **April 15, 2009**

FROM: **Bruce Kaplan, Scott Peterson**

RE: **Peak Loads and Capacity Concerns**

As part of the Green Line Extension Study, CTPS was asked to analyze and address future year peak load and capacity concerns on the currently highly-used Green Line rapid transit service, specifically in the heavily-traveled Central Subway portion shared by the 4 different Green Line branches. This memorandum examines the future year 2030 model results for the preferred Build alternative (Alternative 2 with no parking at MVP station) against the carrying capacity of the Green Line system. The peak period peak load points are first identified for three distinct segments of the Green Line corridor: the shared Central Subway portion, the portion north/east of the Central Subway, and the portion south/west of the Central Subway. These peak period load points are then factored for the peak hour, when the highest ridership occurs, and subsequently compared to the system's capacity for handling them, as dictated by MBTA policy. The analysis presented displays that all of the various segments on the different Green Line branches are capable of accommodating the peak transit loads in both the AM and PM peak hours.

ASSUMPTIONS

Train Sets, Seated Capacities, and Maximum Loads

The number of train sets in service is approximately calculated by dividing the service period time by the service frequency; CTPS assumes 3 hour peak periods and one hour peak hours. Sometimes, as in this case, an extra train set does appear. Two cars are assumed per Green Line train set. Seated capacity on each Green Line car is assumed to be 46, meaning that seated capacity on each train set is 92. MBTA policy dictates the maximum load per Green Line car to be 104; thus the maximum load per train set is 208.

Service Frequency

Future year (2030) Green Line service plans were developed and provided to CTPS by the project's primary consultant. Service on the B Line and D Line is assumed to occur every 5 minutes during the peak period. C Line and E Line service is assumed to be provided every 6 minutes in the peak period. The Central Subway frequencies are calculated by combining the headways of all the branches.

Peak Hour/Peak Period Ratio

An historical examination of Boston area rapid transit lines disclosed that approximately 40% of the 3 hour peak period travel has consistently occurred during a single peak hour; this is a bit higher than anaverage assumption (33.3%) of travel would be. However, historical MBTA peak hour percentages of the peak period have shown wide fluctuations from year to year on the distinct segments of various Green Line branches, ranging from roughly the average percentage (33.3%) of transit trips to well exceeding 50% of transit trips. Hence, a decision was made to use the standard 40% systemwide benchmark across time periods and Green Line segments.

CONCLUSIONS

The tables and figures on the following page display the results of the future year Green Line peak load capacity analysis. Not surprisingly, the greatest peak load segments for the non-Central Subway portions occur on Green Line segments in very close proximity to the Central Subway portion. All but one peak load segment's volume (AM peak hour for the E Branch north/east of the Central Subway) exceeds the seated capacity. When the peak hour is assumed to contain 40% of the peak period travel, none of the peak load segments' volumes exceed the MBTA maximum load service policy. Figures 1 and 2 display the locations of the peak load segments in the Central Subway in the AM peak hour, while Figures 3 and 4 display the locations of the peak load segments in the Central Subway in the PM peak hour. In the AM peak hour (Table 1), volumes on the peak load segments for the Central Subway westbound (Government Center-Park Street) and the D Branch north of the Central Subway (Science Park-North Station) exceed 90% of the MBTA maximum load service policy. In the PM peak hour (Table 2), volumes on the peak load segments for the Central Subway westbound (Boylston-Arlington) and the C Branch west of the Central Subway (St. Mary's St.-Hawes) exceed 90% of the MBTA maximum load service policy.

Table 1
GREEN LINE EXTENSION PREFERRED ALTERNATIVE
PEAK LOADS IN THE 2030 AM PEAK PERIOD AND PEAK HOUR

		AM Peak Train Set Info						AM Peak 1 Hour Service Info						3-hour Data	
Green Line Branch	Peak Load Point	Headway (min.)	Cars / Train Set	Car Seated Capacity	Car Policy Max Load	Train Set Seated Capacity	Train Set Policy Max Load	Train Sets	Seated Capacity	Service Policy Max Load	Modeled Volume	Volume / Seated Capacity	Volume / Policy Max Load	Modeled Volume	Peak Hour / Peak Period
B-Boston College	Pleasant St.-St. Paul St.	5	2	46	104	92	208	13	1,196	2,704	2,008	1.68	0.74	5,020	0.40
C-Cleveland Circle	Hawes-St.Mary's St	6	2	46	104	92	208	10	920	2,080	1,338	1.45	0.64	3,344	0.40
D-Riverside	Kenmore-Fenway	5	2	46	104	92	208	13	1,196	2,704	1,770	1.48	0.65	4,426	0.40
E-Heath Street	Copley-Prudential	6	2	46	104	92	208	10	920	2,080	1,110	1.21	0.53	2,774	0.40
Central Subway NB	Arlington-Boylston	1.3	2	46	104	92	208	46	4,232	9,568	6,265	1.48	0.65	15,663	0.40
Central Subway WB	Govt Ctr - Park St	1.3	2	46	104	92	208	46	4,232	9,568	9,512	2.25	0.99	23,779	0.40
North-D	Science Park-North Sta	5.0	2	46	104	92	208	13	1,196	2,704	2,502	2.09	0.93	6,256	0.40
North-E	North Sta - Science Park	6.0	2	46	104	92	208	10	920	2,080	889	0.97	0.43	2,222	0.40

Figure 1: Central Subway NB 2030 AM Peak Load Segment



Figure 2: Central Subway WB 2030 AM Peak Load Segment

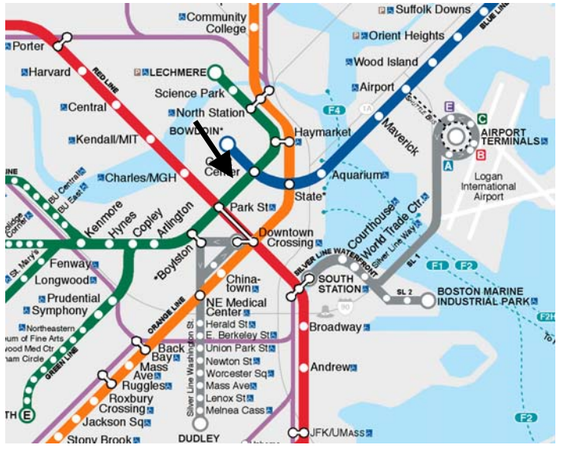


Table 2
GREEN LINE EXTENSION PREFERRED ALTERNATIVE
PEAK LOADS IN THE 2030 PM PEAK PERIOD AND PEAK HOUR

		PM Peak Train Set Info						PM Peak 1 Hour Service Info						3-hour Data	
Green Line Branch	Peak Load Point	Headway (min.)	Cars / Train Set	Car Seated Capacity	Car Policy Max Load	Train Set Seated Capacity	Train Set Policy Max Load	Train Sets	Seated Capacity	Service Policy Max Load	Modeled Volume	Volume / Seated Capacity	Volume / Policy Max Load	Modeled Volume	Peak Hour / Peak Period
B-Boston College	Kenmore-Blandford St	5	2	46	104	92	208	13	1,196	2,704	1,839	1.54	0.68	4,598	0.40
C-Cleveland Circle	St.Mary's St.-Hawes	6	2	46	104	92	208	10	920	2,080	2,038	2.21	0.98	5,094	0.40
D-Riverside	Kenmore-Fenway	5	2	46	104	92	208	13	1,196	2,704	2,336	1.95	0.86	5,839	0.40
E-Heath Street	Copley-Prudential	6	2	46	104	92	208	10	920	2,080	1,392	1.51	0.67	3,480	0.40
Central Subway NB	Arlington-Boylston	1.3	2	46	104	92	208	46	4,232	9,568	7,437	1.76	0.78	18,592	0.40
Central Subway WB	Boylston-Arlington	1.3	2	46	104	92	208	46	4,232	9,568	8,625	2.04	0.90	21,562	0.40
North-D	North Sta – Science Park	5.0	2	46	104	92	208	13	1,196	2,704	1,831	1.53	0.68	4,578	0.40
North-E	North Sta - Science Park	6.0	2	46	104	92	208	10	920	2,080	1,130	1.23	0.54	2,824	0.40

Figure 3: Central Subway NB 2030 PM Peak Load Segment

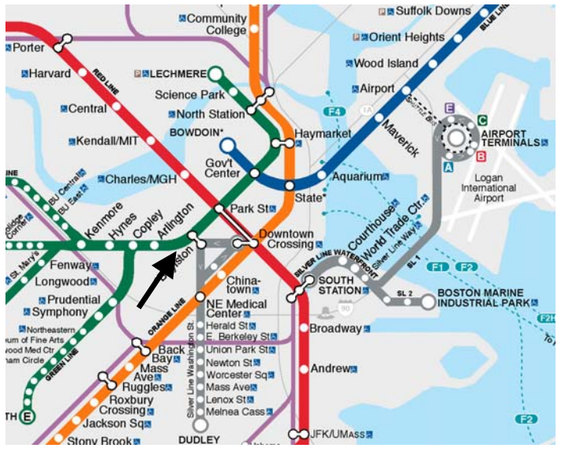
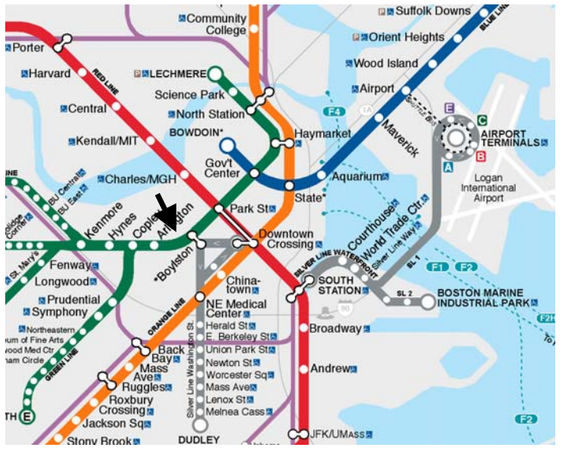


Figure 4: Central Subway WB 2030 PM Peak Load Segment



Appendix E
Plans and Feasibility Analysis for Proposed Community Paths

Somerville Community Path: Viability of Spur Extension from Lowell Street to Mystic Valley Parkway

Green Line Extension Project

Prepared for **Executive Office of Transportation & Public Works**
Boston, Massachusetts

Prepared by ***VHB*/Vanasse Hangen Brustlin, Inc.**
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December 2008

DRAFT

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1

Introduction

This chapter will provide an overview of the intent of this document, as well as a overview of the various tunnel alignments proposed.

1.1 Overview

The Secretary's Certificate on the Expanded Environmental Notification Form (EENF) stated: "Also, the DEIR should evaluate the viability of extending the Community Path to Route 16 to create a connection with the Mystic River Parkway." Figure 1 shows this extension proposal on a map of the regional path system.

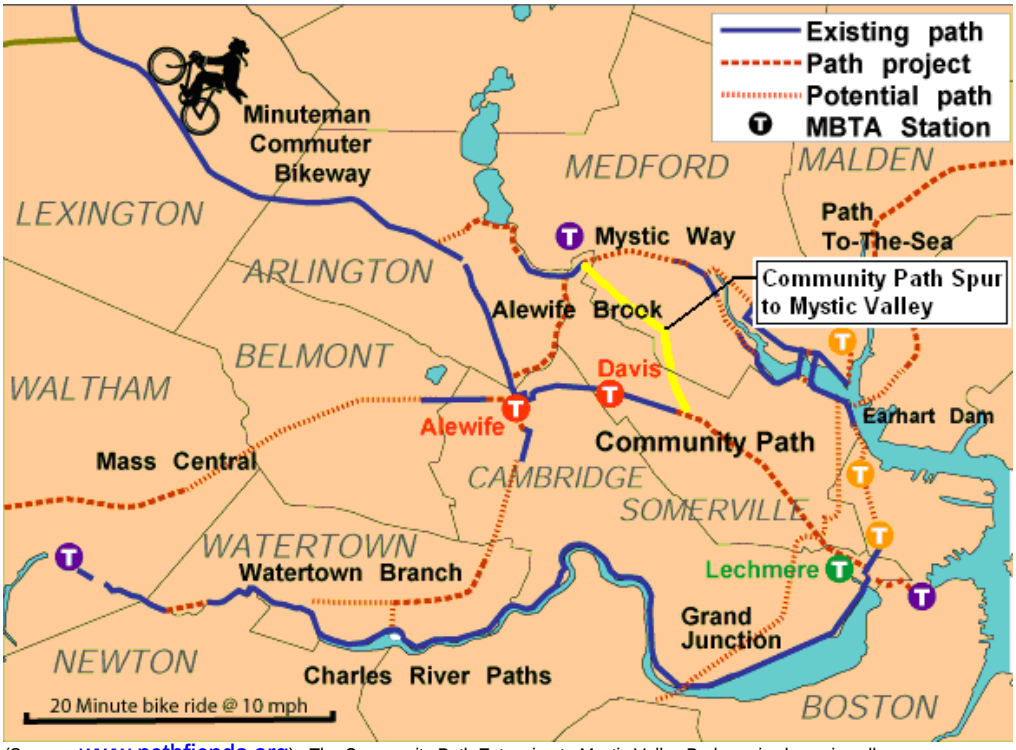
This memorandum will summarize this proposal, consider alternative path alignments, and examine the viability of the path alignment segments.

1.2 Overview of Path Extension Proposal

This extension proposal would create a spur to the Community Path. The main path is intended to run from Davis Square to NorthPoint in Cambridge. The Mystic Valley spur would connect to the main path at Lowell Street. From that point, it would follow the proposed Green Line Extension to Ball Square and into Medford. At Mystic Valley Parkway, the extension spur could connect to the existing pathway system through the DCR reservation along the Mystic River.

Figure 1-1 shows that existing and proposed pathways would connect from the end of the Community Path spur to Alewife, Mystic Lakes, and Medford Square.

Figure 1-1: Regional Path Map with Somerville Community Path and Path Extension Spur



(Source: www.pathfiends.org) The Community Path Extension to Mystic Valley Parkway is shown in yellow.

1.3 Path Connectivity

This proposal for a path extension spur from Lowell Street to Mystic Valley Parkway would provide for connectivity with other paths at each end.

1.3.1 Path Connections at Lowell Street

At Lowell Street, the spur would connect with the main Community Path. To the northwest of this junction, the Community Path reaches Davis Square. To the south, the Community Path is proposed to pass City Hall and the High School on its way towards the East Somerville, Brickbottom and Inner Belt neighborhoods, and ultimately to the NorthPoint development where a proposed multi-use path in the Central Park would lead to the Charles River pathway system (Paul Dudley White Path).

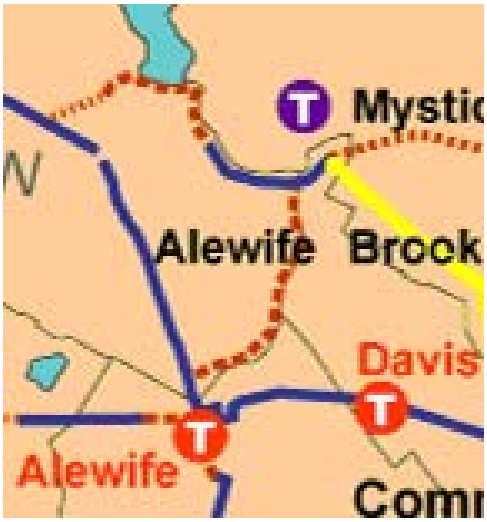
1.3.2 Path Connections at Mystic Valley Parkway

An extension of the path to Mystic Valley Parkway would provide potential connections to existing proposed and existing paths including:

- Mystic Valley River path upstream to Mystic Lakes and (proposed) extension to Minuteman Path at Arlington Center

- Mystic Valley River path (proposed) downstream to Medford Square (with proposed extension to Charlestown)
- Alewife Brook path (proposed) upstream to Alewife Station; path connections at Alewife include:
  - Minuteman Path to Arlington, Lexington, and Bedford
  - Linear Path to Davis Square and connection to Somerville Community Path
  - Belmont-Cambridge path to Blanchard Street (segment of proposed Central Massachusetts rail-trail to Northampton)
  - Paths along Fresh Pond Parkway to Fresh Pond and proposed extension to Paul Dudley White path at Charles River.

Figure 1-2: Path Connections at Mystic Valley Parkway



2

Evaluation of Viability

2.1 Method of Evaluation

2.1.1 Approach

A two step process was used to evaluate the viability of this path extension proposal:

- Define specific alignment and alternatives
- Divide the alignment into segments and evaluate typical sections for each segment of to determine if a path is viable within each segment

Design Criteria

The design criteria are the same for the main segment of the path. The path extension must meet the criteria for a multi-use path. The path purposes include:

- Walking (including use of mobility aids)
- Bicycling
- Roller blading
- Connecting neighborhoods
- Connections to Green Line Stations

The design criteria are as follows:

General Criteria:

- 12′ wide with 2′ shoulders on each side
- Min. total width required: 16 feet
- May narrow to 10′ wide for short "pinch points" due to existing constraints
- Maximum grade without railings: 4.9%
- Bituminous paving
- Centerline stripe
- Lighting provided
- Landscaping
- Benches
- Wireless Alarm System

Accessibility Criteria:

- Compliant with ADA and MAAB
- Compliant with 36 CFR Part 1195 - Architectural Barriers Act (ABA) - Accessibility Guidelines for Outdoor Developed Areas
- Federal Highway Administration *Designing Sidewalks and Trails for Access* Part II of II: Best Practices Design Guide

Evaluation Criteria

The primary screening factors will be the following:

- Is there sufficient width for the 12-foot path with shoulders?
- Is this width available for the entire length of the segment or sub-segment?

These factors will be applied to the width that remains after consideration of the proposed 4-track alignment (Green Line plus commuter rail), the retaining walls required to provide width sufficient for the 4 tracks, and the location of the existing MBTA right-of-way line (sometimes called a property line).

Where this remaining width between the retaining wall and the ROW line is at least 16 feet (preferably greater), the width is considered sufficient for a possible path.

2.2 Alternative Alignments

While the Secretary's Certificate does not define an alignment, it is assumed that this extension spur would be similar in concept to the main trunk of the Community Path. In other words, the path would run generally within or parallel to Lowell Line right-of-way.

Between Ball Square and Mystic Valley Parkway, there is a possible alternative alignment along Boston Avenue, which runs parallel to the Lowell Line, about a

block to the west. However, due to its limited width, a Boston Avenue alignment would be an "on street" facility, such as a mix of pedestrians using the sidewalk and an on-street bike facility such as bike lanes or wide shared lanes.

2.3 Evaluation by Segment

The evaluation looks at segments that are defined by the proposed Green Line stations. Sub-segments were defined by the existing street crossings of the Lowell Line right-of-way. The segments and sub-segments are:

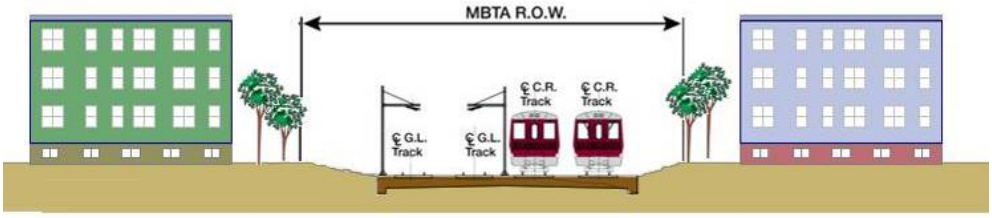
- Lowell Street to Ball Square
  - Lowell Street to Cedar Street
  - Cedar Street to Ball Square
- Ball Square to College Avenue
  - Ball Square to Harvard Street
  - Harvard Street to College Avenue
- College Avenue to Mystic Valley Parkway
  - College Avenue to Winthrop Street
  - Winthrop Street to North Street
  - North Street to Mystic Valley Parkway

2.3.1 Lowell Street to Ball Square

General Character

In this segment, the trackbed is in a shallow cut, typically about 3 to 6 feet below the grade of the adjacent properties. See Figure 2-1 below.

Figure 2-1: Typical Section: Lowell Street to Ball Square



Lowell Street to Cedar Street

This sub-segment is characterized by mostly residential uses on either side of the right-of-way. The proposed new residential development will be immediately north of Lowell Street on the west side of the right-of-way. Just south of Cedar Street on

the east side in the Somerville Department of Public Works (DPW) buildings and yard. See Figure 2-2.

Figure 2-2: Lowell Street to Cedar Street



Cedar Street to Ball Square

This sub-segment is also characterized by mostly residential uses on either side of the right-of-way. A few commercial uses exist along the east side of the right-of-way approaching Broadway. See Figure 2-3.

Figure 2-3: Cedar Street to Ball Square

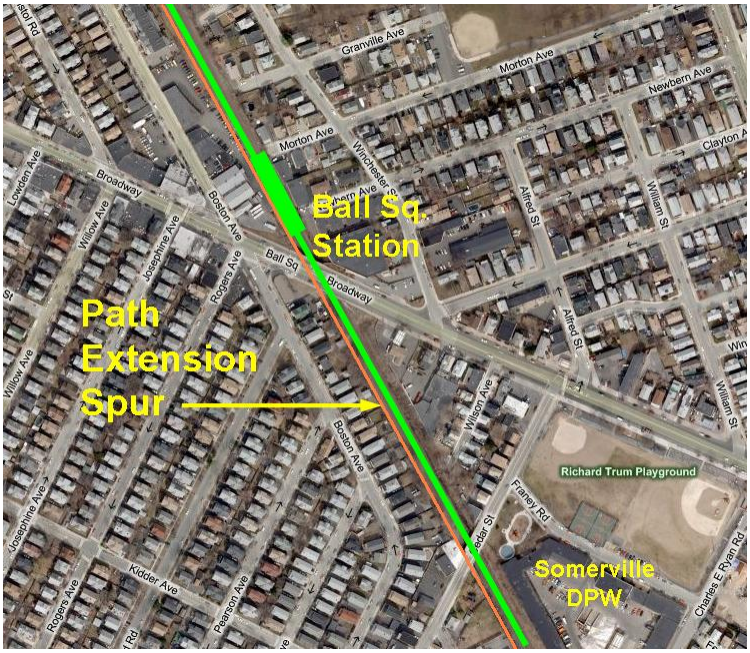


Table 2-1 Available Width for Path Extension: Lowell Street to Ball Square

Location	Baseline Station	Width – West Side of ROW	Width- East Side of ROW
North end of Lowell St. station	208+00	13 feet	13 feet
At Somerville DPW	216+00	14 feet	8 feet
Between Cedar & Broadway	224+00	18 feet	7 feet

Conclusion

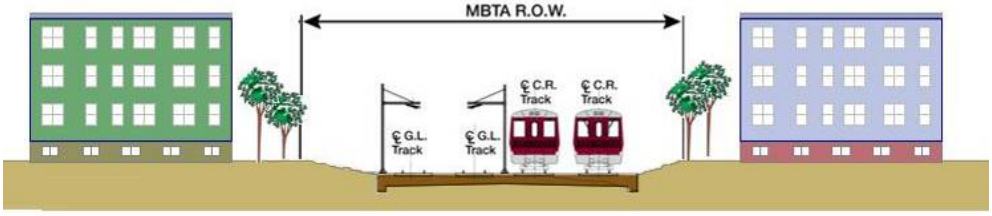
The remaining right-of-way is not sufficient to accommodate the pathway through the length of the segment from Lowell Street to Ball Square.

2.3.2 Ball Square to College Avenue

General Character

In this segment, the trackbed elevation transitions with respect to the adjacent grade. Just north of Broadway and just south of College Avenue, the trackbed is in a shallow cut, typically a few feet below the grade of the adjacent properties. See Figure 2-4 below.

Figure 2-4: Typical Section: Ball Square North



Approach Harvard Street from either direction, the trackbed is elevated on a fill above adjacent properties. The height of that fill varies, with the greatest height nearer to Harvard Street.

Ball Square to Harvard Street

This sub-segment is a mix of residential, commercial and industrial land uses, with a recent shift towards more residential. The right-of-way transitions from at-grade to an embankment at Harvard Street. See Figure 2-5.

Figure 2-5: Ball Square to Harvard Street



Harvard Street to College Avenue

This sub-segment is a mix of institutional (related to Tufts University), commercial and industrial land uses, with a recent shift towards more institutional. The right-of-way transitions from an embankment at Harvard Street to a cut on the west side and at-grade on the east side at College Avenue. See Figure 2-6.

Figure 2-6: Harvard Street to College Avenue

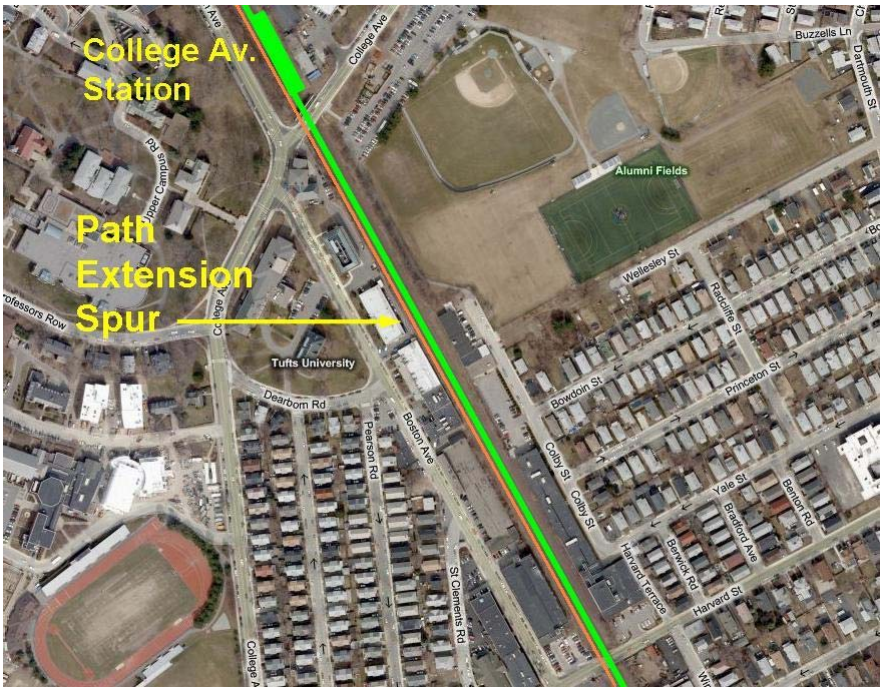


Table 2-2 Available Width for Path Extension: Ball Square to College Ave.

Location	Baseline Station	Width – West Side of ROW	Width- East Side of ROW
North of Ball Sq. station	237+00	0 feet	0 feet
Just south of Harvard Street	243+00	0 feet	0 feet
600 feet north of Harvard Street	250+00	7 feet	16 feet
700 feet north of Harvard Street	251+00	7 feet	8 feet
450 feet south of College Avenue	257+00	5 feet	16 feet
50 feet south of College Avenue	261+00	0 feet	16 feet

Conclusion: Segment from Ball Square to College Avenue

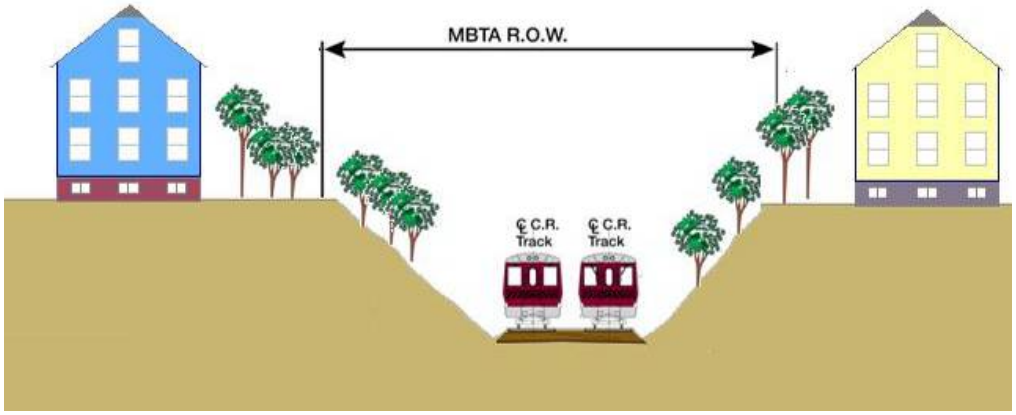
The remaining right-of-way is not sufficient to accommodate the pathway through the length of the segment from Ball Square to College Avenue.

2.3.3 College Avenue to Mystic Valley Parkway

General Character

College Avenue marks the return to an existing cut configuration, as illustrated in Figure 2-7. This cut section it typical through the Hillside neighborhood past Winthrop Street. Approaching North Street, the right-of-way transitions back to being relatively at the same grade as the adjacent properties. Approaching the bridges at Mystic Valley Parkway and the Mystic River, the right-of-way is in a fill section above the grade of the adjacent properties.

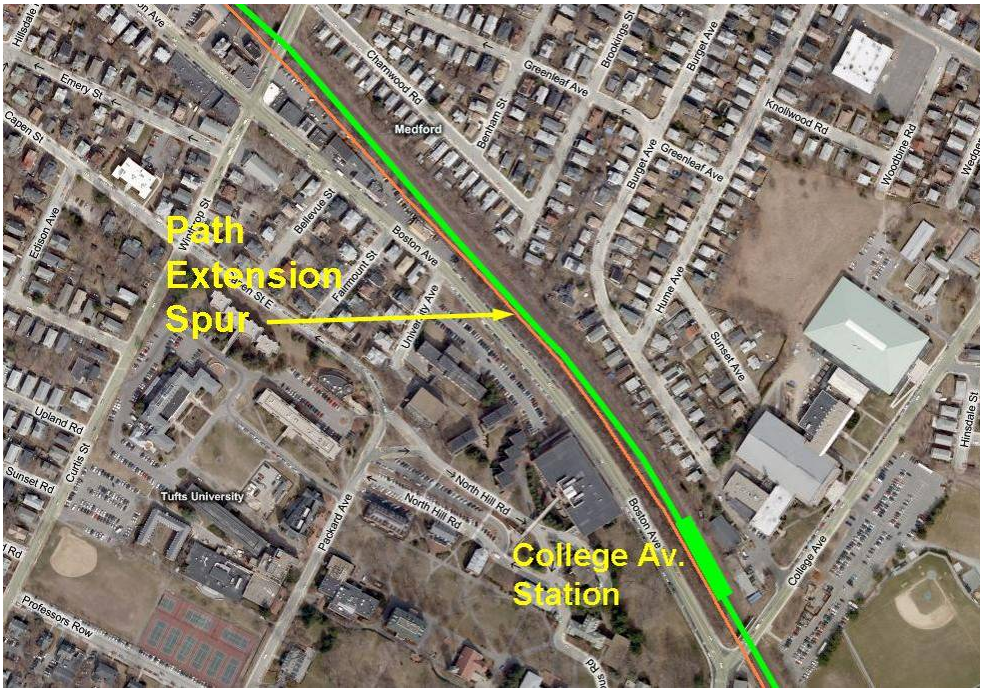
Figure 2-7: Existing Conditions: Medford Hillside (North of Lowell Street)



College Avenue to Winthrop Street

This sub-segment is a mix of residential and commercial land uses along Boston Avenue and residential uses on the east side of the ROW, except for the Tufts University facilities near College Avenue. The right-of-way is predominately in a cut section below the grade of the adjacent properties. See Figure 2-8.

Figure 2-8: College Ave. to Winthrop Street



Winthrop Street to Mystic Valley Parkway

This sub-segment is also mix of residential, commercial and industrial land uses. From Winthrop Street to North Street, it is predominantly residential. Just north of North Street is elderly housing on the east side of the ROW. On the west side north of North Street are commercial buildings, some renovated from prior industrial uses. The ROW transitions from cut to fill over the length of this sub-segment. See Figure 2-9.

Figure 2-9: Winthrop Street to Mystic Valley Parkway



Evaluation of Alternatives: College Avenue to Mystic Valley Parkway

This segment offers three alternatives for consideration:

- Path along ROW with "open cut"
- Path along ROW with decking
- Bike lanes or cycle tracks along Boston Avenue
- Green Line termination at College Avenue

Evaluation: Open Cut

Figure 2-10 shows the project proposal for a 4-track configuration with two Green Line tracks and two commuter rail tracks, all within a cut section with retaining walls. Table 2-3 indicates the available width for a path within this segment.

Figure 2-10: Proposed Conditions: Open Cut North of Lowell Street

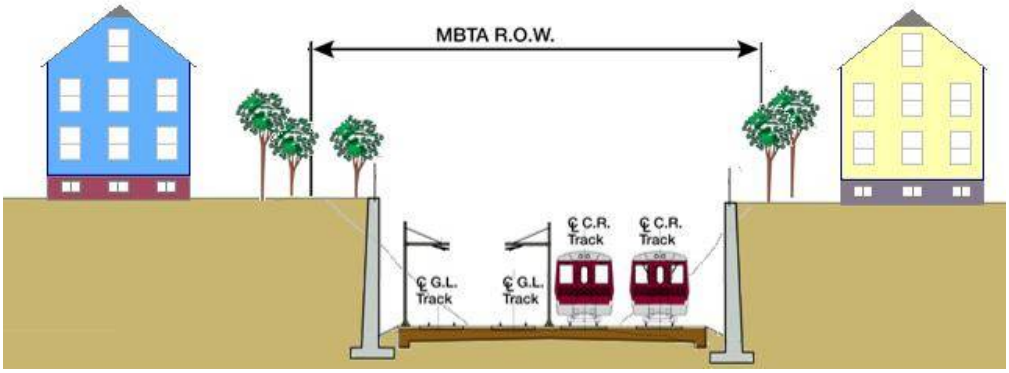


Table 2-3 Available Width for Path Extension: College Ave. to Mystic Valley Parkway (Open Cut)

Location	Baseline Station	Width – West Side of ROW	Width- East Side of ROW
North of College Ave. station	269+00	36 feet	10 feet
850 feet south of Winthrop Street	275+00	40 feet	19 feet
550 feet south of Winthrop Street	278+00	23 feet	18 feet
350 feet south of Winthrop Street	281+00	4 feet	18 feet
200 feet north of Winthrop Street	286+00	23 feet	18 feet
600 feet north of Winthrop Street (50 feet south of Piggott Road	290+00	23 feet	14 feet
800 feet north of Winthrop Street (adjacent to Piggott Road)	292+00	20 feet	14 feet
300 feet south of North Street	295+00	16 feet	12 feet
200 feet north of North Street	300+00	0 feet	12 feet
South of Mystic Valley station	302+00	0 feet	15 feet
At Mystic Valley station	307+00	0 feet	24 feet

Conclusion: Open Cut

In much of the sub-segment between College Avenue and Winthrop Street, there would be sufficient room for the path, on either side of the ROW, if retaining walls are constructed and the ROW between the walls and the property line is leveled for the path. Each side has some segments that are too narrow. On the east side, in the southern portion of the segment adjacent to property owned by Tufts, the available width of ROW is too narrow and there are existing building abutting the ROW, so the width cannot be widened by obtaining a sliver easement from Tufts. On the west side, the width is sufficient, except for the section near Sta. 281+00 where the temporary layup track is provided.

In the sub-segment between Winthrop Street and North Street the east side of the ROW is marginally sufficient, but the west side of the ROW appears to be sufficiently wide, assuming retaining walls and that the width between the retaining wall and the property line is leveled for the path.

North of North Street, there is not sufficient width on either side for a path.

In summary, while portions of some sub-segments would have sufficient width for a path, there are other locations where this is not possible. Therefore, it does not appear feasible to have a path within the right-of-way for the full length of the segment from College Avenue to Mystic Valley Parkway with the open cut configuration.

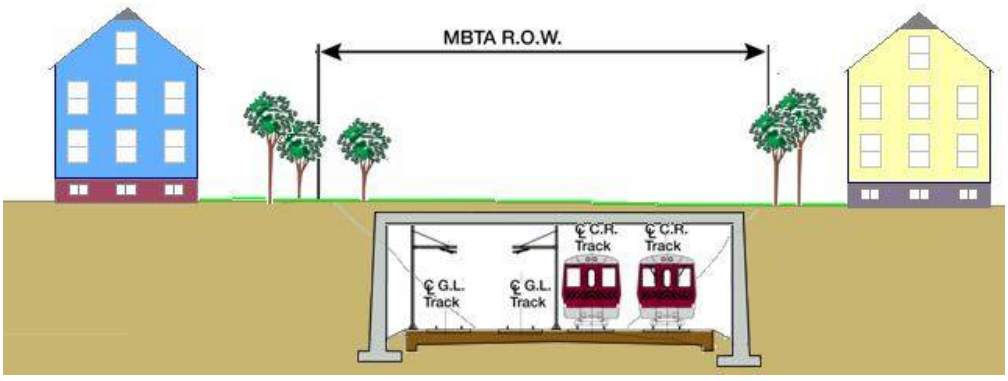
Evaluation: Decking

Figure 2-11 shows a configuration with decking, as considered in the Tunnel Alternatives Memorandum. The decking allows room for the path to be over the deck while within the ROW.

The decking would only be used where the ROW is in a cut section, namely where the trackbed is below the grade of the adjacent properties. North of Winthrop Street, where the ROW transitions to be at-grade with the adjacent properties, the decking alternative is not under consideration. In these areas, the deck would be high above the adjacent properties and would require columns to support it.

As noted in the Tunnel Alternatives memorandum, the decking alternative adds significant cost to the project (approximately $400,000). If the decking is not required for the Green Line extension itself, the cost would be prohibitive as part of a path project.

Figure 2-11: Decked Tunnel Alternative - North of Lowell Street



Conclusion: Decking

The right-of-way is sufficient to accommodate the pathway through the length of the segment from College Avenue to the end of the cut section between Winthrop Avenue and North Street. Beyond this point, the remaining right-of-way is not sufficient to accommodate the pathway continuing to Mystic Valley Parkway. In total, a continuous path from College Avenue to Mystic Valley Parkway is not possible, even with decking.

Evaluation: Boston Avenue bike lanes or cycle track

Boston Avenue runs parallel to the Lowell Line, about a block to the west. Consideration was given to use of this corridor for a path facility in lieu of the Lowell Line ROW. This could be on-street bike lanes, or use of a cycle track (a raised bikeway at the same level as the sidewalk).

Bike lanes would be dedicated striped lanes, one in each direction, each measuring about 5 feet in width. Where there is no parking permitted, the bike lane is along the curb. Where there is parking, the bike lane is between the parking lane and travel lane. See Figure 2-12.

Figure 2-12: Example of On-Street Bike Lane



To determine the feasibility of adding bike lanes, field measurements would be needed for the curb-to-curb widths. Based on Google street view photographs, it appears the width varies and in some places bike lanes may fit while in other locations, they would not.

Regardless of the feasibility of adding bike lanes to Boston Avenue, an on-street bike facility is quite different from an off-street multi-use path. While the path would accommodate a variety of users in an environment separated from motor vehicle traffic (except at street crossings), and on-street facility would be limited to bicyclists who possess the skills to ride in traffic.

A cycle track is a dedicated bikeway located at the same elevation as the sidewalk. Figure 2-13 shows the cycle track along Vassar Street in Cambridge. Note there is a 3 to 5-foot wide buffer between the curb line and the cycle track. In this location, the cycle track is next to the sidewalk, but differentiated by a different material and the use of bicycle stencils and direction arrows.

Figure 2-13: Example of Cycle Track



Design considerations include the conflicts between cyclists and pedestrians, conflicts at driveways where cars cross the cycle track, and conflicts where on-street parking results in people entering or existing parked cars needing to cross the cycle track to get from the sidewalk to their cars. All these things considered limit the application of these facilities to streets with no or few driveways and preferably no or limited on-street parking. While popular in Europe, there are few applications in the United States. However, given the frequency of driveways along Boston Avenue, this would not be an ideal application for a cycle track

Adding a cycle track to a street requires essentially widening the sidewalks. This generally results in the complete reconstruction of the street as the roadway is narrowed. This can result in expensive construction costs and the possible loss of on-street parking.

Conclusion: Boston Avenue bike lanes or cycle track

While bike lanes may fit in segments of Boston Avenue, it appears they would not be feasible over the length from College Avenue to Mystic Valley Parkway. In addition, bike lanes represent a different type of facility than a multi-use path. A cycle track is not ideally suited to the existing conditions along Boston Avenue. In conclusion, neither of these represents a feasible alternative for a multi-use path in the College Avenue to Mystic Valley Parkway segment.

➤

Evaluation: Green Line termination at College Avenue

The DEIR will consider alternatives for the northern terminus of the Green Line extension that will include both College Avenue and Mystic Valley Parkway. For the alternative that ends the Green Line at College Avenue station, the ROW between there and Mystic Valley Parkway would be unchanged, allowing greater width for a possible path along one or the other side of the ROW. However, construction of a path would required retaining walls to create a level cross section for a path, as the existing sides of the ROW are typically steeply sloped and wooded. These wall would add significant cost to the path construction.

Conclusion

A continuous path within the ROW is not feasible for the entire length of the segment from College Avenue to Mystic Valley Parkway with the Green Line extension to Mystic Valley Parkway. With an extension to College Avenue, more room is available for a path, but the cost of retaining walls would be significant.

As an alternative to a path within the ROW, on-street bike lanes or a cycle track may be feasible for portions of this segment, but not for the entire length from College Avenue to Mystic Valley Parkway. Also the character of such facilities is quite different from that of an off-road multi-use path.

2.4 Conclusions

The viability of a path extension spur within the MBTA Lowell Line ROW between Lowell Street and Mystic Valley Parkway can be summarized as follows:

- Lowell Street to Ball Square: not viable due to insufficient width
- Ball Square to College Avenue: not viable due to insufficient width at locations within the segment
- College Avenue to Mystic Valley Parkway: not viable if Green Line is extended beyond College Avenue to Mystic Valley Parkway. May be viable if Green Line extension ends at College Avenue, but the cost of retaining walls would be significant and potentially prohibitive for a path project.

PROP. RELOCATED COMMUTER RAIL TRACKS

LOWELL ST. STATION

LOWELL STREET

RETAINING WALL (TYP.)

SPUR TO LOWELL ST.

COMMUNITY PATH

SHEET NO. 1 OF 9

TO LOWELL ST.

TO CENTRAL ST.

PLATFORM ELEVATION 35'

SCALE IN FEET

202+00

PROPOSED FENCE

Section 1

201+00

SPUR

MAIN PATH

PROPOSED FENCE

REMOVE OLD WALLS

Section 2

199+00

EXISTING BUILDING

EXISTING WALK

EXISTING FENCE

PROPOSED FENCE

Section 3

198+00

EXISTING BUILDING

EXISTING BRICK DRIVE

EXISTING FENCE

PROPOSED FENCE

Section 4

197+00

VISITING NURSES ASSOCIATION

EXISTING BRICK DRIVE

PROPOSED FENCE

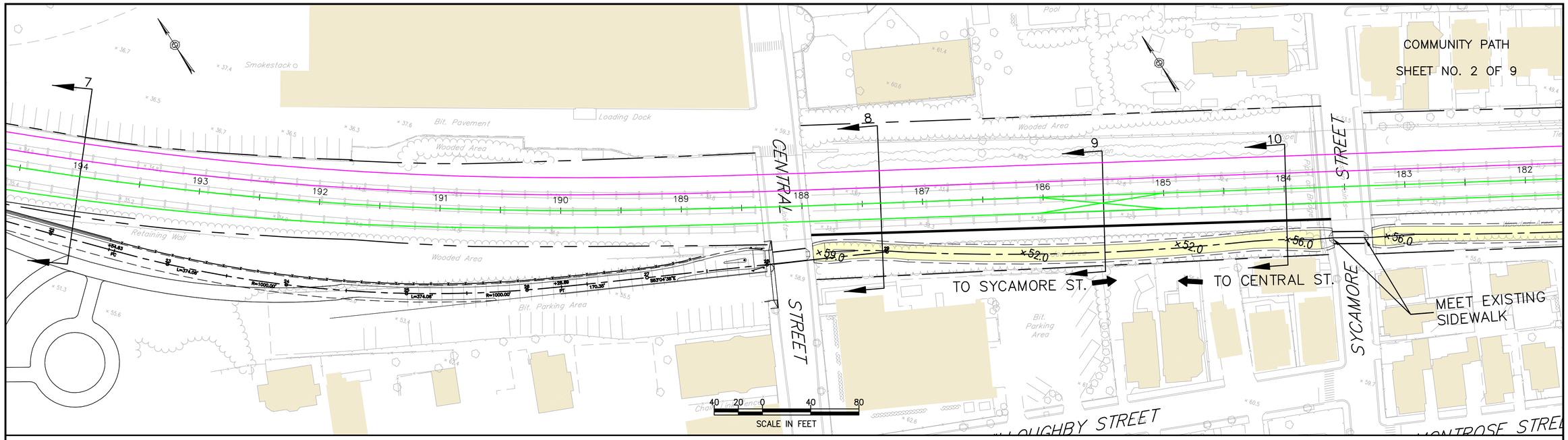
Section 5

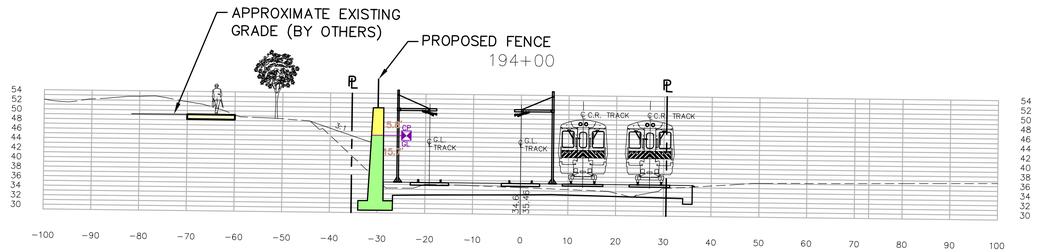
195+00

PROPOSED FENCE

Section 6

SCALE IN FEET





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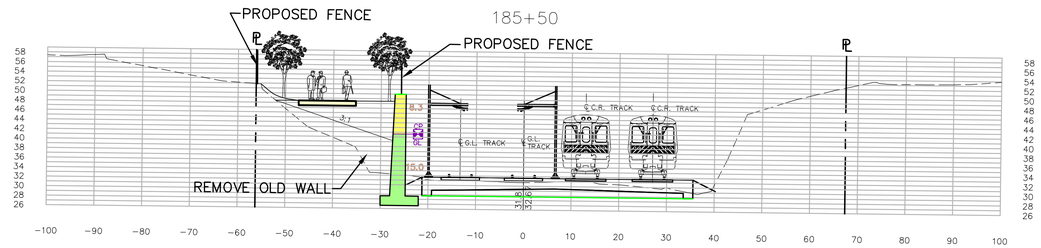

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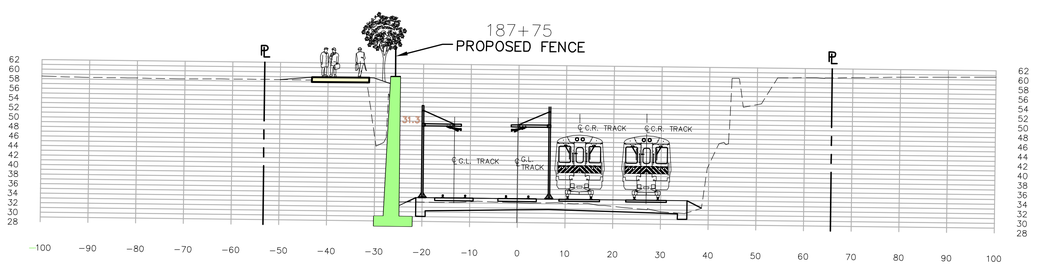

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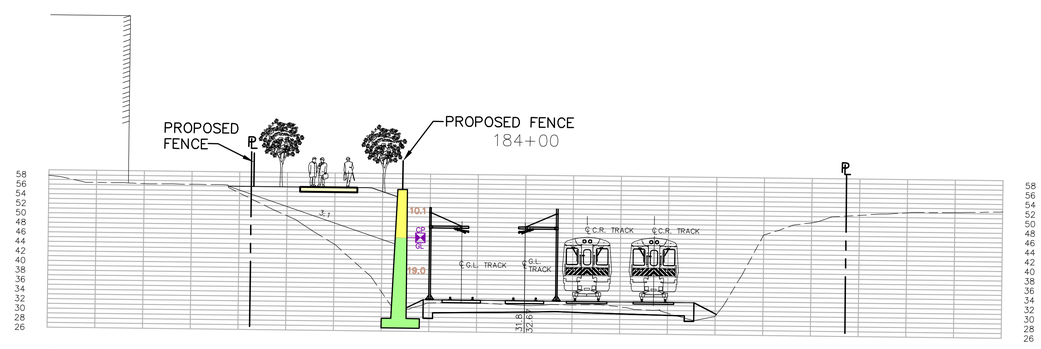
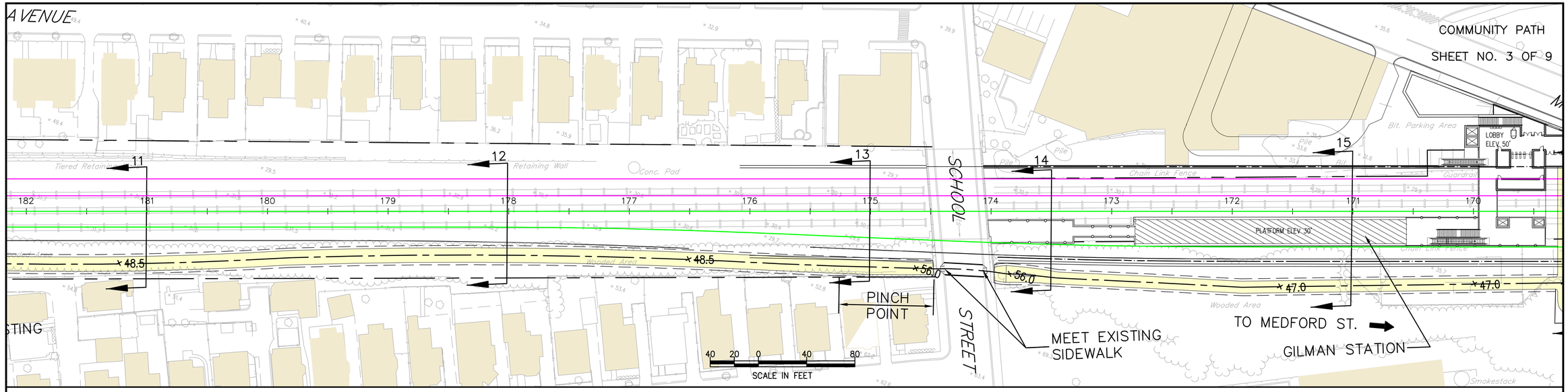
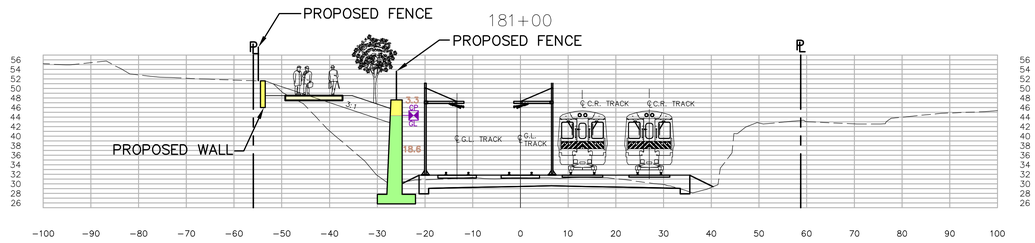


Section 10

SCALE IN FEET





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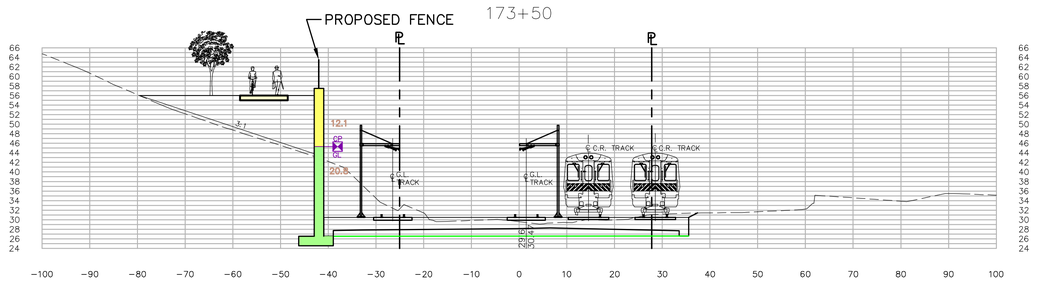

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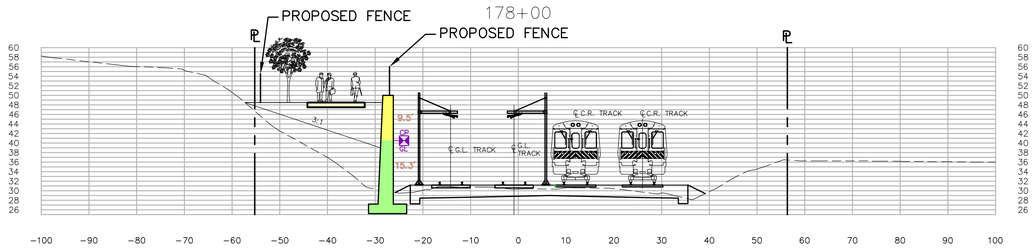

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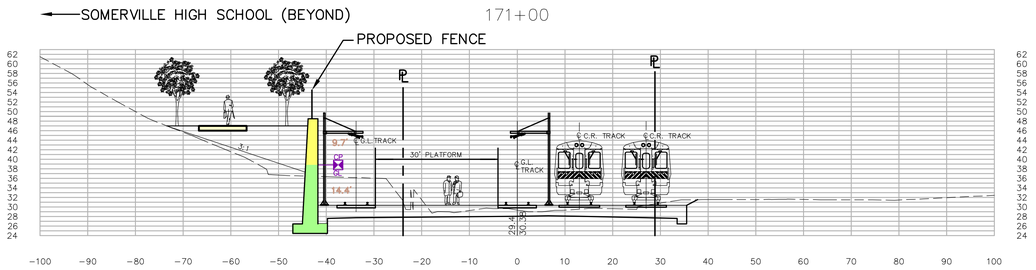

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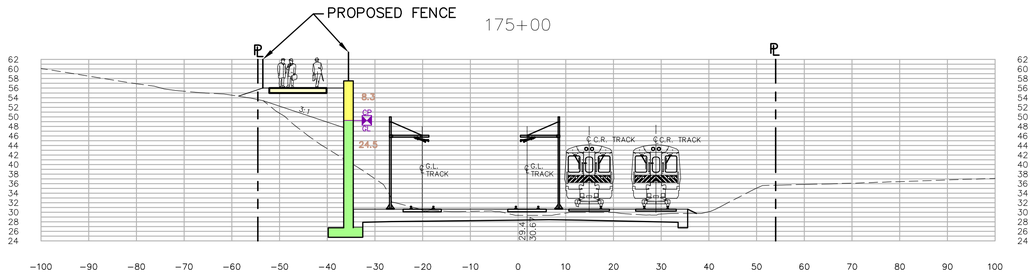

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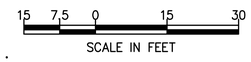

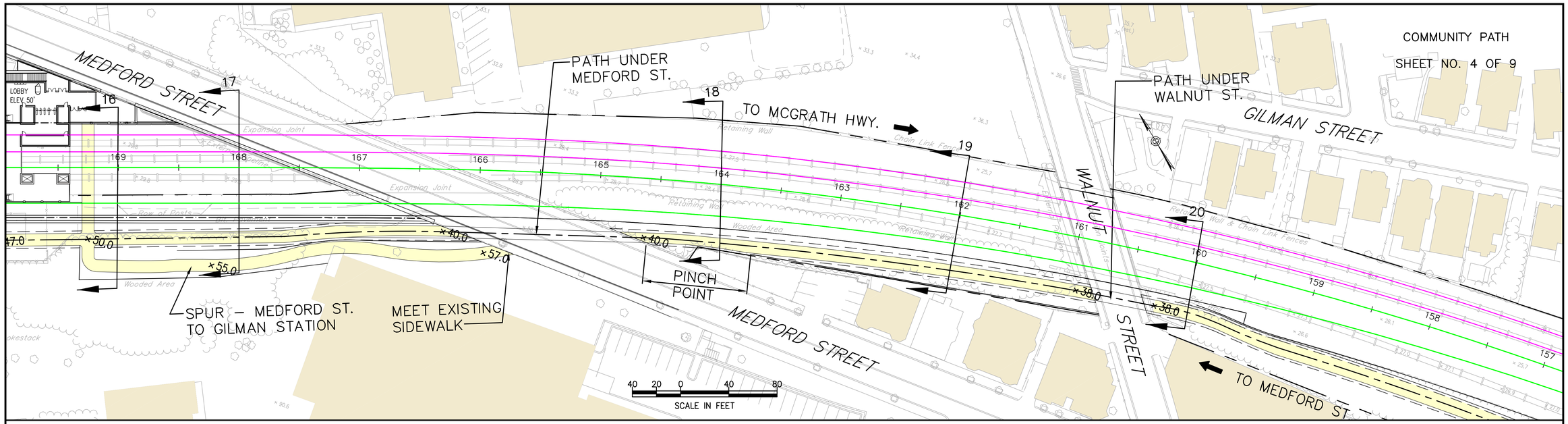

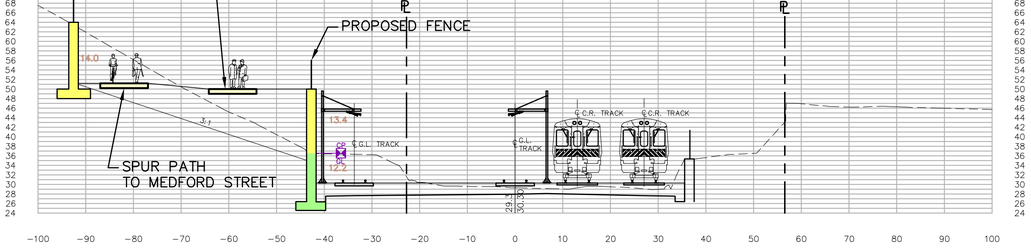

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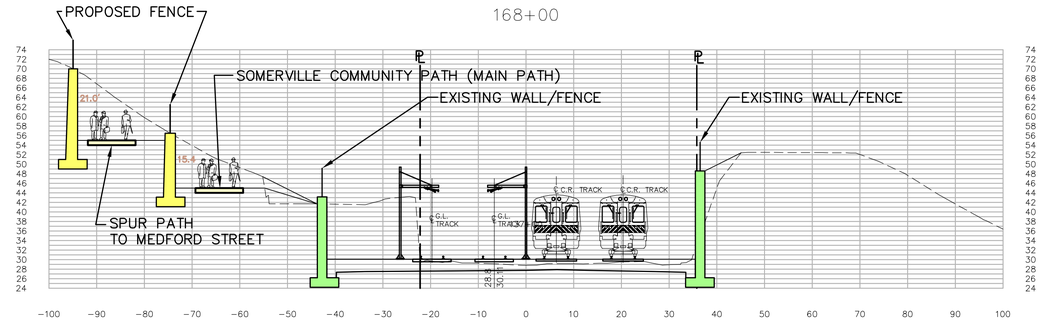

Section 17

15 7.5 0 15 30
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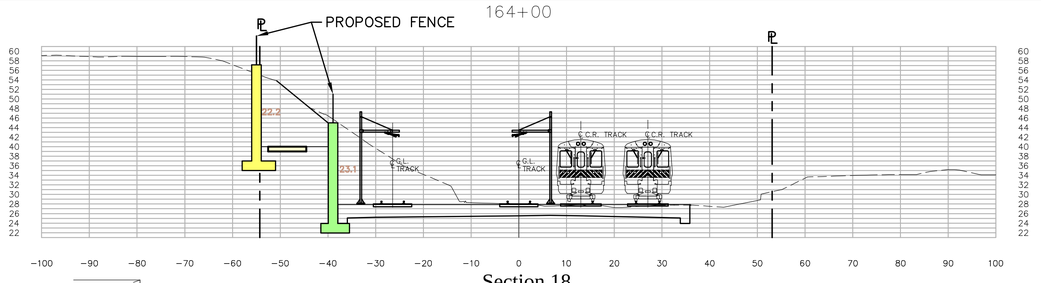

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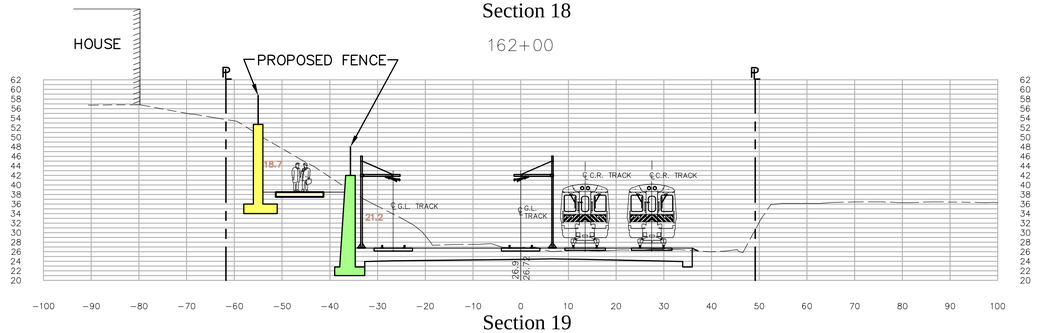

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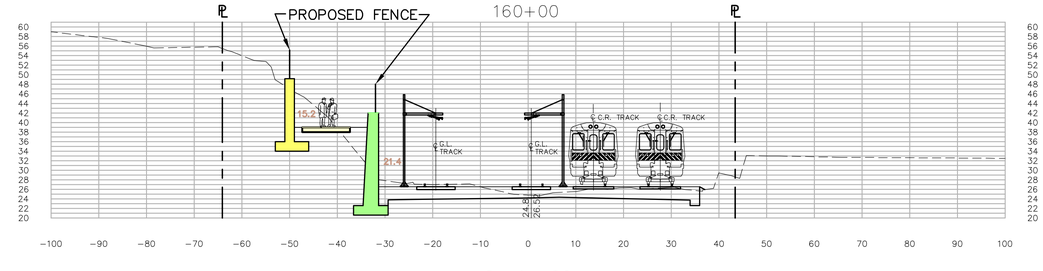
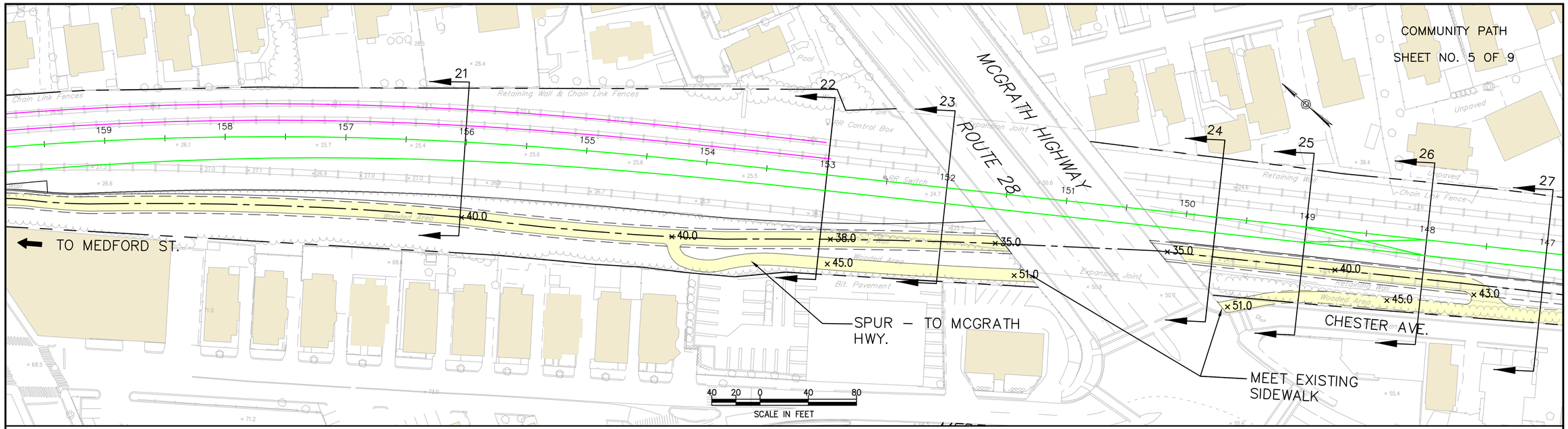
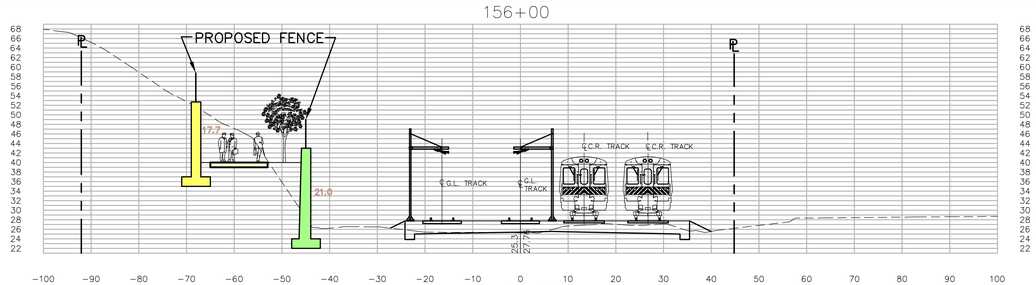


Section 20

COMMUNITY PATH

SHEET NO. 5 OF 9





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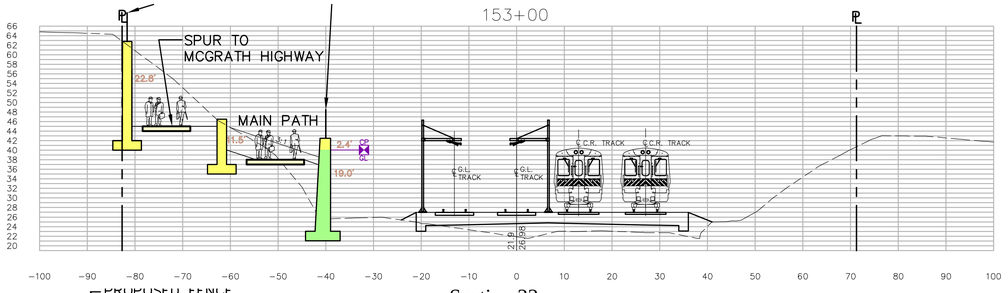

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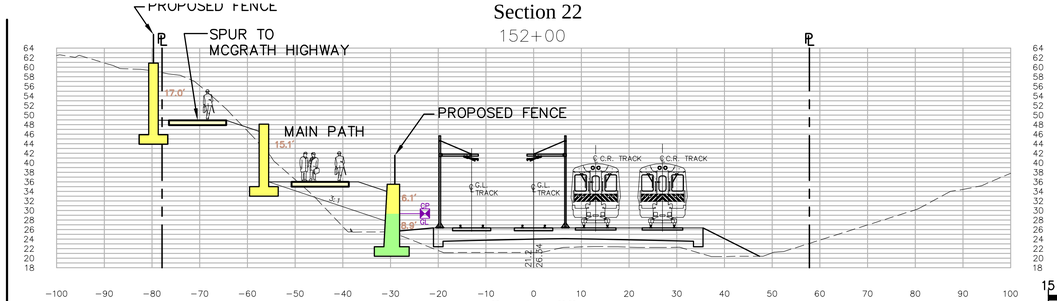

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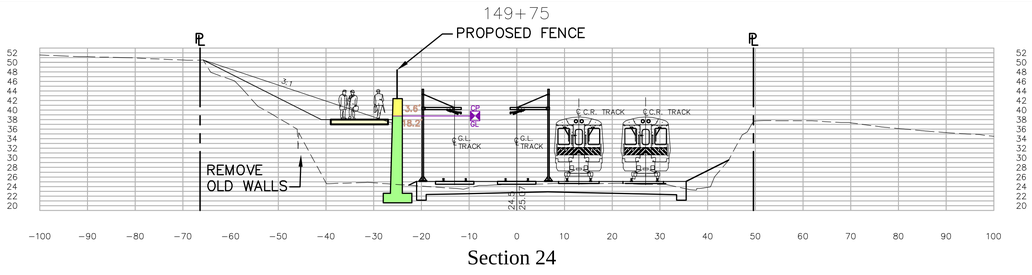

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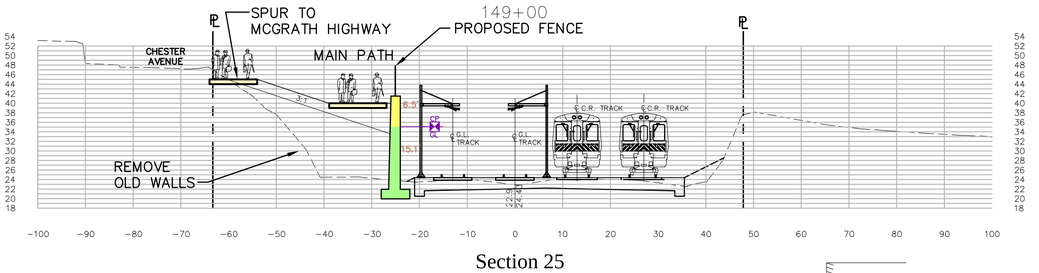

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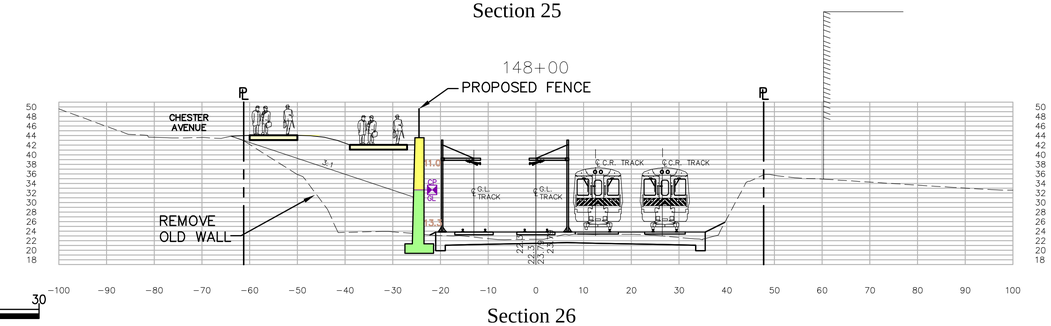
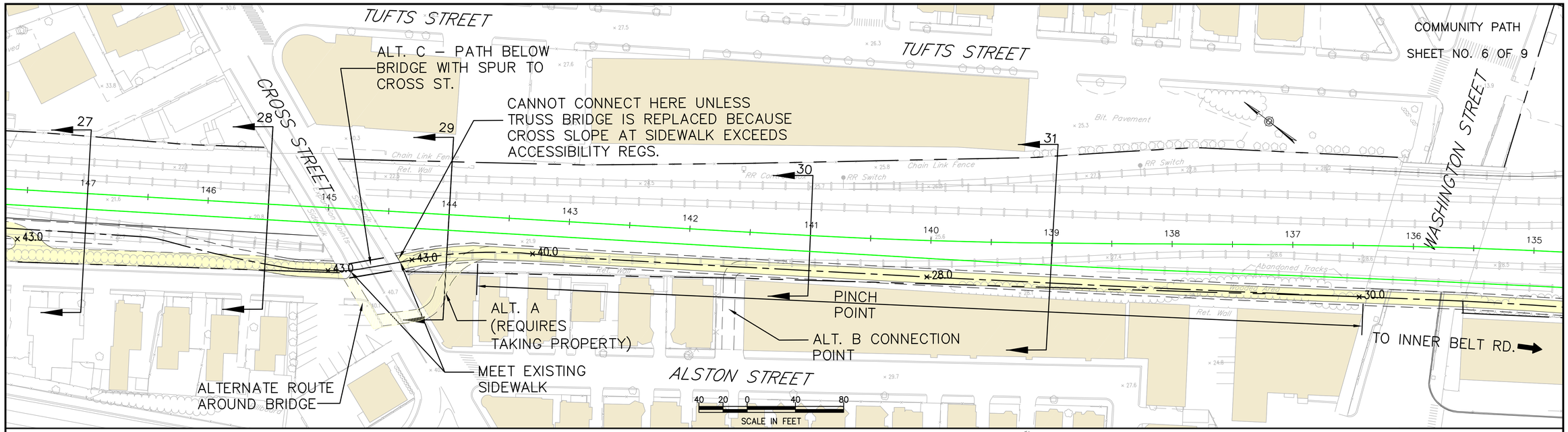


Section 26

15 7.5 0 15 30

SCALE IN FEET


TUFTS STREET
TUFTS STREET
COMMUNITY PATH
SHEET NO. 6 OF 9
ALT. C – PATH BELOW BRIDGE WITH SPUR TO CROSS ST.
CANNOT CONNECT HERE UNLESS TRUSS BRIDGE IS REPLACED BECAUSE CROSS SLOPE AT SIDEWALK EXCEEDS ACCESSIBILITY REGS.
CROSS STREET
WASHINGTON STREET
ALT. A (REQUIRES TAKING PROPERTY)
PINCH POINT
ALT. B CONNECTION POINT
TO INNER BELT RD.
MEET EXISTING SIDEWALK
ALTERNATE ROUTE AROUND BRIDGE
ALSTON STREET
SCALE IN FEET
147+00
PROPOSED FENCE
PROPOSED FENCE
CHESTER AVENUE
REMOVE OLD WALL
Section 27
145+50
PROPOSED FENCE
CHESTER AVENUE
REMOVE OLD WALL
Section 28
SCALE IN FEET
144+00
EXISTING BUILDING
PROPOSED FENCE
Section 29
141+00
PROPOSED FENCE
EXISTING BUILDING
Section 30
139+00
PROPOSED FENCE
EXISTING BUILDING
Section 31

COMMUNITY PATH

SHEET NO. 7 OF 9

PAID LOBBY ELEV 11'

PLATFORM ABOVE - ELEV 28'

UNPAID LOBBY ELEV 11'

5% SLOPE DN

ELEV 17'

ELEV 18.5'

21 SPACES BIKE RACK

21 SPACES BIKE RACK

21 SPACES BIKE RACK

SLOPE UP

SLOPE UP

SIDEWALK ELEV 16.5'

SIDEWALK ELEV 18'

JOY STREET

STREET

Tank

Tank

Tank

Tank

Fence Gate

Ret. Wall

Antenna

Pile of Dirt

Bituminous Pavement

Chain Link Fence

Bituminous Parking Area

Bituminous Parking Area

RR Switch

Abandoned Tracks

Chain Link Fence

Edge Travel Way

Chain Link Fence

Loading Dock

Chain Link Fence

Bituminous Pavement

Conc. Pad

Conc.

Dirt

Dirt

45.0

48.0

134

133

132

131

130

129

128

127

126

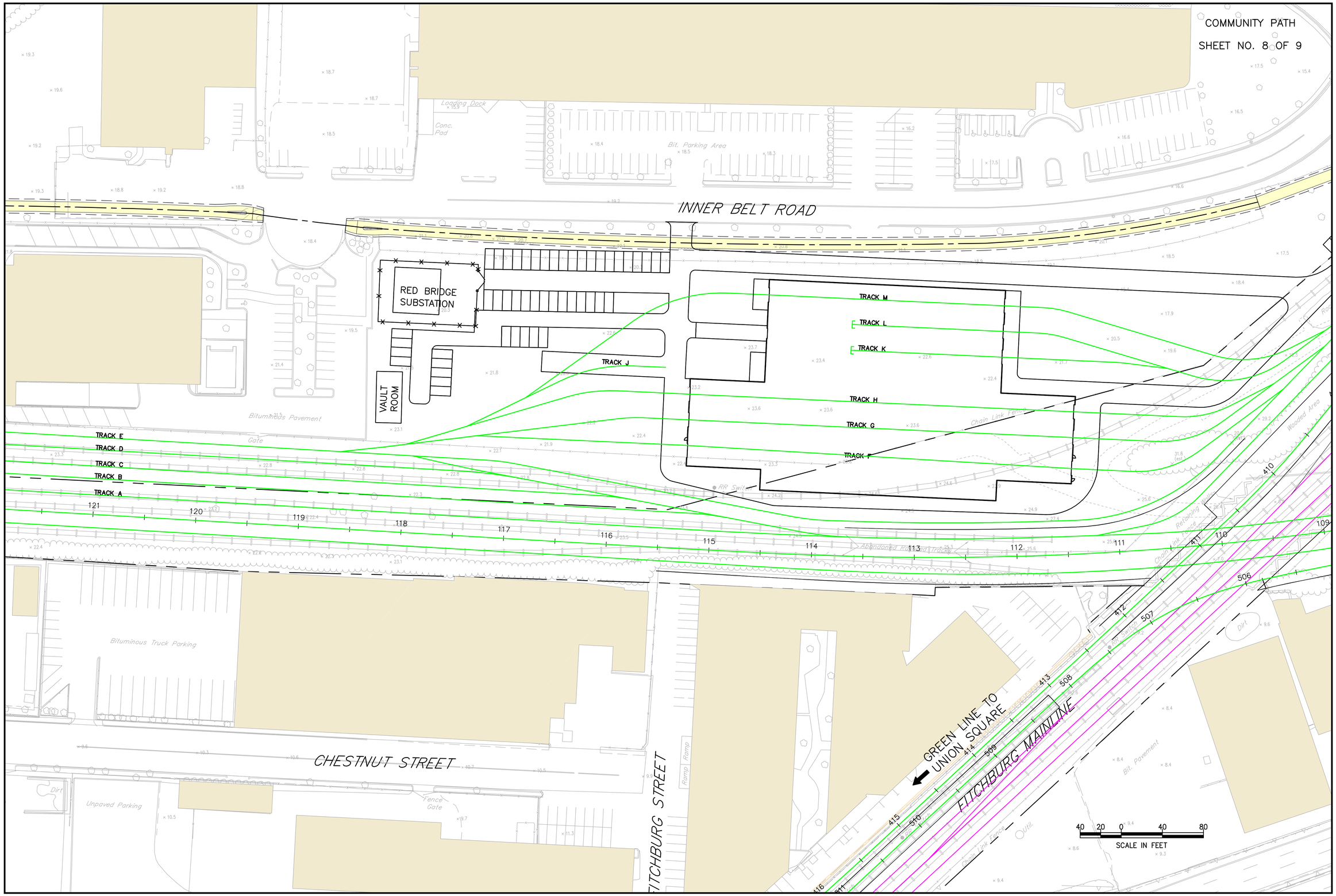
125

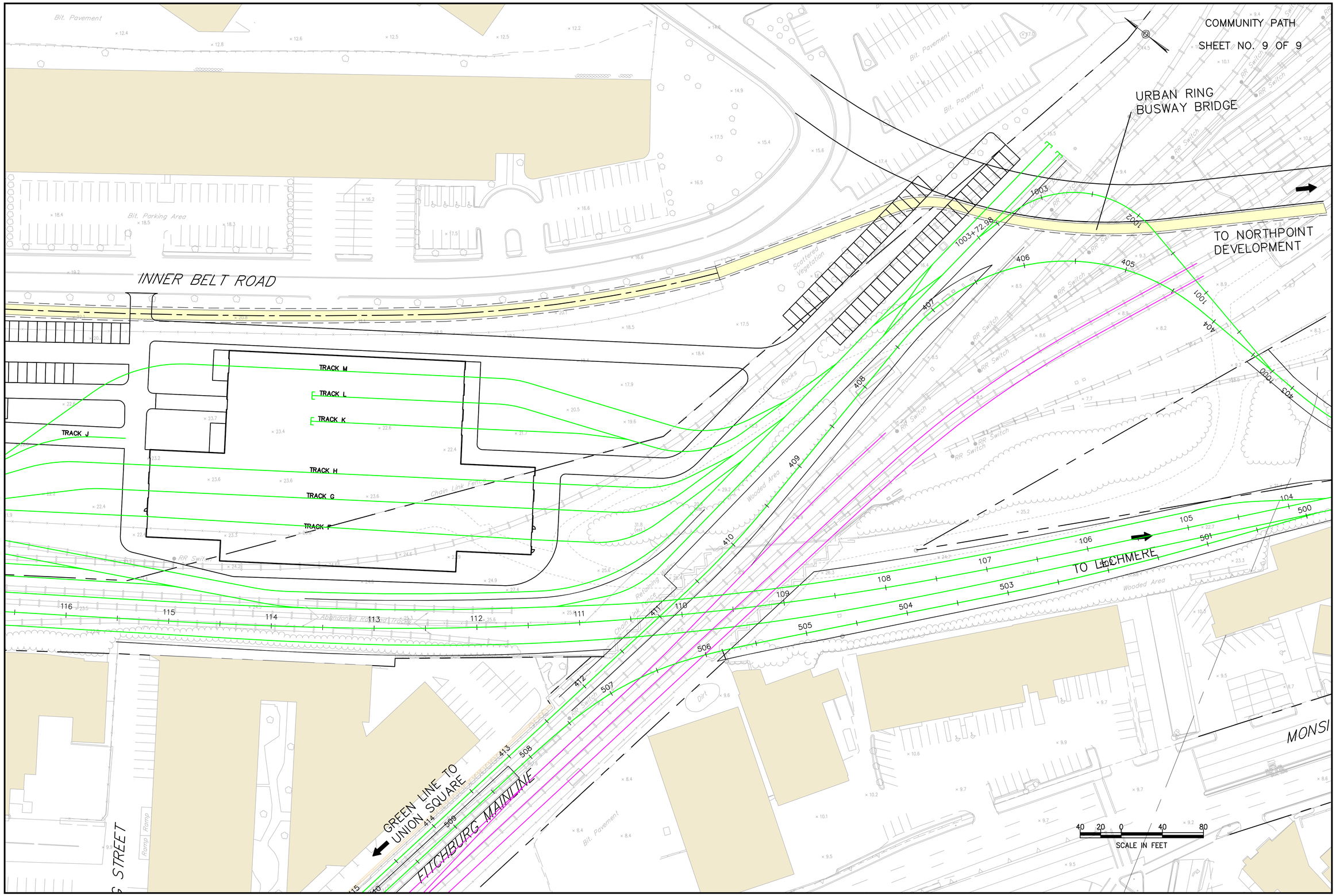
124

123

40 20 0 40 80

SCALE IN FEET


COMMUNITY PATH
SHEET NO. 8 OF 9
INNER BELT ROAD
RED BRIDGE SUBSTATION
VAULT ROOM
TRACK A
TRACK B
TRACK C
TRACK D
TRACK E
TRACK F
TRACK G
TRACK H
TRACK J
TRACK K
TRACK L
TRACK M
Bituminous Pavement
Bituminous Truck Parking
Unpaved Parking
Bit. Parking Area
Loading Dock
Conc. Pad
Chain Link Fence
Wooded Area
Retaining Walls
Abandoned Railroad Tracks
CHESTNUT STREET
FITCHBURG STREET
FITCHBURG MAINLINE
GREEN LINE TO UNION SQUARE
Ramp
Fence Gate
Dirt
Bit. Pavement
Util.
121
120
119
118
117
116
115
114
113
112
111
110
109
410
411
412
413
414
415
416
506
507
508
509
510
40 20 0 40 80
SCALE IN FEET


COMMUNITY PATH
SHEET NO. 9 OF 9
URBAN RING
BUSWAY BRIDGE
TO NORTHPOINT
DEVELOPMENT
INNER BELT ROAD
TRACK M
TRACK L
TRACK K
TRACK J
TRACK H
TRACK G
TRACK F
TO LECHMERE
GREEN LINE TO
UNION SQUARE
FITCHBURG MAINLINE
MONSI
STREET
Bit. Pavement
Bit. Parking Area
Scattered Vegetation
Chain Link Fence
Wooded Area
Abandoned Railroad Tracks
Retaining Walls
Dirt
Ramp
RR Switch
1003+72.98
SCALE IN FEET
40 20 0 40 80

Appendix F
Transportation

- Traffic Volumes
  - Automatic Traffic Recorder Counts
  - Turning Movement Counts
  - Traffic Volume Worksheets and Calculations
- Roadway and Traffic Signal Inventory
- Safety Analysis Data
- Background Developments
- CTPS Memos
- CTPS Forecasted Model Volumes
- Pedestrian Operation Worksheets
  - Existing Pedestrian Figures
  - Existing Pedestrian Level of Service Analysis
  - Pedestrian Routes by TAZ
  - Future Pedestrian Figures
  - Future Pedestrian Level of Service Analysis
- Bicycle Operation Worksheets
- Parking Operation Worksheets
- Traffic Signal Warrant Worksheets
- Traffic Capacity Results
  - Existing Analysis
  - No-Build Analysis
  - No-Build Bus Alternative Analysis
  - 2030 Build Alternative 1 Analysis
  - 2030 Build Alternative 2a Analysis
  - 2030 Build Alternative 2b Analysis
  - 2030 Build Alternative 3 Analysis
  - 2030 Build Alternative 4 Analysis
  - 2030 Build Alternative 5 Analysis
    - Please Note: Alternative 5 is referred to as Alternative 5b in the Environmental Consequences Chapter
  - 2030 Build Alternative 6 Analysis
  - 2030 Build Alternative 7 Analysis
    - Please Note: Alternative 7 is referred to as Alternative 5a in the Environmental Consequences Chapter

Traffic Volumes

- Automatic Traffic Recorder Counts
- Turning Movement Counts
- Traffic Volume Worksheets and Calculations

Automatic Traffic Recorder Counts

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Canal Street
south of Prescott Street
City, State : Medford, MA
Client : VHB/ A. Ng

71360Bvolume
Site Code: 10303

Start	NB				SB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	1		27		2		24		3		51		
12:15	3		20		0		26		3		46		
12:30	2		7		2		16		4		23		
12:45	2	8	16	70	0	4	13	79	2	12	29	149	
01:00	3		30		0		18		3		48		
01:15	0		43		1		32		1		75		
01:30	0		21		1		27		1		48		
01:45	4	7	20	114	3	5	26	103	7	12	46	217	
02:00	0		26		0		28		0		54		
02:15	0		34		0		16		0		50		
02:30	0		28		0		24		0		52		
02:45	0	0	20	108	0	0	36	104	0	0	56	212	
03:00	1		30		0		18		1		48		
03:15	0		23		0		18		0		41		
03:30	1		22		0		26		1		48		
03:45	2	4	40	115	0	0	18	80	2	4	58	195	
04:00	0		38		0		31		0		69		
04:15	0		37		0		24		0		61		
04:30	0		31		1		42		1		73		
04:45	0	0	45	151	2	3	32	129	2	3	77	280	
05:00	4		54		3		29		7		83		
05:15	5		45		3		35		8		80		
05:30	3		34		2		22		5		56		
05:45	10	22	46	179	7	15	34	120	17	37	80	299	
06:00	9		30		2		28		11		58		
06:15	12		38		12		17		24		55		
06:30	12		28		21		14		33		42		
06:45	19	52	25	121	32	67	14	73	51	119	39	194	
07:00	22		22		44		14		66		36		
07:15	36		18		49		12		85		30		
07:30	42		12		59		10		101		22		
07:45	39	139	14	66	55	207	8	44	94	346	22	110	
08:00	36		18		36		8		72		26		
08:15	66		13		34		8		100		21		
08:30	32		8		44		8		76		16		
08:45	18	152	21	60	30	144	10	34	48	296	31	94	
09:00	20		16		27		8		47		24		
09:15	18		11		16		6		34		17		
09:30	14		12		17		3		31		15		
09:45	16	68	4	43	8	68	5	22	24	136	9	65	
10:00	14		12		12		5		26		17		
10:15	16		11		14		6		30		17		
10:30	16		10		16		4		32		14		
10:45	15	61	9	42	19	61	6	21	34	122	15	63	
11:00	18		6		6		3		24		9		
11:15	21		4		24		6		45		10		
11:30	16		4		19		2		35		6		
11:45	16	71	2	16	9	58	2	13	25	129	4	29	
Total	584		1085		632		822		1216		1907		
Percent	48.0%		56.9%		52.0%		43.1%						
Day Total		1669				1454				3123			
Peak	07:30		05:00		07:00		04:30		07:30		04:30		
Vol.	183		179		207		138		367		313		
P.H.F.	0.693		0.829		0.877		0.821		0.908		0.943		

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Boston Avenue
north of Holton Street
City, State : Medford, MA
Client : VHB/ A. Ng

71360Cvolume
Site Code: 10303

Start	SB				NB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	7		36		8		36		15		72		
12:15	3		43		10		48		13		91		
12:30	3		30		6		40		9		70		
12:45	3	16	35	144	6	30	40	164	9	46	75	308	
01:00	2		30		2		40		4		70		
01:15	4		45		2		44		6		89		
01:30	2		32		3		48		5		80		
01:45	1	9	36	143	2	9	55	187	3	18	91	330	
02:00	0		35		2		51		2		86		
02:15	0		76		0		44		0		120		
02:30	1		42		2		56		3		98		
02:45	2	3	42	195	4	8	46	197	6	11	88	392	
03:00	0		38		0		40		0		78		
03:15	1		44		2		43		3		87		
03:30	2		54		0		59		2		113		
03:45	6	9	58	194	2	4	74	216	8	13	132	410	
04:00	1		53		2		60		3		113		
04:15	0		62		2		72		2		134		
04:30	0		38		4		54		4		92		
04:45	3	4	62	215	1	9	66	252	4	13	128	467	
05:00	6		62		4		86		10		148		
05:15	11		67		6		74		17		141		
05:30	17		42		2		54		19		96		
05:45	20	54	68	239	8	20	72	286	28	74	140	525	
06:00	26		60		9		72		35		132		
06:15	34		53		10		59		44		112		
06:30	39		44		24		48		63		92		
06:45	57	156	58	215	32	75	47	226	89	231	105	441	
07:00	68		24		52		43		120		67		
07:15	68		26		63		52		131		78		
07:30	94		28		72		38		166		66		
07:45	128	358	21	99	67	254	29	162	195	612	50	261	
08:00	95		31		50		35		145		66		
08:15	96		21		42		25		138		46		
08:30	78		15		42		20		120		35		
08:45	82	351	20	87	44	178	23	103	126	529	43	190	
09:00	76		19		34		31		110		50		
09:15	45		20		32		35		77		55		
09:30	51		23		28		18		79		41		
09:45	42	214	21	83	35	129	20	104	77	343	41	187	
10:00	52		16		28		16		80		32		
10:15	40		14		36		28		76		42		
10:30	40		10		43		16		83		26		
10:45	28	160	18	58	40	147	12	72	68	307	30	130	
11:00	33		7		33		13		66		20		
11:15	40		12		26		6		66		18		
11:30	44		12		51		12		95		24		
11:45	42	159	6	37	33	143	6	37	75	302	12	74	
Total	1493		1709		1006		2006		2499		3715		
Percent	59.7%		46.0%		40.3%		54.0%						
Day Total		3202				3012				6214			
Peak	07:30		05:00		07:00		05:00		07:30		05:00		
Vol.	413		239		254		286		644		525		
P.H.F.	0.807		0.879		0.882		0.831		0.826		0.887		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Mystic Valley Parkway (Route 16)
west of Boston Avenue
City, State : Medford, MA
Client : VHB/ A. Ng

71360Dvolume
Site Code: 10303

Start	WB				EB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	39		171		24		153		63		324		
12:15	28		196		19		182		47		378		
12:30	28		168		21		164		49		332		
12:45	16	111	186	721	7	71	195	694	23	182	381	1415	
01:00	13		195		5		176		18		371		
01:15	21		198		10		199		31		397		
01:30	10		200		4		184		14		384		
01:45	16	60	228	821	2	21	204	763	18	81	432	1584	
02:00	14		207		11		229		25		436		
02:15	13		217		6		236		19		453		
02:30	14		238		12		219		26		457		
02:45	13	54	219	881	7	36	225	909	20	90	444	1790	
03:00	14		238		9		245		23		483		
03:15	7		250		9		251		16		501		
03:30	18		263		8		246		26		509		
03:45	13	52	232	983	10	36	257	999	23	88	489	1982	
04:00	18		256		7		236		25		492		
04:15	23		250		15		250		38		500		
04:30	35		260		24		239		59		499		
04:45	43	119	262	1028	26	72	230	955	69	191	492	1983	
05:00	42		290		31		215		73		505		
05:15	67		260		52		260		119		520		
05:30	102		265		75		259		177		524		
05:45	151	362	288	1103	103	261	253	987	254	623	541	2090	
06:00	158		256		112		237		270		493		
06:15	218		294		164		225		382		519		
06:30	271		264		182		248		453		512		
06:45	310	957	236	1050	196	654	211	921	506	1611	447	1971	
07:00	286		189		222		226		508		415		
07:15	355		212		258		195		613		407		
07:30	344		179		254		174		598		353		
07:45	290	1275	173	753	246	980	162	757	536	2255	335	1510	
08:00	296		158		231		159		527		317		
08:15	279		138		226		120		505		258		
08:30	251		142		229		106		480		248		
08:45	261	1087	135	573	235	921	117	502	496	2008	252	1075	
09:00	252		126		216		102		468		228		
09:15	176		126		210		99		386		225		
09:30	216		122		179		94		395		216		
09:45	210	854	121	495	177	782	103	398	387	1636	224	893	
10:00	188		107		152		84		340		191		
10:15	211		107		161		62		372		169		
10:30	184		105		147		84		331		189		
10:45	176	759	102	421	162	622	65	295	338	1381	167	716	
11:00	152		75		143		53		295		128		
11:15	162		70		140		55		302		125		
11:30	184		56		153		47		337		103		
11:45	214	712	46	247	174	610	32	187	388	1322	78	434	
Total	6402		9076		5066		8367		11468		17443		
Percent	55.8%		52.0%		44.2%		48.0%						
Day Total		15478				13433				28911			
Peak	06:45		05:00		07:15		05:15		07:15		05:00		
Vol.	1295		1103		989		1009		2274		2090		
P.H.F.	0.912		0.951		0.958		0.970		0.927		0.966		

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

Winthrop Street
east of Boston Avenue
City, State : Medford, MA
Client : VHB/ A. Ng

71360Evolume
Site Code: 10303

Start	EB				WB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	17		80		3		49		20		129		
12:15	19		88		5		39		24		127		
12:30	7		97		5		41		12		138		
12:45	9	52	68	333	7	20	47	176	16	72	115	509	
01:00	13		74		5		42		18		116		
01:15	9		89		3		56		12		145		
01:30	5		92		8		51		13		143		
01:45	8	35	94	349	2	18	50	199	10	53	144	548	
02:00	7		90		1		60		8		150		
02:15	3		118		1		52		4		170		
02:30	6		130		1		50		7		180		
02:45	1	17	107	445	0	3	62	224	1	20	169	669	
03:00	2		130		3		51		5		181		
03:15	5		126		1		60		6		186		
03:30	2		145		2		84		4		229		
03:45	2	11	144	545	2	8	58	253	4	19	202	798	
04:00	3		158		4		68		7		226		
04:15	5		154		2		62		7		216		
04:30	4		170		6		59		10		229		
04:45	3	15	174	656	4	16	68	257	7	31	242	913	
05:00	12		212		5		72		17		284		
05:15	14		172		8		72		22		244		
05:30	22		160		16		74		38		234		
05:45	27	75	175	719	18	47	82	300	45	122	257	1019	
06:00	32		156		34		84		66		240		
06:15	43		139		39		70		82		209		
06:30	57		131		56		66		113		197		
06:45	72	204	122	548	58	187	74	294	130	391	196	842	
07:00	90		110		91		56		181		166		
07:15	116		83		88		60		204		143		
07:30	178		99		90		51		268		150		
07:45	148	532	90	382	78	347	54	221	226	879	144	603	
08:00	125		84		79		49		204		133		
08:15	142		51		80		34		222		85		
08:30	121		71		100		36		221		107		
08:45	120	508	65	271	91	350	32	151	211	858	97	422	
09:00	72		63		97		33		169		96		
09:15	78		59		78		30		156		89		
09:30	99		69		56		30		155		99		
09:45	84	333	69	260	52	283	21	114	136	616	90	374	
10:00	70		51		53		27		123		78		
10:15	79		50		55		16		134		66		
10:30	52		52		43		22		95		74		
10:45	78	279	42	195	43	194	14	79	121	473	56	274	
11:00	76		38		28		12		104		50		
11:15	104		24		52		10		156		34		
11:30	87		23		60		9		147		32		
11:45	65	332	19	104	58	198	19	50	123	530	38	154	
Total	2393		4807		1671		2318		4064		7125		
Percent	58.9%		67.5%		41.1%		32.5%						
Day Total		7200				3989				11189			
Peak	07:30		04:30		08:15		05:15		07:30		05:00		
Vol.	593		728		368		312		920		1019		
P.H.F.	0.833		0.858		0.920		0.929		0.858		0.897		

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Curtis Street
west of Boston Avenue
City, State: Medford, MA
Client: VHB/A. Ng

71360Fvolume
Site Code: 10303

Start	EB				WB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	22		43		11		30		33		73		
12:15	10		53		8		27		18		80		
12:30	11		53		4		43		15		96		
12:45	11	54	63	212	8	31	41	141	19	85	104	353	
01:00	9		61		5		30		14		91		
01:15	6		71		6		45		12		116		
01:30	5		61		5		27		10		88		
01:45	7	27	57	250	3	19	22	124	10	46	79	374	
02:00	7		64		3		41		10		105		
02:15	1		63		3		30		4		93		
02:30	6		84		0		22		6		106		
02:45	1	15	77	288	1	7	33	126	2	22	110	414	
03:00	1		73		3		28		4		101		
03:15	8		77		6		33		14		110		
03:30	2		86		0		42		2		128		
03:45	0	11	94	330	1	10	34	137	1	21	128	467	
04:00	1		80		0		30		1		110		
04:15	1		73		1		34		2		107		
04:30	5		87		0		28		5		115		
04:45	4	11	86	326	1	2	33	125	5	13	119	451	
05:00	9		105		3		39		12		144		
05:15	7		73		4		36		11		109		
05:30	15		81		8		41		23		122		
05:45	11	42	101	360	6	21	51	167	17	63	152	527	
06:00	18		91		11		45		29		136		
06:15	27		91		12		35		39		126		
06:30	34		87		17		51		51		138		
06:45	50	129	77	346	25	65	49	180	75	194	126	526	
07:00	50		61		36		31		86		92		
07:15	67		75		42		41		109		116		
07:30	100		62		23		32		123		94		
07:45	82	299	66	264	42	143	37	141	124	442	103	405	
08:00	82		45		32		27		114		72		
08:15	88		32		46		30		134		62		
08:30	61		55		50		29		111		84		
08:45	69	300	42	174	55	183	33	119	124	483	75	293	
09:00	52		52		56		38		108		90		
09:15	53		45		45		30		98		75		
09:30	59		42		36		27		95		69		
09:45	64	228	48	187	25	162	27	122	89	390	75	309	
10:00	47		35		29		23		76		58		
10:15	47		35		41		19		88		54		
10:30	38		34		29		26		67		60		
10:45	52	184	32	136	34	133	12	80	86	317	44	216	
11:00	46		20		20		22		66		42		
11:15	53		28		33		13		86		41		
11:30	59		13		28		9		87		22		
11:45	53	211	19	80	32	113	8	52	85	324	27	132	
Total	1511		2953		889		1514		2400		4467		
Percent	63.0%		66.1%		37.0%		33.9%						
Day Total		4464				2403				6867			
Peak	07:30		05:45		08:15		05:45		07:30		05:45		
Vol.	352		370		207		182		495		552		
P.H.F.	0.880		0.916		0.924		0.892		0.924		0.908		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

Boston Avenue
south of University Avenue
City, State: Medford, MA
Client: VHB/A. Ng

71360Gvolume
Site Code: 10303

Start	SB				NB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	11		76		25		84		36		160		
12:15	12		68		17		82		29		150		
12:30	6		48		8		72		14		120		
12:45	5	34	62	254	10	60	55	293	15	94	117	547	
01:00	7		84		14		90		21		174		
01:15	3		86		10		88		13		174		
01:30	5		72		6		74		11		146		
01:45	3	18	58	300	4	34	84	336	7	52	142	636	
02:00	3		70		7		74		10		144		
02:15	4		79		5		89		9		168		
02:30	2		82		1		78		3		160		
02:45	2	11	67	298	3	16	80	321	5	27	147	619	
03:00	3		55		2		96		5		151		
03:15	6		63		5		84		11		147		
03:30	3		82		3		102		6		184		
03:45	1	13	66	266	3	13	113	395	4	26	179	661	
04:00	4		79		1		122		5		201		
04:15	1		116		8		122		9		238		
04:30	2		65		3		124		5		189		
04:45	2	9	70	330	4	16	143	511	6	25	213	841	
05:00	14		80		15		138		29		218		
05:15	8		85		10		125		18		210		
05:30	15		90		8		133		23		223		
05:45	20	57	86	341	14	47	137	533	34	104	223	874	
06:00	37		91		26		123		63		214		
06:15	66		101		30		122		96		223		
06:30	54		71		42		120		96		191		
06:45	87	244	78	341	67	165	116	481	154	409	194	822	
07:00	110		84		74		96		184		180		
07:15	120		47		78		82		198		129		
07:30	118		76		72		74		190		150		
07:45	157	505	75	282	82	306	68	320	239	811	143	602	
08:00	159		56		62		62		221		118		
08:15	140		50		78		62		218		112		
08:30	128		44		70		56		198		100		
08:45	142	569	35	185	68	278	56	236	210	847	91	421	
09:00	116		43		60		60		176		103		
09:15	98		44		67		50		165		94		
09:30	98		61		54		56		152		117		
09:45	71	383	38	186	60	241	35	201	131	624	73	387	
10:00	91		31		69		38		160		69		
10:15	85		22		68		52		153		74		
10:30	75		26		53		39		128		65		
10:45	72	323	22	101	63	253	33	162	135	576	55	263	
11:00	58		20		67		29		125		49		
11:15	80		17		89		24		169		41		
11:30	68		22		62		16		130		38		
11:45	90	296	18	77	56	274	18	87	146	570	36	164	
Total	2462		2961		1703		3876		4165		6837		
Percent	59.1%		43.3%		40.9%		56.7%						
Day Total		5423				5579				11002			
Peak	07:45		05:30		07:00		04:45		07:45		05:30		
Vol.	584		368		306		539		876		883		
P.H.F.	0.918		0.911		0.933		0.942		0.916		0.990		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

College Avenue
east of Boston Avenue
City, State: Medford, MA
Client: VHB/A. Ng

71360Hvolume
Site Code: 10303

Start	EB				WB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	9		64		5		58		14		122		
12:15	7		54		1		62		8		116		
12:30	7		54		1		78		8		132		
12:45	4	27	46	218	5	12	62	260	9	39	108	478	
01:00	8		55		6		74		14		129		
01:15	4		64		7		84		11		148		
01:30	4		51		3		70		7		121		
01:45	2	18	46	216	3	19	69	297	5	37	115	513	
02:00	5		48		1		65		6		113		
02:15	3		53		4		61		7		114		
02:30	1		76		2		65		3		141		
02:45	2	11	64	241	3	10	72	263	5	21	136	504	
03:00	2		69		1		62		3		131		
03:15	4		63		2		64		6		127		
03:30	3		84		3		74		6		158		
03:45	2	11	100	316	0	6	64	264	2	17	164	580	
04:00	0		106		1		58		1		164		
04:15	2		88		3		90		5		178		
04:30	0		90		1		80		1		170		
04:45	3	5	90	374	8	13	86	314	11	18	176	688	
05:00	9		76		12		86		21		162		
05:15	3		92		14		91		17		183		
05:30	6		95		9		95		15		190		
05:45	6	24	78	341	20	55	98	370	26	79	176	711	
06:00	14		65		27		87		41		152		
06:15	10		69		46		94		56		163		
06:30	20		59		88		72		108		131		
06:45	28	72	62	255	101	262	87	340	129	334	149	595	
07:00	32		69		106		82		138		151		
07:15	45		48		118		77		163		125		
07:30	55		66		104		74		159		140		
07:45	61	193	55	238	118	446	53	286	179	639	108	524	
08:00	47		44		101		34		148		78		
08:15	65		37		112		42		177		79		
08:30	51		44		110		54		161		98		
08:45	48	211	34	159	88	411	34	164	136	622	68	323	
09:00	58		38		102		46		160		84		
09:15	40		38		80		46		120		84		
09:30	48		42		65		46		113		88		
09:45	39	185	35	153	62	309	34	172	101	494	69	325	
10:00	46		33		64		40		110		73		
10:15	44		35		70		30		114		65		
10:30	40		25		64		32		104		57		
10:45	41	171	21	114	54	252	24	126	95	423	45	240	
11:00	27		20		46		20		73		40		
11:15	46		12		42		11		88		23		
11:30	42		14		60		18		102		32		
11:45	66	181	16	62	70	218	10	59	136	399	26	121	
Total	1109		2687		2013		2915		3122		5602		
Percent	35.5%		48.0%		64.5%		52.0%						
Day Total		3796				4928				8724			
Peak	07:30		03:45		07:00		05:30		07:45		04:45		
Vol.	228		384		446		374		665		711		
P.H.F.	0.877		0.906		0.945		0.954		0.929		0.936		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

College Avenue
west of Boston Avenue
City, State: Medford, MA
Client: VHB/A. Ng

71360Ivolume
Site Code: 10303

Start	WB				EB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	12		74		19		56		31		130		
12:15	9		64		13		52		22		116		
12:30	9		70		7		68		16		138		
12:45	12	42	66	274	10	49	54	230	22	91	120	504	
01:00	14		72		13		48		27		120		
01:15	8		78		11		65		19		143		
01:30	4		81		6		48		10		129		
01:45	6	32	58	289	6	36	54	215	12	68	112	504	
02:00	1		70		9		51		10		121		
02:15	6		77		3		56		9		133		
02:30	4		68		2		72		6		140		
02:45	4	15	90	305	3	17	78	257	7	32	168	562	
03:00	3		64		4		60		7		124		
03:15	2		74		2		84		4		158		
03:30	3		86		1		82		4		168		
03:45	1	9	63	287	2	9	91	317	3	18	154	604	
04:00	2		64		0		90		2		154		
04:15	2		94		4		96		6		190		
04:30	4		90		2		96		6		186		
04:45	8	16	86	334	4	10	84	366	12	26	170	700	
05:00	17		83		8		92		25		175		
05:15	14		103		6		98		20		201		
05:30	15		104		7		97		22		201		
05:45	25	71	82	372	6	27	80	367	31	98	162	739	
06:00	32		102		19		83		51		185		
06:15	60		86		16		67		76		153		
06:30	90		64		24		80		114		144		
06:45	96	278	79	331	41	100	71	301	137	378	150	632	
07:00	100		94		40		66		140		160		
07:15	124		76		34		54		158		130		
07:30	134		67		44		70		178		137		
07:45	160	518	70	307	62	180	52	242	222	698	122	549	
08:00	132		46		51		46		183		92		
08:15	125		46		60		42		185		88		
08:30	128		45		48		52		176		97		
08:45	122	507	46	183	50	209	43	183	172	716	89	366	
09:00	138		56		46		46		184		102		
09:15	88		45		47		45		135		90		
09:30	73		47		36		56		109		103		
09:45	63	362	34	182	35	164	36	183	98	526	70	365	
10:00	76		42		34		34		110		76		
10:15	54		14		42		49		96		63		
10:30	64		30		28		41		92		71		
10:45	57	251	25	111	42	146	34	158	99	397	59	269	
11:00	54		28		38		36		92		64		
11:15	52		14		52		12		104		26		
11:30	60		28		38		18		98		46		
11:45	72	238	18	88	50	178	22	88	122	416	40	176	
Total	2339		3063		1125		2907		3464		5970		
Percent	67.5%		51.3%		32.5%		48.7%						
Day Total		5402				4032				9434			
Peak	07:30		05:15		07:45		03:45		07:30		05:15		
Vol.	551		391		221		373		768		749		
P.H.F.	0.861		0.940		0.891		0.971		0.865		0.932		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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Harvard Street
east of Boston Avenue
City, State: Medford, MA
Client: VHB/A. Ng

71360Jvolume
Site Code: 10303

Start	EB				WB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	24		98		20		135		44		233		
12:15	14		97		22		122		36		219		
12:30	18		114		19		97		37		211		
12:45	10	66	110	419	11	72	126	480	21	138	236	899	
01:00	16		118		12		136		28		254		
01:15	10		121		4		120		14		241		
01:30	6		94		10		138		16		232		
01:45	5	37	108	441	13	39	132	526	18	76	240	967	
02:00	1		108		4		140		5		248		
02:15	8		140		6		128		14		268		
02:30	2		140		4		142		6		282		
02:45	5	16	125	513	9	23	150	560	14	39	275	1073	
03:00	12		118		4		140		16		258		
03:15	2		114		6		128		8		242		
03:30	6		126		9		158		15		284		
03:45	4	24	134	492	10	29	124	550	14	53	258	1042	
04:00	6		136		5		144		11		280		
04:15	8		122		10		154		18		276		
04:30	5		139		18		139		23		278		
04:45	8	27	131	528	18	51	134	571	26	78	265	1099	
05:00	12		134		16		136		28		270		
05:15	12		144		28		172		40		316		
05:30	30		143		60		159		90		302		
05:45	29	83	122	543	68	172	172	639	97	255	294	1182	
06:00	33		153		82		156		115		309		
06:15	56		135		88		160		144		295		
06:30	65		120		136		176		201		296		
06:45	88	242	121	529	176	482	156	648	264	724	277	1177	
07:00	140		94		156		142		296		236		
07:15	114		106		149		134		263		240		
07:30	138		100		114		128		252		228		
07:45	136	528	105	405	152	571	112	516	288	1099	217	921	
08:00	115		74		175		122		290		196		
08:15	138		61		164		102		302		163		
08:30	112		98		138		102		250		200		
08:45	108	473	84	317	171	648	100	426	279	1121	184	743	
09:00	91		87		145		78		236		165		
09:15	109		70		136		85		245		155		
09:30	96		74		126		81		222		155		
09:45	76	372	57	288	116	523	72	316	192	895	129	604	
10:00	102		73		138		74		240		147		
10:15	85		94		146		62		231		156		
10:30	94		64		142		61		236		125		
10:45	106	387	52	283	141	567	43	240	247	954	95	523	
11:00	100		61		124		34		224		95		
11:15	124		32		114		32		238		64		
11:30	96		28		111		33		207		61		
11:45	98	418	31	152	120	469	20	119	218	887	51	271	
Total	2673		4910		3646		5591		6319		10501		
Percent	42.3%		46.8%		57.7%		53.2%						
Day Total		7583				9237				16820			
Peak	07:00		05:15		08:00		05:45		07:30		05:15		
Vol.	528		562		648		664		1132		1221		
P.H.F.	0.943		0.918		0.926		0.943		0.937		0.966		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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Boston Avenue
south of Harvard Street
City, State: Somerville, MA
Client: VHB/ A. Ng

71360Kvolume
Site Code: 10303

Start	NB				SB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	7		38		6		42		13		80		
12:15	5		33		1		30		6		63		
12:30	7		28		2		30		9		58		
12:45	3	22	30	129	4	13	33	135	7	35	63	264	
01:00	7		40		4		42		11		82		
01:15	1		40		1		36		2		76		
01:30	1		42		4		31		5		73		
01:45	2	11	39	161	2	11	28	137	4	22	67	298	
02:00	4		58		4		53		8		111		
02:15	2		56		2		61		4		117		
02:30	4		44		2		45		6		89		
02:45	1	11	52	210	3	11	53	212	4	22	105	422	
03:00	2		45		1		48		3		93		
03:15	0		36		1		30		1		66		
03:30	5		58		6		32		11		90		
03:45	6	13	66	205	1	9	43	153	7	22	109	358	
04:00	4		83		3		48		7		131		
04:15	6		61		3		42		9		103		
04:30	1		66		1		48		2		114		
04:45	2	13	76	286	1	8	46	184	3	21	122	470	
05:00	5		68		4		56		9		124		
05:15	4		80		5		76		9		156		
05:30	6		68		12		62		18		130		
05:45	14	29	74	290	11	32	68	262	25	61	142	552	
06:00	15		72		25		56		40		128		
06:15	18		68		33		54		51		122		
06:30	26		60		42		54		68		114		
06:45	28	87	43	243	47	147	50	214	75	234	93	457	
07:00	36		44		76		46		112		90		
07:15	47		36		93		38		140		74		
07:30	76		32		86		47		162		79		
07:45	40	199	30	142	90	345	28	159	130	544	58	301	
08:00	56		34		85		38		141		72		
08:15	55		30		90		42		145		72		
08:30	50		21		70		18		120		39		
08:45	52	213	37	122	76	321	30	128	128	534	67	250	
09:00	44		31		79		30		123		61		
09:15	38		22		54		25		92		47		
09:30	35		24		49		32		84		56		
09:45	46	163	20	97	44	226	18	105	90	389	38	202	
10:00	65		20		44		29		109		49		
10:15	50		16		36		15		86		31		
10:30	38		13		43		12		81		25		
10:45	43	196	10	59	34	157	10	66	77	353	20	125	
11:00	42		16		30		10		72		26		
11:15	36		18		30		9		66		27		
11:30	36		9		32		17		68		26		
11:45	38	152	8	51	38	130	8	44	76	282	16	95	
Total	1109		1995		1410		1799		2519		3794		
Percent	44.0%		52.6%		56.0%		47.4%						
Day Total		3104				3209				6313			
Peak	07:30		05:15		07:15		05:00		07:30		05:15		
Vol.	227		294		354		262		578		556		
P.H.F.	0.747		0.919		0.952		0.862		0.892		0.891		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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Broadway
south of Powder House Square
City, State: Somerville, MA
Client: VHB/A. Ng

71360Lvolume
Site Code: 10303

Start	SB				NB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	22		120		19		111		41		231		
12:15	21		101		14		103		35		204		
12:30	15		130		14		117		29		247		
12:45	15	73	114	465	15	62	106	437	30	135	220	902	
01:00	18		92		18		122		36		214		
01:15	12		122		14		134		26		256		
01:30	7		122		4		124		11		246		
01:45	5	42	137	473	12	48	128	508	17	90	265	981	
02:00	4		108		10		124		14		232		
02:15	8		136		2		123		10		259		
02:30	12		148		8		132		20		280		
02:45	4	28	142	534	8	28	146	525	12	56	288	1059	
03:00	6		174		8		146		14		320		
03:15	2		118		5		144		7		262		
03:30	8		109		3		132		11		241		
03:45	7	23	143	544	5	21	158	580	12	44	301	1124	
04:00	3		128		6		154		9		282		
04:15	4		144		10		142		14		286		
04:30	11		146		11		154		22		300		
04:45	9	27	139	557	10	37	152	602	19	64	291	1159	
05:00	9		158		15		144		24		302		
05:15	13		178		24		169		37		347		
05:30	24		133		20		180		44		313		
05:45	23	69	140	609	34	93	144	637	57	162	284	1246	
06:00	39		156		48		160		87		316		
06:15	45		136		58		144		103		280		
06:30	62		155		110		138		172		293		
06:45	116	262	121	568	148	364	130	572	264	626	251	1140	
07:00	142		116		147		105		289		221		
07:15	169		124		142		108		311		232		
07:30	196		85		143		96		339		181		
07:45	234	741	109	434	148	580	86	395	382	1321	195	829	
08:00	210		70		141		59		351		129		
08:15	205		84		152		82		357		166		
08:30	167		84		150		77		317		161		
08:45	177	759	82	320	124	567	62	280	301	1326	144	600	
09:00	155		78		108		76		263		154		
09:15	184		83		102		60		286		143		
09:30	111		87		88		67		199		154		
09:45	118	568	68	316	102	400	60	263	220	968	128	579	
10:00	128		59		76		54		204		113		
10:15	112		63		106		77		218		140		
10:30	88		54		105		64		193		118		
10:45	104	432	40	216	110	397	52	247	214	829	92	463	
11:00	78		40		109		38		187		78		
11:15	90		42		90		36		180		78		
11:30	105		29		88		27		193		56		
11:45	128	401	16	127	98	385	23	124	226	786	39	251	
Total	3425		5163		2982		5170		6407		10333		
Percent	53.5%		50.0%		46.5%		50.0%						
Day Total		8588				8152				16740			
Peak	07:30		04:30		07:45		05:15		07:30		05:15		
Vol.	845		621		591		653		1429		1260		
P.H.F.	0.903		0.872		0.972		0.907		0.935		0.908		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Willow Avenue between
Broadway and Kidder Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

71360Mvolume
Site Code: 10303

Start	NB				SB				Combined				07-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	11		46		5		23		16		69		
12:15	4		32		5		26		9		58		
12:30	6		44		3		26		9		70		
12:45	2	23	36	158	2	15	28	103	4	38	64	261	
01:00	8		35		6		19		14		54		
01:15	6		40		6		30		12		70		
01:30	1		26		2		28		3		54		
01:45	2	17	47	148	1	15	28	105	3	32	75	253	
02:00	2		47		2		20		4		67		
02:15	1		37		1		24		2		61		
02:30	3		43		1		25		4		68		
02:45	1	7	43	170	0	4	40	109	1	11	83	279	
03:00	1		48		0		16		1		64		
03:15	0		56		0		25		0		81		
03:30	2		39		1		18		3		57		
03:45	1	4	58	201	0	1	27	86	1	5	85	287	
04:00	1		58		1		18		2		76		
04:15	4		60		1		26		5		86		
04:30	2		59		0		20		2		79		
04:45	1	8	52	229	0	2	25	89	1	10	77	318	
05:00	0		60		2		28		2		88		
05:15	3		70		1		32		4		102		
05:30	4		60		4		30		8		90		
05:45	3	10	48	238	6	13	34	124	9	23	82	362	
06:00	3		56		4		29		7		85		
06:15	14		52		11		36		25		88		
06:30	12		56		15		33		27		89		
06:45	23	52	50	214	18	48	24	122	41	100	74	336	
07:00	29		41		26		27		55		68		
07:15	26		40		26		22		52		62		
07:30	42		40		38		24		80		64		
07:45	46	143	36	157	40	130	21	94	86	273	57	251	
08:00	35		24		48		18		83		42		
08:15	73		28		40		21		113		49		
08:30	44		25		46		22		90		47		
08:45	42	194	16	93	46	180	20	81	88	374	36	174	
09:00	38		28		32		16		70		44		
09:15	34		35		25		11		59		46		
09:30	32		33		26		20		58		53		
09:45	24	128	26	122	24	107	8	55	48	235	34	177	
10:00	28		16		22		17		50		33		
10:15	30		30		21		11		51		41		
10:30	35		20		18		16		53		36		
10:45	32	125	16	82	18	79	8	52	50	204	24	134	
11:00	50		11		17		8		67		19		
11:15	34		4		18		3		52		7		
11:30	36		10		20		1		56		11		
11:45	47	167	14	39	24	79	6	18	71	246	20	57	
Total	878		1851		673		1038		1551		2889		
Percent	56.6%		64.1%		43.4%		35.9%						
Day Total		2729				1711				4440			
Peak	07:45		04:45		08:00		05:45		08:00		05:00		
Vol.	198		242		180		132		374		362		
P.H.F.	0.678		0.864		0.938		0.917		0.827		0.887		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Broadway between
Boston Avenue and Winchester Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Nvolume
Site Code: 10303

Start	WB				EB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	20		131		42		132		62		263		
12:15	24		134		26		137		50		271		
12:30	22		126		24		160		46		286		
12:45	20	86	140	531	20	112	138	567	40	198	278	1098	
01:00	15		149		21		150		36		299		
01:15	24		144		22		132		46		276		
01:30	8		140		9		154		17		294		
01:45	5	52	171	604	14	66	138	574	19	118	309	1178	
02:00	14		168		12		158		26		326		
02:15	10		146		17		157		27		303		
02:30	8		174		7		189		15		363		
02:45	6	38	176	664	13	49	188	692	19	87	364	1356	
03:00	4		166		8		207		12		373		
03:15	4		179		14		191		18		370		
03:30	6		176		7		188		13		364		
03:45	10	24	202	723	9	38	169	755	19	62	371	1478	
04:00	10		188		14		190		24		378		
04:15	5		220		10		168		15		388		
04:30	10		195		12		200		22		395		
04:45	10	35	208	811	11	47	189	747	21	82	397	1558	
05:00	16		247		24		182		40		429		
05:15	18		244		17		171		35		415		
05:30	32		220		30		204		62		424		
05:45	46	112	202	913	49	120	194	751	95	232	396	1664	
06:00	41		188		63		188		104		376		
06:15	78		184		99		195		177		379		
06:30	122		154		116		174		238		328		
06:45	162	403	142	668	154	432	162	719	316	835	304	1387	
07:00	148		162		183		145		331		307		
07:15	196		137		212		148		408		285		
07:30	241		148		270		114		511		262		
07:45	216	801	114	561	244	909	164	571	460	1710	278	1132	
08:00	213		102		268		106		481		208		
08:15	196		94		249		113		445		207		
08:30	160		90		228		102		388		192		
08:45	176	745	73	359	222	967	96	417	398	1712	169	776	
09:00	150		93		214		110		364		203		
09:15	124		82		178		98		302		180		
09:30	158		76		180		116		338		192		
09:45	136	568	80	331	165	737	100	424	301	1305	180	755	
10:00	113		95		139		90		252		185		
10:15	131		74		121		94		252		168		
10:30	107		66		115		70		222		136		
10:45	140	491	48	283	104	479	64	318	244	970	112	601	
11:00	138		48		116		58		254		106		
11:15	122		43		110		48		232		91		
11:30	108		36		137		50		245		86		
11:45	125	493	28	155	155	518	38	194	280	1011	66	349	
Total	3848		6603		4474		6729		8322		13332		
Percent	46.2%		49.5%		53.8%		50.5%						
Day Total		10451				11203				21654			
Peak	07:15		04:45		07:30		05:30		07:30		04:45		
Vol.	866		919		1031		781		1897		1665		
P.H.F.	0.898		0.930		0.955		0.943		0.928		0.970		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Lowell Street bewteen
Vernon Street and Princeton Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Ovolume
Site Code: 10303

Start	SB				NB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	2		43		3		26		5		69		
12:15	2		22		8		22		10		44		
12:30	2		22		2		25		4		47		
12:45	3	9	22	109	0	13	26	99	3	22	48	208	
01:00	0		19		3		24		3		43		
01:15	6		23		4		16		10		39		
01:30	0		36		1		38		1		74		
01:45	0	6	25	103	3	11	22	100	3	17	47	203	
02:00	0		18		2		28		2		46		
02:15	1		22		0		42		1		64		
02:30	0		22		1		32		1		54		
02:45	0	1	32	94	5	8	37	139	5	9	69	233	
03:00	1		29		3		32		4		61		
03:15	0		17		0		30		0		47		
03:30	0		27		0		38		0		65		
03:45	0	1	23	96	0	3	38	138	0	4	61	234	
04:00	0		20		0		33		0		53		
04:15	2		20		0		33		2		53		
04:30	1		32		1		28		2		60		
04:45	3	6	34	106	5	6	34	128	8	12	68	234	
05:00	3		27		3		34		6		61		
05:15	4		27		5		39		9		66		
05:30	7		31		8		35		15		66		
05:45	9	23	27	112	8	24	42	150	17	47	69	262	
06:00	11		34		8		44		19		78		
06:15	14		20		2		35		16		55		
06:30	26		28		14		30		40		58		
06:45	31	82	27	109	15	39	24	133	46	121	51	242	
07:00	41		18		24		31		65		49		
07:15	40		23		27		25		67		48		
07:30	48		18		24		21		72		39		
07:45	68	197	18	77	24	99	28	105	92	296	46	182	
08:00	58		22		34		22		92		44		
08:15	53		12		34		22		87		34		
08:30	47		20		24		20		71		40		
08:45	37	195	13	67	22	114	21	85	59	309	34	152	
09:00	32		14		18		20		50		34		
09:15	26		23		18		17		44		40		
09:30	22		10		24		14		46		24		
09:45	18	98	6	53	16	76	16	67	34	174	22	120	
10:00	24		16		17		17		41		33		
10:15	12		10		14		11		26		21		
10:30	19		5		20		9		39		14		
10:45	14	69	10	41	24	75	10	47	38	144	20	88	
11:00	18		5		24		10		42		15		
11:15	8		7		18		10		26		17		
11:30	21		3		22		12		43		15		
11:45	20	67	3	18	21	85	8	40	41	152	11	58	
Total	754		985		553		1231		1307		2216		
Percent	57.7%		44.4%		42.3%		55.6%						
Day Total		1739				1784				3523			
Peak	07:30		04:30		07:30		05:15		07:30		05:15		
Vol.	227		120		116		160		343		279		
P.H.F.	0.835		0.882		0.853		0.909		0.932		0.894		

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Highland Street
south of School Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Pvolume
Site Code: 10303

Start	NB				SB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	25		100		30		117		55		217		
12:15	27		72		26		124		53		196		
12:30	15		86		24		129		39		215		
12:45	16	83	92	350	9	89	122	492	25	172	214	842	
01:00	11		98		20		130		31		228		
01:15	12		100		12		106		24		206		
01:30	12		84		10		146		22		230		
01:45	14	49	104	386	10	52	103	485	24	101	207	871	
02:00	14		90		12		132		26		222		
02:15	0		94		10		126		10		220		
02:30	6		100		4		154		10		254		
02:45	10	30	111	395	8	34	146	558	18	64	257	953	
03:00	6		113		6		142		12		255		
03:15	9		120		6		134		15		254		
03:30	7		106		7		190		14		296		
03:45	8	30	108	447	10	29	154	620	18	59	262	1067	
04:00	4		124		6		172		10		296		
04:15	4		122		8		143		12		265		
04:30	7		126		12		136		19		262		
04:45	18	33	130	502	22	48	159	610	40	81	289	1112	
05:00	7		136		28		172		35		308		
05:15	9		128		32		188		41		316		
05:30	14		138		38		154		52		292		
05:45	36	66	134	536	40	138	162	676	76	204	296	1212	
06:00	20		138		38		140		58		278		
06:15	40		128		68		149		108		277		
06:30	43		146		84		118		127		264		
06:45	70	173	127	539	116	306	142	549	186	479	269	1088	
07:00	66		107		144		125		210		232		
07:15	84		110		204		134		288		244		
07:30	94		112		172		138		266		250		
07:45	111	355	80	409	161	681	120	517	272	1036	200	926	
08:00	99		84		168		92		267		176		
08:15	72		86		197		88		269		174		
08:30	68		82		162		90		230		172		
08:45	106	345	110	362	168	695	104	374	274	1040	214	736	
09:00	68		78		190		103		258		181		
09:15	78		60		163		84		241		144		
09:30	60		75		142		94		202		169		
09:45	90	296	72	285	124	619	80	361	214	915	152	646	
10:00	70		58		142		80		212		138		
10:15	88		62		134		60		222		122		
10:30	84		54		119		62		203		116		
10:45	82	324	59	233	120	515	76	278	202	839	135	511	
11:00	66		64		116		76		182		140		
11:15	68		36		114		50		182		86		
11:30	80		39		128		48		208		87		
11:45	76	290	24	163	141	499	36	210	217	789	60	373	
Total	2074		4607		3705		5730		5779		10337		
Percent	35.9%		44.6%		64.1%		55.4%						
Day Total		6681				9435				16116			
Peak	07:15		05:45		08:15		05:00		07:15		05:00		
Vol.	388		546		717		676		1093		1212		
P.H.F.	0.874		0.935		0.910		0.899		0.949		0.959		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Medford Street between
School Street and Central Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Qvolume
Site Code: 10303

Start	EB				WB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	24		98		21		68		45		166		
12:15	19		102		18		70		37		172		
12:30	11		90		15		60		26		150		
12:45	4	58	90	380	13	67	80	278	17	125	170	658	
01:00	5		102		15		74		20		176		
01:15	8		89		13		66		21		155		
01:30	4		133		8		62		12		195		
01:45	10	27	94	418	5	41	76	278	15	68	170	696	
02:00	4		112		5		91		9		203		
02:15	6		122		8		82		14		204		
02:30	5		148		8		72		13		220		
02:45	7	22	148	530	2	23	73	318	9	45	221	848	
03:00	3		145		6		90		9		235		
03:15	6		146		5		90		11		236		
03:30	6		115		4		90		10		205		
03:45	7	22	110	516	4	19	94	364	11	41	204	880	
04:00	6		131		6		93		12		224		
04:15	8		114		1		122		9		236		
04:30	7		146		6		110		13		256		
04:45	15	36	142	533	4	17	100	425	19	53	242	958	
05:00	20		148		6		102		26		250		
05:15	24		122		5		111		29		233		
05:30	47		113		12		124		59		237		
05:45	48	139	150	533	18	41	98	435	66	180	248	968	
06:00	70		114		30		81		100		195		
06:15	112		130		30		92		142		222		
06:30	146		124		50		100		196		224		
06:45	146	474	118	486	60	170	74	347	206	644	192	833	
07:00	164		102		38		88		202		190		
07:15	244		104		48		82		292		186		
07:30	220		82		52		66		272		148		
07:45	229	857	71	359	74	212	62	298	303	1069	133	657	
08:00	226		66		72		59		298		125		
08:15	221		72		60		52		281		124		
08:30	237		65		74		54		311		119		
08:45	214	898	66	269	55	261	44	209	269	1159	110	478	
09:00	186		84		58		41		244		125		
09:15	155		78		54		50		209		128		
09:30	159		88		48		54		207		142		
09:45	122	622	57	307	54	214	45	190	176	836	102	497	
10:00	116		60		50		33		166		93		
10:15	98		49		54		45		152		94		
10:30	93		36		50		46		143		82		
10:45	96	403	42	187	64	218	29	153	160	621	71	340	
11:00	94		30		65		32		159		62		
11:15	75		31		56		32		131		63		
11:30	97		42		56		26		153		68		
11:45	107	373	16	119	44	221	20	110	151	594	36	229	
Total	3931		4637		1504		3405		5435		8042		
Percent	72.3%		57.7%		27.7%		42.3%						
Day Total		8568				4909				13477			
Peak	07:15		02:30		07:45		04:45		07:45		04:15		
Vol.	919		587		280		437		1193		984		
P.H.F.	0.942		0.992		0.946		0.881		0.959		0.961		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

School Street between
Medford Street and Highland Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Rvolume
Site Code: 10303

Start Time	A.M.	SB	P.M.				Thu 08-Nov-07
12:00	14		56				
12:15	9		62				
12:30	7		52				
12:45	2	32	72	242			
01:00	4		56				
01:15	2		66				
01:30	6		94				
01:45	3	15	71	287			
02:00	1		89				
02:15	1		88				
02:30	4		122				
02:45	5	11	107	406			
03:00	5		77				
03:15	2		92				
03:30	4		76				
03:45	4	15	92	337			
04:00	2		95				
04:15	6		95				
04:30	7		84				
04:45	9	24	122	396			
05:00	12		103				
05:15	16		104				
05:30	26		109				
05:45	35	89	128	444			
06:00	30		104				
06:15	53		85				
06:30	69		82				
06:45	114	266	79	350			
07:00	96		70				
07:15	132		72				
07:30	140		71				
07:45	142	510	66	279			
08:00	128		52				
08:15	102		38				
08:30	82		58				
08:45	121	433	34	182			
09:00	105		47				
09:15	100		46				
09:30	75		39				
09:45	79	359	33	165			
10:00	63		27				
10:15	62		22				
10:30	68		24				
10:45	60	253	21	94			
11:00	69		34				
11:15	53		18				
11:30	70		18				
11:45	78	270	12	82			
Total	2277		3264				
Percent			100.0%		0.0%	0.0%	
Day Total		5541					
Peak	07:15		05:15				
Vol.	542		445				
P.H.F.	0.954		0.869				

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Medford Street
south of School Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Svolume
Site Code: 10303

Start	SB				NB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	8		61		29		59		37		120		
12:15	8		58		18		68		26		126		
12:30	9		48		16		56		25		104		
12:45	2	27	39	206	16	79	68	251	18	106	107	457	
01:00	0		55		10		57		10		112		
01:15	5		56		13		59		18		115		
01:30	3		51		8		61		11		112		
01:45	6	14	49	211	12	43	69	246	18	57	118	457	
02:00	3		57		6		70		9		127		
02:15	5		47		10		78		15		125		
02:30	3		73		11		72		14		145		
02:45	2	13	77	254	6	33	71	291	8	46	148	545	
03:00	1		52		4		90		5		142		
03:15	1		70		5		84		6		154		
03:30	4		63		4		93		8		156		
03:45	4	10	51	236	6	19	87	354	10	29	138	590	
04:00	4		61		6		93		10		154		
04:15	5		54		3		107		8		161		
04:30	5		67		4		117		9		184		
04:45	8	22	71	253	3	16	112	429	11	38	183	682	
05:00	13		65		3		107		16		172		
05:15	14		65		4		109		18		174		
05:30	24		46		8		95		32		141		
05:45	30	81	57	233	9	24	96	407	39	105	153	640	
06:00	42		61		13		84		55		145		
06:15	66		58		14		87		80		145		
06:30	98		57		25		84		123		141		
06:45	98	304	42	218	22	74	76	331	120	378	118	549	
07:00	125		53		27		68		152		121		
07:15	146		47		29		77		175		124		
07:30	138		32		38		65		176		97		
07:45	138	547	42	174	62	156	56	266	200	703	98	440	
08:00	142		29		46		69		188		98		
08:15	101		30		42		58		143		88		
08:30	129		31		37		51		166		82		
08:45	126	498	27	117	35	160	46	224	161	658	73	341	
09:00	124		28		43		50		167		78		
09:15	119		35		48		47		167		82		
09:30	99		36		43		44		142		80		
09:45	94	436	32	131	43	177	47	188	137	613	79	319	
10:00	64		21		44		34		108		55		
10:15	59		21		58		38		117		59		
10:30	63		18		42		45		105		63		
10:45	45	231	20	80	55	199	25	142	100	430	45	222	
11:00	51		9		49		28		100		37		
11:15	38		11		59		25		97		36		
11:30	54		14		49		23		103		37		
11:45	48	191	5	39	42	199	19	95	90	390	24	134	
Total	2374		2152		1179		3224		3553		5376		
Percent	66.8%		40.0%		33.2%		60.0%						
Day Total		4526				4403				8929			
Peak	07:15		02:30		10:45		04:30		07:15		04:30		
Vol.	564		272		212		445		739		713		
P.H.F.	0.966		0.883		0.898		0.951		0.924		0.969		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

McGrath Highway (Route 28)
south of Medford Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Tvolume
Site Code: 10303

Start	SB				NB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	38		324		144		250		182		574		
12:15	44		343		124		284		168		627		
12:30	40		351		115		266		155		617		
12:45	23	145	340	1358	117	500	252	1052	140	645	592	2410	
01:00	27		324		73		292		100		616		
01:15	28		334		98		280		126		614		
01:30	26		330		72		290		98		620		
01:45	34	115	345	1333	68	311	300	1162	102	426	645	2495	
02:00	20		314		48		306		68		620		
02:15	19		333		65		362		84		695		
02:30	10		361		54		354		64		715		
02:45	22	71	362	1370	52	219	333	1355	74	290	695	2725	
03:00	16		322		38		393		54		715		
03:15	24		393		30		450		54		843		
03:30	26		394		30		474		56		868		
03:45	26	92	326	1435	41	139	484	1801	67	231	810	3236	
04:00	28		338		18		472		46		810		
04:15	38		375		38		489		76		864		
04:30	61		364		30		547		91		911		
04:45	68	195	445	1522	27	113	474	1982	95	308	919	3504	
05:00	102		386		32		602		134		988		
05:15	151		418		24		501		175		919		
05:30	218		402		46		538		264		940		
05:45	293	764	384	1590	62	164	480	2121	355	928	864	3711	
06:00	374		430		94		481		468		911		
06:15	477		360		114		484		591		844		
06:30	628		388		128		401		756		789		
06:45	684	2163	297	1475	146	482	393	1759	830	2645	690	3234	
07:00	710		291		196		344		906		635		
07:15	735		236		230		346		965		582		
07:30	742		250		238		315		980		565		
07:45	721	2908	254	1031	280	944	270	1275	1001	3852	524	2306	
08:00	832		190		240		268		1072		458		
08:15	752		194		216		270		968		464		
08:30	856		178		248		247		1104		425		
08:45	766	3206	184	746	222	926	216	1001	988	4132	400	1747	
09:00	816		158		224		220		1040		378		
09:15	733		175		189		221		922		396		
09:30	656		178		216		220		872		398		
09:45	590	2795	164	675	196	825	238	899	786	3620	402	1574	
10:00	523		146		204		194		727		340		
10:15	512		146		246		198		758		344		
10:30	420		140		252		198		672		338		
10:45	362	1817	138	570	274	976	158	748	636	2793	296	1318	
11:00	326		106		246		186		572		292		
11:15	342		108		264		158		606		266		
11:30	337		99		258		123		595		222		
11:45	344	1349	67	380	250	1018	106	573	594	2367	173	953	
Total	15620		13485		6617		15728		22237		29213		
Percent	70.2%		46.2%		29.8%		53.8%						
Day Total		29105				22345				51450			
Peak	08:00		04:45		10:45		04:30		07:45		04:45		
Vol.	3206		1651		1042		2124		4145		3766		
P.H.F.	0.936		0.928		0.951		0.882		0.939		0.953		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Washington Street
east of Tufts Avenue
City, State : Somerville, MA
Client : VHB/ A. Ng

71360Uvolume
Site Code: 10303

Start	EB				WB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	50		162		56		194		106		356		
12:15	43		188		26		198		69		386		
12:30	34		150		10		209		44		359		
12:45	31	158	162	662	12	104	208	809	43	262	370	1471	
01:00	30		146		22		182		52		328		
01:15	35		167		5		194		40		361		
01:30	18		148		14		182		32		330		
01:45	24	107	161	622	28	69	234	792	52	176	395	1414	
02:00	14		156		34		193		48		349		
02:15	12		142		16		221		28		363		
02:30	21		164		5		206		26		370		
02:45	10	57	191	653	26	81	224	844	36	138	415	1497	
03:00	12		192		22		233		34		425		
03:15	11		180		30		236		41		416		
03:30	22		180		11		218		33		398		
03:45	20	65	208	760	29	92	228	915	49	157	436	1675	
04:00	17		197		37		218		54		415		
04:15	20		192		32		232		52		424		
04:30	20		216		46		222		66		438		
04:45	26	83	182	787	74	189	235	907	100	272	417	1694	
05:00	20		212		60		242		80		454		
05:15	34		176		80		258		114		434		
05:30	40		194		114		226		154		420		
05:45	58	152	186	768	164	418	224	950	222	570	410	1718	
06:00	48		162		206		256		254		418		
06:15	70		196		141		227		211		423		
06:30	92		153		197		208		289		361		
06:45	102	312	155	666	198	742	176	867	300	1054	331	1533	
07:00	84		150		261		186		345		336		
07:15	112		144		300		171		412		315		
07:30	140		116		242		183		382		299		
07:45	142	478	126	536	263	1066	143	683	405	1544	269	1219	
08:00	124		120		271		128		395		248		
08:15	132		105		220		126		352		231		
08:30	133		72		255		118		388		190		
08:45	126	515	80	377	246	992	112	484	372	1507	192	861	
09:00	118		90		206		94		324		184		
09:15	124		108		212		118		336		226		
09:30	116		86		198		124		314		210		
09:45	107	465	96	380	211	827	106	442	318	1292	202	822	
10:00	116		57		207		92		323		149		
10:15	118		72		124		98		242		170		
10:30	139		62		187		110		326		172		
10:45	122	495	40	231	209	727	122	422	331	1222	162	653	
11:00	118		60		196		92		314		152		
11:15	104		64		178		81		282		145		
11:30	127		57		190		62		317		119		
11:45	130	479	60	241	196	760	41	276	326	1239	101	517	
Total	3366		6683		6067		8391		9433		15074		
Percent	35.7%		44.3%		64.3%		55.7%						
Day Total		10049				14458				24507			
Peak	07:30		03:45		07:15		05:15		07:15		04:30		
Vol.	538		813		1076		964		1594		1743		
P.H.F.	0.947		0.941		0.897		0.934		0.967		0.960		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Somerville Avenue
east of Prospect Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Vvolume
Site Code: 10303

Start	EB				WB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	26		116		10		70		36		186		
12:15	12		113		14		71		26		184		
12:30	14		115		4		88		18		203		
12:45	11	63	114	458	6	34	58	287	17	97	172	745	
01:00	14		126		6		78		20		204		
01:15	12		120		1		68		13		188		
01:30	12		108		10		56		22		164		
01:45	7	45	118	472	5	22	78	280	12	67	196	752	
02:00	5		104		4		59		9		163		
02:15	2		98		1		78		3		176		
02:30	4		124		6		66		10		190		
02:45	6	17	128	454	2	13	65	268	8	30	193	722	
03:00	7		124		0		72		7		196		
03:15	5		128		4		71		9		199		
03:30	2		116		0		70		2		186		
03:45	9	23	106	474	1	5	64	277	10	28	170	751	
04:00	6		120		2		76		8		196		
04:15	6		116		2		78		8		194		
04:30	6		115		4		69		10		184		
04:45	10	28	123	474	3	11	82	305	13	39	205	779	
05:00	7		110		6		75		13		185		
05:15	13		112		4		69		17		181		
05:30	26		120		9		72		35		192		
05:45	42	88	108	450	8	27	71	287	50	115	179	737	
06:00	33		108		16		69		49		177		
06:15	44		103		19		76		63		179		
06:30	54		101		28		86		82		187		
06:45	63	194	113	425	36	99	66	297	99	293	179	722	
07:00	71		95		52		66		123		161		
07:15	96		81		32		62		128		143		
07:30	116		98		38		58		154		156		
07:45	121	404	96	370	54	176	56	242	175	580	152	612	
08:00	133		79		43		62		176		141		
08:15	110		96		50		50		160		146		
08:30	106		76		60		54		166		130		
08:45	116	465	74	325	46	199	43	209	162	664	117	534	
09:00	112		63		60		50		172		113		
09:15	102		66		38		38		140		104		
09:30	100		73		56		34		156		107		
09:45	110	424	72	274	52	206	32	154	162	630	104	428	
10:00	98		60		46		35		144		95		
10:15	88		54		52		36		140		90		
10:30	78		42		55		24		133		66		
10:45	96	360	46	202	64	217	16	111	160	577	62	313	
11:00	78		48		50		26		128		74		
11:15	96		33		54		20		150		53		
11:30	104		40		56		22		160		62		
11:45	105	383	12	133	59	219	15	83	164	602	27	216	
Total	2494		4511		1228		2800		3722		7311		
Percent	67.0%		61.7%		33.0%		38.3%						
Day Total		7005				4028				11033			
Peak	07:30		02:30		10:45		04:00		07:45		04:00		
Vol.	480		504		224		305		677		779		
P.H.F.	0.902		0.984		0.875		0.866		0.962		0.950		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Prospect Street
south of Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

71360Wvolume
Site Code: 10303

Start	SB				NB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	12		48		39		94		51		142		
12:15	9		44		27		88		36		132		
12:30	4		64		17		88		21		152		
12:45	4	29	51	207	29	112	85	355	33	141	136	562	
01:00	3		60		18		100		21		160		
01:15	7		49		23		85		30		134		
01:30	5		35		17		87		22		122		
01:45	5	20	64	208	19	77	92	364	24	97	156	572	
02:00	2		42		11		100		13		142		
02:15	4		55		13		103		17		158		
02:30	1		55		10		93		11		148		
02:45	3	10	50	202	15	49	94	390	18	59	144	592	
03:00	7		70		6		105		13		175		
03:15	4		69		11		102		15		171		
03:30	2		45		7		113		9		158		
03:45	3	16	69	253	10	34	106	426	13	50	175	679	
04:00	5		52		6		105		11		157		
04:15	5		51		6		111		11		162		
04:30	15		58		3		108		18		166		
04:45	14	39	55	216	4	19	123	447	18	58	178	663	
05:00	14		57		10		113		24		170		
05:15	15		66		7		105		22		171		
05:30	26		60		17		89		43		149		
05:45	32	87	52	235	28	62	103	410	60	149	155	645	
06:00	29		70		26		110		55		180		
06:15	45		49		38		105		83		154		
06:30	71		62		47		125		118		187		
06:45	68	213	64	245	54	165	85	425	122	378	149	670	
07:00	70		53		66		101		136		154		
07:15	73		57		67		89		140		146		
07:30	73		59		72		103		145		162		
07:45	76	292	46	215	81	286	85	378	157	578	131	593	
08:00	72		56		81		78		153		134		
08:15	64		30		82		87		146		117		
08:30	68		34		88		80		156		114		
08:45	59	263	38	158	84	335	80	325	143	598	118	483	
09:00	46		30		75		75		121		105		
09:15	68		30		72		77		140		107		
09:30	55		29		72		80		127		109		
09:45	64	233	34	123	70	289	80	312	134	522	114	435	
10:00	66		21		83		66		149		87		
10:15	62		30		77		68		139		98		
10:30	62		29		78		71		140		100		
10:45	55	245	34	114	85	323	58	263	140	568	92	377	
11:00	62		24		72		66		134		90		
11:15	42		20		72		63		114		83		
11:30	63		16		95		49		158		65		
11:45	56	223	15	75	98	337	47	225	154	560	62	300	
Total	1670		2251		2088		4320		3758		6571		
Percent	44.4%		34.3%		55.6%		65.7%						
Day Total		3921				6408				10329			
Peak	07:15		03:00		11:00		04:15		07:45		04:30		
Vol.	294		253		337		455		612		685		
P.H.F.	0.967		0.904		0.860		0.925		0.975		0.962		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Webster Street
south of Prospect Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Xvolume
Site Code: 10303

Start	NB				SB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	34		79		8		48		42		127		
12:15	19		76		6		67		25		143		
12:30	8		82		8		50		16		132		
12:45	8	69	74	311	3	25	52	217	11	94	126	528	
01:00	21		78		3		42		24		120		
01:15	13		76		4		49		17		125		
01:30	7		94		5		45		12		139		
01:45	6	47	70	318	5	17	52	188	11	64	122	506	
02:00	3		75		3		40		6		115		
02:15	6		82		3		36		9		118		
02:30	6		97		3		47		9		144		
02:45	9	24	82	336	1	10	61	184	10	34	143	520	
03:00	4		93		3		49		7		142		
03:15	4		114		4		39		8		153		
03:30	2		102		5		53		7		155		
03:45	0	10	102	411	5	17	41	182	5	27	143	593	
04:00	7		126		5		57		12		183		
04:15	7		113		6		54		13		167		
04:30	8		147		6		34		14		181		
04:45	2	24	121	507	9	26	42	187	11	50	163	694	
05:00	2		120		10		32		12		152		
05:15	10		126		10		50		20		176		
05:30	13		118		23		30		36		148		
05:45	22	47	117	481	30	73	38	150	52	120	155	631	
06:00	16		116		25		48		41		164		
06:15	22		110		34		41		56		151		
06:30	29		82		49		54		78		136		
06:45	36	103	91	399	62	170	59	202	98	273	150	601	
07:00	45		61		56		41		101		102		
07:15	57		77		83		38		140		115		
07:30	67		53		84		46		151		99		
07:45	62	231	68	259	96	319	42	167	158	550	110	426	
08:00	51		60		111		39		162		99		
08:15	52		64		93		34		145		98		
08:30	41		57		91		45		132		102		
08:45	52	196	47	228	106	401	31	149	158	597	78	377	
09:00	58		56		79		36		137		92		
09:15	49		43		58		27		107		70		
09:30	58		56		86		30		144		86		
09:45	51	216	35	190	51	274	24	117	102	490	59	307	
10:00	66		44		59		23		125		67		
10:15	44		47		59		28		103		75		
10:30	68		40		55		21		123		61		
10:45	64	242	31	162	49	222	23	95	113	464	54	257	
11:00	68		38		43		19		111		57		
11:15	58		26		44		17		102		43		
11:30	59		30		56		14		115		44		
11:45	69	254	21	115	45	188	15	65	114	442	36	180	
Total	1463		3717		1742		1903		3205		5620		
Percent	45.6%		66.1%		54.4%		33.9%						
Day Total		5180				3645				8825			
Peak	10:30		04:30		08:00		12:00		07:30		04:00		
Vol.	258		514		401		217		616		694		
P.H.F.	0.949		0.874		0.903		0.810		0.951		0.948		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Washington Street
west of Hawkins Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360Yvolume
Site Code: 10303

Start	EB				WB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	24		63		13		80		37		143		
12:15	12		68		11		96		23		164		
12:30	13		76		7		75		20		151		
12:45	8	57	51	258	2	33	84	335	10	90	135	593	
01:00	14		81		3		78		17		159		
01:15	7		65		8		69		15		134		
01:30	7		88		6		67		13		155		
01:45	4	32	73	307	6	23	70	284	10	55	143	591	
02:00	9		69		3		86		12		155		
02:15	1		73		1		82		2		155		
02:30	6		89		9		69		15		158		
02:45	5	21	45	276	1	14	79	316	6	35	124	592	
03:00	6		67		3		68		9		135		
03:15	3		77		7		79		10		156		
03:30	5		90		3		71		8		161		
03:45	1	15	89	323	7	20	70	288	8	35	159	611	
04:00	6		74		10		88		16		162		
04:15	6		83		11		59		17		142		
04:30	3		104		14		77		17		181		
04:45	4	19	86	347	24	59	83	307	28	78	169	654	
05:00	3		96		15		77		18		173		
05:15	12		86		37		87		49		173		
05:30	20		109		45		78		65		187		
05:45	19	54	91	382	58	155	81	323	77	209	172	705	
06:00	21		90		76		93		97		183		
06:15	24		74		65		76		89		150		
06:30	45		87		74		66		119		153		
06:45	51	141	75	326	81	296	77	312	132	437	152	638	
07:00	62		63		95		66		157		129		
07:15	75		61		106		66		181		127		
07:30	104		47		90		45		194		92		
07:45	78	319	64	235	81	372	55	232	159	691	119	467	
08:00	79		61		98		54		177		115		
08:15	94		56		62		39		156		95		
08:30	85		41		84		38		169		79		
08:45	97	355	43	201	83	327	39	170	180	682	82	371	
09:00	77		49		78		50		155		99		
09:15	67		37		85		39		152		76		
09:30	78		51		83		36		161		87		
09:45	70	292	55	192	89	335	33	158	159	627	88	350	
10:00	63		58		88		34		151		92		
10:15	67		49		71		40		138		89		
10:30	55		26		80		30		135		56		
10:45	67	252	34	167	87	326	40	144	154	578	74	311	
11:00	66		42		69		21		135		63		
11:15	81		30		76		22		157		52		
11:30	54		37		81		23		135		60		
11:45	72	273	29	138	70	296	13	79	142	569	42	217	
Total	1830		3152		2256		2948		4086		6100		
Percent	44.8%		51.7%		55.2%		48.3%						
Day Total		4982				5204				10186			
Peak	07:30		05:00		07:15		05:15		07:15		05:15		
Vol.	355		382		375		339		711		715		
P.H.F.	0.853		0.876		0.884		0.883		0.916		0.956		

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Washington Street between
Boston Street and Prospect Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360AAvolume
Site Code: 10303

Start	WB				EB				Combined				08-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	32		208		58		186		90		394		
12:15	26		169		37		164		63		333		
12:30	16		176		34		156		50		332		
12:45	11	85	188	741	28	157	171	677	39	242	359	1418	
01:00	16		184		23		170		39		354		
01:15	16		172		0		187		16		359		
01:30	10		162		0		197		10		359		
01:45	18	60	210	728	0	23	171	725	18	83	381	1453	
02:00	16		192		0		180		16		372		
02:15	10		228		0		185		10		413		
02:30	7		196		0		206		7		402		
02:45	14	47	212	828	0	0	193	764	14	47	405	1592	
03:00	16		164		0		223		16		387		
03:15	16		191		0		216		16		407		
03:30	16		212		0		210		16		422		
03:45	11	59	202	769	0	0	221	870	11	59	423	1639	
04:00	24		182		0		254		24		436		
04:15	30		211		0		217		30		428		
04:30	49		189		0		216		49		405		
04:45	46	149	214	796	0	0	252	939	46	149	466	1735	
05:00	52		234		0		232		52		466		
05:15	92		248		0		231		92		479		
05:30	122		203		0		242		122		445		
05:45	149	415	243	928	0	0	190	895	149	415	433	1823	
06:00	148		246		0		212		148		458		
06:15	178		198		0		199		178		397		
06:30	244		207		0		182		244		389		
06:45	234	804	178	829	0	0	175	768	234	804	353	1597	
07:00	268		176		0		160		268		336		
07:15	302		154		0		138		302		292		
07:30	282		160		0		144		282		304		
07:45	269	1121	128	618	0	0	140	582	269	1121	268	1200	
08:00	272		126		0		150		272		276		
08:15	210		134		0		132		210		266		
08:30	252		119		0		100		252		219		
08:45	244	978	96	475	0	0	138	520	244	978	234	995	
09:00	196		108		0		118		196		226		
09:15	206		114		0		118		206		232		
09:30	236		114		0		102		236		216		
09:45	208	846	98	434	0	0	120	458	208	846	218	892	
10:00	204		88		0		124		204		212		
10:15	236		98		32		100		268		198		
10:30	208		82		152		110		360		192		
10:45	218	866	103	371	145	329	82	416	363	1195	185	787	
11:00	212		77		140		109		352		186		
11:15	170		76		152		88		322		164		
11:30	188		60		152		72		340		132		
11:45	196	766	33	246	156	600	84	353	352	1366	117	599	
Total	6196		7763		1109		7967		7305		15730		
Percent	84.8%		49.4%		15.2%		50.6%						
Day Total		13959				9076				23035			
Peak	07:15		05:15		11:00		04:45		10:30		04:45		
Vol.	1125		940		600		957		1397		1856		
P.H.F.	0.931		0.948		0.962		0.949		0.962		0.969		

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

High Street (Route 60)
east of Canal Street
City, State: Medford, MA
Client: VHB/A. Ng

71360Avolume
Site Code: 10303

Start	WB				EB				Combined				14-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	14		92		23		105		37		197		
12:15	10		114		12		126		22		240		
12:30	10		112		16		124		26		236		
12:45	11	45	87	405	12	63	104	459	23	108	191	864	
01:00	7		98		7		127		14		225		
01:15	10		131		4		122		14		253		
01:30	10		138		6		109		16		247		
01:45	3	30	132	499	4	21	143	501	7	51	275	1000	
02:00	10		135		6		110		16		245		
02:15	7		112		5		146		12		258		
02:30	1		119		6		164		7		283		
02:45	3	21	141	507	2	19	140	560	5	40	281	1067	
03:00	10		147		4		157		14		304		
03:15	6		168		6		177		12		345		
03:30	10		130		8		172		18		302		
03:45	9	35	176	621	9	27	180	686	18	62	356	1307	
04:00	5		154		5		219		10		373		
04:15	3		164		6		180		9		344		
04:30	10		156		21		182		31		338		
04:45	12	30	144	618	11	43	140	721	23	73	284	1339	
05:00	26		140		12		223		38		363		
05:15	28		157		24		220		52		377		
05:30	55		141		34		192		89		333		
05:45	71	180	157	595	44	114	170	805	115	294	327	1400	
06:00	74		152		54		173		128		325		
06:15	141		144		73		173		214		317		
06:30	166		128		96		188		262		316		
06:45	138	519	124	548	102	325	146	680	240	844	270	1228	
07:00	175		106		142		154		317		260		
07:15	164		128		179		130		343		258		
07:30	120		78		128		108		248		186		
07:45	101	560	93	405	162	611	106	498	263	1171	199	903	
08:00	128		76		154		104		282		180		
08:15	130		64		124		92		254		156		
08:30	144		92		88		84		232		176		
08:45	178	580	57	289	132	498	72	352	310	1078	129	641	
09:00	144		66		130		78		274		144		
09:15	129		63		114		92		243		155		
09:30	111		53		138		66		249		119		
09:45	113	497	61	243	114	496	68	304	227	993	129	547	
10:00	106		60		120		45		226		105		
10:15	108		68		116		46		224		114		
10:30	100		42		100		66		200		108		
10:45	108	422	44	214	97	433	44	201	205	855	88	415	
11:00	104		36		126		61		230		97		
11:15	108		28		116		26		224		54		
11:30	90		20		96		27		186		47		
11:45	104	406	24	108	104	442	23	137	208	848	47	245	
Total	3325		5052		3092		5904		6417		10956		
Percent	51.8%		46.1%		48.2%		53.9%						
Day Total		8377				8996				17373			
Peak	06:30		03:45		07:15		05:00		07:00		03:45		
Vol.	643		650		623		805		1171		1411		
P.H.F.	0.919		0.923		0.870		0.902		0.853		0.946		

PRECISION DATA INDUSTRIES, LLC
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Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Washington Street between
Boston Street and Prospect Street
City, State: Somerville, MA
Client: VHB/A. Ng

71360AAredovolume
Site Code: 10303

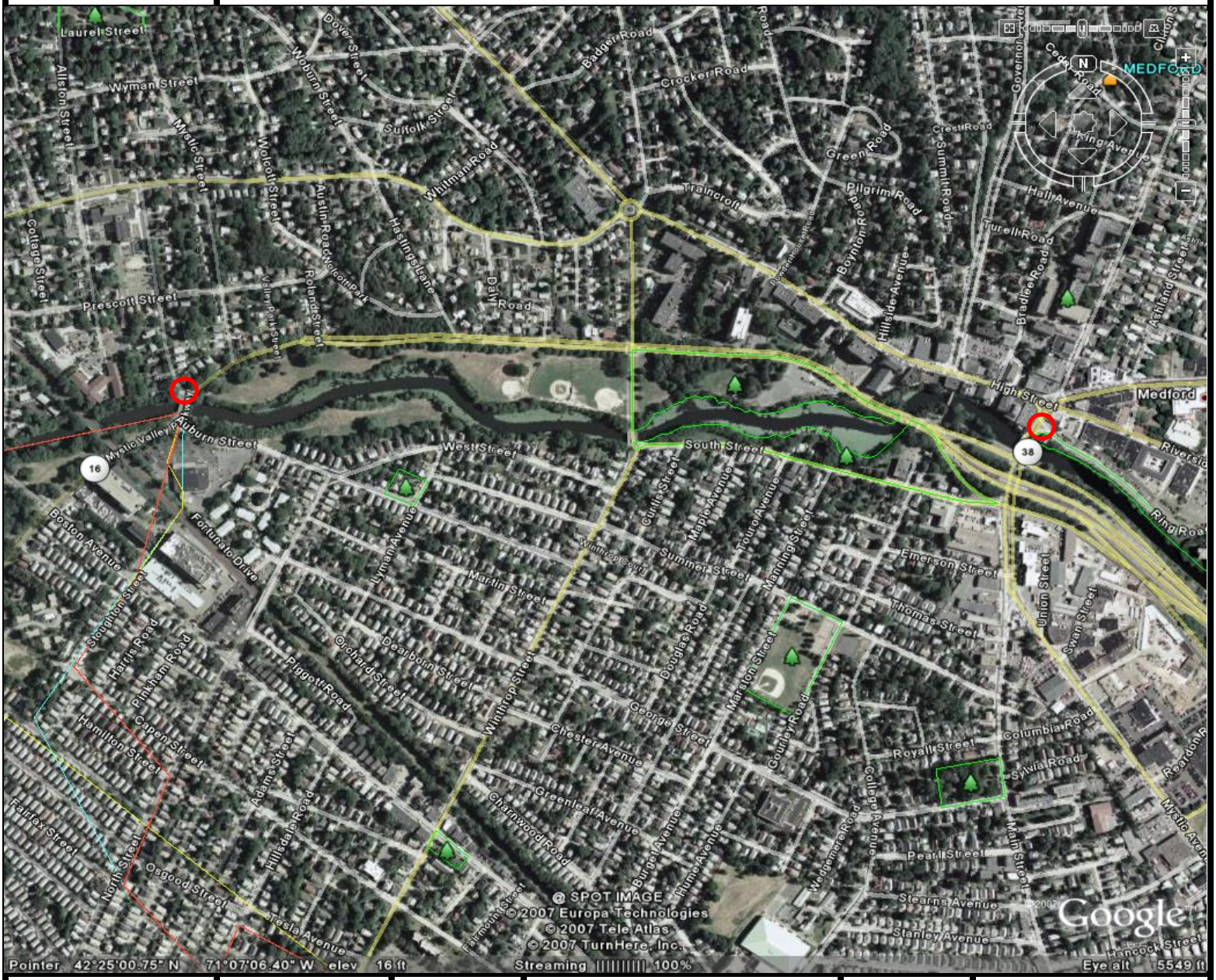
Start	WB				EB				Combined				14-Nov-07
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	38		180		66		196		104		376		
12:15	22		211		30		180		52		391		
12:30	32		198		36		213		68		411		
12:45	22	114	189	778	47	179	174	763	69	293	363	1541	
01:00	23		179		32		200		55		379		
01:15	17		190		23		184		40		374		
01:30	21		214		19		206		40		420		
01:45	10	71	191	774	14	88	189	779	24	159	380	1553	
02:00	9		200		10		182		19		382		
02:15	10		161		5		199		15		360		
02:30	16		208		7		195		23		403		
02:45	10	45	212	781	11	33	214	790	21	78	426	1571	
03:00	11		220		15		260		26		480		
03:15	12		178		7		244		19		422		
03:30	20		240		14		230		34		470		
03:45	24	67	212	850	19	55	245	979	43	122	457	1829	
04:00	26		238		21		238		47		476		
04:15	30		209		25		260		55		469		
04:30	44		206		20		250		64		456		
04:45	50	150	217	870	32	98	218	966	82	248	435	1836	
05:00	56		252		47		265		103		517		
05:15	84		218		53		261		137		479		
05:30	120		252		69		229		189		481		
05:45	153	413	216	938	73	242	234	989	226	655	450	1927	
06:00	156		196		60		226		216		422		
06:15	200		211		68		228		268		439		
06:30	220		200		120		216		340		416		
06:45	260	836	180	787	128	376	202	872	388	1212	382	1659	
07:00	258		153		112		174		370		327		
07:15	334		178		174		184		508		362		
07:30	306		117		200		171		506		288		
07:45	257	1155	133	581	171	657	152	681	428	1812	285	1262	
08:00	244		129		202		158		446		287		
08:15	232		114		159		124		391		238		
08:30	235		118		154		118		389		236		
08:45	239	950	90	451	164	679	124	524	403	1629	214	975	
09:00	222		98		107		142		329		240		
09:15	220		84		126		140		346		224		
09:30	214		112		160		116		374		228		
09:45	220	876	90	384	175	568	119	517	395	1444	209	901	
10:00	186		75		148		122		334		197		
10:15	206		88		138		103		344		191		
10:30	198		68		166		90		364		158		
10:45	236	826	68	299	162	614	94	409	398	1440	162	708	
11:00	195		67		168		100		363		167		
11:15	176		53		172		76		348		129		
11:30	156		60		161		76		317		136		
11:45	199	726	36	216	184	685	72	324	383	1411	108	540	
Total	6229		7709		4274		8593		10503		16302		
Percent	59.3%		47.3%		40.7%		52.7%						
Day Total		13938				12867				26805			
Peak	06:45		04:45		07:15		04:30		07:15		05:00		
Vol.	1158		939		747		994		1888		1927		
P.H.F.	0.867		0.932		0.925		0.938		0.929		0.932		

Turning Movement Counts

PRECISION DATA INDUSTRIES, LLC

PRECISION DATA INDUSTRIES, LLC
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Traffic Counts with Precision



Customer:	Engineer:	Project #:	Date:	PDI File #:	City, State:
VHB	V. Lenhardt	10303	Wednesday 1/30/08	81469	Medford, MA

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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N: Auburn Street
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469A
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Auburn Street From North		Mystic Valley Parkway (Route 16) From East		Mystic Valley Parkway (Route 16) From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
07:00 AM	19	2	1	294	216	6	538
07:15 AM	42	7	3	281	278	10	621
07:30 AM	42	4	1	247	223	12	529
07:45 AM	31	3	6	255	215	7	517
Total	134	16	11	1077	932	35	2205
08:00 AM	34	4	7	245	196	13	499
08:15 AM	33	2	9	249	193	14	500
08:30 AM	34	2	4	260	191	14	505
08:45 AM	24	0	0	200	155	4	383
Total	125	8	20	954	735	45	1887
09:00 AM	21	1	6	258	175	6	467
09:15 AM	19	6	8	243	231	3	510
09:30 AM	13	1	5	193	188	6	406
09:45 AM	11	2	1	184	171	3	372
Total	64	10	20	878	765	18	1755
Grand Total	323	34	51	2909	2432	98	5847
Apprch %	90.5	9.5	1.7	98.3	96.1	3.9	
Total %	5.5	0.6	0.9	49.8	41.6	1.7	
Cars	323	34	49	2904	2428	96	5834
% Cars	100	100	96.1	99.8	99.8	98	99.8
Heavy Vehicles	0	0	2	5	4	2	13
% Heavy Vehicles	0	0	3.9	0.2	0.2	2	0.2

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	19	2	21	1	**294**	**295**	216	6	222	538
07:15 AM	**42**	**7**	**49**	3	281	284	**278**	10	**288**	**621**
07:30 AM	**42**	**4**	**46**	**1**	**247**	**248**	**223**	**12**	235	529
07:45 AM	31	3	34	**6**	255	261	215	7	222	517
Total Volume	134	16	150	11	1077	1088	932	35	967	2205
% App. Total	89.3	10.7		1	99		96.4	3.6		
PHF	.798	.571	.765	.458	.916	.922	.838	.729	.839	.888
Cars	134	16	150	10	1073	1083	932	33	965	2198
% Cars	100	100	100	90.9	99.6	99.5	100	94.3	99.8	99.7
Heavy Vehicles	0	0	0	1	4	5	0	2	2	7
% Heavy Vehicles	0	0	0	9.1	0.4	0.5	0	5.7	0.2	0.3

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File Name : 81469A
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Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars

	Auburn Street From North		Mystic Valley Parkway (Route 16) From East		Mystic Valley Parkway (Route 16) From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
07:00 AM	19	2	1	294	216	4	536
07:15 AM	42	7	2	280	278	10	619
07:30 AM	42	4	1	246	223	12	528
07:45 AM	31	3	6	253	215	7	515
Total	134	16	10	1073	932	33	2198
08:00 AM	34	4	7	245	195	13	498
08:15 AM	33	2	8	248	193	14	498
08:30 AM	34	2	4	260	191	14	505
08:45 AM	24	0	0	200	155	4	383
Total	125	8	19	953	734	45	1884
09:00 AM	21	1	6	258	175	6	467
09:15 AM	19	6	8	243	230	3	509
09:30 AM	13	1	5	193	186	6	404
09:45 AM	11	2	1	184	171	3	372
Total	64	10	20	878	762	18	1752
Grand Total	323	34	49	2904	2428	96	5834
Apprch %	90.5	9.5	1.7	98.3	96.2	3.8	
Total %	5.5	0.6	0.8	49.8	41.6	1.6	

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	19	2	21	1	**294**	**295**	216	4	220	536
07:15 AM	**42**	**7**	**49**	2	280	282	**278**	10	**288**	**619**
07:30 AM	**42**	**4**	**46**	**1**	**246**	**247**	**223**	**12**	235	528
07:45 AM	31	3	34	**6**	253	259	215	7	222	515
Total Volume	134	16	150	10	1073	1083	932	33	965	2198
% App. Total	89.3	10.7		0.9	99.1		96.6	3.4		
PHF	.798	.571	.765	.417	.912	.918	.838	.688	.838	.888

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File Name : 81469A
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Auburn Street From North		Mystic Valley Parkway (Route 16) From East		Mystic Valley Parkway (Route 16) From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
07:00 AM	0	0	0	0	0	2	2
07:15 AM	0	0	1	1	0	0	2
07:30 AM	0	0	0	1	0	0	1
07:45 AM	0	0	0	2	0	0	2
Total	0	0	1	4	0	2	7
08:00 AM	0	0	0	0	1	0	1
08:15 AM	0	0	1	1	0	0	2
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	0	0	1	1	1	0	3
09:00 AM	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	1	0	1
09:30 AM	0	0	0	0	2	0	2
09:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	3	0	3
Grand Total	0	0	2	5	4	2	13
Apprch %	0	0	28.6	71.4	66.7	33.3	
Total %	0	0	15.4	38.5	30.8	15.4	

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	**2**	**2**	**2**
07:15 AM	**0**	**0**	**0**	**1**	1	**2**	0	0	0	2
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	0	**2**	2	0	0	0	2
Total Volume	0	0	0	1	4	5	0	2	2	7
% App. Total	0	0		20	80		0	100		
PHF	.000	.000	.000	.250	.500	.625	.000	.250	.250	.875

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Start Date : 1/30/2008
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Groups Printed- Peds and Bicycles

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
07:00 AM	0	0	2	0	0	0	0	0	0	2
07:15 AM	0	0	2	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	2	0	0	0	2
07:45 AM	0	0	0	0	0	2	0	0	0	2
Total	0	0	4	0	0	4	0	0	0	8
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	2	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	2
09:00 AM	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	2	0	0	0	0	0	0	2
09:30 AM	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	0	0	0	0	0	2
Grand Total	0	0	6	0	0	6	0	0	0	12
Apprch %	0	0	100	0	0	100	0	0	0	
Total %	0	0	50	0	0	50	0	0	0	

	Auburn Street From North				Mystic Valley Parkway (Route 16) From East				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	**2**
07:15 AM	0	0	2	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	**2**	**2**	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	2	2	0	0	0	0	2
Total Volume	0	0	4	4	0	0	4	4	0	0	0	0	8
% App. Total	0	0	100		0	0	100		0	0	0		
PHF	.000	.000	.500	.500	.000	.000	.500	.500	.000	.000	.000	.000	1.000

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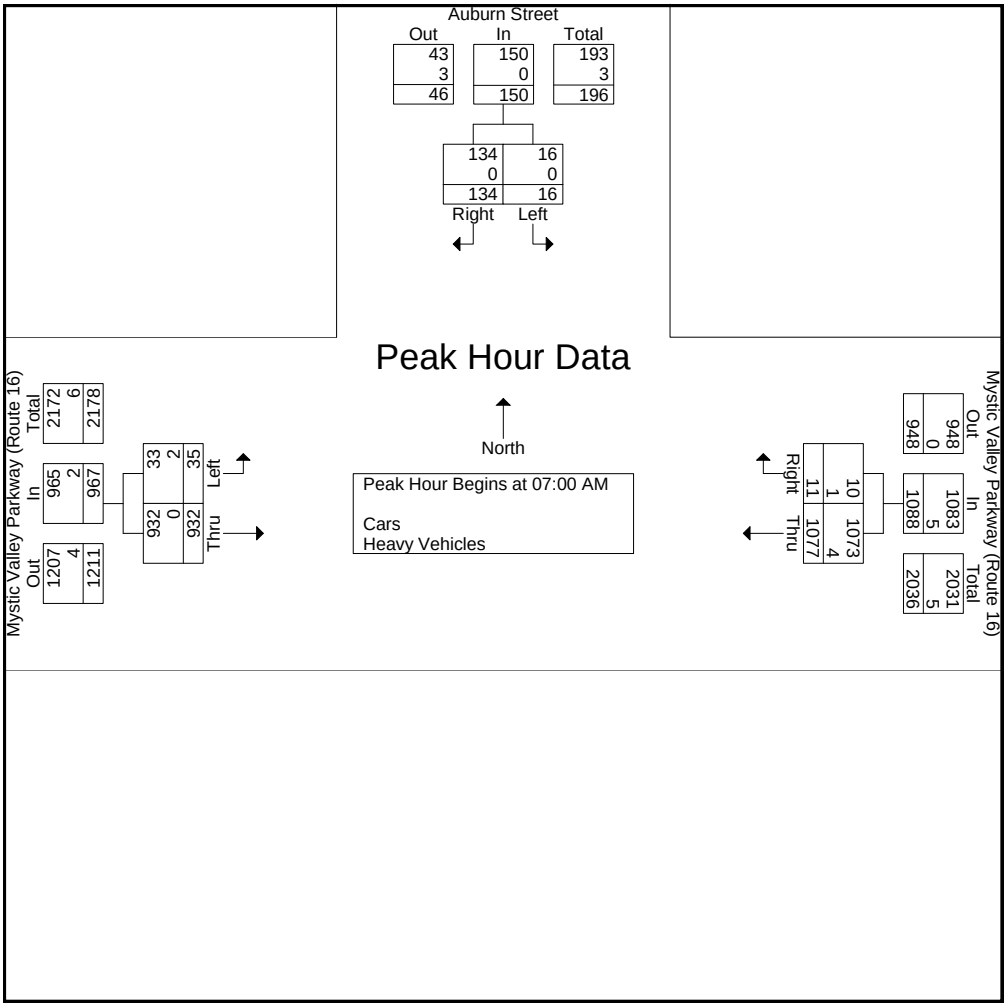
	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	19	2	21	1	**294**	**295**	216	6	222	538
07:15 AM	**42**	**7**	**49**	3	281	284	**278**	10	**288**	**621**
07:30 AM	**42**	**4**	**46**	**1**	**247**	**248**	**223**	**12**	235	529
07:45 AM	31	3	34	**6**	255	261	215	7	222	517
Total Volume	134	16	150	11	1077	1088	932	35	967	2205
% App. Total	89.3	10.7		1	99		96.4	3.6		
PHF	.798	.571	.765	.458	.916	.922	.838	.729	.839	.888
Cars	134	16	150	10	1073	1083	932	33	965	2198
% Cars	100	100	100	90.9	99.6	99.5	100	94.3	99.8	99.7
Heavy Vehicles	0	0	0	1	4	5	0	2	2	7
% Heavy Vehicles	0	0	0	9.1	0.4	0.5	0	5.7	0.2	0.3



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Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Auburn Street From North		Mystic Valley Parkway (Route 16) From East		Mystic Valley Parkway (Route 16) From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
03:00 PM	9	2	10	216	240	4	481
03:15 PM	8	0	7	230	223	8	476
03:30 PM	8	3	8	238	205	2	464
03:45 PM	4	0	19	240	228	5	496
Total	29	5	44	924	896	19	1917
04:00 PM	9	4	7	277	263	8	568
04:15 PM	4	0	7	243	248	4	506
04:30 PM	9	5	4	263	204	4	489
04:45 PM	3	1	11	262	206	2	485
Total	25	10	29	1045	921	18	2048
05:00 PM	6	3	6	244	235	6	500
05:15 PM	10	1	8	276	226	8	529
05:30 PM	10	3	6	247	210	7	483
05:45 PM	6	3	5	243	204	6	467
Total	32	10	25	1010	875	27	1979
Grand Total	86	25	98	2979	2692	64	5944
Apprch %	77.5	22.5	3.2	96.8	97.7	2.3	
Total %	1.4	0.4	1.6	50.1	45.3	1.1	
Cars	85	25	98	2977	2692	64	5941
% Cars	98.8	100	100	99.9	100	100	99.9
Heavy Vehicles	1	0	0	2	0	0	3
% Heavy Vehicles	1.2	0	0	0.1	0	0	0.1

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:45 PM										
03:45 PM	4	0	4	**19**	240	259	228	5	233	496
04:00 PM	**9**	4	13	7	**277**	**284**	**263**	**8**	**271**	**568**
04:15 PM	**4**	**0**	**4**	**7**	**243**	**250**	**248**	**4**	**252**	**506**
04:30 PM	**9**	**5**	**14**	4	263	267	204	4	208	489
Total Volume	26	9	35	37	1023	1060	943	21	964	2059
% App. Total	74.3	25.7		3.5	96.5		97.8	2.2		
PHF	.722	.450	.625	.487	.923	.933	.896	.656	.889	.906
Cars	26	9	35	37	1022	1059	943	21	964	2058
% Cars	100	100	100	100	99.9	99.9	100	100	100	100.0
Heavy Vehicles	0	0	0	0	1	1	0	0	0	1
% Heavy Vehicles	0	0	0	0	0.1	0.1	0	0	0	0.0

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Client: VHB/ V. Lenhardt

File Name : 81469AA
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars

	Auburn Street From North		Mystic Valley Parkway (Route 16) From East		Mystic Valley Parkway (Route 16) From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
03:00 PM	9	2	10	216	240	4	481
03:15 PM	8	0	7	229	223	8	475
03:30 PM	8	3	8	238	205	2	464
03:45 PM	4	0	19	240	228	5	496
Total	29	5	44	923	896	19	1916
04:00 PM	9	4	7	277	263	8	568
04:15 PM	4	0	7	242	248	4	505
04:30 PM	9	5	4	263	204	4	489
04:45 PM	3	1	11	262	206	2	485
Total	25	10	29	1044	921	18	2047
05:00 PM	6	3	6	244	235	6	500
05:15 PM	10	1	8	276	226	8	529
05:30 PM	9	3	6	247	210	7	482
05:45 PM	6	3	5	243	204	6	467
Total	31	10	25	1010	875	27	1978
Grand Total	85	25	98	2977	2692	64	5941
Apprch %	77.3	22.7	3.2	96.8	97.7	2.3	
Total %	1.4	0.4	1.6	50.1	45.3	1.1	

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:45 PM										
03:45 PM	4	0	4	**19**	240	259	228	5	233	496
04:00 PM	**9**	4	13	7	**277**	**284**	**263**	**8**	**271**	**568**
04:15 PM	**4**	**0**	**4**	**7**	**242**	**249**	**248**	**4**	**252**	**505**
04:30 PM	**9**	**5**	**14**	4	263	267	204	4	208	489
Total Volume	26	9	35	37	1022	1059	943	21	964	2058
% App. Total	74.3	25.7		3.5	96.5		97.8	2.2		
PHF	.722	.450	.625	.487	.922	.932	.896	.656	.889	.906

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Groups Printed- Heavy Vehicles

	Auburn Street From North		Mystic Valley Parkway (Route 16) From East		Mystic Valley Parkway (Route 16) From West		
Start Time	Right	Left	Right	Thru	Thru	Left	Int. Total
03:00 PM	0	0	0	0	0	0	0
03:15 PM	0	0	0	1	0	0	1
03:30 PM	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	0	1
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	1
Grand Total	1	0	0	2	0	0	3
Apprch %	100	0	0	100	0	0	
Total %	33.3	0	0	66.7	0	0	

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	**1**	**1**	0	0	0	**1**
03:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
03:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Volume	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
% App. Total	**0**	**0**		**0**	**100**		**0**	**0**		
PHF	**.000**	**.000**	**.000**	**.000**	**.250**	**.250**	**.000**	**.000**	**.000**	**.250**

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File Name : 81469AA
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Start Date : 1/30/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	2	0	0	0	0	2
03:15 PM	0	0	2	0	0	0	0	0	0	2
03:30 PM	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	2	0	0	0	0	0	0	2
Total	0	0	4	0	2	0	0	0	0	6
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	1	0	0	1	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	2	0	0	0	2
Total	0	0	1	0	0	3	0	0	0	4
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	5	0	2	3	0	0	0	10
Apprch %	0	0	100	0	40	60	0	0	0	
Total %	0	0	50	0	20	30	0	0	0	

	Auburn Street From North				Mystic Valley Parkway (Route 16) From East				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	**2**
03:15 PM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	2
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	4	4	0	2	0	2	0	0	0	0	6
% App. Total	0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.500	.500	.000	.250	.000	.250	.000	.000	.000	.000	.750

PRECISION
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INDUSTRIES, LLC
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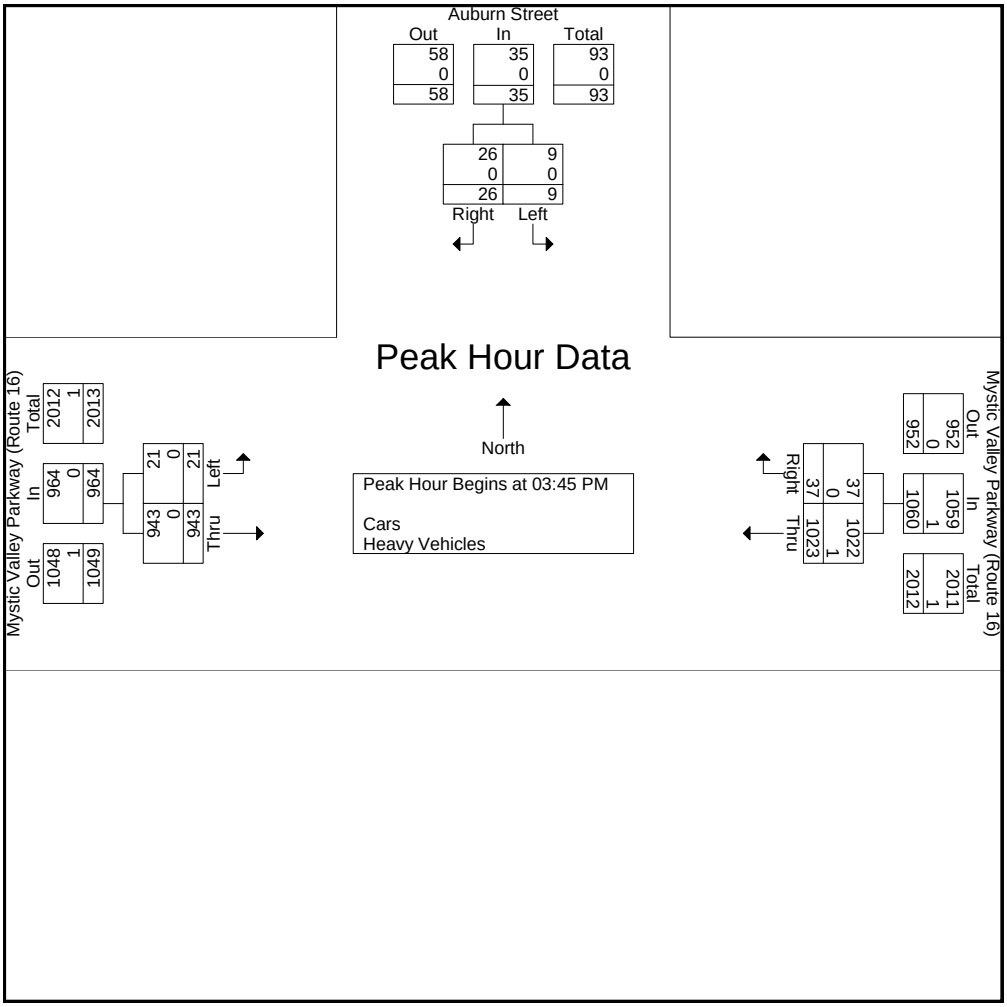
N: Auburn Street
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469AA
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

	Auburn Street From North			Mystic Valley Parkway (Route 16) From East			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:45 PM										
03:45 PM	4	0	4	**19**	240	259	228	5	233	496
04:00 PM	**9**	4	13	7	**277**	**284**	**263**	**8**	**271**	**568**
04:15 PM	**4**	**0**	**4**	**7**	**243**	**250**	**248**	**4**	**252**	**506**
04:30 PM	**9**	**5**	**14**	4	263	267	204	4	208	489
Total Volume	26	9	35	37	1023	1060	943	21	964	2059
% App. Total	74.3	25.7		3.5	96.5		97.8	2.2		
PHF	.722	.450	.625	.487	.923	.933	.896	.656	.889	.906
Cars	26	9	35	37	1022	1059	943	21	964	2058
% Cars	100	100	100	100	99.9	99.9	100	100	100	100.0
Heavy Vehicles	0	0	0	0	1	1	0	0	0	1
% Heavy Vehicles	0	0	0	0	0.1	0.1	0	0	0	0.0



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N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469B
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Main Street (Route 38) From North			Clipper Ship Drive From East			Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
07:00 AM	0	372	3	0	0	0	64	17	0	0	50	0	0	506
07:15 AM	0	361	2	0	0	0	81	12	0	0	58	2	0	516
07:30 AM	0	344	2	0	0	0	87	15	0	0	18	0	0	466
07:45 AM	0	372	2	0	0	0	102	24	0	0	64	3	0	567
Total	0	1449	9	0	0	0	334	68	0	0	190	5	0	2055
08:00 AM	0	354	6	0	0	0	103	18	0	0	75	2	0	558
08:15 AM	0	364	4	0	0	0	100	19	0	1	56	2	0	546
08:30 AM	0	343	5	0	0	0	111	20	0	0	67	6	0	552
08:45 AM	0	328	6	0	0	0	79	21	0	0	64	4	0	502
Total	0	1389	21	0	0	0	393	78	0	1	262	14	0	2158
09:00 AM	0	321	8	0	0	0	107	24	0	0	44	3	0	507
09:15 AM	0	188	13	0	0	0	92	24	0	0	32	2	0	351
09:30 AM	0	177	8	0	0	0	79	18	0	0	37	5	0	324
09:45 AM	0	188	2	0	0	0	83	23	0	0	46	1	0	343
Total	0	874	31	0	0	0	361	89	0	0	159	11	0	1525
Grand Total	0	3712	61	0	0	0	1088	235	0	1	611	30	0	5738
Apprch %	0	98.4	1.6	0	0	0	82.2	17.7	0	0.1	95.3	4.7	0	
Total %	0	64.7	1.1	0	0	0	19	4.1	0	0	10.6	0.5	0	
Cars	0	3624	55	0	0	0	1040	190	0	1	572	28	0	5510
% Cars	0	97.6	90.2	0	0	0	95.6	80.9	0	100	93.6	93.3	0	96
Heavy Vehicles	0	88	6	0	0	0	48	45	0	0	39	2	0	228
% Heavy Vehicles	0	2.4	9.8	0	0	0	4.4	19.1	0	0	6.4	6.7	0	4

	Main Street (Route 38) From North				Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	0	**372**	2	**374**	0	0	0	0	102	**24**	**0**	**0**	**126**	**64**	**3**	**0**	**67**	**567**
08:00 AM	0	354	**6**	360	0	0	0	0	103	18	0	0	121	**75**	2	0	**77**	558
08:15 AM	0	364	4	368	0	0	0	0	100	19	0	**1**	**120**	**56**	**2**	**0**	**58**	**546**
08:30 AM	**0**	**343**	**5**	**348**	**0**	**0**	**0**	**0**	**111**	20	0	0	**131**	67	**6**	0	73	552
Total Volume	0	1433	17	1450	0	0	0	0	416	81	0	1	498	262	13	0	275	2223
% App. Total	0	98.8	1.2		0	0	0		83.5	16.3	0	0.2		95.3	4.7	0		
PHF	.000	.963	.708	.969	.000	.000	.000	.000	.937	.844	.000	.250	.950	.873	.542	.000	.893	.980
Cars	0	1395	14	1409	0	0	0	0	396	69	0	1	466	246	13	0	259	2134
% Cars	0	97.3	82.4	97.2	0	0	0	0	95.2	85.2	0	100	93.6	93.9	100	0	94.2	96.0
Heavy Vehicles	0	38	3	41	0	0	0	0	20	12	0	0	32	16	0	0	16	89
% Heavy Vehicles	0	2.7	17.6	2.8	0	0	0	0	4.8	14.8	0	0	6.4	6.1	0	0	5.8	4.0

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N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469B
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North			Clipper Ship Drive From East			Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
07:00 AM	0	366	2	0	0	0	58	10	0	0	46	0	0	482
07:15 AM	0	349	1	0	0	0	79	11	0	0	57	1	0	498
07:30 AM	0	337	1	0	0	0	80	11	0	0	18	0	0	447
07:45 AM	0	362	2	0	0	0	96	22	0	0	58	3	0	543
Total	0	1414	6	0	0	0	313	54	0	0	179	4	0	1970
08:00 AM	0	345	6	0	0	0	99	14	0	0	72	2	0	538
08:15 AM	0	355	2	0	0	0	95	17	0	1	53	2	0	525
08:30 AM	0	333	4	0	0	0	106	16	0	0	63	6	0	528
08:45 AM	0	317	6	0	0	0	75	12	0	0	56	3	0	469
Total	0	1350	18	0	0	0	375	59	0	1	244	13	0	2060
09:00 AM	0	313	8	0	0	0	100	17	0	0	38	3	0	479
09:15 AM	0	182	13	0	0	0	90	19	0	0	28	2	0	334
09:30 AM	0	177	8	0	0	0	79	18	0	0	37	5	0	324
09:45 AM	0	188	2	0	0	0	83	23	0	0	46	1	0	343
Total	0	860	31	0	0	0	352	77	0	0	149	11	0	1480
Grand Total	0	3624	55	0	0	0	1040	190	0	1	572	28	0	5510
Apprch %	0	98.5	1.5	0	0	0	84.5	15.4	0	0.1	95.3	4.7	0	
Total %	0	65.8	1	0	0	0	18.9	3.4	0	0	10.4	0.5	0	

	Main Street (Route 38) From North				Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	0	**362**	2	**364**	0	0	0	0	96	**22**	**0**	**0**	**118**	**58**	**3**	**0**	**61**	**543**
08:00 AM	0	345	**6**	351	0	0	0	0	99	14	0	0	113	**72**	2	0	**74**	538
08:15 AM	0	355	2	357	0	0	0	0	95	17	0	**1**	**113**	**53**	**2**	**0**	**55**	**525**
08:30 AM	**0**	**333**	**4**	**337**	**0**	**0**	**0**	**0**	**106**	16	0	0	**122**	63	**6**	0	69	528
Total Volume	0	1395	14	1409	0	0	0	0	396	69	0	1	466	246	13	0	259	2134
% App. Total	0	99	1		0	0	0		85	14.8	0	0.2		95	5	0		
PHF	.000	.963	.583	.968	.000	.000	.000	.000	.934	.784	.000	.250	.955	.854	.542	.000	.875	.983

PRECISION
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N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469B
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Main Street (Route 38) From North			Clipper Ship Drive From East			Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
07:00 AM	0	6	1	0	0	0	6	7	0	0	4	0	0	24
07:15 AM	0	12	1	0	0	0	2	1	0	0	1	1	0	18
07:30 AM	0	7	1	0	0	0	7	4	0	0	0	0	0	19
07:45 AM	0	10	0	0	0	0	6	2	0	0	6	0	0	24
Total	0	35	3	0	0	0	21	14	0	0	11	1	0	85
08:00 AM	0	9	0	0	0	0	4	4	0	0	3	0	0	20
08:15 AM	0	9	2	0	0	0	5	2	0	0	3	0	0	21
08:30 AM	0	10	1	0	0	0	5	4	0	0	4	0	0	24
08:45 AM	0	11	0	0	0	0	4	9	0	0	8	1	0	33
Total	0	39	3	0	0	0	18	19	0	0	18	1	0	98
09:00 AM	0	8	0	0	0	0	7	7	0	0	6	0	0	28
09:15 AM	0	6	0	0	0	0	2	5	0	0	4	0	0	17
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	14	0	0	0	0	9	12	0	0	10	0	0	45
Grand Total	0	88	6	0	0	0	48	45	0	0	39	2	0	228
Apprch %	0	93.6	6.4	0	0	0	51.6	48.4	0	0	95.1	4.9	0	
Total %	0	38.6	2.6	0	0	0	21.1	19.7	0	0	17.1	0.9	0	

	Main Street (Route 38) From North				Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:15 AM																		
08:15 AM	0	9	**2**	**11**	0	0	0	0	5	2	0	0	7	3	0	0	3	21
08:30 AM	0	10	1	11	0	0	0	0	5	4	0	0	9	4	0	0	4	24
08:45 AM	0	**11**	0	11	0	0	0	0	4	**9**	**0**	**0**	**13**	**8**	**1**	0	**9**	**33**
09:00 AM	0	8	0	8	0	0	0	0	**7**	7	0	0	**14**	6	0	0	6	28
Total Volume	0	38	3	41	0	0	0	0	21	22	0	0	43	21	1	0	22	106
% App. Total	0	92.7	7.3		0	0	0		48.8	51.2	0	0		95.5	4.5	0		
PHF	.000	.864	.375	.932	.000	.000	.000	.000	.750	.611	.000	.000	.768	.656	.250	.000	.611	.803

PRECISION
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N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469B
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Clipper Ship Drive From East				Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	7
07:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
Total	0	0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	13
08:00 AM	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
08:15 AM	0	1	0	6	0	0	0	5	0	0	0	0	1	0	0	0	13
08:30 AM	0	1	0	6	0	0	0	5	0	0	0	0	0	0	0	0	12
08:45 AM	0	0	0	12	0	0	0	1	0	1	0	0	0	0	0	0	14
Total	0	2	0	32	0	0	0	11	0	1	0	0	1	0	0	0	47
09:00 AM	0	0	0	5	0	0	0	8	0	0	0	0	0	0	0	0	13
09:15 AM	0	1	0	12	0	0	0	5	0	0	0	0	0	0	0	0	18
09:30 AM	0	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	9
09:45 AM	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	10
Total	0	1	0	27	0	0	0	22	0	0	0	0	0	0	0	0	50
Grand Total	0	3	0	67	0	0	0	38	0	1	0	0	1	0	0	0	110
Apprch %	0	4.3	0	95.7	0	0	0	100	0	100	0	0	100	0	0	0	
Total %	0	2.7	0	60.9	0	0	0	34.5	0	0.9	0	0	0.9	0	0	0	

	Main Street (Route 38) From North					Clipper Ship Drive From East					Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	**1**	0	6	7	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	12
08:45 AM	0	0	0	**12**	**12**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**1**	0	0	0	0	0	14
09:00 AM	0	0	0	5	5	0	0	0	**8**	**8**	0	0	0	0	0	0	0	0	0	0	13
09:15 AM	0	1	0	12	**13**	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	**18**
Total Volume	0	2	0	35	37	0	0	0	19	19	0	1	0	0	1	0	0	0	0	0	57
% App. Total	0	5.4	0	94.6		0	0	0	100		0	100	0	0		0	0	0	0		
PHF	.000	.500	.000	.729	.712	.000	.000	.000	.594	.594	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.792

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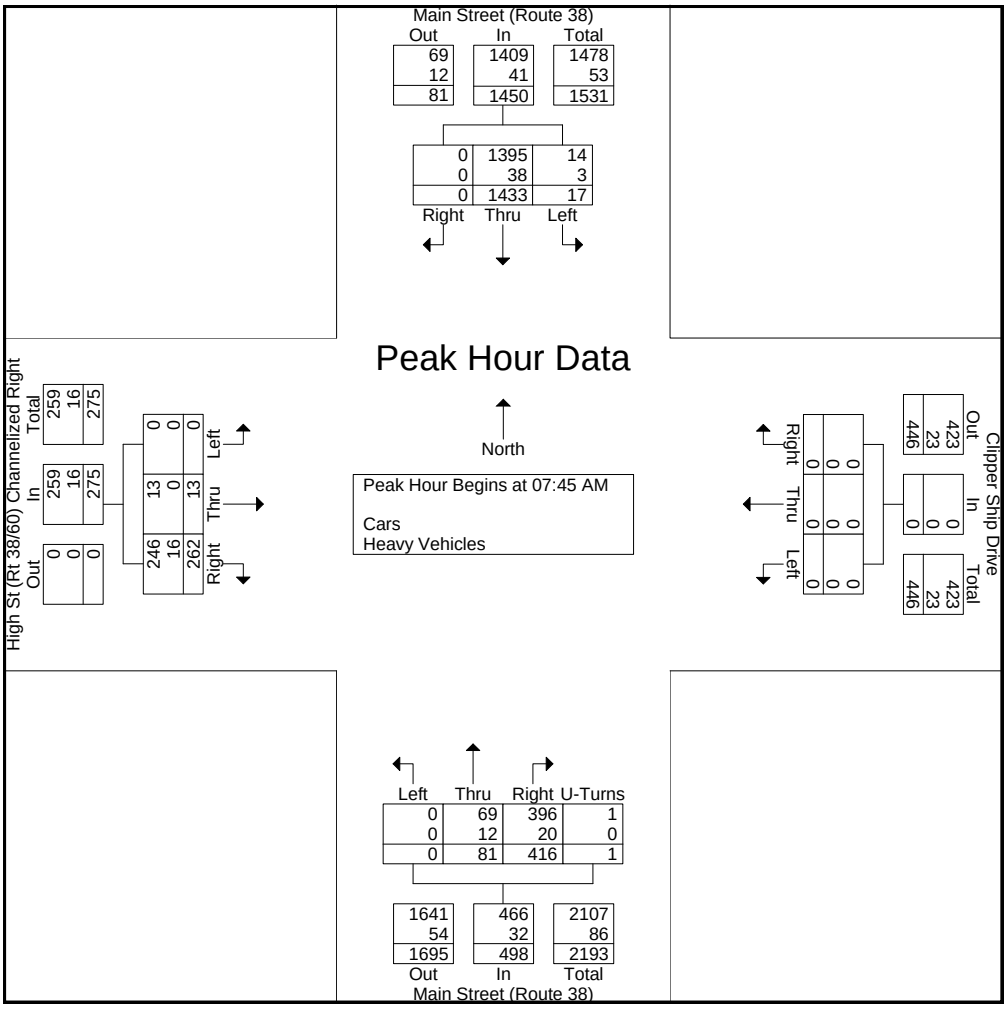
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469B
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

	Main Street (Route 38) From North				Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:45 AM																		
07:45 AM	0	**372**	2	**374**	0	0	0	0	102	**24**	**0**	**0**	**126**	**64**	**3**	**0**	**67**	**567**
08:00 AM	0	354	**6**	360	0	0	0	0	103	18	0	0	121	**75**	2	0	**77**	558
08:15 AM	0	364	4	368	0	0	0	0	100	19	0	**1**	**120**	**56**	**2**	**0**	**58**	**546**
08:30 AM	**0**	**343**	**5**	**348**	**0**	**0**	**0**	**0**	**111**	20	0	0	**131**	67	**6**	0	73	552
Total Volume	0	1433	17	1450	0	0	0	0	416	81	0	1	498	262	13	0	275	2223
% App. Total	0	98.8	1.2		0	0	0		83.5	16.3	0	0.2		95.3	4.7	0		
PHF	.000	.963	.708	.969	.000	.000	.000	.000	.937	.844	.000	.250	.950	.873	.542	.000	.893	.980
Cars	0	1395	14	1409	0	0	0	0	396	69	0	1	466	246	13	0	259	2134
% Cars	0	97.3	82.4	97.2	0	0	0	0	95.2	85.2	0	100	93.6	93.9	100	0	94.2	96.0
Heavy Vehicles	0	38	3	41	0	0	0	0	20	12	0	0	32	16	0	0	16	89
% Heavy Vehicles	0	2.7	17.6	2.8	0	0	0	0	4.8	14.8	0	0	6.4	6.1	0	0	5.8	4.0



PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469BB
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Main Street (Route 38) From North				Clipper Ship Drive From East			Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
03:00 PM	0	179	9	0	0	0	0	151	33	0	0	30	9	0	411
03:15 PM	0	186	11	0	0	0	0	145	31	0	0	34	4	0	411
03:30 PM	0	231	10	0	0	0	0	181	27	0	0	22	4	0	475
03:45 PM	0	222	12	0	0	0	0	165	33	0	0	29	3	0	464
Total	0	818	42	0	0	0	0	642	124	0	0	115	20	0	1761
04:00 PM	0	202	4	0	0	0	0	198	35	0	0	21	5	0	465
04:15 PM	0	204	11	0	0	0	0	190	42	0	2	28	6	0	483
04:30 PM	0	231	11	1	0	0	0	185	43	0	0	24	3	0	498
04:45 PM	0	241	14	0	0	0	0	171	40	0	0	23	4	0	493
Total	0	878	40	1	0	0	0	744	160	0	2	96	18	0	1939
05:00 PM	0	207	6	0	0	0	0	159	51	0	1	27	0	0	451
05:15 PM	0	272	8	0	0	0	0	216	43	0	0	22	3	0	564
05:30 PM	0	220	5	0	0	0	0	176	41	0	0	11	7	0	460
05:45 PM	0	203	8	0	0	0	0	148	48	0	0	14	4	0	425
Total	0	902	27	0	0	0	0	699	183	0	1	74	14	0	1900
Grand Total	0	2598	109	1	0	0	0	2085	467	0	3	285	52	0	5600
Apprch %	0	95.9	4	0	0	0	0	81.6	18.3	0	0.1	84.6	15.4	0	
Total %	0	46.4	1.9	0	0	0	0	37.2	8.3	0	0.1	5.1	0.9	0	
Cars	0	2545	108	1	0	0	0	2057	429	0	3	270	51	0	5464
% Cars	0	98	99.1	100	0	0	0	98.7	91.9	0	100	94.7	98.1	0	97.6
Heavy Vehicles	0	53	1	0	0	0	0	28	38	0	0	15	1	0	136
% Heavy Vehicles	0	2	0.9	0	0	0	0	1.3	8.1	0	0	5.3	1.9	0	2.4

	Main Street (Route 38) From North					Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	231	11	**1**	243	0	0	0	0	185	43	0	0	228	24	3	0	**27**	498
04:45 PM	0	241	**14**	0	255	0	0	0	0	171	40	0	0	211	23	**4**	0	27	493
05:00 PM	0	207	6	0	213	0	0	0	0	159	**51**	0	**1**	211	**27**	0	0	27	451
05:15 PM	0	**272**	8	0	**280**	0	0	0	0	**216**	**43**	**0**	**0**	**259**	22	3	0	25	**564**
Total Volume	0	951	39	1	991	0	0	0	0	731	177	0	1	909	96	10	0	106	2006
% App. Total	0	96	3.9	0.1		0	0	0		80.4	19.5	0	0.1		90.6	9.4	0		
PHF	.000	.874	.696	.250	.885	.000	.000	.000	.000	.846	.868	.000	.250	.877	.889	.625	.000	.981	.889
Cars	0	934	38	1	973	0	0	0	0	718	163	0	1	882	95	10	0	105	1960
% Cars	0	98.2	97.4	100	98.2	0	0	0	0	98.2	92.1	0	100	97.0	99.0	100	0	99.1	97.7
Heavy Vehicles	0	17	1	0	18	0	0	0	0	13	14	0	0	27	1	0	0	1	46
% Heavy Vehicles	0	1.8	2.6	0	1.8	0	0	0	0	1.8	7.9	0	0	3.0	1.0	0	0	0.9	2.3

PRECISION
D A T A
INDUSTRIES, LLC
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Email: datarequests@pdillc.com

N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469BB
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North				Clipper Ship Drive From East			Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
03:00 PM	0	173	9	0	0	0	0	146	30	0	0	28	9	0	395
03:15 PM	0	183	11	0	0	0	0	144	27	0	0	31	4	0	400
03:30 PM	0	226	10	0	0	0	0	177	24	0	0	21	4	0	462
03:45 PM	0	217	12	0	0	0	0	163	31	0	0	28	2	0	453
Total	0	799	42	0	0	0	0	630	112	0	0	108	19	0	1710
04:00 PM	0	196	4	0	0	0	0	197	31	0	0	20	5	0	453
04:15 PM	0	200	11	0	0	0	0	189	38	0	2	25	6	0	471
04:30 PM	0	225	10	1	0	0	0	179	41	0	0	23	3	0	482
04:45 PM	0	237	14	0	0	0	0	169	35	0	0	23	4	0	482
Total	0	858	39	1	0	0	0	734	145	0	2	91	18	0	1888
05:00 PM	0	203	6	0	0	0	0	156	46	0	1	27	0	0	439
05:15 PM	0	269	8	0	0	0	0	214	41	0	0	22	3	0	557
05:30 PM	0	217	5	0	0	0	0	176	39	0	0	9	7	0	453
05:45 PM	0	199	8	0	0	0	0	147	46	0	0	13	4	0	417
Total	0	888	27	0	0	0	0	693	172	0	1	71	14	0	1866
Grand Total	0	2545	108	1	0	0	0	2057	429	0	3	270	51	0	5464
Apprch %	0	95.9	4.1	0	0	0	0	82.6	17.2	0	0.1	84.1	15.9	0	
Total %	0	46.6	2	0	0	0	0	37.6	7.9	0	0.1	4.9	0.9	0	

	Main Street (Route 38) From North					Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	225	10	**1**	236	0	0	0	0	179	41	0	0	220	23	3	0	26	482
04:45 PM	0	237	**14**	0	251	0	0	0	0	169	35	0	0	204	23	**4**	0	**27**	482
05:00 PM	0	203	6	0	209	0	0	0	0	156	**46**	0	**1**	203	**27**	0	0	27	439
05:15 PM	0	**269**	8	0	**277**	0	0	0	0	**214**	**41**	**0**	**0**	**255**	22	3	0	25	**557**
Total Volume	0	934	38	1	973	0	0	0	0	718	163	0	1	882	95	10	0	105	1960
% App. Total	0	96	3.9	0.1		0	0	0		81.4	18.5	0	0.1		90.5	9.5	0		
PHF	.000	.868	.679	.250	.878	.000	.000	.000	.000	.839	.886	.000	.250	.865	.880	.625	.000	.972	.880

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469BB
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Main Street (Route 38) From North				Clipper Ship Drive From East			Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West			
Start Time	Right	Thru	Left	U-Turns	Right	Thru	Left	Right	Thru	Left	U-Turns	Right	Thru	Left	Int. Total
03:00 PM	0	6	0	0	0	0	0	5	3	0	0	2	0	0	16
03:15 PM	0	3	0	0	0	0	0	1	4	0	0	3	0	0	11
03:30 PM	0	5	0	0	0	0	0	4	3	0	0	1	0	0	13
03:45 PM	0	5	0	0	0	0	0	2	2	0	0	1	1	0	11
Total	0	19	0	0	0	0	0	12	12	0	0	7	1	0	51
04:00 PM	0	6	0	0	0	0	0	1	4	0	0	1	0	0	12
04:15 PM	0	4	0	0	0	0	0	1	4	0	0	3	0	0	12
04:30 PM	0	6	1	0	0	0	0	6	2	0	0	1	0	0	16
04:45 PM	0	4	0	0	0	0	0	2	5	0	0	0	0	0	11
Total	0	20	1	0	0	0	0	10	15	0	0	5	0	0	51
05:00 PM	0	4	0	0	0	0	0	3	5	0	0	0	0	0	12
05:15 PM	0	3	0	0	0	0	0	2	2	0	0	0	0	0	7
05:30 PM	0	3	0	0	0	0	0	0	2	0	0	2	0	0	7
05:45 PM	0	4	0	0	0	0	0	1	2	0	0	1	0	0	8
Total	0	14	0	0	0	0	0	6	11	0	0	3	0	0	34
Grand Total	0	53	1	0	0	0	0	28	38	0	0	15	1	0	136
Apprch %	0	98.1	1.9	0	0	0	0	42.4	57.6	0	0	93.8	6.2	0	
Total %	0	39	0.7	0	0	0	0	20.6	27.9	0	0	11	0.7	0	

	Main Street (Route 38) From North					Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 03:00 PM																			
03:00 PM	0	**6**	0	0	**6**	0	0	0	0	**5**	**3**	**0**	**0**	**8**	2	0	0	2	**16**
03:15 PM	0	3	0	0	3	0	0	0	0	1	**4**	0	0	5	**3**	0	0	**3**	11
03:30 PM	0	5	0	0	5	0	0	0	0	4	3	0	0	7	1	0	0	1	13
03:45 PM	0	5	0	0	5	0	0	0	0	2	2	0	0	4	1	**1**	0	2	11
Total Volume	0	19	0	0	19	0	0	0	0	12	12	0	0	24	7	1	0	8	51
% App. Total	0	100	0	0		0	0	0		50	50	0	0		87.5	12.5	0		
PHF	.000	.792	.000	.000	.792	.000	.000	.000	.000	.600	.750	.000	.000	.750	.583	.250	.000	.667	.797

PRECISION
D A T A
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Email: datarequests@pdillc.com

N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469BB
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Clipper Ship Drive From East				Main Street (Route 38) From South				High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	15	0	0	0	7	0	0	0	0	0	0	0	0	22
03:15 PM	0	0	0	13	0	0	0	7	0	0	0	0	0	0	0	0	20
03:30 PM	0	1	0	7	0	0	0	2	0	1	0	0	0	0	0	0	11
03:45 PM	0	0	0	18	0	0	0	8	0	0	0	0	0	0	0	0	26
Total	0	1	0	53	0	0	0	24	0	1	0	0	0	0	0	0	79
04:00 PM	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
04:15 PM	0	1	0	20	0	0	0	6	0	1	0	0	0	0	0	0	28
04:30 PM	0	2	0	13	0	0	0	2	0	0	0	0	0	0	0	0	17
04:45 PM	0	2	0	14	0	0	0	6	0	1	0	0	0	0	0	0	23
Total	0	5	0	55	0	0	0	14	0	2	0	0	0	0	0	0	76
05:00 PM	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	6
05:15 PM	0	0	0	5	0	0	0	5	1	0	0	0	0	0	0	0	11
05:30 PM	0	0	0	5	0	0	0	0	0	1	0	0	0	0	0	0	6
05:45 PM	0	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	7
Total	0	0	0	16	0	0	0	12	1	1	0	0	0	0	0	0	30
Grand Total	0	6	0	124	0	0	0	50	1	4	0	0	0	0	0	0	185
Apprch %	0	4.6	0	95.4	0	0	0	100	20	80	0	0	0	0	0	0	
Total %	0	3.2	0	67	0	0	0	27	0.5	2.2	0	0	0	0	0	0	

	Main Street (Route 38) From North					Clipper Ship Drive From East					Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	15	15	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	22
03:15 PM	0	0	0	13	13	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	20
03:30 PM	0	**1**	0	7	8	0	0	0	2	2	0	**1**	**0**	**0**	**1**	0	0	0	0	0	11
03:45 PM	0	0	0	**18**	**18**	0	0	0	**8**	**8**	0	0	0	0	0	0	0	0	0	0	**26**
Total Volume	0	1	0	53	54	0	0	0	24	24	0	1	0	0	1	0	0	0	0	0	79
% App. Total	0	1.9	0	98.1		0	0	0	100		0	100	0	0		0	0	0	0		
PHF	.000	.250	.000	.736	.750	.000	.000	.000	.750	.750	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.760

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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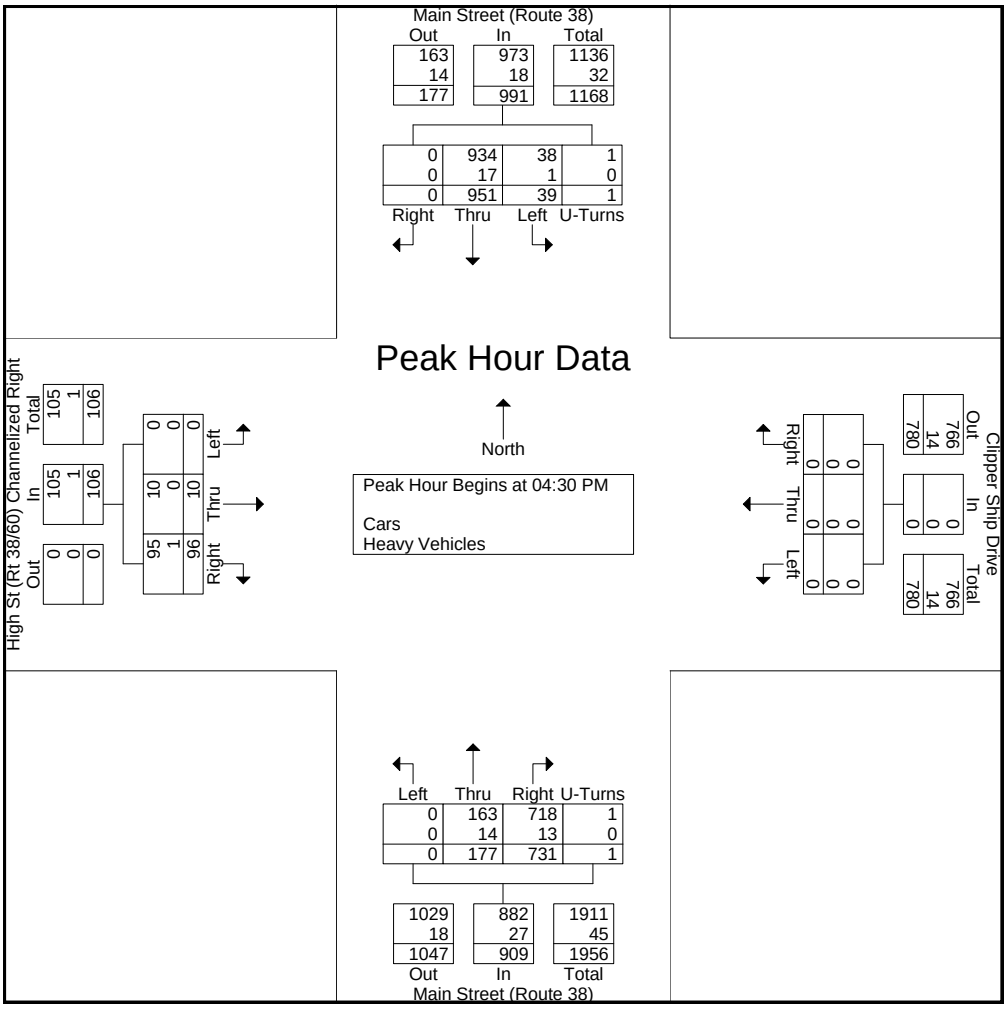
N/S: Main Street (Route 38)
E/W: Clipper Ship Dr/ High St.(Rt 38/60)
City, State: Medford, MA
Client: VHB/ V. Lenhardt

File Name : 81469BB
Site Code : 10303
Start Date : 1/30/2008
Page No : 1

	Main Street (Route 38) From North					Clipper Ship Drive From East				Main Street (Route 38) From South					High St (Rt 38/60) Channelized Right From West				
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	231	11	**1**	243	0	0	0	0	185	43	0	0	228	24	3	0	**27**	498
04:45 PM	0	241	**14**	0	255	0	0	0	0	171	40	0	0	211	23	**4**	0	27	493
05:00 PM	0	207	6	0	213	0	0	0	0	159	**51**	0	**1**	211	**27**	0	0	27	451
05:15 PM	0	**272**	8	0	**280**	0	0	0	0	**216**	**43**	**0**	**0**	**259**	22	3	0	25	**564**
Total Volume	0	951	39	1	991	0	0	0	0	731	177	0	1	909	96	10	0	106	2006
% App. Total	0	96	3.9	0.1		0	0	0		80.4	19.5	0	0.1		90.6	9.4	0		
PHF	.000	.874	.696	.250	.885	.000	.000	.000	.000	.846	.868	.000	.250	.877	.889	.625	.000	.981	.889
Cars	0	934	38	1	973	0	0	0	0	718	163	0	1	882	95	10	0	105	1960
% Cars	0	98.2	97.4	100	98.2	0	0	0	0	98.2	92.1	0	100	97.0	99.0	100	0	99.1	97.7
Heavy Vehicles	0	17	1	0	18	0	0	0	0	13	14	0	0	27	1	0	0	1	46
% Heavy Vehicles	0	1.8	2.6	0	1.8	0	0	0	0	1.8	7.9	0	0	3.0	1.0	0	0	0.9	2.3



PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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Invoice

Date	Invoice #
5/16/2008	81592

Bill To

Vanasse Hangen Brustlin, Inc.
101 Walnut Street
PO Box 9151
Watertown, MA 02471-9151

Engineer	Client Job #	Terms	Job Location
V. Lenhardt	10303	2% 15 Net 60	Medford, MA

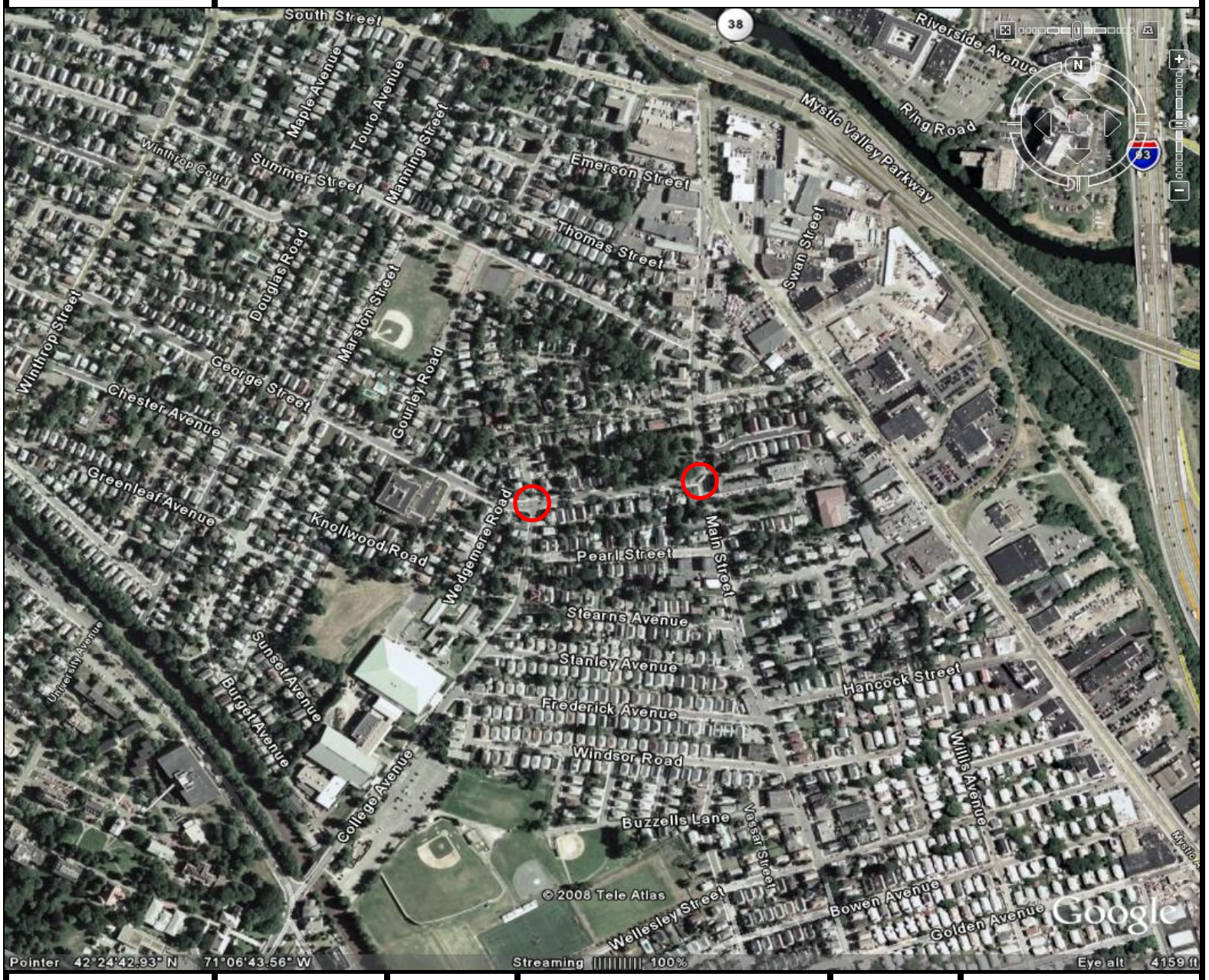
Description	Hours/Quantity	Rate	Amount
(2) 7-10am/3-6pm TMCs Thursday 5/15/08	12	60.00	720.00

"Traffic Counts with Precision" Thank you for your business

Total	$720.00
Balance Due	$720.00

PRECISION DATA INDUSTRIES, LLC
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Traffic Counts with Precision



Customer:	Engineer:	Project #:	Date:	PDI File #:	City, State:
VHB	V. Lenhardt	10303	Thursday 5/15/08	81592	Medford, MA

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

N/S: Main Street
W: George Street
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592A
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Main Street From North		Main Street From South		George Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	95	105	95	18	17	36	366
07:15 AM	71	89	79	28	29	34	330
07:30 AM	100	125	128	25	29	38	445
07:45 AM	108	116	86	23	36	35	404
Total	374	435	388	94	111	143	1545
08:00 AM	104	108	77	16	33	41	379
08:15 AM	97	112	80	19	24	45	377
08:30 AM	76	93	101	32	19	41	362
08:45 AM	111	122	93	22	24	39	411
Total	388	435	351	89	100	166	1529
09:00 AM	78	130	60	10	14	27	319
09:15 AM	68	99	60	15	11	24	277
09:30 AM	68	90	76	17	18	27	296
09:45 AM	64	95	68	14	16	29	286
Total	278	414	264	56	59	107	1178
Grand Total	1040	1284	1003	239	270	416	4252
Apprch %	44.8	55.2	80.8	19.2	39.4	60.6	
Total %	24.5	30.2	23.6	5.6	6.3	9.8	
Cars	994	1206	961	221	262	398	4042
% Cars	95.6	93.9	95.8	92.5	97	95.7	95.1
Heavy Vehicles	46	78	42	18	8	18	210
% Heavy Vehicles	4.4	6.1	4.2	7.5	3	4.3	4.9

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	100	**125**	**225**	**128**	**25**	**153**	29	38	67	**445**
07:45 AM	**108**	116	224	86	23	109	**36**	35	71	404
08:00 AM	104	108	212	77	16	93	33	41	**74**	379
08:15 AM	97	112	209	80	19	99	24	**45**	69	377
Total Volume	409	461	870	371	83	454	122	159	281	1605
% App. Total	47	53		81.7	18.3		43.4	56.6		
PHF	.947	.922	.967	.725	.830	.742	.847	.883	.949	.902
Cars	393	431	824	352	76	428	118	155	273	1525
% Cars	96.1	93.5	94.7	94.9	91.6	94.3	96.7	97.5	97.2	95.0
Heavy Vehicles	16	30	46	19	7	26	4	4	8	80
% Heavy Vehicles	3.9	6.5	5.3	5.1	8.4	5.7	3.3	2.5	2.8	5.0

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N/S: Main Street
W: George Street
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592A
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars

	Main Street From North		Main Street From South		George Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	90	102	91	16	17	34	350
07:15 AM	68	81	79	26	28	31	313
07:30 AM	95	120	123	22	27	38	425
07:45 AM	103	104	79	21	34	34	375
Total	356	407	372	85	106	137	1463
08:00 AM	99	97	73	15	33	40	357
08:15 AM	96	110	77	18	24	43	368
08:30 AM	73	88	99	31	19	40	350
08:45 AM	105	115	90	22	24	35	391
Total	373	410	339	86	100	158	1466
09:00 AM	73	123	56	10	13	26	301
09:15 AM	66	89	56	12	11	22	256
09:30 AM	64	86	73	14	18	27	282
09:45 AM	62	91	65	14	14	28	274
Total	265	389	250	50	56	103	1113
Grand Total	994	1206	961	221	262	398	4042
Apprch %	45.2	54.8	81.3	18.7	39.7	60.3	
Total %	24.6	29.8	23.8	5.5	6.5	9.8	

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	95	**120**	**215**	**123**	**22**	**145**	27	38	65	**425**
07:45 AM	**103**	104	207	79	21	100	**34**	34	68	375
08:00 AM	99	97	196	73	15	88	33	40	**73**	357
08:15 AM	96	110	206	77	18	95	24	**43**	67	368
Total Volume	393	431	824	352	76	428	118	155	273	1525
% App. Total	47.7	52.3		82.2	17.8		43.2	56.8		
PHF	.954	.898	.958	.715	.864	.738	.868	.901	.935	.897

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File Name : 81592A
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Groups Printed- Heavy Vehicles

	Main Street From North		Main Street From South		George Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	5	3	4	2	0	2	16
07:15 AM	3	8	0	2	1	3	17
07:30 AM	5	5	5	3	2	0	20
07:45 AM	5	12	7	2	2	1	29
Total	18	28	16	9	5	6	82
08:00 AM	5	11	4	1	0	1	22
08:15 AM	1	2	3	1	0	2	9
08:30 AM	3	5	2	1	0	1	12
08:45 AM	6	7	3	0	0	4	20
Total	15	25	12	3	0	8	63
09:00 AM	5	7	4	0	1	1	18
09:15 AM	2	10	4	3	0	2	21
09:30 AM	4	4	3	3	0	0	14
09:45 AM	2	4	3	0	2	1	12
Total	13	25	14	6	3	4	65
Grand Total	46	78	42	18	8	18	210
Apprch %	37.1	62.9	70	30	30.8	69.2	
Total %	21.9	37.1	20	8.6	3.8	8.6	

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	3	8	11	0	2	2	1	**3**	**4**	17
07:30 AM	**5**	5	10	5	**3**	8	**2**	0	2	20
07:45 AM	5	**12**	**17**	**7**	2	**9**	2	1	3	**29**
08:00 AM	**5**	**11**	**16**	**4**	**1**	**5**	**0**	**1**	**1**	**22**
Total Volume	**18**	**36**	**54**	**16**	**8**	**24**	**5**	**5**	**10**	**88**
% App. Total	**33.3**	**66.7**		**66.7**	**33.3**		**50**	**50**		
PHF	**.900**	**.750**	**.794**	**.571**	**.667**	**.667**	**.625**	**.417**	**.625**	**.759**

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File Name : 81592A
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	2	2
07:15 AM	0	1	2	0	0	0	0	0	3	6
07:30 AM	0	1	0	0	0	1	0	0	0	2
07:45 AM	1	0	1	0	0	0	0	0	1	3
Total	1	2	3	0	0	1	0	0	6	13
08:00 AM	1	2	2	0	0	3	0	0	6	14
08:15 AM	0	2	3	0	0	5	0	0	1	11
08:30 AM	0	1	1	0	0	1	0	0	2	5
08:45 AM	1	0	0	0	0	3	0	0	0	4
Total	2	5	6	0	0	12	0	0	9	34
09:00 AM	0	0	0	0	0	0	0	0	2	2
09:15 AM	0	1	1	0	0	0	0	0	1	3
09:30 AM	0	0	0	0	0	0	0	0	2	2
09:45 AM	0	1	1	0	0	0	0	0	6	8
Total	0	2	2	0	0	0	0	0	11	15
Grand Total	3	9	11	0	0	13	0	0	26	62
Apprch %	13	39.1	47.8	0	0	100	0	0	100	
Total %	4.8	14.5	17.7	0	0	21	0	0	41.9	

	Main Street From North				Main Street From South				George Street From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	**1**	**2**	**2**	**5**	0	0	3	3	0	0	**6**	**6**	**14**
08:15 AM	0	2	**3**	**5**	**0**	**0**	**5**	**5**	0	0	1	1	11
08:30 AM	0	1	1	2	0	0	1	1	0	0	2	2	5
08:45 AM	1	0	0	1	0	0	3	3	0	0	0	0	4
Total Volume	2	5	6	13	0	0	12	12	0	0	9	9	34
% App. Total	15.4	38.5	46.2		0	0	100		0	0	100		
PHF	.500	.625	.500	.650	.000	.000	.600	.600	.000	.000	.375	.375	.607

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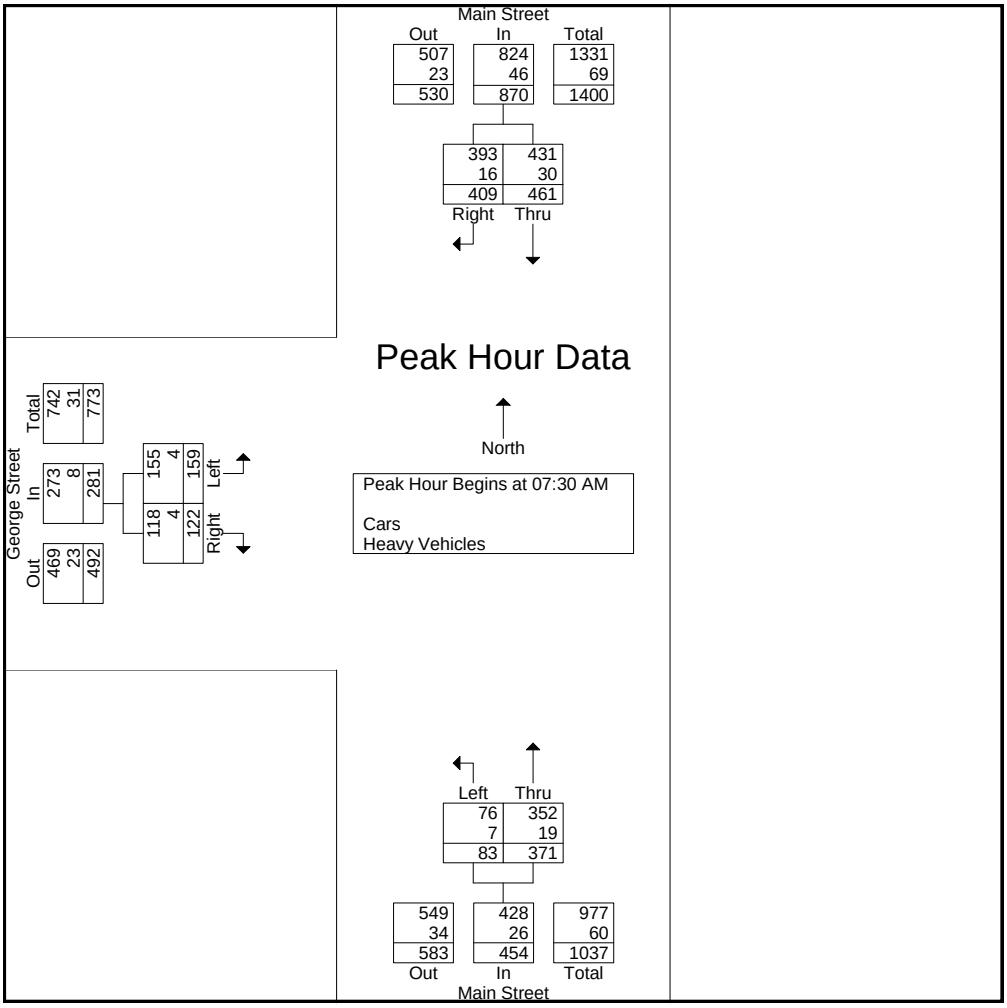
	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	100	**125**	**225**	**128**	**25**	**153**	29	38	67	**445**
07:45 AM	**108**	116	224	86	23	109	**36**	35	71	404
08:00 AM	104	108	212	77	16	93	33	41	**74**	379
08:15 AM	97	112	209	80	19	99	24	**45**	69	377
Total Volume	409	461	870	371	83	454	122	159	281	1605
% App. Total	47	53		81.7	18.3		43.4	56.6		
PHF	.947	.922	.967	.725	.830	.742	.847	.883	.949	.902
Cars	393	431	824	352	76	428	118	155	273	1525
% Cars	96.1	93.5	94.7	94.9	91.6	94.3	96.7	97.5	97.2	95.0
Heavy Vehicles	16	30	46	19	7	26	4	4	8	80
% Heavy Vehicles	3.9	6.5	5.3	5.1	8.4	5.7	3.3	2.5	2.8	5.0



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File Name : 81592AA
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Main Street From North		Main Street From South		George Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	93	90	121	33	20	45	402
03:15 PM	70	82	104	21	19	37	333
03:30 PM	62	90	106	31	21	42	352
03:45 PM	75	67	108	26	14	45	335
Total	300	329	439	111	74	169	1422
04:00 PM	70	72	132	35	10	34	353
04:15 PM	85	72	105	34	23	49	368
04:30 PM	81	90	105	39	11	45	371
04:45 PM	78	85	111	42	18	45	379
Total	314	319	453	150	62	173	1471
05:00 PM	88	91	124	35	16	51	405
05:15 PM	86	107	128	52	22	49	444
05:30 PM	88	94	131	40	22	46	421
05:45 PM	102	104	108	32	24	39	409
Total	364	396	491	159	84	185	1679
Grand Total	978	1044	1383	420	220	527	4572
Apprch %	48.4	51.6	76.7	23.3	29.5	70.5	
Total %	21.4	22.8	30.2	9.2	4.8	11.5	
Cars	953	1011	1341	413	214	511	4443
% Cars	97.4	96.8	97	98.3	97.3	97	97.2
Heavy Vehicles	25	33	42	7	6	16	129
% Heavy Vehicles	2.6	3.2	3	1.7	2.7	3	2.8

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	88	91	179	124	35	159	16	**51**	67	405
05:15 PM	86	**107**	193	128	**52**	**180**	22	49	**71**	**444**
05:30 PM	**88**	**94**	**182**	**131**	40	171	22	46	68	421
05:45 PM	**102**	104	**206**	108	32	140	**24**	39	63	409
Total Volume	364	396	760	491	159	650	84	185	269	1679
% App. Total	47.9	52.1		75.5	24.5		31.2	68.8		
PHF	.892	.925	.922	.937	.764	.903	.875	.907	.947	.945
Cars	355	385	740	481	158	639	83	178	261	1640
% Cars	97.5	97.2	97.4	98.0	99.4	98.3	98.8	96.2	97.0	97.7
Heavy Vehicles	9	11	20	10	1	11	1	7	8	39
% Heavy Vehicles	2.5	2.8	2.6	2.0	0.6	1.7	1.2	3.8	3.0	2.3

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File Name : 81592AA
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars

	Main Street From North		Main Street From South		George Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	90	84	117	33	19	42	385
03:15 PM	69	80	99	21	19	34	322
03:30 PM	60	88	99	30	21	41	339
03:45 PM	74	66	102	25	13	45	325
Total	293	318	417	109	72	162	1371
04:00 PM	68	68	129	35	9	34	343
04:15 PM	82	71	104	33	21	48	359
04:30 PM	79	86	102	37	11	45	360
04:45 PM	76	83	108	41	18	44	370
Total	305	308	443	146	59	171	1432
05:00 PM	85	89	122	35	16	50	397
05:15 PM	85	105	126	52	22	49	439
05:30 PM	86	92	128	40	21	44	411
05:45 PM	99	99	105	31	24	35	393
Total	355	385	481	158	83	178	1640
Grand Total	953	1011	1341	413	214	511	4443
Apprch %	48.5	51.5	76.5	23.5	29.5	70.5	
Total %	21.4	22.8	30.2	9.3	4.8	11.5	

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	85	89	174	122	35	157	16	**50**	66	397
05:15 PM	85	**105**	190	126	**52**	**178**	22	49	**71**	**439**
05:30 PM	**86**	**92**	**178**	**128**	40	168	21	44	65	411
05:45 PM	**99**	99	**198**	105	31	136	**24**	35	59	393
Total Volume	355	385	740	481	158	639	83	178	261	1640
% App. Total	48	52		75.3	24.7		31.8	68.2		
PHF	.896	.917	.934	.939	.760	.897	.865	.890	.919	.934

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Groups Printed- Heavy Vehicles

	Main Street From North		Main Street From South		George Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	3	6	4	0	1	3	17
03:15 PM	1	2	5	0	0	3	11
03:30 PM	2	2	7	1	0	1	13
03:45 PM	1	1	6	1	1	0	10
Total	7	11	22	2	2	7	51
04:00 PM	2	4	3	0	1	0	10
04:15 PM	3	1	1	1	2	1	9
04:30 PM	2	4	3	2	0	0	11
04:45 PM	2	2	3	1	0	1	9
Total	9	11	10	4	3	2	39
05:00 PM	3	2	2	0	0	1	8
05:15 PM	1	2	2	0	0	0	5
05:30 PM	2	2	3	0	1	2	10
05:45 PM	3	5	3	1	0	4	16
Total	9	11	10	1	1	7	39
Grand Total	25	33	42	7	6	16	129
Apprch %	43.1	56.9	85.7	14.3	27.3	72.7	
Total %	19.4	25.6	32.6	5.4	4.7	12.4	

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	**3**	**6**	**9**	4	0	4	**1**	**3**	**4**	**17**
03:15 PM	**1**	**2**	**3**	**5**	**0**	**5**	**0**	**3**	**3**	**11**
03:30 PM	**2**	**2**	**4**	**7**	**1**	**8**	0	1	1	13
03:45 PM	1	1	2	6	1	7	1	0	1	10
Total Volume	7	11	18	22	2	24	2	7	9	51
% App. Total	38.9	61.1		91.7	8.3		22.2	77.8		
PHF	.583	.458	.500	.786	.500	.750	.500	.583	.563	.750

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File Name : 81592AA
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Page No : 1

Groups Printed- Peds and Bicycles

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
03:00 PM	0	0	0	0	0	4	0	0	1	5
03:15 PM	0	0	1	1	0	1	0	0	0	3
03:30 PM	2	0	0	3	0	0	0	0	8	13
03:45 PM	0	0	0	0	0	0	0	1	1	2
Total	2	0	1	4	0	5	0	1	10	23
04:00 PM	0	1	0	1	0	0	0	0	7	9
04:15 PM	0	1	3	0	0	3	0	0	0	7
04:30 PM	0	0	0	1	0	2	0	1	5	9
04:45 PM	1	0	0	2	1	0	1	0	0	5
Total	1	2	3	4	1	5	1	1	12	30
05:00 PM	0	2	1	2	0	2	0	0	1	8
05:15 PM	0	0	0	2	0	1	0	0	2	5
05:30 PM	0	0	0	1	0	1	0	1	1	4
05:45 PM	0	0	0	0	0	3	0	2	7	12
Total	0	2	1	5	0	7	0	3	11	29
Grand Total	3	4	5	13	1	17	1	5	33	82
Apprch %	25	33.3	41.7	41.9	3.2	54.8	2.6	12.8	84.6	
Total %	3.7	4.9	6.1	15.9	1.2	20.7	1.2	6.1	40.2	

	Main Street From North				Main Street From South				George Street From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:30 PM													
03:30 PM	**2**	0	0	2	**3**	0	0	**3**	0	0	**8**	**8**	**13**
03:45 PM	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**	**2**
04:00 PM	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**7**	**7**	**9**
04:15 PM	**0**	**1**	**3**	**4**	0	0	**3**	3	0	0	0	0	7
Total Volume	2	2	3	7	4	0	3	7	0	1	16	17	31
% App. Total	28.6	28.6	42.9		57.1	0	42.9		0	5.9	94.1		
PHF	.250	.500	.250	.438	.333	.000	.250	.583	.000	.250	.500	.531	.596

PRECISION
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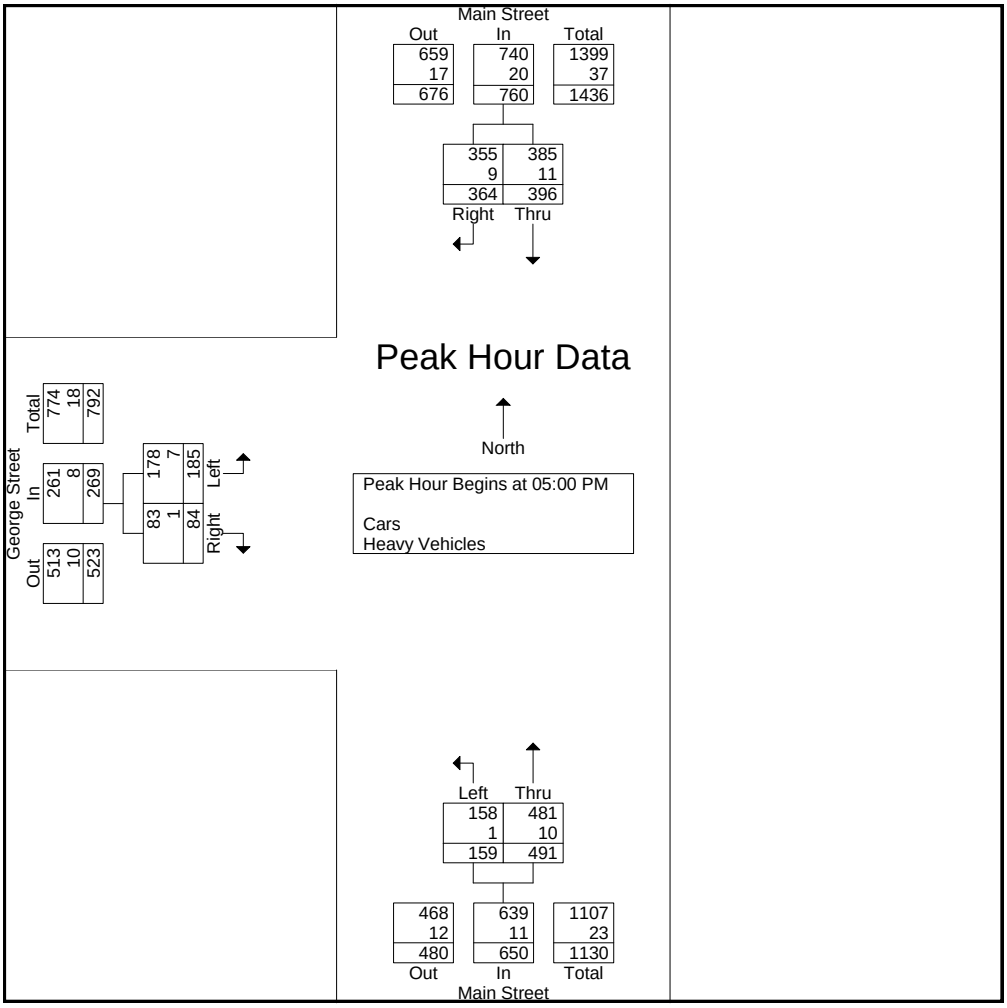
N/S: Main Street
W: George Street
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592AA
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

	Main Street From North			Main Street From South			George Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	88	91	179	124	35	159	16	**51**	67	405
05:15 PM	86	**107**	193	128	**52**	**180**	22	49	**71**	**444**
05:30 PM	**88**	**94**	**182**	**131**	40	171	22	46	68	421
05:45 PM	**102**	104	**206**	108	32	140	**24**	39	63	409
Total Volume	364	396	760	491	159	650	84	185	269	1679
% App. Total	47.9	52.1		75.5	24.5		31.2	68.8		
PHF	.892	.925	.922	.937	.764	.903	.875	.907	.947	.945
Cars	355	385	740	481	158	639	83	178	261	1640
% Cars	97.5	97.2	97.4	98.0	99.4	98.3	98.8	96.2	97.0	97.7
Heavy Vehicles	9	11	20	10	1	11	1	7	8	39
% Heavy Vehicles	2.5	2.8	2.6	2.0	0.6	1.7	1.2	3.8	3.0	2.3



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E/W: George Street
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592B
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	College Avenue From North			George Street From East			College Avenue From South			George Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	2	0	1	33	69	23	2	14	9	26	2	181
07:15 AM	0	2	0	2	51	52	15	5	14	22	45	6	214
07:30 AM	3	7	1	1	48	78	28	6	13	30	49	4	268
07:45 AM	0	0	1	0	46	83	23	4	5	39	41	3	245
Total	3	11	2	4	178	282	89	17	46	100	161	15	908
08:00 AM	0	0	0	2	47	72	23	5	11	28	43	5	236
08:15 AM	0	3	1	1	34	77	30	0	11	29	48	3	237
08:30 AM	2	3	0	5	40	72	31	0	17	33	33	0	236
08:45 AM	0	1	0	5	42	88	19	2	12	46	37	2	254
Total	2	7	1	13	163	309	103	7	51	136	161	10	963
09:00 AM	2	1	0	3	26	61	18	5	17	28	24	0	185
09:15 AM	0	1	0	1	30	53	16	1	7	14	18	2	143
09:30 AM	1	2	1	2	26	57	17	5	10	12	27	3	163
09:45 AM	0	0	0	2	23	53	25	4	9	17	20	1	154
Total	3	4	1	8	105	224	76	15	43	71	89	6	645
Grand Total	8	22	4	25	446	815	268	39	140	307	411	31	2516
Apprch %	23.5	64.7	11.8	1.9	34.7	63.4	60	8.7	31.3	41	54.9	4.1	
Total %	0.3	0.9	0.2	1	17.7	32.4	10.7	1.6	5.6	12.2	16.3	1.2	
Cars	7	22	4	22	418	793	264	38	138	303	393	31	2433
% Cars	87.5	100	100	88	93.7	97.3	98.5	97.4	98.6	98.7	95.6	100	96.7
Heavy Vehicles	1	0	0	3	28	22	4	1	2	4	18	0	83
% Heavy Vehicles	12.5	0	0	12	6.3	2.7	1.5	2.6	1.4	1.3	4.4	0	3.3

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**3**	**7**	**1**	**11**	1	**48**	78	127	28	**6**	**13**	**47**	30	**49**	4	**83**	**268**
07:45 AM	0	0	1	1	0	46	**83**	**129**	23	4	5	32	**39**	41	3	83	245
08:00 AM	0	0	0	0	**2**	47	72	121	23	5	11	39	28	43	**5**	76	236
08:15 AM	0	3	1	4	1	34	77	112	**30**	0	11	41	29	48	3	80	237
Total Volume	3	10	3	16	4	175	310	489	104	15	40	159	126	181	15	322	986
% App. Total	18.8	62.5	18.8		0.8	35.8	63.4		65.4	9.4	25.2		39.1	56.2	4.7		
PHF	.250	.357	.750	.364	.500	.911	.934	.948	.867	.625	.769	.846	.808	.923	.750	.970	.920
Cars	3	10	3	16	4	163	304	471	103	15	40	158	126	174	15	315	960
% Cars	100	100	100	100	100	93.1	98.1	96.3	99.0	100	100	99.4	100	96.1	100	97.8	97.4
Heavy Vehicles	0	0	0	0	0	12	6	18	1	0	0	1	0	7	0	7	26
% Heavy Vehicles	0	0	0	0	0	6.9	1.9	3.7	1.0	0	0	0.6	0	3.9	0	2.2	2.6

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City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592B
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars

	College Avenue From North			George Street From East			College Avenue From South			George Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	2	0	1	29	66	23	2	14	9	24	2	172
07:15 AM	0	2	0	2	49	50	14	5	14	22	44	6	208
07:30 AM	3	7	1	1	42	77	27	6	13	30	47	4	258
07:45 AM	0	0	1	0	44	80	23	4	5	39	38	3	237
Total	3	11	2	4	164	273	87	17	46	100	153	15	875
08:00 AM	0	0	0	2	44	70	23	5	11	28	43	5	231
08:15 AM	0	3	1	1	33	77	30	0	11	29	46	3	234
08:30 AM	2	3	0	5	38	71	30	0	17	32	33	0	231
08:45 AM	0	1	0	4	41	84	19	2	12	45	32	2	242
Total	2	7	1	12	156	302	102	7	51	134	154	10	938
09:00 AM	1	1	0	3	24	58	18	4	16	27	23	0	175
09:15 AM	0	1	0	1	27	52	16	1	6	14	16	2	136
09:30 AM	1	2	1	0	25	56	17	5	10	12	27	3	159
09:45 AM	0	0	0	2	22	52	24	4	9	16	20	1	150
Total	2	4	1	6	98	218	75	14	41	69	86	6	620
Grand Total	7	22	4	22	418	793	264	38	138	303	393	31	2433
Apprch %	21.2	66.7	12.1	1.8	33.9	64.3	60	8.6	31.4	41.7	54.1	4.3	
Total %	0.3	0.9	0.2	0.9	17.2	32.6	10.9	1.6	5.7	12.5	16.2	1.3	

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**3**	**7**	**1**	**11**	1	42	77	120	27	**6**	**13**	**46**	30	**47**	4	**81**	**258**
07:45 AM	0	0	1	1	0	**44**	**80**	**124**	23	4	5	32	**39**	38	3	80	237
08:00 AM	0	0	0	0	**2**	44	70	116	23	5	11	39	28	43	**5**	76	231
08:15 AM	0	3	1	4	1	33	77	111	**30**	0	11	41	29	46	3	78	234
Total Volume	3	10	3	16	4	163	304	471	103	15	40	158	126	174	15	315	960
% App. Total	18.8	62.5	18.8		0.8	34.6	64.5		65.2	9.5	25.3		40	55.2	4.8		
PHF	.250	.357	.750	.364	.500	.926	.950	.950	.858	.625	.769	.859	.808	.926	.750	.972	.930

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Client: VHB/V. Lenhardt

File Name : 81592B
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Heavy Vehicles

	College Avenue From North			George Street From East			College Avenue From South			George Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	4	3	0	0	0	0	2	0	9
07:15 AM	0	0	0	0	2	2	1	0	0	0	1	0	6
07:30 AM	0	0	0	0	6	1	1	0	0	0	2	0	10
07:45 AM	0	0	0	0	2	3	0	0	0	0	3	0	8
Total	0	0	0	0	14	9	2	0	0	0	8	0	33
08:00 AM	0	0	0	0	3	2	0	0	0	0	0	0	5
08:15 AM	0	0	0	0	1	0	0	0	0	0	2	0	3
08:30 AM	0	0	0	0	2	1	1	0	0	1	0	0	5
08:45 AM	0	0	0	1	1	4	0	0	0	1	5	0	12
Total	0	0	0	1	7	7	1	0	0	2	7	0	25
09:00 AM	1	0	0	0	2	3	0	1	1	1	1	0	10
09:15 AM	0	0	0	0	3	1	0	0	1	0	2	0	7
09:30 AM	0	0	0	2	1	1	0	0	0	0	0	0	4
09:45 AM	0	0	0	0	1	1	1	0	0	1	0	0	4
Total	1	0	0	2	7	6	1	1	2	2	3	0	25
Grand Total	1	0	0	3	28	22	4	1	2	4	18	0	83
Apprch %	100	0	0	5.7	52.8	41.5	57.1	14.3	28.6	18.2	81.8	0	
Total %	1.2	0	0	3.6	33.7	26.5	4.8	1.2	2.4	4.8	21.7	0	

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	0	0	0	0	0	2	1	3	**1**	0	0	1	**1**	0	0	1	5
08:45 AM	0	0	0	0	**1**	1	**4**	**6**	0	0	0	0	1	**5**	0	**6**	**12**
09:00 AM	**1**	0	0	**1**	0	2	3	5	0	**1**	**1**	**2**	1	1	0	2	10
09:15 AM	0	0	0	0	0	**3**	1	4	0	0	1	1	0	2	0	2	7
Total Volume	1	0	0	1	1	8	9	18	1	1	2	4	3	8	0	11	34
% App. Total	100	0	0		5.6	44.4	50		25	25	50		27.3	72.7	0		
PHF	.250	.000	.000	.250	.250	.667	.563	.750	.250	.250	.500	.500	.750	.400	.000	.458	.708

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File Name : 81592B
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Peds and Bicycles

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0	1	7
07:15 AM	0	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4
07:30 AM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	3	0	0	0	1	6
Total	0	3	0	3	0	0	1	3	0	1	1	6	0	0	0	2	20
08:00 AM	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	4
08:15 AM	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	4
08:30 AM	0	0	0	1	0	0	0	6	0	0	0	0	0	1	0	1	9
08:45 AM	0	2	0	0	0	0	1	3	0	0	0	1	1	0	0	0	8
Total	0	3	0	2	0	0	2	11	0	0	1	2	2	1	0	1	25
09:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	3
09:15 AM	0	0	0	3	0	0	0	1	0	0	0	0	1	0	0	3	8
09:30 AM	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	2	7
09:45 AM	0	0	0	5	0	0	0	4	0	0	0	1	0	0	0	0	10
Total	0	0	0	8	0	0	0	10	1	1	0	1	1	0	0	6	28
Grand Total	0	6	0	13	0	0	3	24	1	2	2	9	3	1	0	9	73
Apprch %	0	31.6	0	68.4	0	0	11.1	88.9	7.1	14.3	14.3	64.3	23.1	7.7	0	69.2	
Total %	0	8.2	0	17.8	0	0	4.1	32.9	1.4	2.7	2.7	12.3	4.1	1.4	0	12.3	

	College Avenue From North					George Street From East					College Avenue From South					George Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	0	0	1	1	0	0	0	**6**	**6**	0	0	0	0	0	0	**1**	0	1	2	**9**
08:45 AM	0	**2**	0	0	2	0	0	**1**	**3**	**4**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**8**
09:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**3**
09:15 AM	**0**	**0**	**0**	**3**	**3**	0	0	0	1	1	0	0	0	0	0	1	0	0	**3**	**4**	8
Total Volume	0	2	0	4	6	0	0	1	12	13	0	0	0	1	1	2	1	0	5	8	28
% App. Total	0	33.3	0	66.7		0	0	7.7	92.3		0	0	0	100		25	12.5	0	62.5		
PHF	.000	.250	.000	.333	.500	.000	.000	.250	.500	.542	.000	.000	.000	.250	.250	.500	.250	.000	.417	.500	.778

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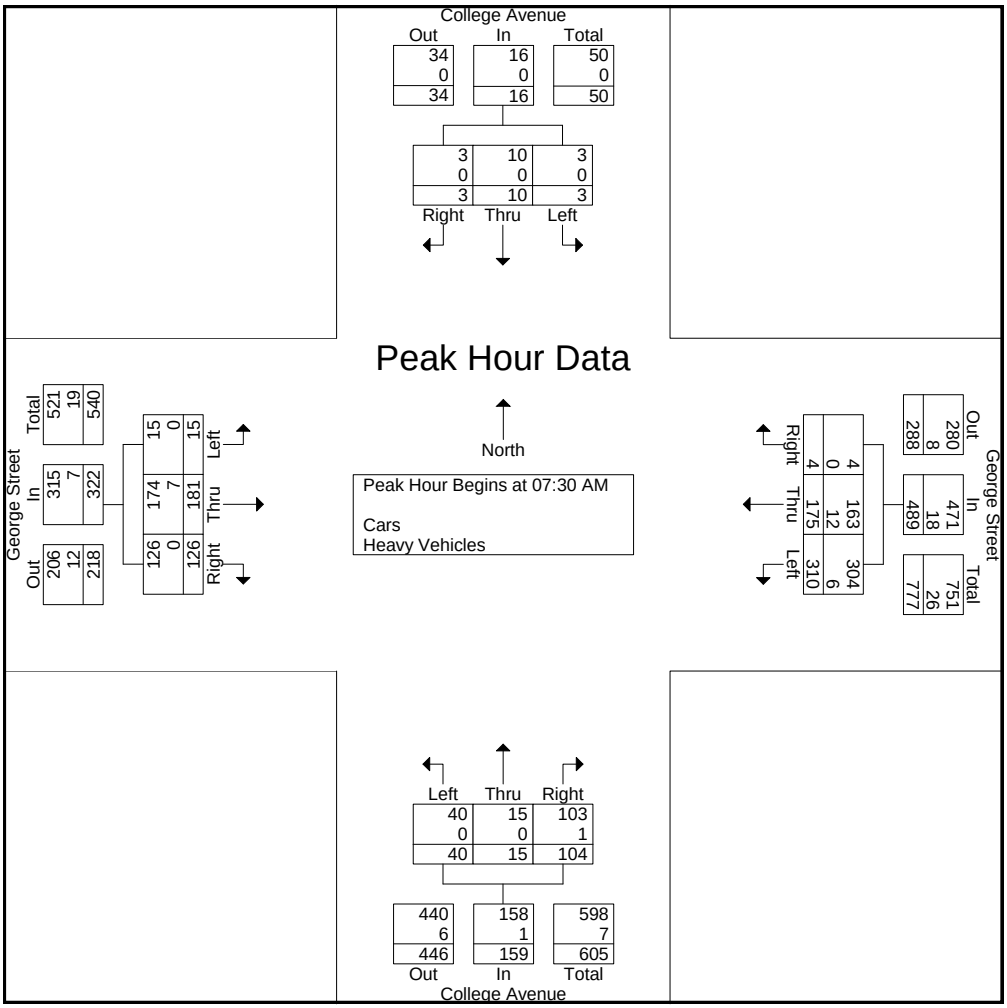
File Name : 81592B
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**3**	**7**	**1**	**11**	1	**48**	78	127	28	**6**	**13**	**47**	30	**49**	4	**83**	**268**
07:45 AM	0	0	1	1	0	46	**83**	**129**	23	4	5	32	**39**	41	3	83	245
08:00 AM	0	0	0	0	**2**	47	72	121	23	5	11	39	28	43	**5**	76	236
08:15 AM	0	3	1	4	1	34	77	112	**30**	0	11	41	29	48	3	80	237
Total Volume	3	10	3	16	4	175	310	489	104	15	40	159	126	181	15	322	986
% App. Total	18.8	62.5	18.8		0.8	35.8	63.4		65.4	9.4	25.2		39.1	56.2	4.7		
PHF	.250	.357	.750	.364	.500	.911	.934	.948	.867	.625	.769	.846	.808	.923	.750	.970	.920
Cars	3	10	3	16	4	163	304	471	103	15	40	158	126	174	15	315	960
% Cars	100	100	100	100	100	93.1	98.1	96.3	99.0	100	100	99.4	100	96.1	100	97.8	97.4
Heavy Vehicles	0	0	0	0	0	12	6	18	1	0	0	1	0	7	0	7	26
% Heavy Vehicles	0	0	0	0	0	6.9	1.9	3.7	1.0	0	0	0.6	0	3.9	0	2.2	2.6



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File Name : 81592BB
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	College Avenue From North			George Street From East			College Avenue From South			George Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	0	0	2	61	63	36	11	18	23	29	3	247
03:15 PM	0	1	0	4	43	44	32	5	14	19	31	7	200
03:30 PM	0	1	0	2	48	43	37	15	16	19	24	3	208
03:45 PM	0	3	0	2	50	49	29	8	21	19	23	0	204
Total	1	5	0	10	202	199	134	39	69	80	107	13	859
04:00 PM	1	0	0	3	55	47	41	7	15	13	15	0	197
04:15 PM	1	2	1	3	66	52	43	7	23	18	25	4	245
04:30 PM	0	2	1	4	69	48	33	10	16	16	19	4	222
04:45 PM	0	2	0	1	62	57	40	7	24	22	29	2	246
Total	2	6	2	11	252	204	157	31	78	69	88	10	910
05:00 PM	0	0	0	5	59	63	40	4	31	17	36	2	257
05:15 PM	0	1	0	4	82	51	33	10	17	20	36	3	257
05:30 PM	0	1	0	3	72	54	32	3	15	29	42	3	254
05:45 PM	0	8	1	6	74	51	32	8	14	14	33	5	246
Total	0	10	1	18	287	219	137	25	77	80	147	13	1014
Grand Total	3	21	3	39	741	622	428	95	224	229	342	36	2783
Apprch %	11.1	77.8	11.1	2.8	52.9	44.4	57.3	12.7	30	37.7	56.3	5.9	
Total %	0.1	0.8	0.1	1.4	26.6	22.3	15.4	3.4	8	8.2	12.3	1.3	
Cars	3	21	3	39	723	610	421	95	221	229	329	36	2730
% Cars	100	100	100	100	97.6	98.1	98.4	100	98.7	100	96.2	100	98.1
Heavy Vehicles	0	0	0	0	18	12	7	0	3	0	13	0	53
% Heavy Vehicles	0	0	0	0	2.4	1.9	1.6	0	1.3	0	3.8	0	1.9

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**2**	0	**2**	1	62	57	120	**40**	7	24	71	22	29	2	53	246
05:00 PM	0	0	0	0	**5**	59	**63**	127	40	4	**31**	**75**	17	36	2	55	**257**
05:15 PM	0	1	0	1	4	**82**	51	**137**	33	**10**	17	60	20	36	**3**	59	257
05:30 PM	0	1	0	1	3	72	54	129	32	3	15	50	**29**	**42**	3	**74**	254
Total Volume	0	4	0	4	13	275	225	513	145	24	87	256	88	143	10	241	1014
% App. Total	0	100	0		2.5	53.6	43.9		56.6	9.4	34		36.5	59.3	4.1		
PHF	.000	.500	.000	.500	.650	.838	.893	.936	.906	.600	.702	.853	.759	.851	.833	.814	.986
Cars	0	4	0	4	13	271	221	505	143	24	85	252	88	141	10	239	1000
% Cars	0	100	0	100	100	98.5	98.2	98.4	98.6	100	97.7	98.4	100	98.6	100	99.2	98.6
Heavy Vehicles	0	0	0	0	0	4	4	8	2	0	2	4	0	2	0	2	14
% Heavy Vehicles	0	0	0	0	0	1.5	1.8	1.6	1.4	0	2.3	1.6	0	1.4	0	0.8	1.4

PRECISION
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N/S: College Avenue
E/W: George Street
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592BB
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Cars

	College Avenue From North			George Street From East			College Avenue From South			George Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	0	0	2	59	62	35	11	18	23	27	3	241
03:15 PM	0	1	0	4	43	43	30	5	14	19	30	7	196
03:30 PM	0	1	0	2	44	43	37	15	16	19	23	3	203
03:45 PM	0	3	0	2	49	49	29	8	21	19	22	0	202
Total	1	5	0	10	195	197	131	39	69	80	102	13	842
04:00 PM	1	0	0	3	54	46	41	7	14	13	14	0	193
04:15 PM	1	2	1	3	64	50	43	7	23	18	22	4	238
04:30 PM	0	2	1	4	66	47	33	10	16	16	19	4	218
04:45 PM	0	2	0	1	60	57	40	7	24	22	29	2	244
Total	2	6	2	11	244	200	157	31	77	69	84	10	893
05:00 PM	0	0	0	5	59	60	40	4	31	17	35	2	253
05:15 PM	0	1	0	4	81	51	33	10	15	20	36	3	254
05:30 PM	0	1	0	3	71	53	30	3	15	29	41	3	249
05:45 PM	0	8	1	6	73	49	30	8	14	14	31	5	239
Total	0	10	1	18	284	213	133	25	75	80	143	13	995
Grand Total	3	21	3	39	723	610	421	95	221	229	329	36	2730
Apprch %	11.1	77.8	11.1	2.8	52.7	44.5	57.1	12.9	30	38.6	55.4	6.1	
Total %	0.1	0.8	0.1	1.4	26.5	22.3	15.4	3.5	8.1	8.4	12.1	1.3	

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**2**	0	**2**	1	60	57	118	**40**	7	24	71	22	29	2	53	244
05:00 PM	0	0	0	0	**5**	59	**60**	124	40	4	**31**	**75**	17	35	2	54	253
05:15 PM	0	1	0	1	4	**81**	51	**136**	33	**10**	15	58	20	36	**3**	59	**254**
05:30 PM	0	1	0	1	3	71	53	127	30	3	15	48	**29**	**41**	3	**73**	249
Total Volume	0	4	0	4	13	271	221	505	143	24	85	252	88	141	10	239	1000
% App. Total	0	100	0		2.6	53.7	43.8		56.7	9.5	33.7		36.8	59	4.2		
PHF	.000	.500	.000	.500	.650	.836	.921	.928	.894	.600	.685	.840	.759	.860	.833	.818	.984

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E/W: George Street
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592BB
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Heavy Vehicles

	College Avenue From North			George Street From East			College Avenue From South			George Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	2	1	1	0	0	0	2	0	6
03:15 PM	0	0	0	0	0	1	2	0	0	0	1	0	4
03:30 PM	0	0	0	0	4	0	0	0	0	0	1	0	5
03:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	0	0	7	2	3	0	0	0	5	0	17
04:00 PM	0	0	0	0	1	1	0	0	1	0	1	0	4
04:15 PM	0	0	0	0	2	2	0	0	0	0	3	0	7
04:30 PM	0	0	0	0	3	1	0	0	0	0	0	0	4
04:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	0	8	4	0	0	1	0	4	0	17
05:00 PM	0	0	0	0	0	3	0	0	0	0	1	0	4
05:15 PM	0	0	0	0	1	0	0	0	2	0	0	0	3
05:30 PM	0	0	0	0	1	1	2	0	0	0	1	0	5
05:45 PM	0	0	0	0	1	2	2	0	0	0	2	0	7
Total	0	0	0	0	3	6	4	0	2	0	4	0	19
Grand Total	0	0	0	0	18	12	7	0	3	0	13	0	53
Apprch %	0	0	0	0	60	40	70	0	30	0	100	0	
Total %	0	0	0	0	34	22.6	13.2	0	5.7	0	24.5	0	

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	**3**	**3**	0	0	0	0	0	1	0	1	4
05:15 PM	0	0	0	0	0	**1**	0	1	0	0	**2**	**2**	0	0	0	0	3
05:30 PM	0	0	0	0	0	1	1	2	**2**	0	0	2	0	1	0	1	5
05:45 PM	0	0	0	0	0	1	2	3	2	0	0	2	0	**2**	0	**2**	**7**
Total Volume	0	0	0	0	0	3	6	9	4	0	2	6	0	4	0	4	19
% App. Total	0	0	0		0	33.3	66.7		66.7	0	33.3		0	100	0		
PHF	.000	.000	.000	.000	.000	.750	.500	.750	.500	.000	.250	.750	.000	.500	.000	.500	.679

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City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592BB
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

Groups Printed- Peds and Bicycles

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0	4
03:15 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	6
03:30 PM	0	0	0	0	0	0	2	1	0	0	0	4	1	0	0	2	10
03:45 PM	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	4
Total	0	0	0	4	0	0	2	2	1	1	0	8	1	0	0	5	24
04:00 PM	0	0	0	6	0	0	0	0	0	0	1	1	0	0	0	3	11
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
04:30 PM	0	0	0	3	0	0	0	0	1	0	0	1	0	0	0	2	7
04:45 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	3
Total	0	0	0	9	0	0	0	1	1	1	1	3	0	0	0	9	25
05:00 PM	0	1	0	0	0	0	0	1	0	1	0	3	1	0	0	5	12
05:15 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	4
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	3	8
05:45 PM	0	0	0	1	0	0	0	0	2	0	3	0	0	0	0	1	7
Total	0	1	0	2	0	0	0	2	2	4	3	6	1	0	0	10	31
Grand Total	0	1	0	15	0	0	2	5	4	6	4	17	2	0	0	24	80
Apprch %	0	6.2	0	93.8	0	0	28.6	71.4	12.9	19.4	12.9	54.8	7.7	0	0	92.3	
Total %	0	1.2	0	18.8	0	0	2.5	6.2	5	7.5	5	21.2	2.5	0	0	30	

	College Avenue From North					George Street From East					College Avenue From South					George Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	0	0	2	2	6
03:30 PM	0	0	0	0	0	0	0	**2**	**1**	**3**	0	0	0	**4**	**4**	**1**	**0**	**0**	**2**	**3**	10
03:45 PM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**0**	**1**	**3**	**0**	**0**	**0**	**1**	**1**	**4**
04:00 PM	**0**	**0**	**0**	**6**	**6**	0	0	0	0	0	0	0	**1**	1	2	0	0	0	**3**	**3**	**11**
Total Volume	0	0	0	8	8	0	0	2	1	3	1	1	1	8	11	1	0	0	8	9	31
% App. Total	0	0	0	100		0	0	66.7	33.3		9.1	9.1	9.1	72.7		11.1	0	0	88.9		
PHF	.000	.000	.000	.333	.333	.000	.000	.250	.250	.250	.250	.250	.250	.500	.688	.250	.000	.000	.667	.750	.705

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N/S: College Avenue
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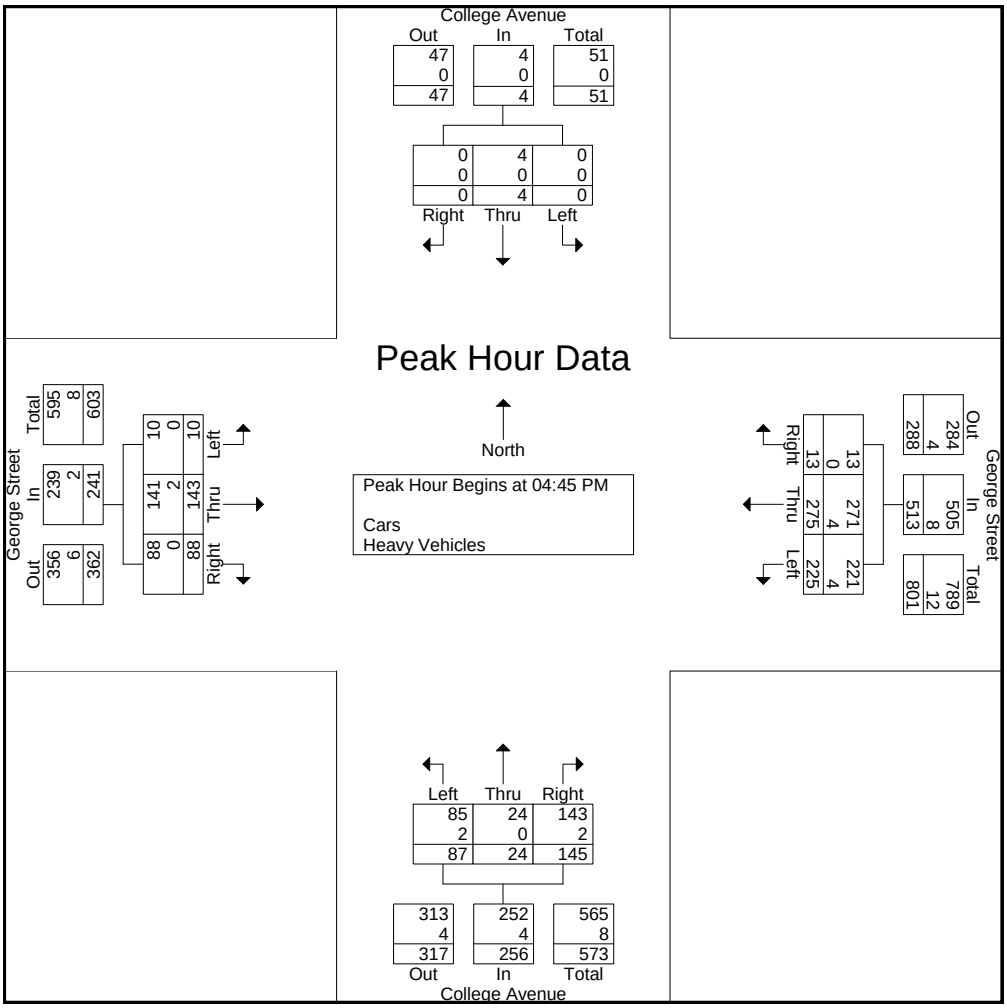
City, State: Medford, MA
Client: VHB/V. Lenhardt

File Name : 81592BB
Site Code : 10303
Start Date : 5/15/2008
Page No : 1

	College Avenue From North				George Street From East				College Avenue From South				George Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**2**	0	**2**	1	62	57	120	**40**	7	24	71	22	29	2	53	246
05:00 PM	0	0	0	0	**5**	59	**63**	127	40	4	**31**	**75**	17	36	2	55	**257**
05:15 PM	0	1	0	1	4	**82**	51	**137**	33	**10**	17	60	20	36	**3**	59	257
05:30 PM	0	1	0	1	3	72	54	129	32	3	15	50	**29**	**42**	3	**74**	254
Total Volume	0	4	0	4	13	275	225	513	145	24	87	256	88	143	10	241	1014
% App. Total	0	100	0		2.5	53.6	43.9		56.6	9.4	34		36.5	59.3	4.1		
PHF	.000	.500	.000	.500	.650	.838	.893	.936	.906	.600	.702	.853	.759	.851	.833	.814	.986
Cars	0	4	0	4	13	271	221	505	143	24	85	252	88	141	10	239	1000
% Cars	0	100	0	100	100	98.5	98.2	98.4	98.6	100	97.7	98.4	100	98.6	100	99.2	98.6
Heavy Vehicles	0	0	0	0	0	4	4	8	2	0	2	4	0	2	0	2	14
% Heavy Vehicles	0	0	0	0	0	1.5	1.8	1.6	1.4	0	2.3	1.6	0	1.4	0	0.8	1.4



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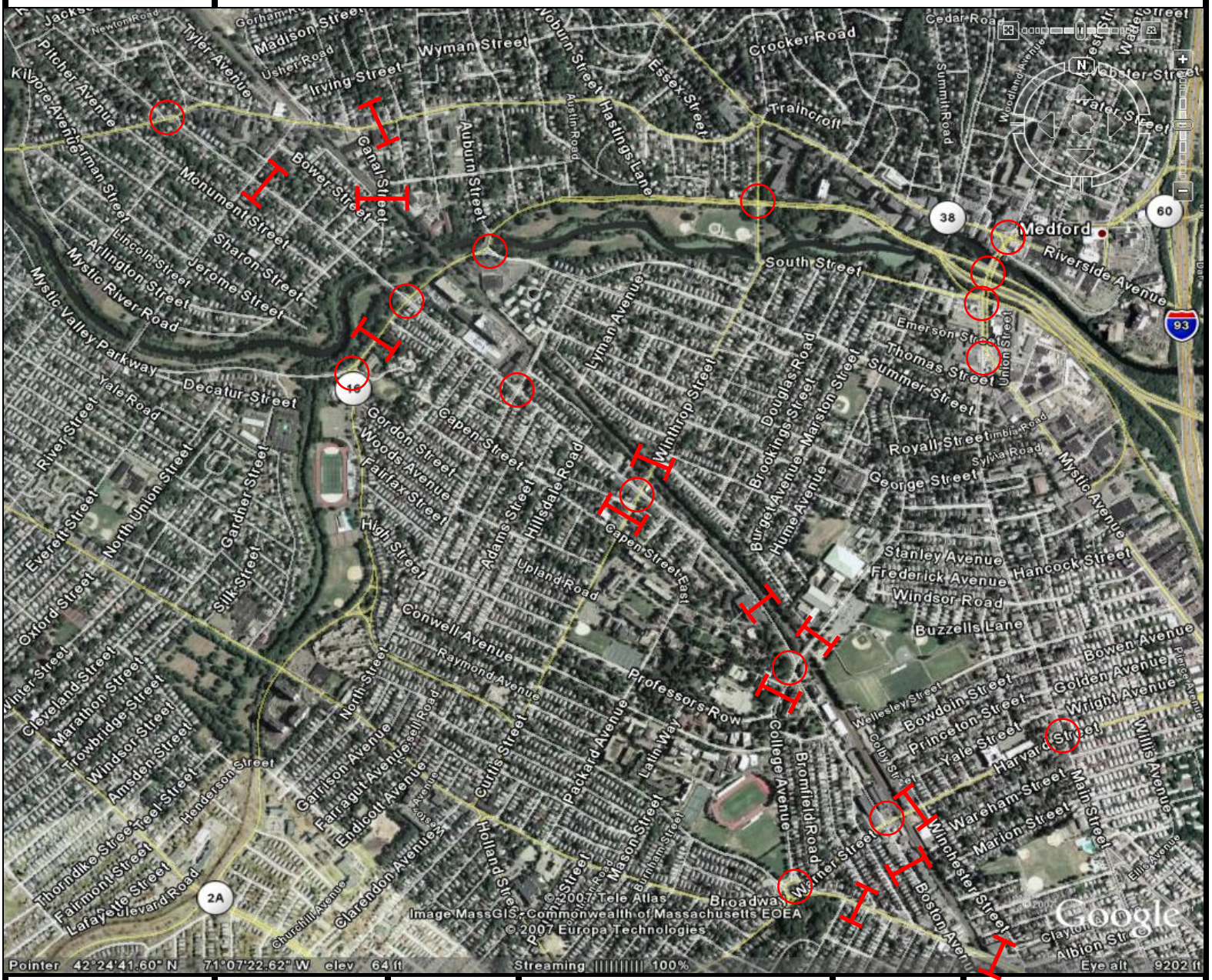
Traffic Counts with Precision



Customer:	Engineer:	Project #:	Date:	PDI File #:	City, State:
VHB	A. Ng	10303	Wed 11/07 and Thurs 11/08/07	71360	Medford/Somerville, MA

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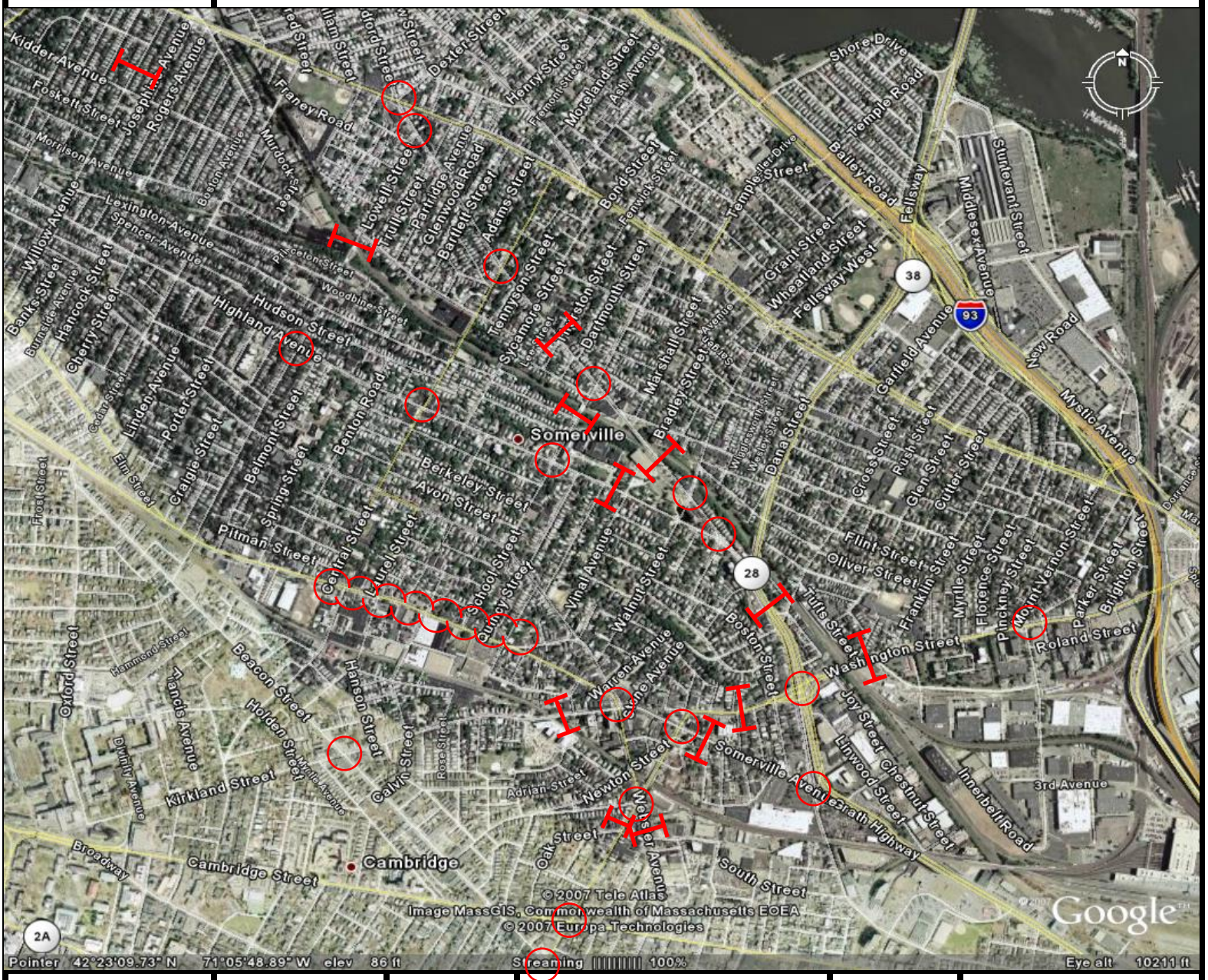
Traffic Counts with Precision


Somerville
Cambridge
Franey Road
Broadway
Cambridge Street
Kirkland Street
Beacon Street
Somerville Avenue
Washington Street
Boston Street
Tufts Street
Oliver Street
Flint Street
Broadway
Central Street
Pitman Street
Highland Avenue
Hudson Street
Benton Road
Berkeley Street
Avon Street
School Street
Vinal Avenue
Walnut Street
Dana Street
Bradley Street
Marshall Street
Dartmouth Street
Thurston Street
Sycamore Street
Tennyson Street
Adams Street
Bartlett Street
Glenwood Road
Partridge Avenue
Trull Street
Lowell Street
Dexter Street
Henry Street
Moreland Street
Ash Avenue
Temple Street
Grant Street
Wheatland Street
Fellsway West
Bailey Road
Temple Road
Shore Drive
Middlesex Avenue
Sturtevant Street
Garfield Avenue
New Road
Mystic Avenue
Cross Street
Rush Street
Glen Street
Cutter Street
Franklin Street
Myrtle Street
Florence Street
Pinckney Street
Mount Vernon Street
Parker Street
Brighton Street
Roland Street
Joy Street
Chestnut Street
Linwood Street
Innerbelt Road
3rd Avenue
Sullivan Square
Rutherford Avenue
Alford Street
Medford Street
Lexington Avenue
Spencer Avenue
Princeton Street
Woodbine Street
Willow Avenue
Banks Street
Hancock Street
Cherry Street
Linden Avenue
Porter Street
Craigie Street
Belmont Street
Spring Street
Elm Street
Cedar Street
Frost Street
Oxford Street
Hammond Street
Francis Avenue
Holden Street
Hanson Street
Calvin Street
Rose Street
Adrian Street
Newton Street
Oak Street
Warren Avenue
Stone Avenue
Walter Street
Fremont Street
Josephine Avenue
Rogers Avenue
Foskett Street
Morrison Avenue
Kidder Avenue
Murdock Street
Boston Avenue
Fenwick Street
Bond Street
Dana Street
Wesley Street
Sawyer Avenue
Linden Street
Cedar Street
Elm Street
Frost Street
Hammond Street
Dimmity Avenue
Rose Street
Adrian Street
Oak Street

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N/S:Mystic Valley/Alewife Brook Pkwy(16)
E/W: Capen Street/Mystic Vally Parkway
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360A
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Mystic Valley Parkway (Route 16) From North			Capen Street From East			Alewife Brook Parkway (Route 16) From South			Mystic Valley Parkway From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	84	209	0	0	1	0	5	154	34	77	0	85	649
07:15 AM	107	261	0	0	0	2	1	157	53	93	0	90	764
07:30 AM	124	212	1	1	0	0	1	153	66	115	0	109	782
07:45 AM	106	183	0	0	1	0	0	127	55	113	0	105	690
Total	421	865	1	1	2	2	7	591	208	398	0	389	2885
08:00 AM	91	219	2	1	0	0	1	126	61	115	0	103	719
08:15 AM	105	192	1	0	0	0	2	119	51	116	0	106	692
08:30 AM	81	177	2	0	0	0	2	115	48	116	0	111	652
08:45 AM	62	194	1	0	1	0	1	123	30	110	0	100	622
Total	339	782	6	1	1	0	6	483	190	457	0	420	2685
09:00 AM	65	189	1	1	0	0	2	135	31	85	0	71	580
09:15 AM	49	126	1	0	0	1	1	141	32	55	0	72	478
09:30 AM	53	170	1	0	0	0	2	124	31	49	0	62	492
09:45 AM	63	147	0	0	0	1	0	121	24	38	0	53	447
Total	230	632	3	1	0	2	5	521	118	227	0	258	1997
Grand Total	990	2279	10	3	3	4	18	1595	516	1082	0	1067	7567
Apprch %	30.2	69.5	0.3	30	30	40	0.8	74.9	24.2	50.3	0	49.7	
Total %	13.1	30.1	0.1	0	0	0.1	0.2	21.1	6.8	14.3	0	14.1	
Cars	989	2269	10	2	3	4	15	1580	516	1081	0	1066	7535
% Cars	99.9	99.6	100	66.7	100	100	83.3	99.1	100	99.9	0	99.9	99.6
Trucks	1	10	0	1	0	0	3	15	0	1	0	1	32
% Trucks	0.1	0.4	0	33.3	0	0	16.7	0.9	0	0.1	0	0.1	0.4

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	107	**261**	0	**368**	0	0	**2**	**2**	**1**	**157**	53	211	93	0	90	183	764
07:30 AM	**124**	212	1	337	**1**	0	0	1	1	153	**66**	**220**	**115**	0	**109**	**224**	**782**
07:45 AM	106	183	0	289	0	**1**	0	1	0	127	55	182	113	0	105	218	690
08:00 AM	91	219	**2**	312	1	0	0	1	1	126	61	188	115	0	103	218	719
Total Volume	428	875	3	1306	2	1	2	5	3	563	235	801	436	0	407	843	2955
% App. Total	32.8	67	0.2		40	20	40		0.4	70.3	29.3		51.7	0	48.3		
PHF	.863	.838	.375	.887	.500	.250	.250	.625	.750	.896	.890	.910	.948	.000	.933	.941	.945
Cars	428	871	3	1302	1	1	2	4	3	561	235	799	436	0	407	843	2948
% Cars	100	99.5	100	99.7	50.0	100	100	80.0	100	99.6	100	99.8	100	0	100	100	99.8
Trucks	0	4	0	4	1	0	0	1	0	2	0	2	0	0	0	0	7
% Trucks	0	0.5	0	0.3	50.0	0	0	20.0	0	0.4	0	0.2	0	0	0	0	0.2

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E/W: Capen Street/Mystic Vally Parkway
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360A
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Cars

	Mystic Valley Parkway (Route 16) From North			Capen Street From East			Alewife Brook Parkway (Route 16) From South			Mystic Valley Parkway From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	84	209	0	0	1	0	4	153	34	77	0	85	647
07:15 AM	107	260	0	0	0	2	1	157	53	93	0	90	763
07:30 AM	124	212	1	0	0	0	1	151	66	115	0	109	779
07:45 AM	106	182	0	0	1	0	0	127	55	113	0	105	689
Total	421	863	1	0	2	2	6	588	208	398	0	389	2878
08:00 AM	91	217	2	1	0	0	1	126	61	115	0	103	717
08:15 AM	104	192	1	0	0	0	1	117	51	115	0	106	687
08:30 AM	81	177	2	0	0	0	2	111	48	116	0	111	648
08:45 AM	62	193	1	0	1	0	1	123	30	110	0	100	621
Total	338	779	6	1	1	0	5	477	190	456	0	420	2673
09:00 AM	65	188	1	1	0	0	2	134	31	85	0	71	578
09:15 AM	49	124	1	0	0	1	0	139	32	55	0	71	472
09:30 AM	53	168	1	0	0	0	2	123	31	49	0	62	489
09:45 AM	63	147	0	0	0	1	0	119	24	38	0	53	445
Total	230	627	3	1	0	2	4	515	118	227	0	257	1984
Grand Total	989	2269	10	2	3	4	15	1580	516	1081	0	1066	7535
Apprch %	30.3	69.4	0.3	22.2	33.3	44.4	0.7	74.8	24.4	50.3	0	49.7	
Total %	13.1	30.1	0.1	0	0	0.1	0.2	21	6.8	14.3	0	14.1	

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	107	**260**	0	**367**	0	0	**2**	**2**	**1**	**157**	53	211	93	0	90	183	763
07:30 AM	**124**	212	1	337	0	0	0	0	1	151	**66**	**218**	**115**	0	**109**	**224**	**779**
07:45 AM	106	182	0	288	0	**1**	0	1	0	127	55	182	113	0	105	218	689
08:00 AM	91	217	**2**	310	**1**	0	0	1	1	126	61	188	115	0	103	218	717
Total Volume	428	871	3	1302	1	1	2	4	3	561	235	799	436	0	407	843	2948
% App. Total	32.9	66.9	0.2		25	25	50		0.4	70.2	29.4		51.7	0	48.3		
PHF	.863	.838	.375	.887	.250	.250	.250	.500	.750	.893	.890	.916	.948	.000	.933	.941	.946

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Client: VHB/ A. Ng

File Name : 71360A
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Trucks

	Mystic Valley Parkway (Route 16) From North			Capen Street From East			Alewife Brook Parkway (Route 16) From South			Mystic Valley Parkway From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	1	0	0	0	2	0	0	0	0	3
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	1	0	0	1	3	0	0	0	0	7
08:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	1	0	0	0	0	0	1	2	0	1	0	0	5
08:30 AM	0	0	0	0	0	0	0	4	0	0	0	0	4
08:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	1	3	0	0	0	0	1	6	0	1	0	0	12
09:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
09:15 AM	0	2	0	0	0	0	1	2	0	0	0	1	6
09:30 AM	0	2	0	0	0	0	0	1	0	0	0	0	3
09:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
Total	0	5	0	0	0	0	1	6	0	0	0	1	13
Grand Total	1	10	0	1	0	0	3	15	0	1	0	1	32
Apprch %	9.1	90.9	0	100	0	0	16.7	83.3	0	50	0	50	
Total %	3.1	31.2	0	3.1	0	0	9.4	46.9	0	3.1	0	3.1	

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	0	0	0	0	0	0	0	0	0	**4**	0	**4**	0	0	0	0	4
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
09:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
09:15 AM	0	**2**	0	**2**	0	0	0	0	**1**	2	0	3	0	0	**1**	**1**	**6**
Total Volume	0	4	0	4	0	0	0	0	1	7	0	8	0	0	1	1	13
% App. Total	0	100	0		0	0	0		12.5	87.5	0		0	0	100		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.250	.438	.000	.500	.000	.000	.250	.250	.542

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Groups Printed- Peds and Bicycles

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	3
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Total	0	1	0	0	0	0	0	0	1	0	1	5	0	0	0	1	9
08:00 AM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	4
08:15 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3
08:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	4	0	1	1	1	0	0	1	0	9
09:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
09:15 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
09:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	4	0	0	1	0	1	0	1	0	8
Grand Total	0	2	0	0	1	0	0	8	1	1	3	6	1	0	2	1	26
Apprch %	0	100	0	0	11.1	0	0	88.9	9.1	9.1	27.3	54.5	25	0	50	25	
Total %	0	7.7	0	0	3.8	0	0	30.8	3.8	3.8	11.5	23.1	3.8	0	7.7	3.8	

	Mystic Valley Parkway (Route 16) From North					Capen Street From East					Alewife Brook Parkway (Route 16) From South					Mystic Valley Parkway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	0	0	0	0	**1**	**0**	**0**	**1**	**2**	0	0	0	**1**	**1**	3
07:45 AM	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	**3**	**3**	0	0	0	1	1	0	0	0	0	0	**4**
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**3**
Total Volume	0	2	0	0	2	0	0	0	3	3	1	1	0	3	5	0	0	1	1	2	12
% App. Total	0	100	0	0		0	0	0	100		20	20	0	60		0	0	50	50		
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.250	.250	.250	.250	.000	.750	.625	.000	.000	.250	.250	.500	.750

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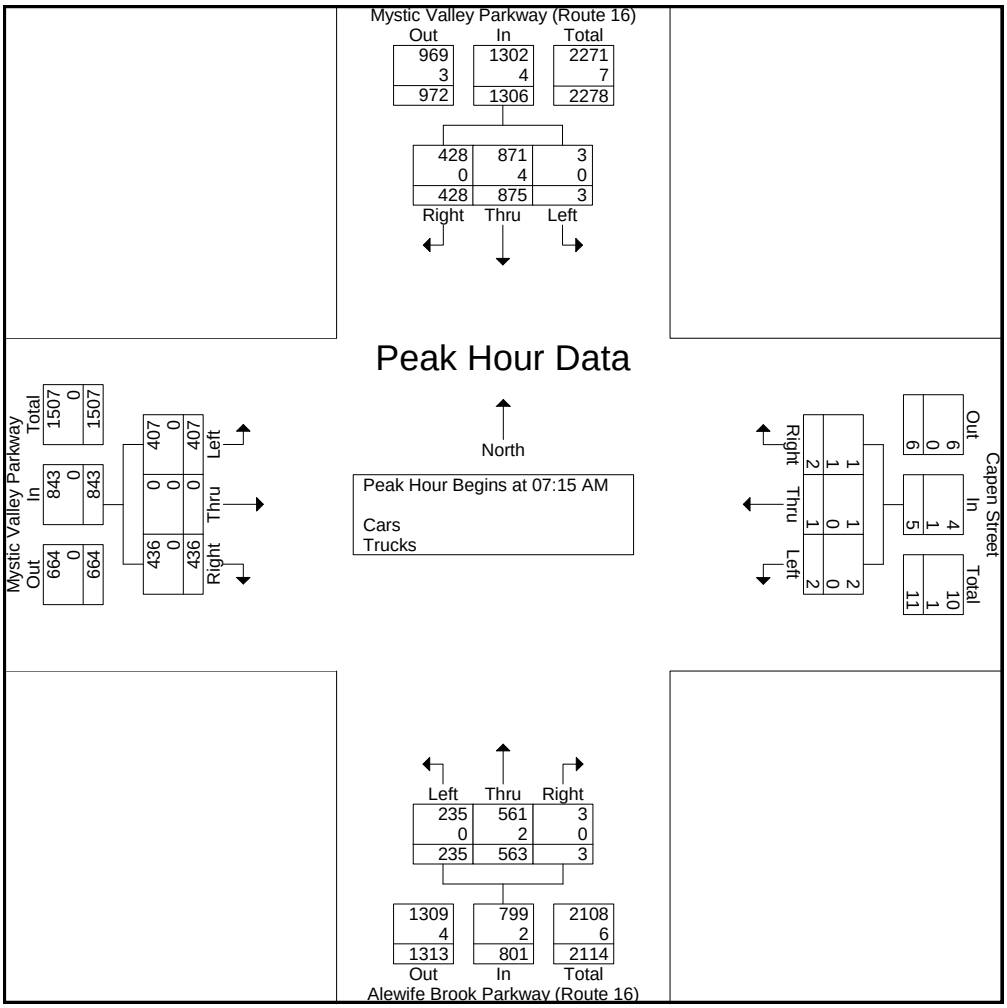
	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	107	**261**	0	**368**	0	0	**2**	**2**	**1**	**157**	53	211	93	0	90	183	764
07:30 AM	**124**	212	1	337	**1**	0	0	1	1	153	**66**	**220**	**115**	0	**109**	**224**	**782**
07:45 AM	106	183	0	289	0	**1**	0	1	0	127	55	182	113	0	105	218	690
08:00 AM	91	219	**2**	312	1	0	0	1	1	126	61	188	115	0	103	218	719
Total Volume	428	875	3	1306	2	1	2	5	3	563	235	801	436	0	407	843	2955
% App. Total	32.8	67	0.2		40	20	40		0.4	70.3	29.3		51.7	0	48.3		
PHF	.863	.838	.375	.887	.500	.250	.250	.625	.750	.896	.890	.910	.948	.000	.933	.941	.945
Cars	428	871	3	1302	1	1	2	4	3	561	235	799	436	0	407	843	2948
% Cars	100	99.5	100	99.7	50.0	100	100	80.0	100	99.6	100	99.8	100	0	100	100	99.8
Trucks	0	4	0	4	1	0	0	1	0	2	0	2	0	0	0	0	7
% Trucks	0	0.5	0	0.3	50.0	0	0	20.0	0	0.4	0	0.2	0	0	0	0	0.2



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Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Mystic Valley Parkway (Route 16) From North			Capen Street From East			Alewife Brook Parkway (Route 16) From South			Mystic Valley Parkway From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	96	146	0	0	0	0	0	190	56	48	0	52	588
03:15 PM	91	170	2	1	0	0	1	202	67	40	0	64	638
03:30 PM	104	151	1	1	0	0	0	190	68	35	0	48	598
03:45 PM	101	145	2	1	0	1	0	193	68	54	0	52	617
Total	392	612	5	3	0	1	1	775	259	177	0	216	2441
04:00 PM	110	141	0	0	0	0	0	180	65	37	0	65	598
04:15 PM	111	144	0	1	0	1	1	207	80	42	0	47	634
04:30 PM	104	159	0	1	0	0	1	178	66	42	0	64	615
04:45 PM	124	160	0	0	0	1	0	181	82	54	0	49	651
Total	449	604	0	2	0	2	2	746	293	175	0	225	2498
05:00 PM	115	172	2	0	0	0	0	180	88	45	0	64	666
05:15 PM	139	148	0	0	0	0	0	177	113	69	0	81	727
05:30 PM	102	179	4	0	0	0	0	206	96	58	0	64	709
05:45 PM	136	161	0	0	0	1	1	178	87	69	0	69	702
Total	492	660	6	0	0	1	1	741	384	241	0	278	2804
Grand Total	1333	1876	11	5	0	4	4	2262	936	593	0	719	7743
Apprch %	41.4	58.3	0.3	55.6	0	44.4	0.1	70.6	29.2	45.2	0	54.8	
Total %	17.2	24.2	0.1	0.1	0	0.1	0.1	29.2	12.1	7.7	0	9.3	
Cars	1333	1874	10	5	0	4	4	2248	928	592	0	719	7717
% Cars	100	99.9	90.9	100	0	100	100	99.4	99.1	99.8	0	100	99.7
Trucks	0	2	1	0	0	0	0	14	8	1	0	0	26
% Trucks	0	0.1	9.1	0	0	0	0	0.6	0.9	0.2	0	0	0.3

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	115	172	2	289	0	0	0	0	0	180	88	268	45	0	64	109	666
05:15 PM	**139**	148	0	287	0	0	0	0	0	177	**113**	290	**69**	0	**81**	**150**	**727**
05:30 PM	102	**179**	**4**	285	0	0	0	0	0	**206**	96	**302**	58	0	64	122	709
05:45 PM	136	161	0	**297**	0	0	**1**	**1**	**1**	178	87	266	69	0	69	138	702
Total Volume	492	660	6	1158	0	0	1	1	1	741	384	1126	241	0	278	519	2804
% App. Total	42.5	57	0.5		0	0	100		0.1	65.8	34.1		46.4	0	53.6		
PHF	.885	.922	.375	.975	.000	.000	.250	.250	.250	.899	.850	.932	.873	.000	.858	.865	.964
Cars	492	660	6	1158	0	0	1	1	1	739	383	1123	240	0	278	518	2800
% Cars	100	100	100	100	0	0	100	100	100	99.7	99.7	99.7	99.6	0	100	99.8	99.9
Trucks	0	0	0	0	0	0	0	0	0	2	1	3	1	0	0	1	4
% Trucks	0	0	0	0	0	0	0	0	0	0.3	0.3	0.3	0.4	0	0	0.2	0.1

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Groups Printed- Cars

	Mystic Valley Parkway (Route 16) From North			Capen Street From East			Alewife Brook Parkway (Route 16) From South			Mystic Valley Parkway From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	96	146	0	0	0	0	0	188	53	48	0	52	583
03:15 PM	91	169	1	1	0	0	1	200	66	40	0	64	633
03:30 PM	104	151	1	1	0	0	0	189	67	35	0	48	596
03:45 PM	101	145	2	1	0	1	0	193	67	54	0	52	616
Total	392	611	4	3	0	1	1	770	253	177	0	216	2428
04:00 PM	110	141	0	0	0	0	0	179	65	37	0	65	597
04:15 PM	111	143	0	1	0	1	1	204	80	42	0	47	630
04:30 PM	104	159	0	1	0	0	1	175	66	42	0	64	612
04:45 PM	124	160	0	0	0	1	0	181	81	54	0	49	650
Total	449	603	0	2	0	2	2	739	292	175	0	225	2489
05:00 PM	115	172	2	0	0	0	0	180	88	44	0	64	665
05:15 PM	139	148	0	0	0	0	0	177	113	69	0	81	727
05:30 PM	102	179	4	0	0	0	0	205	96	58	0	64	708
05:45 PM	136	161	0	0	0	1	1	177	86	69	0	69	700
Total	492	660	6	0	0	1	1	739	383	240	0	278	2800
Grand Total	1333	1874	10	5	0	4	4	2248	928	592	0	719	7717
Apprch %	41.4	58.3	0.3	55.6	0	44.4	0.1	70.7	29.2	45.2	0	54.8	
Total %	17.3	24.3	0.1	0.1	0	0.1	0.1	29.1	12	7.7	0	9.3	

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	115	172	2	289	0	0	0	0	0	180	88	268	44	0	64	108	665
05:15 PM	**139**	148	0	287	0	0	0	0	0	177	**113**	290	**69**	0	**81**	**150**	**727**
05:30 PM	102	**179**	**4**	285	0	0	0	0	0	**205**	96	**301**	58	0	64	122	708
05:45 PM	136	161	0	**297**	0	0	**1**	**1**	**1**	177	86	264	69	0	69	138	700
Total Volume	492	660	6	1158	0	0	1	1	1	739	383	1123	240	0	278	518	2800
% App. Total	42.5	57	0.5		0	0	100		0.1	65.8	34.1		46.3	0	53.7		
PHF	.885	.922	.375	.975	.000	.000	.250	.250	.250	.901	.847	.933	.870	.000	.858	.863	.963

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N/S:Mystic Valley/Alewife Brook Pkwy(16)
E/W: Capen Street/Mystic Vally Parkway
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360AA
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Mystic Valley Parkway (Route 16) From North			Capen Street From East			Alewife Brook Parkway (Route 16) From South			Mystic Valley Parkway From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	0	0	0	2	3	0	0	0	5
03:15 PM	0	1	1	0	0	0	0	2	1	0	0	0	5
03:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	1	1	0	0	0	0	5	6	0	0	0	13
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
04:15 PM	0	1	0	0	0	0	0	3	0	0	0	0	4
04:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	1	0	0	0	0	0	7	1	0	0	0	9
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
Total	0	0	0	0	0	0	0	2	1	1	0	0	4
Grand Total	0	2	1	0	0	0	0	14	8	1	0	0	26
Apprch %	0	66.7	33.3	0	0	0	0	63.6	36.4	100	0	0	
Total %	0	7.7	3.8	0	0	0	0	53.8	30.8	3.8	0	0	

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	0	0	0	0	**2**	**3**	**5**	0	0	0	0	**5**
03:15 PM	0	**1**	**1**	**2**	0	0	0	0	0	2	1	3	0	0	0	0	5
03:30 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total Volume	0	1	1	2	0	0	0	0	0	5	6	11	0	0	0	0	13
% App. Total	0	50	50		0	0	0		0	45.5	54.5		0	0	0		
PHF	.000	.250	.250	.250	.000	.000	.000	.000	.000	.625	.500	.550	.000	.000	.000	.000	.650

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N/S:Mystic Valley/Alewife Brook Pkwy(16)
E/W: Capen Street/Mystic Vally Parkway
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360AA
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
03:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
03:30 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
03:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	4
Total	0	0	0	0	0	0	0	12	0	0	0	1	1	0	0	0	14
04:00 PM	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	1	5
04:15 PM	0	0	0	1	0	0	0	4	0	1	0	0	0	0	0	0	6
04:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	3	0	0	0	6	0	2	0	2	0	0	0	2	15
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	3	0	1	0	2	0	0	1	0	7
Grand Total	0	0	0	3	0	0	0	21	0	3	0	5	1	0	1	2	36
Apprch %	0	0	0	100	0	0	0	100	0	37.5	0	62.5	25	0	25	50	
Total %	0	0	0	8.3	0	0	0	58.3	0	8.3	0	13.9	2.8	0	2.8	5.6	

	Mystic Valley Parkway (Route 16) From North					Capen Street From East					Alewife Brook Parkway (Route 16) From South					Mystic Valley Parkway From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	0	0	0	**4**	**4**	0	0	0	0	0	0	0	0	0	0	4
03:45 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	**1**	**0**	**0**	**0**	**1**	4
04:00 PM	0	0	0	**1**	**1**	0	0	0	2	2	0	**1**	**0**	**0**	**1**	0	0	0	**1**	**1**	**5**
04:15 PM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**4**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**
Total Volume	0	0	0	2	2	0	0	0	13	13	0	2	0	0	2	1	0	0	1	2	19
% App. Total	0	0	0	100		0	0	0	100		0	100	0	0		50	0	0	50		
PHF	.000	.000	.000	.500	.500	.000	.000	.000	.813	.813	.000	.500	.000	.000	.500	.250	.000	.000	.250	.500	.792

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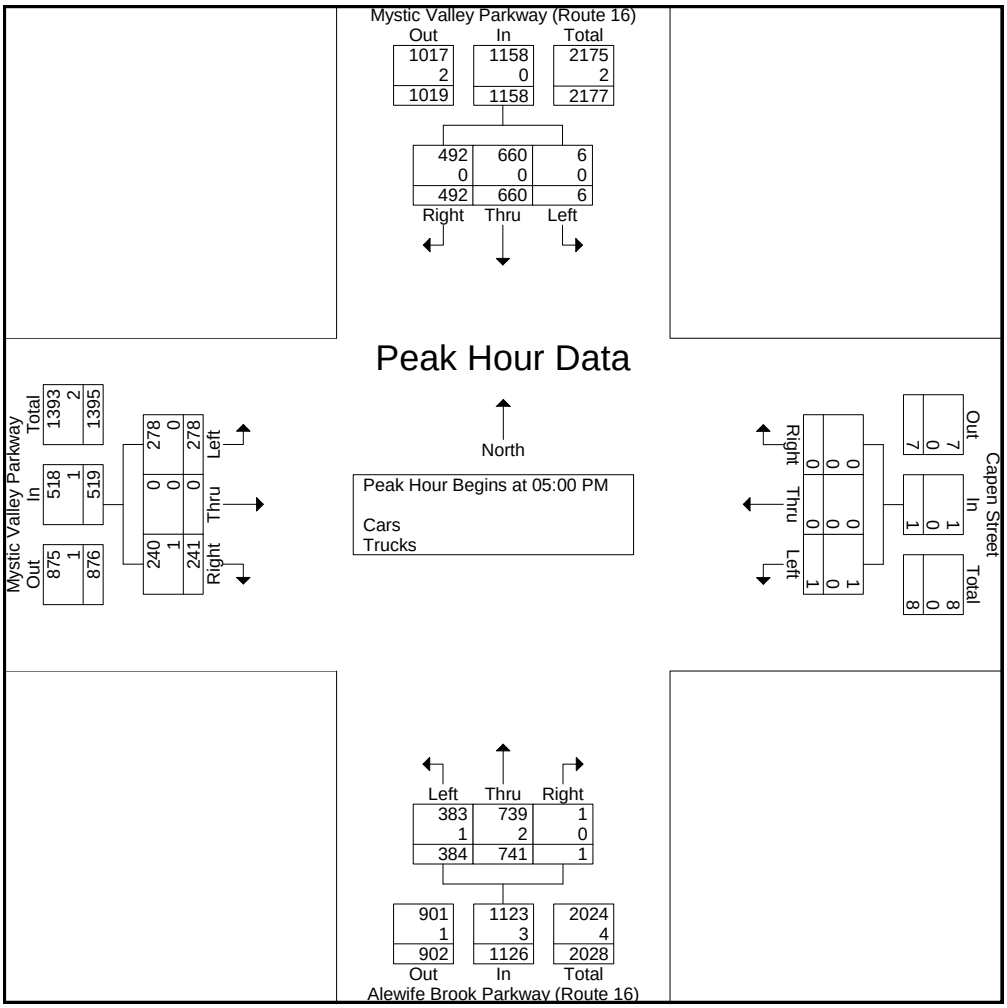
E/W: Capen Street/Mystic Vally Parkway
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360AA
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Mystic Valley Parkway (Route 16) From North				Capen Street From East				Alewife Brook Parkway (Route 16) From South				Mystic Valley Parkway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	115	172	2	289	0	0	0	0	0	180	88	268	45	0	64	109	666
05:15 PM	**139**	148	0	287	0	0	0	0	0	177	**113**	290	**69**	0	**81**	**150**	**727**
05:30 PM	102	**179**	**4**	285	0	0	0	0	0	**206**	96	**302**	58	0	64	122	709
05:45 PM	136	161	0	**297**	0	0	**1**	**1**	**1**	178	87	266	69	0	69	138	702
Total Volume	492	660	6	1158	0	0	1	1	1	741	384	1126	241	0	278	519	2804
% App. Total	42.5	57	0.5		0	0	100		0.1	65.8	34.1		46.4	0	53.6		
PHF	.885	.922	.375	.975	.000	.000	.250	.250	.250	.899	.850	.932	.873	.000	.858	.865	.964
Cars	492	660	6	1158	0	0	1	1	1	739	383	1123	240	0	278	518	2800
% Cars	100	100	100	100	0	0	100	100	100	99.7	99.7	99.7	99.6	0	100	99.8	99.9
Trucks	0	0	0	0	0	0	0	0	0	2	1	3	1	0	0	1	4
% Trucks	0	0	0	0	0	0	0	0	0	0.3	0.3	0.3	0.4	0	0	0.2	0.1



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S: Auburn Street
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360B
Site Code : 10303
Start Date : 11/7/2007

Groups Printed- Cars - Trucks

	Mystic Valley Parkway (Route 16) From East		Auburn Street From South		Mystic Valley Parkway (Route 16) From West		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
07:00 AM	263	21	10	14	0	239	547
07:15 AM	303	20	10	24	2	242	601
07:30 AM	294	28	16	33	4	205	580
07:45 AM	267	28	11	26	4	179	515
Total	1127	97	47	97	10	865	2243
08:00 AM	268	17	14	20	4	183	506
08:15 AM	248	15	18	22	1	165	469
08:30 AM	249	28	21	14	2	172	486
08:45 AM	279	16	14	11	4	172	496
Total	1044	76	67	67	11	692	1957
09:00 AM	238	20	13	13	5	170	459
09:15 AM	169	12	15	3	2	175	376
09:30 AM	208	15	11	19	1	181	435
09:45 AM	201	11	11	7	1	154	385
Total	816	58	50	42	9	680	1655
Grand Total	2987	231	164	206	30	2237	5855
Apprch %	92.8	7.2	44.3	55.7	1.3	98.7	
Total %	51	3.9	2.8	3.5	0.5	38.2	
Cars	2975	226	159	204	30	2228	5822
% Cars	99.6	97.8	97	99	100	99.6	99.4
Trucks	12	5	5	2	0	9	33
% Trucks	0.4	2.2	3	1	0	0.4	0.6

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	263	21	284	10	14	24	0	239	239	547
07:15 AM	**303**	20	**323**	10	24	34	2	**242**	**244**	**601**
07:30 AM	**294**	**28**	322	**16**	**33**	**49**	**4**	205	209	580
07:45 AM	267	28	295	11	26	37	4	179	183	515
Total Volume	1127	97	1224	47	97	144	10	865	875	2243
% App. Total	92.1	7.9		32.6	67.4		1.1	98.9		
PHF	.930	.866	.947	.734	.735	.735	.625	.894	.897	.933
Cars	1125	95	1220	45	97	142	10	863	873	2235
% Cars	99.8	97.9	99.7	95.7	100	98.6	100	99.8	99.8	99.6
Trucks	2	2	4	2	0	2	0	2	2	8
% Trucks	0.2	2.1	0.3	4.3	0	1.4	0	0.2	0.2	0.4

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S: Auburn Street
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360B
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Mystic Valley Parkway (Route 16) From East		Auburn Street From South		Mystic Valley Parkway (Route 16) From West		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
07:00 AM	263	20	10	14	0	238	545
07:15 AM	303	20	9	24	2	242	600
07:30 AM	293	27	16	33	4	205	578
07:45 AM	266	28	10	26	4	178	512
Total	1125	95	45	97	10	863	2235
08:00 AM	267	17	14	20	4	183	505
08:15 AM	246	14	18	21	1	164	464
08:30 AM	247	28	20	14	2	171	482
08:45 AM	278	16	13	11	4	172	494
Total	1038	75	65	66	11	690	1945
09:00 AM	237	20	13	13	5	169	457
09:15 AM	167	12	15	3	2	175	374
09:30 AM	207	13	10	19	1	178	428
09:45 AM	201	11	11	6	1	153	383
Total	812	56	49	41	9	675	1642
Grand Total	2975	226	159	204	30	2228	5822
Apprch %	92.9	7.1	43.8	56.2	1.3	98.7	
Total %	51.1	3.9	2.7	3.5	0.5	38.3	

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	263	20	283	10	14	24	0	238	238	545
07:15 AM	**303**	20	**323**	9	24	33	2	**242**	**244**	**600**
07:30 AM	**293**	**27**	**320**	**16**	**33**	**49**	**4**	205	209	578
07:45 AM	266	**28**	294	10	26	36	4	178	182	512
Total Volume	1125	95	1220	45	97	142	10	863	873	2235
% App. Total	92.2	7.8		31.7	68.3		1.1	98.9		
PHF	.928	.848	.944	.703	.735	.724	.625	.892	.894	.931

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S: Auburn Street
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City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360B
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Mystic Valley Parkway (Route 16) From East		Auburn Street From South		Mystic Valley Parkway (Route 16) From West		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
07:00 AM	0	1	0	0	0	1	2
07:15 AM	0	0	1	0	0	0	1
07:30 AM	1	1	0	0	0	0	2
07:45 AM	1	0	1	0	0	1	3
Total	2	2	2	0	0	2	8
08:00 AM	1	0	0	0	0	0	1
08:15 AM	2	1	0	1	0	1	5
08:30 AM	2	0	1	0	0	1	4
08:45 AM	1	0	1	0	0	0	2
Total	6	1	2	1	0	2	12
09:00 AM	1	0	0	0	0	1	2
09:15 AM	2	0	0	0	0	0	2
09:30 AM	1	2	1	0	0	3	7
09:45 AM	0	0	0	1	0	1	2
Total	4	2	1	1	0	5	13
Grand Total	12	5	5	2	0	9	33
Apprch %	70.6	29.4	71.4	28.6	0	100	
Total %	36.4	15.2	15.2	6.1	0	27.3	

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	1	0	1	**1**	0	**1**	0	**1**	**1**	3
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	**2**	**1**	**3**	0	**1**	1	0	1	1	**5**
08:30 AM	**2**	**0**	**2**	**1**	**0**	**1**	**0**	**1**	**1**	**4**
Total Volume	**6**	**1**	**7**	**2**	**1**	**3**	**0**	**3**	**3**	**13**
% App. Total	**85.7**	**14.3**		**66.7**	**33.3**		**0**	**100**		
PHF	**.750**	**.250**	**.583**	**.500**	**.250**	**.750**	**.000**	**.750**	**.750**	**.650**

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S: Auburn Street
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City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360B
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West				
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds SW X-Walk	Peds	Int. Total
07:00 AM	0	1	0	0	0	1	0	0	2	1	5
07:15 AM	0	0	0	0	0	1	0	0	1	0	2
07:30 AM	0	0	0	1	0	0	0	0	3	3	7
07:45 AM	0	0	0	0	0	0	0	0	2	2	4
Total	0	1	0	1	0	2	0	0	8	6	18
08:00 AM	0	0	0	1	0	0	0	0	0	0	1
08:15 AM	1	0	0	0	0	1	0	0	9	8	19
08:30 AM	0	0	0	0	0	1	0	1	5	5	12
08:45 AM	0	0	0	0	0	0	0	0	1	1	2
Total	1	0	0	1	0	2	0	1	15	14	34
09:00 AM	0	0	0	0	0	0	0	0	1	1	2
09:15 AM	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	1	1	2
09:45 AM	1	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	0	2	2	5
Grand Total	2	1	0	2	0	4	0	1	25	22	57
Apprch %	66.7	33.3	0	33.3	0	66.7	0	2.1	52.1	45.8	
Total %	3.5	1.8	0	3.5	0	7	0	1.8	43.9	38.6	

	Mystic Valley Parkway (Route 16) From East				Auburn Street From South				Mystic Valley Parkway (Route 16) From West					
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds SW X-Walk	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:45 AM														
07:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	4	4
08:00 AM	0	0	0	0	**1**	0	0	**1**	**0**	**0**	**0**	**0**	**0**	**1**
08:15 AM	**1**	0	0	**1**	0	0	**1**	1	0	0	**9**	**8**	**17**	**19**
08:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	5	5	11	12
Total Volume	1	0	0	1	1	0	2	3	0	1	16	15	32	36
% App. Total	100	0	0		33.3	0	66.7		0	3.1	50	46.9		
PHF	.250	.000	.000	.250	.250	.000	.500	.750	.000	.250	.444	.469	.471	.474

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S: Auburn Street
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City, State: Medford, MA
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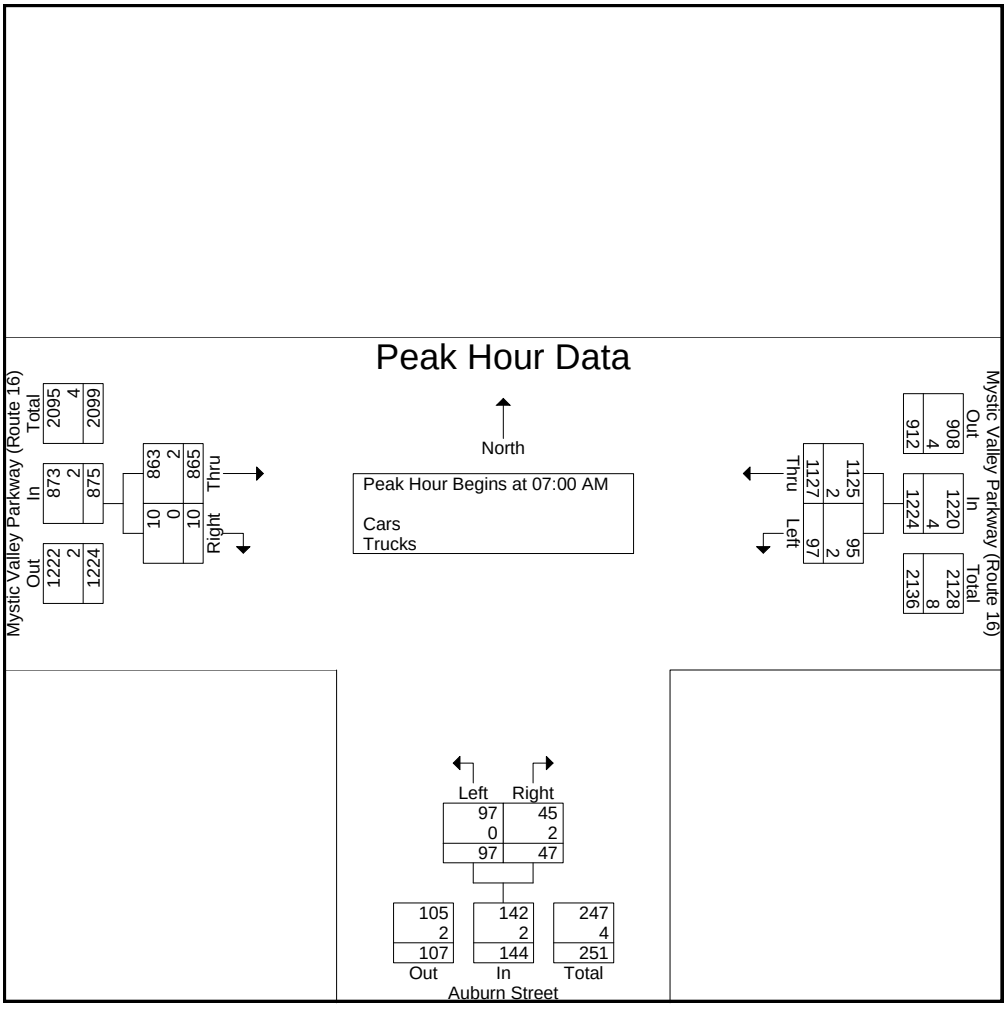
	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	263	21	284	10	14	24	0	239	239	547
07:15 AM	**303**	20	**323**	10	24	34	2	**242**	**244**	**601**
07:30 AM	**294**	**28**	322	**16**	**33**	**49**	**4**	205	209	580
07:45 AM	267	28	295	11	26	37	4	179	183	515
Total Volume	1127	97	1224	47	97	144	10	865	875	2243
% App. Total	92.1	7.9		32.6	67.4		1.1	98.9		
PHF	.930	.866	.947	.734	.735	.735	.625	.894	.897	.933
Cars	1125	95	1220	45	97	142	10	863	873	2235
% Cars	99.8	97.9	99.7	95.7	100	98.6	100	99.8	99.8	99.6
Trucks	2	2	4	2	0	2	0	2	2	8
% Trucks	0.2	2.1	0.3	4.3	0	1.4	0	0.2	0.2	0.4



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Client: VHB/ A. Ng

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Groups Printed- Cars - Trucks

	Mystic Valley Parkway (Route 16) From East		Auburn Street From South		Mystic Valley Parkway (Route 16) From West		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
03:00 PM	204	10	15	12	5	201	447
03:15 PM	248	18	11	6	3	232	518
03:30 PM	260	11	14	7	4	207	503
03:45 PM	239	4	13	17	5	203	481
Total	951	43	53	42	17	843	1949
04:00 PM	230	13	7	8	2	218	478
04:15 PM	255	10	21	15	7	194	502
04:30 PM	233	5	11	17	4	225	495
04:45 PM	246	14	20	25	1	182	488
Total	964	42	59	65	14	819	1963
05:00 PM	269	19	6	25	2	241	562
05:15 PM	246	6	10	17	3	220	502
05:30 PM	255	12	15	20	3	225	530
05:45 PM	245	15	19	13	4	222	518
Total	1015	52	50	75	12	908	2112
Grand Total	2930	137	162	182	43	2570	6024
Apprch %	95.5	4.5	47.1	52.9	1.6	98.4	
Total %	48.6	2.3	2.7	3	0.7	42.7	
Cars	2918	135	158	180	42	2555	5988
% Cars	99.6	98.5	97.5	98.9	97.7	99.4	99.4
Trucks	12	2	4	2	1	15	36
% Trucks	0.4	1.5	2.5	1.1	2.3	0.6	0.6

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**269**	**19**	**288**	6	**25**	31	2	**241**	**243**	**562**
05:15 PM	**246**	**6**	**252**	**10**	**17**	**27**	**3**	**220**	**223**	**502**
05:30 PM	**255**	**12**	**267**	**15**	**20**	**35**	3	225	228	530
05:45 PM	245	15	260	**19**	13	32	**4**	222	226	518
Total Volume	1015	52	1067	50	75	125	12	908	920	2112
% App. Total	95.1	4.9		40	60		1.3	98.7		
PHF	.943	.684	.926	.658	.750	.893	.750	.942	.947	.940
Cars	1013	50	1063	50	75	125	12	906	918	2106
% Cars	99.8	96.2	99.6	100	100	100	100	99.8	99.8	99.7
Trucks	2	2	4	0	0	0	0	2	2	6
% Trucks	0.2	3.8	0.4	0	0	0	0	0.2	0.2	0.3

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Client: VHB/ A. Ng

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Groups Printed- Cars

	Mystic Valley Parkway (Route 16) From East		Auburn Street From South		Mystic Valley Parkway (Route 16) From West		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
03:00 PM	202	10	14	12	5	199	442
03:15 PM	247	18	10	6	3	230	514
03:30 PM	260	11	14	7	4	205	501
03:45 PM	238	4	13	17	5	203	480
Total	947	43	51	42	17	837	1937
04:00 PM	230	13	7	8	2	217	477
04:15 PM	252	10	20	13	6	192	493
04:30 PM	230	5	10	17	4	222	488
04:45 PM	246	14	20	25	1	181	487
Total	958	42	57	63	13	812	1945
05:00 PM	268	18	6	25	2	241	560
05:15 PM	245	6	10	17	3	220	501
05:30 PM	255	11	15	20	3	224	528
05:45 PM	245	15	19	13	4	221	517
Total	1013	50	50	75	12	906	2106
Grand Total	2918	135	158	180	42	2555	5988
Apprch %	95.6	4.4	46.7	53.3	1.6	98.4	
Total %	48.7	2.3	2.6	3	0.7	42.7	

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**268**	**18**	**286**	6	**25**	31	2	**241**	**243**	**560**
05:15 PM	**245**	**6**	**251**	**10**	**17**	**27**	**3**	**220**	**223**	**501**
05:30 PM	**255**	**11**	**266**	**15**	**20**	**35**	3	224	227	528
05:45 PM	245	15	260	**19**	13	32	**4**	221	225	517
Total Volume	1013	50	1063	50	75	125	12	906	918	2106
% App. Total	95.3	4.7		40	60		1.3	98.7		
PHF	.945	.694	.929	.658	.750	.893	.750	.940	.944	.940

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Site Code : 10303
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Groups Printed- Trucks

	Mystic Valley Parkway (Route 16) From East		Auburn Street From South		Mystic Valley Parkway (Route 16) From West		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
03:00 PM	2	0	1	0	0	2	5
03:15 PM	1	0	1	0	0	2	4
03:30 PM	0	0	0	0	0	2	2
03:45 PM	1	0	0	0	0	0	1
Total	4	0	2	0	0	6	12
04:00 PM	0	0	0	0	0	1	1
04:15 PM	3	0	1	2	1	2	9
04:30 PM	3	0	1	0	0	3	7
04:45 PM	0	0	0	0	0	1	1
Total	6	0	2	2	1	7	18
05:00 PM	1	1	0	0	0	0	2
05:15 PM	1	0	0	0	0	0	1
05:30 PM	0	1	0	0	0	1	2
05:45 PM	0	0	0	0	0	1	1
Total	2	2	0	0	0	2	6
Grand Total	12	2	4	2	1	15	36
Apprch %	85.7	14.3	66.7	33.3	6.2	93.8	
Total %	33.3	5.6	11.1	5.6	2.8	41.7	

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**3**	0	**3**	**1**	**2**	**3**	**1**	2	**3**	**9**
04:30 PM	**3**	**0**	**3**	**1**	**0**	**1**	**0**	**3**	3	7
04:45 PM	0	0	0	0	0	0	0	1	1	1
05:00 PM	1	**1**	2	0	0	0	0	0	0	2
Total Volume	7	1	8	2	2	4	1	6	7	19
% App. Total	87.5	12.5		50	50		14.3	85.7		
PHF	.583	.250	.667	.500	.250	.333	.250	.500	.583	.528

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Site Code : 10303
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Groups Printed- Peds and Bicycles

	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West				
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds SW X-Walk	Peds	Int. Total
03:00 PM	0	1	0	0	0	1	0	0	6	7	15
03:15 PM	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	2	0	0	0	0	0	0	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	0	5	5	10
Total	2	1	0	0	0	1	0	0	11	12	27
04:00 PM	0	0	0	0	0	1	0	0	3	2	6
04:15 PM	0	1	0	1	1	1	0	0	2	1	7
04:30 PM	0	0	0	0	0	0	0	0	1	1	2
04:45 PM	0	0	2	0	0	0	0	0	1	1	4
Total	0	1	2	1	1	2	0	0	7	5	19
05:00 PM	0	0	0	0	0	0	0	1	0	0	1
05:15 PM	0	0	0	0	1	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	2	2	4
05:45 PM	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	1	0	0	1	3	3	8
Grand Total	2	2	2	1	2	3	0	1	21	20	54
Apprch %	33.3	33.3	33.3	16.7	33.3	50	0	2.4	50	47.6	
Total %	3.7	3.7	3.7	1.9	3.7	5.6	0	1.9	38.9	37	

	Mystic Valley Parkway (Route 16) From East				Auburn Street From South				Mystic Valley Parkway (Route 16) From West					
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds SW X-Walk	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 03:00 PM														
03:00 PM	0	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**6**	**7**	**13**	**15**
03:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
03:30 PM	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	0	0	0	5	5	10	10
Total Volume	2	1	0	3	0	0	1	1	0	0	11	12	23	27
% App. Total	66.7	33.3	0		0	0	100		0	0	47.8	52.2		
PHF	.250	.250	.000	.375	.000	.000	.250	.250	.000	.000	.458	.429	.442	.450

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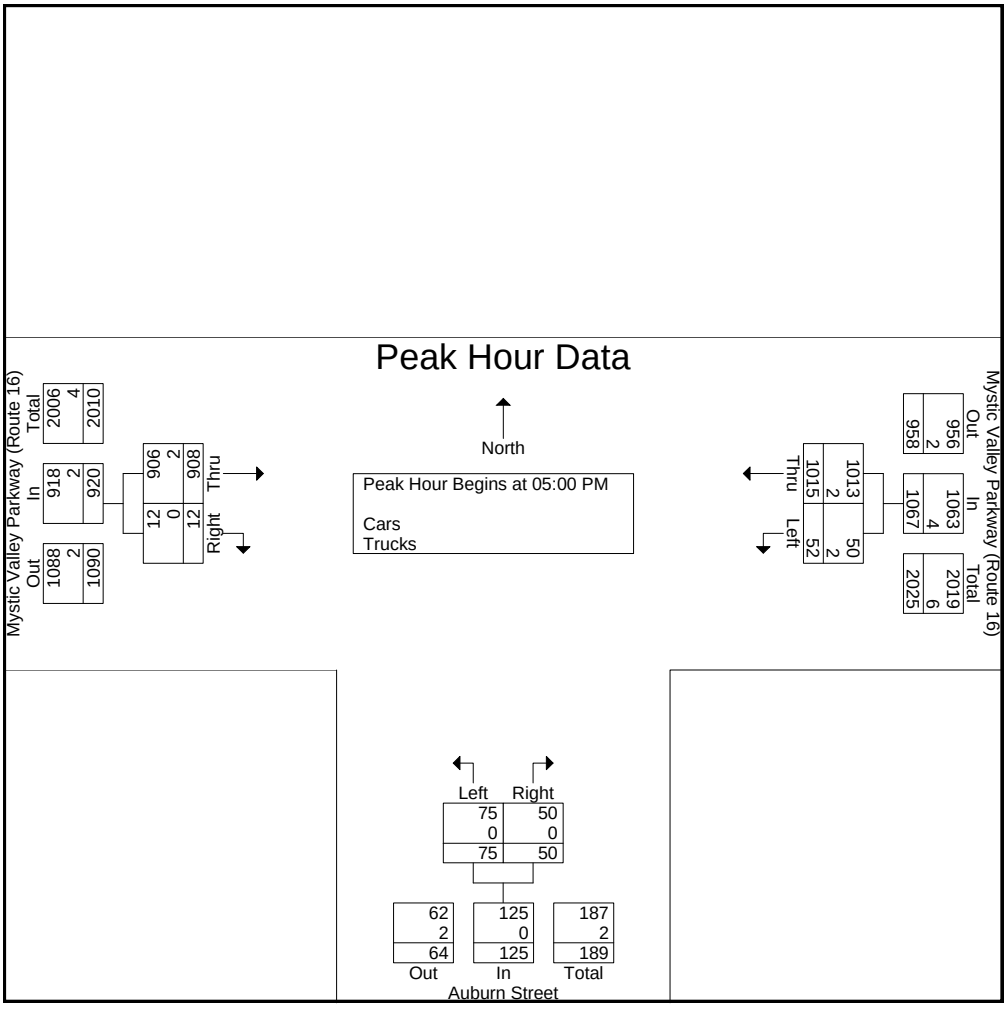
	Mystic Valley Parkway (Route 16) From East			Auburn Street From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**269**	**19**	**288**	6	**25**	31	2	**241**	**243**	**562**
05:15 PM	**246**	**6**	**252**	**10**	**17**	**27**	**3**	**220**	**223**	**502**
05:30 PM	**255**	**12**	**267**	**15**	**20**	**35**	3	225	228	530
05:45 PM	245	15	260	**19**	13	32	**4**	222	226	518
Total Volume	1015	52	1067	50	75	125	12	908	920	2112
% App. Total	95.1	4.9		40	60		1.3	98.7		
PHF	.943	.684	.926	.658	.750	.893	.750	.942	.947	.940
Cars	1013	50	1063	50	75	125	12	906	918	2106
% Cars	99.8	96.2	99.6	100	100	100	100	99.8	99.8	99.7
Trucks	2	2	4	0	0	0	0	2	2	6
% Trucks	0.2	3.8	0.4	0	0	0	0	0.2	0.2	0.3



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E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360C
Site Code : 10303
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Groups Printed- Cars - Trucks

	Winthrop Street (Route 38) From North			Mystic Valley Parkway (Route 16) From East			Winthrop Street (Route 38) From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	60	108	90	42	221	0	51	60	4	3	207	0	846
07:15 AM	33	168	130	40	223	3	51	76	0	2	207	3	936
07:30 AM	36	217	134	40	252	0	106	135	1	4	236	0	1161
07:45 AM	27	201	91	45	214	0	96	70	11	3	187	0	945
Total	156	694	445	167	910	3	304	341	16	12	837	3	3888
08:00 AM	30	190	148	53	253	0	67	88	7	9	236	0	1081
08:15 AM	17	199	150	47	265	0	79	89	10	4	239	0	1099
08:30 AM	20	269	163	49	216	0	64	97	3	8	206	0	1095
08:45 AM	11	190	114	37	214	0	47	68	1	4	193	0	879
Total	78	848	575	186	948	0	257	342	21	25	874	0	4154
09:00 AM	22	181	131	51	218	0	35	36	0	5	205	0	884
09:15 AM	14	115	95	40	149	0	22	25	1	7	175	0	643
09:30 AM	22	84	101	57	180	1	34	36	3	7	167	1	693
09:45 AM	22	74	93	48	175	0	28	33	3	4	167	1	648
Total	80	454	420	196	722	1	119	130	7	23	714	2	2868
Grand Total	314	1996	1440	549	2580	4	680	813	44	60	2425	5	10910
Apprch %	8.4	53.2	38.4	17.5	82.3	0.1	44.2	52.9	2.9	2.4	97.4	0.2	
Total %	2.9	18.3	13.2	5	23.6	0	6.2	7.5	0.4	0.5	22.2	0	
Cars	311	1935	1425	532	2562	3	678	794	44	59	2418	5	10766
% Cars	99	96.9	99	96.9	99.3	75	99.7	97.7	100	98.3	99.7	100	98.7
Trucks	3	61	15	17	18	1	2	19	0	1	7	0	144
% Trucks	1	3.1	1	3.1	0.7	25	0.3	2.3	0	1.7	0.3	0	1.3

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**36**	**217**	134	**387**	40	252	0	292	**106**	**135**	1	**242**	4	236	0	240	**1161**
07:45 AM	27	201	91	319	45	214	0	259	96	70	**11**	177	3	187	0	190	945
08:00 AM	30	190	148	368	**53**	253	0	306	67	88	7	162	**9**	236	0	**245**	1081
08:15 AM	17	199	**150**	366	47	**265**	0	**312**	79	89	10	178	4	**239**	0	243	1099
Total Volume	110	807	523	1440	185	984	0	1169	348	382	29	759	20	898	0	918	4286
% App. Total	7.6	56	36.3		15.8	84.2	0		45.8	50.3	3.8		2.2	97.8	0		
PHF	.764	.930	.872	.930	.873	.928	.000	.937	.821	.707	.659	.784	.556	.939	.000	.937	.923
Cars	109	793	522	1424	180	978	0	1158	348	376	29	753	19	896	0	915	4250
% Cars	99.1	98.3	99.8	98.9	97.3	99.4	0	99.1	100	98.4	100	99.2	95.0	99.8	0	99.7	99.2
Trucks	1	14	1	16	5	6	0	11	0	6	0	6	1	2	0	3	36
% Trucks	0.9	1.7	0.2	1.1	2.7	0.6	0	0.9	0	1.6	0	0.8	5.0	0.2	0	0.3	0.8

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City, State: Medford, MA
Client: VHB/ A. Ng

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Groups Printed- Cars

	Winthrop Street (Route 38) From North			Mystic Valley Parkway (Route 16) From East			Winthrop Street (Route 38) From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	60	103	89	40	220	0	51	57	4	3	205	0	832
07:15 AM	33	162	130	38	223	3	51	74	0	2	207	3	926
07:30 AM	36	210	134	39	251	0	106	132	1	4	235	0	1148
07:45 AM	26	200	91	44	212	0	96	70	11	2	186	0	938
Total	155	675	444	161	906	3	304	333	16	11	833	3	3844
08:00 AM	30	188	148	53	251	0	67	87	7	9	236	0	1076
08:15 AM	17	195	149	44	264	0	79	87	10	4	239	0	1088
08:30 AM	19	267	161	48	216	0	64	96	3	8	205	0	1087
08:45 AM	11	183	113	36	213	0	47	67	1	4	193	0	868
Total	77	833	571	181	944	0	257	337	21	25	873	0	4119
09:00 AM	22	174	129	49	215	0	35	36	0	5	205	0	870
09:15 AM	14	110	92	37	145	0	22	23	1	7	175	0	626
09:30 AM	21	74	99	57	178	0	33	33	3	7	166	1	672
09:45 AM	22	69	90	47	174	0	27	32	3	4	166	1	635
Total	79	427	410	190	712	0	117	124	7	23	712	2	2803
Grand Total	311	1935	1425	532	2562	3	678	794	44	59	2418	5	10766
Apprch %	8.5	52.7	38.8	17.2	82.7	0.1	44.7	52.4	2.9	2.4	97.4	0.2	
Total %	2.9	18	13.2	4.9	23.8	0	6.3	7.4	0.4	0.5	22.5	0	

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**36**	**210**	134	**380**	39	251	0	290	**106**	**132**	1	**239**	4	235	0	239	**1148**
07:45 AM	26	200	91	317	44	212	0	256	96	70	**11**	177	2	186	0	188	938
08:00 AM	30	188	148	366	**53**	251	0	304	67	87	7	161	**9**	236	0	**245**	1076
08:15 AM	17	195	**149**	361	44	**264**	0	**308**	79	87	10	176	4	**239**	0	243	1088
Total Volume	109	793	522	1424	180	978	0	1158	348	376	29	753	19	896	0	915	4250
% App. Total	7.7	55.7	36.7		15.5	84.5	0		46.2	49.9	3.9		2.1	97.9	0		
PHF	.757	.944	.876	.937	.849	.926	.000	.940	.821	.712	.659	.788	.528	.937	.000	.934	.926

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N/S: Winthrop Street (Route 38)
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360C
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Winthrop Street (Route 38) From North			Mystic Valley Parkway (Route 16) From East			Winthrop Street (Route 38) From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	5	1	2	1	0	0	3	0	0	2	0	14
07:15 AM	0	6	0	2	0	0	0	2	0	0	0	0	10
07:30 AM	0	7	0	1	1	0	0	3	0	0	1	0	13
07:45 AM	1	1	0	1	2	0	0	0	0	1	1	0	7
Total	1	19	1	6	4	0	0	8	0	1	4	0	44
08:00 AM	0	2	0	0	2	0	0	1	0	0	0	0	5
08:15 AM	0	4	1	3	1	0	0	2	0	0	0	0	11
08:30 AM	1	2	2	1	0	0	0	1	0	0	1	0	8
08:45 AM	0	7	1	1	1	0	0	1	0	0	0	0	11
Total	1	15	4	5	4	0	0	5	0	0	1	0	35
09:00 AM	0	7	2	2	3	0	0	0	0	0	0	0	14
09:15 AM	0	5	3	3	4	0	0	2	0	0	0	0	17
09:30 AM	1	10	2	0	2	1	1	3	0	0	1	0	21
09:45 AM	0	5	3	1	1	0	1	1	0	0	1	0	13
Total	1	27	10	6	10	1	2	6	0	0	2	0	65
Grand Total	3	61	15	17	18	1	2	19	0	1	7	0	144
Apprch %	3.8	77.2	19	47.2	50	2.8	9.5	90.5	0	12.5	87.5	0	
Total %	2.1	42.4	10.4	11.8	12.5	0.7	1.4	13.2	0	0.7	4.9	0	

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:00 AM																	
09:00 AM	0	7	2	9	2	3	0	5	0	0	0	0	0	0	0	0	14
09:15 AM	0	5	**3**	8	**3**	**4**	0	**7**	0	2	0	2	0	0	0	0	17
09:30 AM	**1**	**10**	2	**13**	0	2	**1**	3	**1**	**3**	0	**4**	0	**1**	0	**1**	**21**
09:45 AM	0	5	3	8	1	1	0	2	1	1	0	2	0	1	0	1	13
Total Volume	1	27	10	38	6	10	1	17	2	6	0	8	0	2	0	2	65
% App. Total	2.6	71.1	26.3		35.3	58.8	5.9		25	75	0		0	100	0		
PHF	.250	.675	.833	.731	.500	.625	.250	.607	.500	.500	.000	.500	.000	.500	.000	.500	.774

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E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360C
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	0	4
Total	0	1	0	2	0	0	0	2	0	2	0	0	0	0	0	0	7
08:00 AM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
08:15 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	3	0	0	0	1	0	1	0	1	0	0	0	1	0	1	8
09:00 AM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1	4
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
09:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
09:45 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1	4
Total	0	1	0	3	0	1	0	3	0	1	0	0	0	0	0	2	11
Grand Total	0	5	0	5	0	2	0	6	0	4	0	0	0	1	0	3	26
Apprch %	0	50	0	50	0	25	0	75	0	100	0	0	0	25	0	75	
Total %	0	19.2	0	19.2	0	7.7	0	23.1	0	15.4	0	0	0	3.8	0	11.5	

	Winthrop Street (Route 38) From North					Mystic Valley Parkway (Route 16) From East					Winthrop Street (Route 38) From South					Mystic Valley Parkway (Route 16) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	**1**	**1**	**0**	**0**	**0**	**2**	**2**	0	**1**	**0**	**0**	**1**	0	0	0	0	0	**4**
08:00 AM	0	**2**	0	0	**2**	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	1	0	0	1	0	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**
Total Volume	0	4	0	1	5	0	1	0	3	4	0	2	0	0	2	0	0	0	0	0	11
% App. Total	0	80	0	20		0	25	0	75		0	100	0	0		0	0	0	0		
PHF	.000	.500	.000	.250	.625	.000	.250	.000	.375	.500	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.688

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E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360C
Site Code : 10303
Start Date : 11/7/2007
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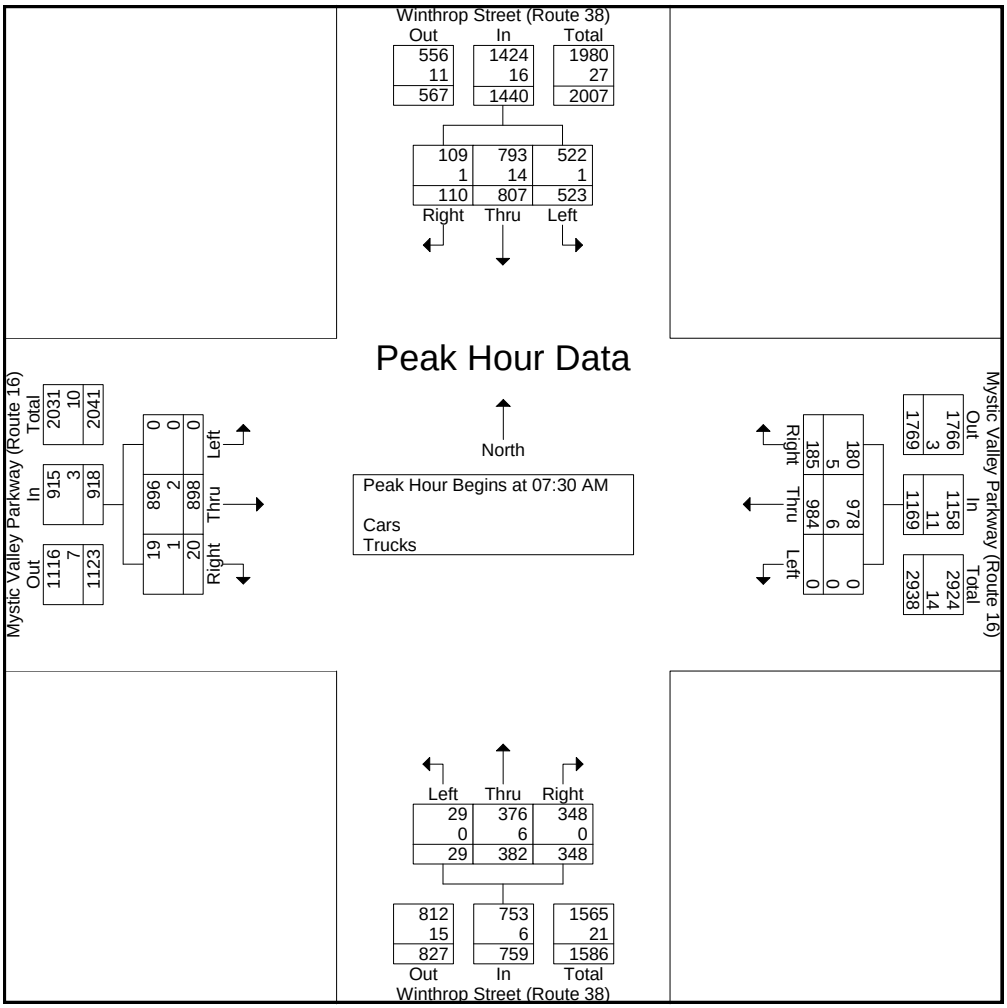
	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**36**	**217**	134	**387**	40	252	0	292	**106**	**135**	1	**242**	4	236	0	240	**1161**
07:45 AM	27	201	91	319	45	214	0	259	96	70	**11**	177	3	187	0	190	945
08:00 AM	30	190	148	368	**53**	253	0	306	67	88	7	162	**9**	236	0	**245**	1081
08:15 AM	17	199	**150**	366	47	**265**	0	**312**	79	89	10	178	4	**239**	0	243	1099
Total Volume	110	807	523	1440	185	984	0	1169	348	382	29	759	20	898	0	918	4286
% App. Total	7.6	56	36.3		15.8	84.2	0		45.8	50.3	3.8		2.2	97.8	0		
PHF	.764	.930	.872	.930	.873	.928	.000	.937	.821	.707	.659	.784	.556	.939	.000	.937	.923
Cars	109	793	522	1424	180	978	0	1158	348	376	29	753	19	896	0	915	4250
% Cars	99.1	98.3	99.8	98.9	97.3	99.4	0	99.1	100	98.4	100	99.2	95.0	99.8	0	99.7	99.2
Trucks	1	14	1	16	5	6	0	11	0	6	0	6	1	2	0	3	36
% Trucks	0.9	1.7	0.2	1.1	2.7	0.6	0	0.9	0	1.6	0	0.8	5.0	0.2	0	0.3	0.8



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E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360CC
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Winthrop Street (Route 38) From North			Mystic Valley Parkway (Route 16) From East			Winthrop Street (Route 38) From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	16	122	106	77	218	1	33	65	0	1	201	0	840
03:15 PM	11	115	84	112	231	0	19	52	1	1	222	0	848
03:30 PM	16	99	90	87	277	0	32	51	0	1	253	1	907
03:45 PM	19	131	114	91	238	0	30	82	4	3	218	0	930
Total	62	467	394	367	964	1	114	250	5	6	894	1	3525
04:00 PM	21	131	106	113	248	1	37	75	5	7	255	0	999
04:15 PM	17	146	132	107	274	0	16	107	6	2	257	0	1064
04:30 PM	20	121	127	86	307	0	35	82	5	6	310	2	1101
04:45 PM	9	81	68	94	260	0	23	71	5	1	229	0	841
Total	67	479	433	400	1089	1	111	335	21	16	1051	2	4005
05:00 PM	13	145	117	74	241	0	51	113	2	3	215	0	974
05:15 PM	13	147	118	115	267	0	51	120	4	1	270	0	1106
05:30 PM	14	129	107	119	263	0	34	91	7	1	262	3	1030
05:45 PM	12	114	99	119	252	0	52	90	4	8	257	0	1007
Total	52	535	441	427	1023	0	188	414	17	13	1004	3	4117
Grand Total	181	1481	1268	1194	3076	2	413	999	43	35	2949	6	11647
Apprch %	6.2	50.5	43.3	27.9	72	0	28.4	68.7	3	1.2	98.6	0.2	
Total %	1.6	12.7	10.9	10.3	26.4	0	3.5	8.6	0.4	0.3	25.3	0.1	
Cars	180	1467	1262	1185	3074	2	410	986	43	34	2942	6	11591
% Cars	99.4	99.1	99.5	99.2	99.9	100	99.3	98.7	100	97.1	99.8	100	99.5
Trucks	1	14	6	9	2	0	3	13	0	1	7	0	56
% Trucks	0.6	0.9	0.5	0.8	0.1	0	0.7	1.3	0	2.9	0.2	0	0.5

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	145	117	275	74	241	0	315	51	113	2	166	3	215	0	218	974
05:15 PM	13	**147**	**118**	**278**	115	**267**	0	**382**	51	**120**	4	**175**	1	**270**	0	**271**	**1106**
05:30 PM	**14**	129	107	250	**119**	263	0	382	34	91	**7**	132	1	262	**3**	266	1030
05:45 PM	12	114	99	225	119	252	0	371	**52**	90	4	146	**8**	257	0	265	1007
Total Volume	52	535	441	1028	427	1023	0	1450	188	414	17	619	13	1004	3	1020	4117
% App. Total	5.1	52	42.9		29.4	70.6	0		30.4	66.9	2.7		1.3	98.4	0.3		
PHF	.929	.910	.934	.924	.897	.958	.000	.949	.904	.863	.607	.884	.406	.930	.250	.941	.931
Cars	52	533	440	1025	426	1022	0	1448	188	411	17	616	13	1003	3	1019	4108
% Cars	100	99.6	99.8	99.7	99.8	99.9	0	99.9	100	99.3	100	99.5	100	99.9	100	99.9	99.8
Trucks	0	2	1	3	1	1	0	2	0	3	0	3	0	1	0	1	9
% Trucks	0	0.4	0.2	0.3	0.2	0.1	0	0.1	0	0.7	0	0.5	0	0.1	0	0.1	0.2

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City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360CC
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Cars

	Winthrop Street (Route 38) From North			Mystic Valley Parkway (Route 16) From East			Winthrop Street (Route 38) From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	16	121	106	77	218	1	33	65	0	1	198	0	836
03:15 PM	10	113	82	112	231	0	19	52	1	1	222	0	843
03:30 PM	16	98	90	86	277	0	32	51	0	1	253	1	905
03:45 PM	19	130	114	88	238	0	30	79	4	3	218	0	923
Total	61	462	392	363	964	1	114	247	5	6	891	1	3507
04:00 PM	21	130	106	113	248	1	36	72	5	7	254	0	993
04:15 PM	17	144	131	107	273	0	16	104	6	1	257	0	1056
04:30 PM	20	118	125	82	307	0	33	81	5	6	309	2	1088
04:45 PM	9	80	68	94	260	0	23	71	5	1	228	0	839
Total	67	472	430	396	1088	1	108	328	21	15	1048	2	3976
05:00 PM	13	145	117	74	241	0	51	111	2	3	215	0	972
05:15 PM	13	147	118	114	267	0	51	120	4	1	270	0	1105
05:30 PM	14	128	106	119	263	0	34	90	7	1	262	3	1027
05:45 PM	12	113	99	119	251	0	52	90	4	8	256	0	1004
Total	52	533	440	426	1022	0	188	411	17	13	1003	3	4108
Grand Total	180	1467	1262	1185	3074	2	410	986	43	34	2942	6	11591
Apprch %	6.2	50.4	43.4	27.8	72.1	0	28.5	68.5	3	1.1	98.7	0.2	
Total %	1.6	12.7	10.9	10.2	26.5	0	3.5	8.5	0.4	0.3	25.4	0.1	

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	145	117	275	74	241	0	315	51	111	2	164	3	215	0	218	972
05:15 PM	13	**147**	**118**	**278**	114	**267**	0	381	51	**120**	4	**175**	1	**270**	0	**271**	**1105**
05:30 PM	**14**	128	106	248	**119**	263	0	**382**	34	90	**7**	131	1	262	**3**	266	1027
05:45 PM	12	113	99	224	119	251	0	370	**52**	90	4	146	**8**	256	0	264	1004
Total Volume	52	533	440	1025	426	1022	0	1448	188	411	17	616	13	1003	3	1019	4108
% App. Total	5.1	52	42.9		29.4	70.6	0		30.5	66.7	2.8		1.3	98.4	0.3		
PHF	.929	.906	.932	.922	.895	.957	.000	.948	.904	.856	.607	.880	.406	.929	.250	.940	.929

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N/S: Winthrop Street (Route 38)
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360CC
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Winthrop Street (Route 38) From North			Mystic Valley Parkway (Route 16) From East			Winthrop Street (Route 38) From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	1	0	0	0	0	0	0	0	0	3	0	4
03:15 PM	1	2	2	0	0	0	0	0	0	0	0	0	5
03:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	2
03:45 PM	0	1	0	3	0	0	0	3	0	0	0	0	7
Total	1	5	2	4	0	0	0	3	0	0	3	0	18
04:00 PM	0	1	0	0	0	0	1	3	0	0	1	0	6
04:15 PM	0	2	1	0	1	0	0	3	0	1	0	0	8
04:30 PM	0	3	2	4	0	0	2	1	0	0	1	0	13
04:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
Total	0	7	3	4	1	0	3	7	0	1	3	0	29
05:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
05:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	1	1	0	0	0	0	1	0	0	0	0	3
05:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	3
Total	0	2	1	1	1	0	0	3	0	0	1	0	9
Grand Total	1	14	6	9	2	0	3	13	0	1	7	0	56
Apprch %	4.8	66.7	28.6	81.8	18.2	0	18.8	81.2	0	12.5	87.5	0	
Total %	1.8	25	10.7	16.1	3.6	0	5.4	23.2	0	1.8	12.5	0	

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	1	0	1	3	0	0	3	0	**3**	0	3	0	0	0	0	7
04:00 PM	0	1	0	1	0	0	0	0	1	3	0	**4**	0	**1**	0	**1**	6
04:15 PM	0	2	1	3	0	**1**	0	1	0	3	0	3	**1**	0	0	1	8
04:30 PM	0	**3**	**2**	**5**	**4**	0	0	**4**	**2**	1	0	3	0	1	0	1	**13**
Total Volume	0	7	3	10	7	1	0	8	3	10	0	13	1	2	0	3	34
% App. Total	0	70	30		87.5	12.5	0		23.1	76.9	0		33.3	66.7	0		
PHF	.000	.583	.375	.500	.438	.250	.000	.500	.375	.833	.000	.813	.250	.500	.000	.750	.654

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N/S: Winthrop Street (Route 38)
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360CC
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	3
Total	0	0	0	0	0	1	0	3	0	1	0	0	0	0	0	2	7
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	1	5
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	4	8
05:00 PM	0	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0	15
05:15 PM	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	4
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	14	0	2	0	1	0	0	0	1	20
Grand Total	0	1	0	2	0	1	0	19	0	4	0	1	0	0	0	7	35
Apprch %	0	33.3	0	66.7	0	5	0	95	0	80	0	20	0	0	0	100	
Total %	0	2.9	0	5.7	0	2.9	0	54.3	0	11.4	0	2.9	0	0	0	20	

	Winthrop Street (Route 38) From North					Mystic Valley Parkway (Route 16) From East					Winthrop Street (Route 38) From South					Mystic Valley Parkway (Route 16) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	**1**	**1**	0	0	0	2	2	0	**1**	**0**	**0**	**1**	0	0	0	**1**	**1**	5
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	**1**	0	0	1	0	0	0	**14**	**14**	0	0	0	0	0	0	0	0	0	0	**15**
Total Volume	0	1	0	1	2	0	0	0	16	16	0	1	0	0	1	0	0	0	2	2	21
% App. Total	0	50	0	50		0	0	0	100		0	100	0	0		0	0	0	100		
PHF	.000	.250	.000	.250	.500	.000	.000	.000	.286	.286	.000	.250	.000	.000	.250	.000	.000	.000	.500	.500	.350

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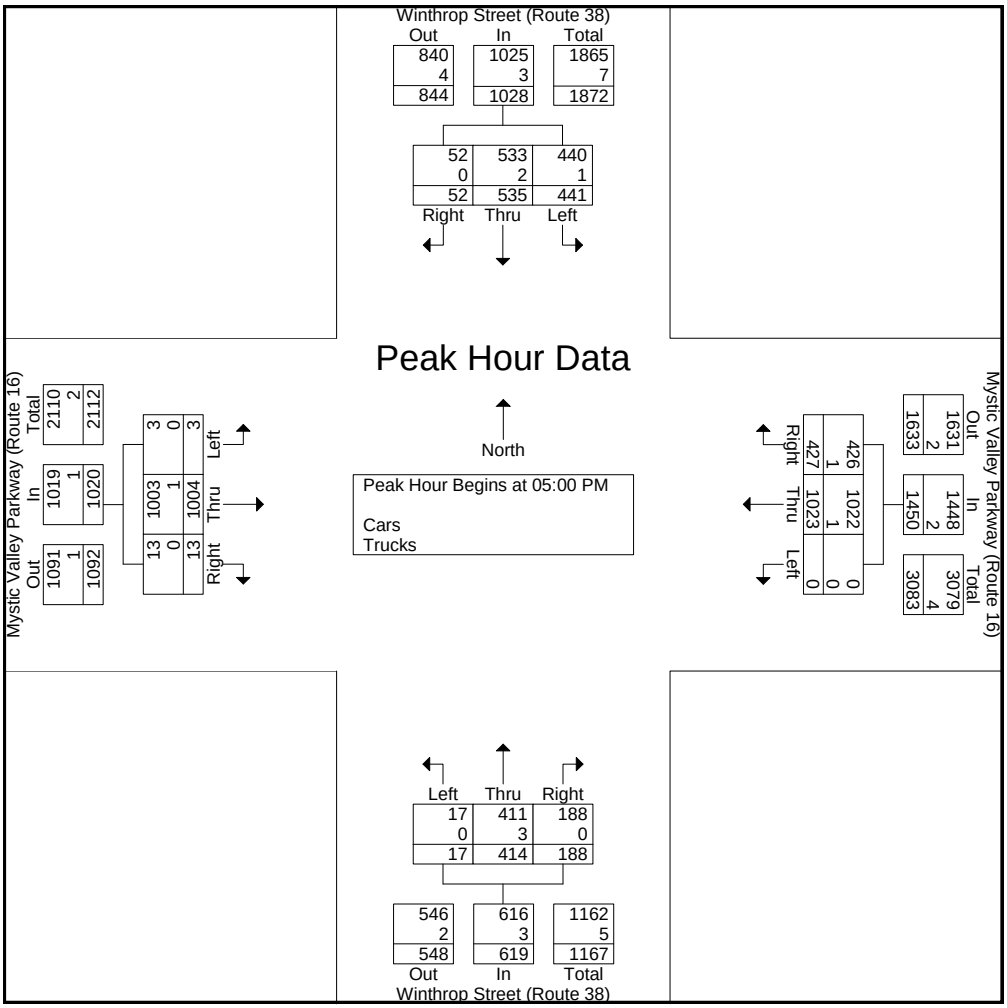
N/S: Winthrop Street (Route 38)
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360CC
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Winthrop Street (Route 38) From North				Mystic Valley Parkway (Route 16) From East				Winthrop Street (Route 38) From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	145	117	275	74	241	0	315	51	113	2	166	3	215	0	218	974
05:15 PM	13	**147**	**118**	**278**	115	**267**	0	**382**	51	**120**	4	**175**	1	**270**	0	**271**	**1106**
05:30 PM	**14**	129	107	250	**119**	263	0	382	34	91	**7**	132	1	262	**3**	266	1030
05:45 PM	12	114	99	225	119	252	0	371	**52**	90	4	146	**8**	257	0	265	1007
Total Volume	52	535	441	1028	427	1023	0	1450	188	414	17	619	13	1004	3	1020	4117
% App. Total	5.1	52	42.9		29.4	70.6	0		30.4	66.9	2.7		1.3	98.4	0.3		
PHF	.929	.910	.934	.924	.897	.958	.000	.949	.904	.863	.607	.884	.406	.930	.250	.941	.931
Cars	52	533	440	1025	426	1022	0	1448	188	411	17	616	13	1003	3	1019	4108
% Cars	100	99.6	99.8	99.7	99.8	99.9	0	99.9	100	99.3	100	99.5	100	99.9	100	99.9	99.8
Trucks	0	2	1	3	1	1	0	2	0	3	0	3	0	1	0	1	9
% Trucks	0	0.4	0.2	0.3	0.2	0.1	0	0.1	0	0.7	0	0.5	0	0.1	0	0.1	0.2



PRECISION
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N/S: Sagamore Avenue/Boston Avenue
E/W: High Street (Route 60)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360D
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Sagamore Avenue From North			High Street (Route 60) From East			Boston Avenue From South			High Street (Route 60) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	4	0	2	143	42	15	3	23	24	110	2	370
07:15 AM	6	5	0	1	194	50	18	3	27	25	124	1	454
07:30 AM	7	6	1	2	107	54	14	2	22	38	92	3	348
07:45 AM	7	3	1	0	111	58	22	5	32	41	77	1	358
Total	22	18	2	5	555	204	69	13	104	128	403	7	1530
08:00 AM	4	4	1	2	158	51	13	2	36	30	76	2	379
08:15 AM	1	5	0	1	115	52	14	1	20	34	103	3	349
08:30 AM	1	1	0	3	125	44	14	3	13	37	72	0	313
08:45 AM	1	3	5	1	125	53	12	1	25	24	86	0	336
Total	7	13	6	7	523	200	53	7	94	125	337	5	1377
09:00 AM	0	1	2	1	99	25	11	2	16	28	88	0	273
09:15 AM	1	3	2	3	93	22	8	3	15	19	96	0	265
09:30 AM	3	2	1	1	76	16	8	0	9	20	66	0	202
09:45 AM	1	0	0	0	108	15	6	1	14	21	85	0	251
Total	5	6	5	5	376	78	33	6	54	88	335	0	991
Grand Total	34	37	13	17	1454	482	155	26	252	341	1075	12	3898
Apprch %	40.5	44	15.5	0.9	74.4	24.7	35.8	6	58.2	23.9	75.3	0.8	
Total %	0.9	0.9	0.3	0.4	37.3	12.4	4	0.7	6.5	8.7	27.6	0.3	
Cars	32	36	12	16	1378	461	140	26	228	322	971	9	3631
% Cars	94.1	97.3	92.3	94.1	94.8	95.6	90.3	100	90.5	94.4	90.3	75	93.2
Trucks	2	1	1	1	76	21	15	0	24	19	104	3	267
% Trucks	5.9	2.7	7.7	5.9	5.2	4.4	9.7	0	9.5	5.6	9.7	25	6.8

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	5	0	11	1	**194**	50	**245**	18	3	27	48	25	**124**	1	**150**	**454**
07:30 AM	**7**	**6**	**1**	**14**	**2**	107	54	163	14	2	22	38	38	92	**3**	133	348
07:45 AM	7	3	1	11	0	111	**58**	169	**22**	**5**	32	**59**	**41**	77	1	119	358
08:00 AM	4	4	1	9	2	158	51	211	13	2	**36**	51	30	76	2	108	379
Total Volume	24	18	3	45	5	570	213	788	67	12	117	196	134	369	7	510	1539
% App. Total	53.3	40	6.7		0.6	72.3	27		34.2	6.1	59.7		26.3	72.4	1.4		
PHF	.857	.750	.750	.804	.625	.735	.918	.804	.761	.600	.813	.831	.817	.744	.583	.850	.847
Cars	24	17	3	44	4	540	203	747	64	12	110	186	127	347	5	479	1456
% Cars	100	94.4	100	97.8	80.0	94.7	95.3	94.8	95.5	100	94.0	94.9	94.8	94.0	71.4	93.9	94.6
Trucks	0	1	0	1	1	30	10	41	3	0	7	10	7	22	2	31	83
% Trucks	0	5.6	0	2.2	20.0	5.3	4.7	5.2	4.5	0	6.0	5.1	5.2	6.0	28.6	6.1	5.4

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N/S: Sagamore Avenue/Boston Avenue
E/W: High Street (Route 60)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360D
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Sagamore Avenue From North			High Street (Route 60) From East			Boston Avenue From South			High Street (Route 60) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	4	0	2	138	40	13	3	19	22	100	1	343
07:15 AM	6	5	0	1	182	48	16	3	24	24	117	1	427
07:30 AM	7	5	1	2	104	52	14	2	22	36	85	3	333
07:45 AM	7	3	1	0	102	56	22	5	31	38	74	1	340
Total	21	17	2	5	526	196	65	13	96	120	376	6	1443
08:00 AM	4	4	1	1	152	47	12	2	33	29	71	0	356
08:15 AM	1	5	0	1	108	50	12	1	18	32	95	3	326
08:30 AM	1	1	0	3	119	41	13	3	11	36	64	0	292
08:45 AM	1	3	4	1	116	51	11	1	24	23	81	0	316
Total	7	13	5	6	495	189	48	7	86	120	311	3	1290
09:00 AM	0	1	2	1	90	25	9	2	14	26	79	0	249
09:15 AM	1	3	2	3	91	21	7	3	12	16	84	0	243
09:30 AM	2	2	1	1	73	16	6	0	9	20	55	0	185
09:45 AM	1	0	0	0	103	14	5	1	11	20	66	0	221
Total	4	6	5	5	357	76	27	6	46	82	284	0	898
Grand Total	32	36	12	16	1378	461	140	26	228	322	971	9	3631
Apprch %	40	45	15	0.9	74.3	24.9	35.5	6.6	57.9	24.7	74.6	0.7	
Total %	0.9	1	0.3	0.4	38	12.7	3.9	0.7	6.3	8.9	26.7	0.2	

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	**5**	0	11	1	**182**	48	**231**	16	3	24	43	24	**117**	1	**142**	**427**
07:30 AM	**7**	5	**1**	**13**	**2**	104	52	158	14	2	22	38	36	85	**3**	124	333
07:45 AM	7	3	1	11	0	102	**56**	158	**22**	**5**	31	**58**	**38**	74	1	113	340
08:00 AM	4	4	1	9	1	152	47	200	12	2	**33**	47	29	71	0	100	356
Total Volume	24	17	3	44	4	540	203	747	64	12	110	186	127	347	5	479	1456
% App. Total	54.5	38.6	6.8		0.5	72.3	27.2		34.4	6.5	59.1		26.5	72.4	1		
PHF	.857	.850	.750	.846	.500	.742	.906	.808	.727	.600	.833	.802	.836	.741	.417	.843	.852

PRECISION
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City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360D
Site Code : 10303
Start Date : 11/7/2007

Groups Printed- Trucks

	Sagamore Avenue From North			High Street (Route 60) From East			Boston Avenue From South			High Street (Route 60) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	0	0	0	5	2	2	0	4	2	10	1	27
07:15 AM	0	0	0	0	12	2	2	0	3	1	7	0	27
07:30 AM	0	1	0	0	3	2	0	0	0	2	7	0	15
07:45 AM	0	0	0	0	9	2	0	0	1	3	3	0	18
Total	1	1	0	0	29	8	4	0	8	8	27	1	87
08:00 AM	0	0	0	1	6	4	1	0	3	1	5	2	23
08:15 AM	0	0	0	0	7	2	2	0	2	2	8	0	23
08:30 AM	0	0	0	0	6	3	1	0	2	1	8	0	21
08:45 AM	0	0	1	0	9	2	1	0	1	1	5	0	20
Total	0	0	1	1	28	11	5	0	8	5	26	2	87
09:00 AM	0	0	0	0	9	0	2	0	2	2	9	0	24
09:15 AM	0	0	0	0	2	1	1	0	3	3	12	0	22
09:30 AM	1	0	0	0	3	0	2	0	0	0	11	0	17
09:45 AM	0	0	0	0	5	1	1	0	3	1	19	0	30
Total	1	0	0	0	19	2	6	0	8	6	51	0	93
Grand Total	2	1	1	1	76	21	15	0	24	19	104	3	267
Apprch %	50	25	25	1	77.6	21.4	38.5	0	61.5	15.1	82.5	2.4	
Total %	0.7	0.4	0.4	0.4	28.5	7.9	5.6	0	9	7.1	39	1.1	

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:00 AM																	
09:00 AM	0	0	0	0	0	**9**	0	**9**	**2**	0	2	**4**	2	9	0	11	24
09:15 AM	0	0	0	0	0	2	**1**	3	1	0	**3**	4	**3**	12	0	15	22
09:30 AM	**1**	0	0	**1**	0	3	0	3	2	0	0	2	0	11	0	11	17
09:45 AM	0	0	0	0	0	5	1	6	1	0	3	4	1	**19**	0	**20**	**30**
Total Volume	1	0	0	1	0	19	2	21	6	0	8	14	6	51	0	57	93
% App. Total	100	0	0		0	90.5	9.5		42.9	0	57.1		10.5	89.5	0		
PHF	.250	.000	.000	.250	.000	.528	.500	.583	.750	.000	.667	.875	.500	.671	.000	.713	.775

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City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360D
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	3	0	0	0	14	0	0	0	3	20
07:15 AM	0	0	0	0	0	1	1	0	0	0	0	11	0	0	0	4	17
07:30 AM	0	0	0	1	0	1	0	1	0	0	0	6	0	0	0	4	13
07:45 AM	0	0	0	1	0	0	2	0	0	0	0	3	1	1	0	0	8
Total	0	0	0	2	0	2	3	4	0	0	0	34	1	1	0	11	58
08:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	4
08:15 AM	0	0	0	3	0	0	1	1	0	0	0	1	0	1	0	1	8
08:30 AM	0	0	0	2	0	0	0	2	0	0	0	1	1	0	0	1	7
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	4
Total	0	0	0	6	0	1	1	3	0	0	0	5	1	1	0	5	23
09:00 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	4
09:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
09:30 AM	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	0	4
09:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	4
Total	0	0	0	4	0	0	0	0	1	0	0	5	1	0	0	3	14
Grand Total	0	0	0	12	0	3	4	7	1	0	0	44	3	2	0	19	95
Apprch %	0	0	0	100	0	21.4	28.6	50	2.2	0	0	97.8	12.5	8.3	0	79.2	
Total %	0	0	0	12.6	0	3.2	4.2	7.4	1.1	0	0	46.3	3.2	2.1	0	20	

	Sagamore Avenue From North					High Street (Route 60) From East					Boston Avenue From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	**3**	**3**	0	0	0	**14**	**14**	0	0	0	3	3	**20**
07:15 AM	0	0	0	0	0	0	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**11**	**11**	**0**	**0**	**0**	**4**	**4**	17
07:30 AM	0	0	0	**1**	**1**	0	1	0	1	2	0	0	0	6	6	0	0	0	4	4	13
07:45 AM	0	0	0	1	1	0	0	**2**	**0**	**2**	**0**	**0**	**0**	**3**	**3**	**1**	**1**	0	0	2	8
Total Volume	0	0	0	2	2	0	2	3	4	9	0	0	0	34	34	1	1	0	11	13	58
% App. Total	0	0	0	100		0	22.2	33.3	44.4		0	0	0	100		7.7	7.7	0	84.6		
PHF	.000	.000	.000	.500	.500	.000	.500	.375	.333	.750	.000	.000	.000	.607	.607	.250	.250	.000	.688	.813	.725

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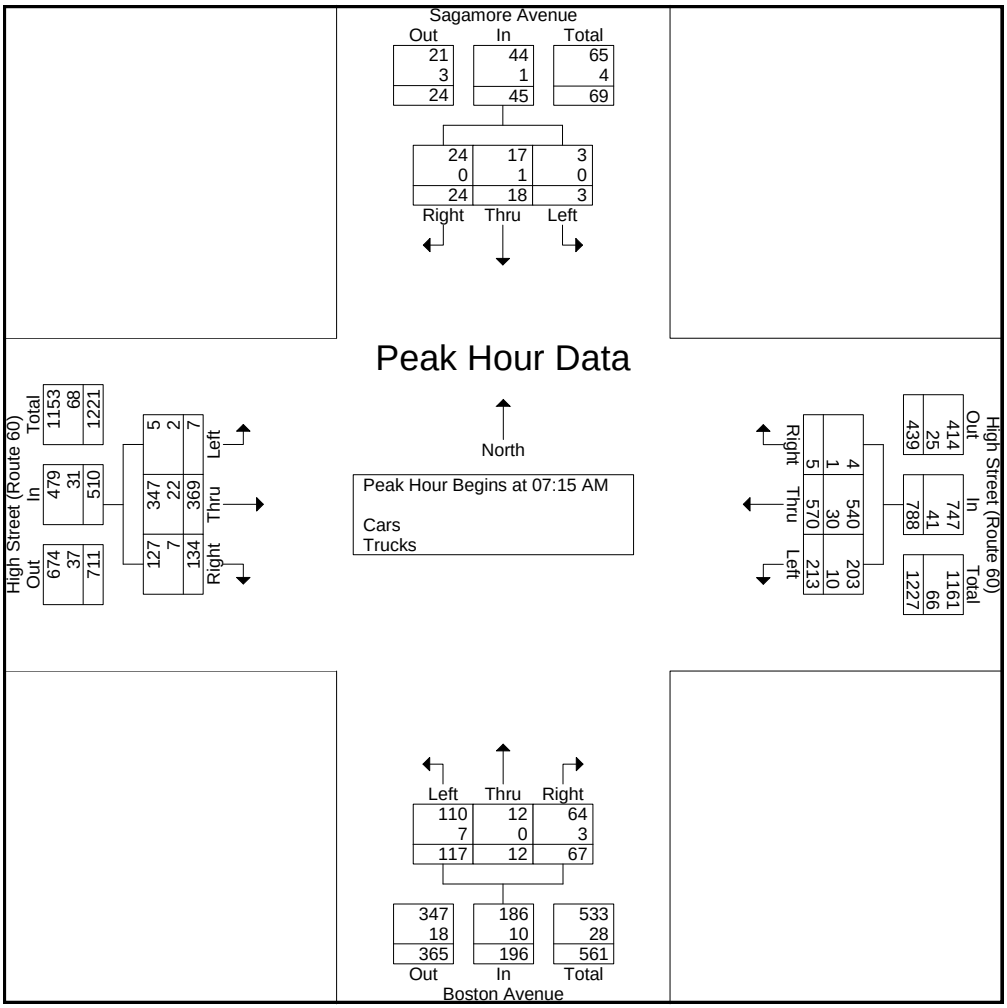
N/S: Sagamore Avenue/Boston Avenue
E/W: High Street (Route 60)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360D
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	5	0	11	1	**194**	50	**245**	18	3	27	48	25	**124**	1	**150**	**454**
07:30 AM	**7**	**6**	**1**	**14**	**2**	107	54	163	14	2	22	38	38	92	**3**	133	348
07:45 AM	7	3	1	11	0	111	**58**	169	**22**	**5**	32	**59**	**41**	77	1	119	358
08:00 AM	4	4	1	9	2	158	51	211	13	2	**36**	51	30	76	2	108	379
Total Volume	24	18	3	45	5	570	213	788	67	12	117	196	134	369	7	510	1539
% App. Total	53.3	40	6.7		0.6	72.3	27		34.2	6.1	59.7		26.3	72.4	1.4		
PHF	.857	.750	.750	.804	.625	.735	.918	.804	.761	.600	.813	.831	.817	.744	.583	.850	.847
Cars	24	17	3	44	4	540	203	747	64	12	110	186	127	347	5	479	1456
% Cars	100	94.4	100	97.8	80.0	94.7	95.3	94.8	95.5	100	94.0	94.9	94.8	94.0	71.4	93.9	94.6
Trucks	0	1	0	1	1	30	10	41	3	0	7	10	7	22	2	31	83
% Trucks	0	5.6	0	2.2	20.0	5.3	4.7	5.2	4.5	0	6.0	5.1	5.2	6.0	28.6	6.1	5.4



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N/S: Sagamore Avenue/Boston Avenue
E/W: High Street (Route 60)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360DD
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Sagamore Avenue From North			High Street (Route 60) From East			Boston Avenue From South			High Street (Route 60) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	2	4	1	0	89	18	20	0	14	13	129	1	291
03:15 PM	1	1	1	3	96	17	19	3	12	20	126	3	302
03:30 PM	2	0	1	2	102	23	24	5	18	20	148	2	347
03:45 PM	1	8	3	7	117	13	29	1	20	24	128	2	353
Total	6	13	6	12	404	71	92	9	64	77	531	8	1293
04:00 PM	1	1	0	3	98	21	37	2	20	22	179	1	385
04:15 PM	1	0	2	1	108	29	31	8	23	30	156	1	390
04:30 PM	4	2	1	4	90	14	23	1	21	18	161	1	340
04:45 PM	1	6	4	2	100	20	28	5	18	36	147	5	372
Total	7	9	7	10	396	84	119	16	82	106	643	8	1487
05:00 PM	0	2	0	2	101	22	49	1	22	31	182	1	413
05:15 PM	1	2	1	2	110	13	23	2	33	38	156	2	383
05:30 PM	0	2	1	2	122	13	21	4	12	33	169	4	383
05:45 PM	2	2	4	2	103	17	15	2	17	29	152	0	345
Total	3	8	6	8	436	65	108	9	84	131	659	7	1524
Grand Total	16	30	19	30	1236	220	319	34	230	314	1833	23	4304
Apprch %	24.6	46.2	29.2	2	83.2	14.8	54.7	5.8	39.5	14.5	84.5	1.1	
Total %	0.4	0.7	0.4	0.7	28.7	5.1	7.4	0.8	5.3	7.3	42.6	0.5	
Cars	14	30	18	30	1190	210	302	33	212	291	1777	23	4130
% Cars	87.5	100	94.7	100	96.3	95.5	94.7	97.1	92.2	92.7	96.9	100	96
Trucks	2	0	1	0	46	10	17	1	18	23	56	0	174
% Trucks	12.5	0	5.3	0	3.7	4.5	5.3	2.9	7.8	7.3	3.1	0	4

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**1**	**6**	**4**	**11**	**2**	100	20	122	28	**5**	18	51	36	147	**5**	188	372
05:00 PM	0	2	0	2	2	101	**22**	125	**49**	1	22	**72**	31	**182**	1	**214**	**413**
05:15 PM	1	2	1	4	2	110	13	125	23	2	**33**	58	**38**	156	2	196	383
05:30 PM	0	2	1	3	2	**122**	13	**137**	21	4	12	37	33	169	4	206	383
Total Volume	2	12	6	20	8	433	68	509	121	12	85	218	138	654	12	804	1551
% App. Total	10	60	30		1.6	85.1	13.4		55.5	5.5	39		17.2	81.3	1.5		
PHF	.500	.500	.375	.455	1.000	.887	.773	.929	.617	.600	.644	.757	.908	.898	.600	.939	.939
Cars	2	12	6	20	8	427	66	501	117	12	77	206	129	638	12	779	1506
% Cars	100	100	100	100	100	98.6	97.1	98.4	96.7	100	90.6	94.5	93.5	97.6	100	96.9	97.1
Trucks	0	0	0	0	0	6	2	8	4	0	8	12	9	16	0	25	45
% Trucks	0	0	0	0	0	1.4	2.9	1.6	3.3	0	9.4	5.5	6.5	2.4	0	3.1	2.9

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E/W: High Street (Route 60)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360DD
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Sagamore Avenue From North			High Street (Route 60) From East			Boston Avenue From South			High Street (Route 60) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	2	4	1	0	80	18	19	0	14	11	120	1	270
03:15 PM	0	1	1	3	93	15	16	3	11	19	119	3	284
03:30 PM	2	0	1	2	97	21	23	4	17	16	145	2	330
03:45 PM	0	8	2	7	110	13	26	1	16	22	126	2	333
Total	4	13	5	12	380	67	84	8	58	68	510	8	1217
04:00 PM	1	1	0	3	92	19	36	2	19	21	172	1	367
04:15 PM	1	0	2	1	103	28	31	8	22	29	152	1	378
04:30 PM	4	2	1	4	85	14	21	1	20	16	156	1	325
04:45 PM	1	6	4	2	97	19	26	5	15	34	140	5	354
Total	7	9	7	10	377	80	114	16	76	100	620	8	1424
05:00 PM	0	2	0	2	99	22	48	1	20	28	180	1	403
05:15 PM	1	2	1	2	110	12	23	2	32	35	153	2	375
05:30 PM	0	2	1	2	121	13	20	4	10	32	165	4	374
05:45 PM	2	2	4	2	103	16	13	2	16	28	149	0	337
Total	3	8	6	8	433	63	104	9	78	123	647	7	1489
Grand Total	14	30	18	30	1190	210	302	33	212	291	1777	23	4130
Apprch %	22.6	48.4	29	2.1	83.2	14.7	55.2	6	38.8	13.9	85	1.1	
Total %	0.3	0.7	0.4	0.7	28.8	5.1	7.3	0.8	5.1	7	43	0.6	

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**1**	**6**	**4**	**11**	**2**	97	19	118	26	**5**	15	46	34	140	**5**	179	354
05:00 PM	0	2	0	2	2	99	**22**	123	**48**	1	20	**69**	28	**180**	1	**209**	**403**
05:15 PM	1	2	1	4	2	110	12	124	23	2	**32**	57	**35**	153	2	190	375
05:30 PM	0	2	1	3	2	**121**	13	**136**	20	4	10	34	32	165	4	201	374
Total Volume	2	12	6	20	8	427	66	501	117	12	77	206	129	638	12	779	1506
% App. Total	10	60	30		1.6	85.2	13.2		56.8	5.8	37.4		16.6	81.9	1.5		
PHF	.500	.500	.375	.455	1.000	.882	.750	.921	.609	.600	.602	.746	.921	.886	.600	.932	.934

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File Name : 71360DD
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Sagamore Avenue From North			High Street (Route 60) From East			Boston Avenue From South			High Street (Route 60) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	9	0	1	0	0	2	9	0	21
03:15 PM	1	0	0	0	3	2	3	0	1	1	7	0	18
03:30 PM	0	0	0	0	5	2	1	1	1	4	3	0	17
03:45 PM	1	0	1	0	7	0	3	0	4	2	2	0	20
Total	2	0	1	0	24	4	8	1	6	9	21	0	76
04:00 PM	0	0	0	0	6	2	1	0	1	1	7	0	18
04:15 PM	0	0	0	0	5	1	0	0	1	1	4	0	12
04:30 PM	0	0	0	0	5	0	2	0	1	2	5	0	15
04:45 PM	0	0	0	0	3	1	2	0	3	2	7	0	18
Total	0	0	0	0	19	4	5	0	6	6	23	0	63
05:00 PM	0	0	0	0	2	0	1	0	2	3	2	0	10
05:15 PM	0	0	0	0	0	1	0	0	1	3	3	0	8
05:30 PM	0	0	0	0	1	0	1	0	2	1	4	0	9
05:45 PM	0	0	0	0	0	1	2	0	1	1	3	0	8
Total	0	0	0	0	3	2	4	0	6	8	12	0	35
Grand Total	2	0	1	0	46	10	17	1	18	23	56	0	174
Apprch %	66.7	0	33.3	0	82.1	17.9	47.2	2.8	50	29.1	70.9	0	
Total %	1.1	0	0.6	0	26.4	5.7	9.8	0.6	10.3	13.2	32.2	0	

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	**9**	0	**9**	1	0	0	1	2	**9**	0	**11**	**21**
03:15 PM	**1**	0	0	1	0	3	**2**	5	**3**	0	1	4	1	7	0	8	18
03:30 PM	0	0	0	0	0	5	2	7	1	**1**	1	3	**4**	3	0	7	17
03:45 PM	1	0	**1**	**2**	0	7	0	7	3	0	**4**	**7**	2	2	0	4	20
Total Volume	2	0	1	3	0	24	4	28	8	1	6	15	9	21	0	30	76
% App. Total	66.7	0	33.3		0	85.7	14.3		53.3	6.7	40		30	70	0		
PHF	.500	.000	.250	.375	.000	.667	.500	.778	.667	.250	.375	.536	.563	.583	.000	.682	.905

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File Name : 71360DD
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Groups Printed- Peds and Bicycles

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	2	5
03:15 PM	0	0	0	2	0	0	0	2	0	0	0	2	0	1	0	0	7
03:30 PM	0	0	0	1	0	1	0	2	0	0	0	4	0	0	0	1	9
03:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	2	5
Total	0	0	0	5	0	1	1	5	0	0	0	8	0	1	0	5	26
04:00 PM	0	0	0	6	0	0	0	6	0	1	0	2	0	0	0	1	16
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
04:30 PM	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	7	10
04:45 PM	0	0	0	4	0	0	0	2	0	0	0	1	0	0	0	1	8
Total	0	0	0	11	0	1	0	8	1	1	0	4	0	0	0	9	35
05:00 PM	0	0	0	5	0	0	0	1	0	0	0	4	0	0	0	4	14
05:15 PM	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	1	5
05:30 PM	0	0	0	0	0	1	0	1	1	1	0	2	0	1	0	0	7
05:45 PM	0	0	0	3	0	0	0	0	0	0	0	1	1	2	0	2	9
Total	0	0	0	10	0	1	0	3	1	1	0	7	2	3	0	7	35
Grand Total	0	0	0	26	0	3	1	16	2	2	0	19	2	4	0	21	96
Apprch %	0	0	0	100	0	15	5	80	8.7	8.7	0	82.6	7.4	14.8	0	77.8	
Total %	0	0	0	27.1	0	3.1	1	16.7	2.1	2.1	0	19.8	2.1	4.2	0	21.9	

	Sagamore Avenue From North					High Street (Route 60) From East					Boston Avenue From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	2	2	0	**1**	0	0	1	7
03:30 PM	0	0	0	1	1	0	**1**	**0**	**2**	**3**	**0**	**0**	**0**	**4**	**4**	0	0	0	1	1	9
03:45 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	**2**	**2**	5
04:00 PM	0	0	0	**6**	**6**	0	0	0	**6**	**6**	0	**1**	**0**	**2**	**3**	**0**	**0**	**0**	**1**	**1**	**16**
Total Volume	0	0	0	10	10	0	1	0	11	12	0	1	0	9	10	0	1	0	4	5	37
% App. Total	0	0	0	100		0	8.3	0	91.7		0	10	0	90		0	20	0	80		
PHF	.000	.000	.000	.417	.417	.000	.250	.000	.458	.500	.000	.250	.000	.563	.625	.000	.250	.000	.500	.625	.578

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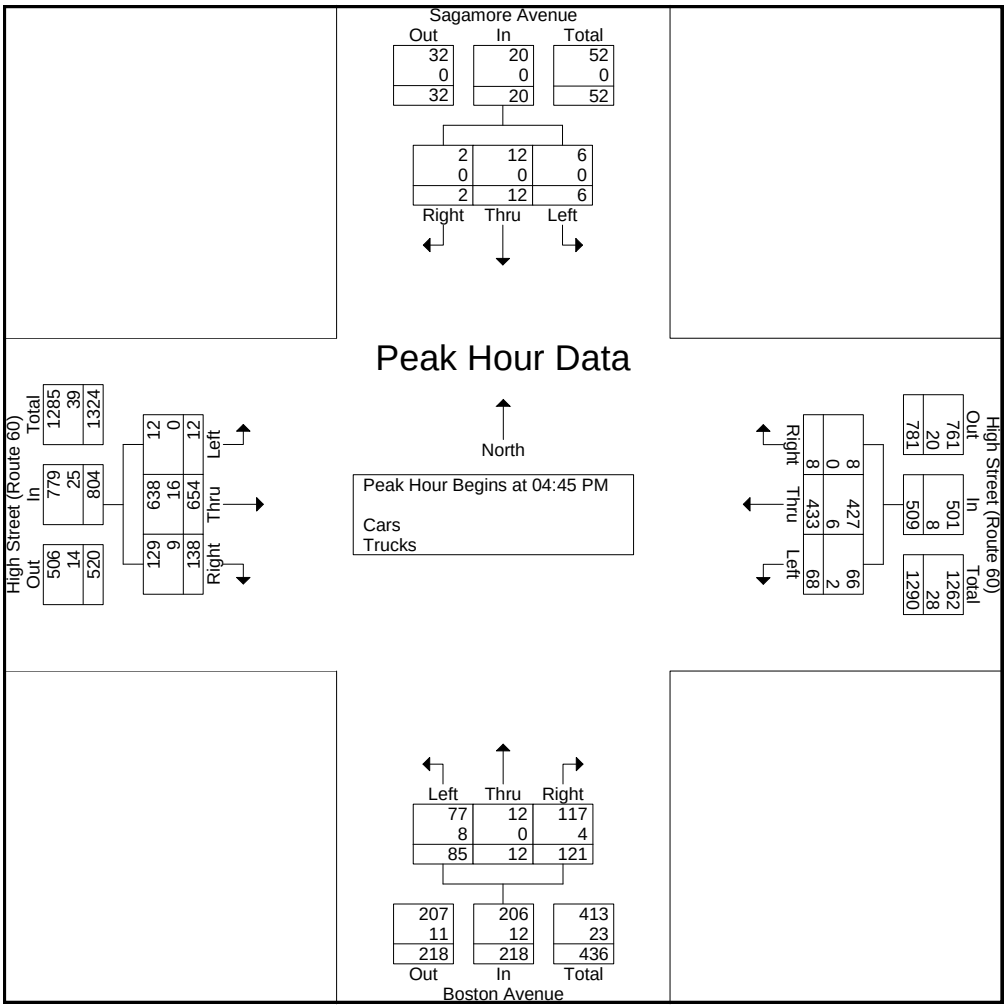
N/S: Sagamore Avenue/Boston Avenue
E/W: High Street (Route 60)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360DD
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Sagamore Avenue From North				High Street (Route 60) From East				Boston Avenue From South				High Street (Route 60) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**1**	**6**	**4**	**11**	**2**	100	20	122	28	**5**	18	51	36	147	**5**	188	372
05:00 PM	0	2	0	2	2	101	**22**	125	**49**	1	22	**72**	31	**182**	1	**214**	**413**
05:15 PM	1	2	1	4	2	110	13	125	23	2	**33**	58	**38**	156	2	196	383
05:30 PM	0	2	1	3	2	**122**	13	**137**	21	4	12	37	33	169	4	206	383
Total Volume	2	12	6	20	8	433	68	509	121	12	85	218	138	654	12	804	1551
% App. Total	10	60	30		1.6	85.1	13.4		55.5	5.5	39		17.2	81.3	1.5		
PHF	.500	.500	.375	.455	1.000	.887	.773	.929	.617	.600	.644	.757	.908	.898	.600	.939	.939
Cars	2	12	6	20	8	427	66	501	117	12	77	206	129	638	12	779	1506
% Cars	100	100	100	100	100	98.6	97.1	98.4	96.7	100	90.6	94.5	93.5	97.6	100	96.9	97.1
Trucks	0	0	0	0	0	6	2	8	4	0	8	12	9	16	0	25	45
% Trucks	0	0	0	0	0	1.4	2.9	1.6	3.3	0	9.4	5.5	6.5	2.4	0	3.1	2.9



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N/S: Boston Avenue
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360E
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Boston Avenue From North			Mystic Valley Parkway (Route 16) From East			Boston Avenue From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	9	51	5	15	246	4	2	39	20	21	165	8	585
07:15 AM	8	53	7	16	286	5	1	54	32	36	175	6	679
07:30 AM	13	93	6	26	279	4	2	76	19	46	207	15	786
07:45 AM	5	96	11	18	226	9	1	52	17	38	148	6	627
Total	35	293	29	75	1037	22	6	221	88	141	695	35	2677
08:00 AM	35	110	14	6	239	9	4	61	10	41	179	8	716
08:15 AM	16	101	14	13	262	8	1	63	18	47	161	10	714
08:30 AM	12	71	14	15	240	13	4	41	14	52	197	7	680
08:45 AM	15	82	8	9	224	22	5	35	10	50	163	8	631
Total	78	364	50	43	965	52	14	200	52	190	700	33	2741
09:00 AM	16	75	19	10	213	23	5	32	15	46	186	6	646
09:15 AM	11	52	7	9	157	10	6	30	10	38	173	4	507
09:30 AM	11	40	10	17	218	15	7	34	15	28	162	10	567
09:45 AM	7	42	12	7	193	9	2	41	9	27	148	9	506
Total	45	209	48	43	781	57	20	137	49	139	669	29	2226
Grand Total	158	866	127	161	2783	131	40	558	189	470	2064	97	7644
Apprch %	13.7	75.2	11	5.2	90.5	4.3	5.1	70.9	24	17.9	78.4	3.7	
Total %	2.1	11.3	1.7	2.1	36.4	1.7	0.5	7.3	2.5	6.1	27	1.3	
Cars	157	830	126	159	2774	129	38	534	189	467	2058	97	7558
% Cars	99.4	95.8	99.2	98.8	99.7	98.5	95	95.7	100	99.4	99.7	100	98.9
Trucks	1	36	1	2	9	2	2	24	0	3	6	0	86
% Trucks	0.6	4.2	0.8	1.2	0.3	1.5	5	4.3	0	0.6	0.3	0	1.1

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	13	93	6	112	**26**	**279**	4	**309**	2	**76**	**19**	**97**	46	**207**	**15**	**268**	**786**
07:45 AM	5	96	11	112	18	226	**9**	253	1	52	17	70	38	148	6	192	627
08:00 AM	**35**	**110**	**14**	**159**	6	239	9	254	**4**	61	10	75	41	179	8	228	716
08:15 AM	16	101	14	131	13	262	8	283	1	63	18	82	**47**	161	10	218	714
Total Volume	69	400	45	514	63	1006	30	1099	8	252	64	324	172	695	39	906	2843
% App. Total	13.4	77.8	8.8		5.7	91.5	2.7		2.5	77.8	19.8		19	76.7	4.3		
PHF	.493	.909	.804	.808	.606	.901	.833	.889	.500	.829	.842	.835	.915	.839	.650	.845	.904
Cars	69	386	45	500	62	1002	30	1094	8	242	64	314	172	693	39	904	2812
% Cars	100	96.5	100	97.3	98.4	99.6	100	99.5	100	96.0	100	96.9	100	99.7	100	99.8	98.9
Trucks	0	14	0	14	1	4	0	5	0	10	0	10	0	2	0	2	31
% Trucks	0	3.5	0	2.7	1.6	0.4	0	0.5	0	4.0	0	3.1	0	0.3	0	0.2	1.1

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N/S: Boston Avenue
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360E
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Boston Avenue From North			Mystic Valley Parkway (Route 16) From East			Boston Avenue From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	9	47	5	15	246	4	2	36	20	21	164	8	577
07:15 AM	7	51	7	16	286	5	1	53	32	36	175	6	675
07:30 AM	13	89	6	26	278	4	2	74	19	46	206	15	778
07:45 AM	5	91	11	18	225	9	1	51	17	38	148	6	620
Total	34	278	29	75	1035	22	6	214	88	141	693	35	2650
08:00 AM	35	108	14	6	238	9	4	58	10	41	179	8	710
08:15 AM	16	98	14	12	261	8	1	59	18	47	160	10	704
08:30 AM	12	69	14	15	240	13	4	40	14	51	196	7	675
08:45 AM	15	80	8	9	223	21	4	34	10	50	163	8	625
Total	78	355	50	42	962	51	13	191	52	189	698	33	2714
09:00 AM	16	72	19	10	212	22	5	30	15	46	185	6	638
09:15 AM	11	49	7	9	155	10	6	28	10	38	173	4	500
09:30 AM	11	37	9	16	217	15	6	34	15	27	161	10	558
09:45 AM	7	39	12	7	193	9	2	37	9	26	148	9	498
Total	45	197	47	42	777	56	19	129	49	137	667	29	2194
Grand Total	157	830	126	159	2774	129	38	534	189	467	2058	97	7558
Apprch %	14.1	74.6	11.3	5.2	90.6	4.2	5	70.2	24.8	17.8	78.5	3.7	
Total %	2.1	11	1.7	2.1	36.7	1.7	0.5	7.1	2.5	6.2	27.2	1.3	

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	13	89	6	108	**26**	**278**	4	**308**	2	**74**	**19**	**95**	46	**206**	**15**	**267**	**778**
07:45 AM	5	91	11	107	18	225	**9**	252	1	51	17	69	38	148	6	192	620
08:00 AM	**35**	**108**	**14**	**157**	6	238	9	253	**4**	58	10	72	41	179	8	228	710
08:15 AM	16	98	14	128	12	261	8	281	1	59	18	78	**47**	160	10	217	704
Total Volume	69	386	45	500	62	1002	30	1094	8	242	64	314	172	693	39	904	2812
% App. Total	13.8	77.2	9		5.7	91.6	2.7		2.5	77.1	20.4		19	76.7	4.3		
PHF	.493	.894	.804	.796	.596	.901	.833	.888	.500	.818	.842	.826	.915	.841	.650	.846	.904

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N/S: Boston Avenue
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360E
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Boston Avenue From North			Mystic Valley Parkway (Route 16) From East			Boston Avenue From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	4	0	0	0	0	0	3	0	0	1	0	8
07:15 AM	1	2	0	0	0	0	0	1	0	0	0	0	4
07:30 AM	0	4	0	0	1	0	0	2	0	0	1	0	8
07:45 AM	0	5	0	0	1	0	0	1	0	0	0	0	7
Total	1	15	0	0	2	0	0	7	0	0	2	0	27
08:00 AM	0	2	0	0	1	0	0	3	0	0	0	0	6
08:15 AM	0	3	0	1	1	0	0	4	0	0	1	0	10
08:30 AM	0	2	0	0	0	0	0	1	0	1	1	0	5
08:45 AM	0	2	0	0	1	1	1	1	0	0	0	0	6
Total	0	9	0	1	3	1	1	9	0	1	2	0	27
09:00 AM	0	3	0	0	1	1	0	2	0	0	1	0	8
09:15 AM	0	3	0	0	2	0	0	2	0	0	0	0	7
09:30 AM	0	3	1	1	1	0	1	0	0	1	1	0	9
09:45 AM	0	3	0	0	0	0	0	4	0	1	0	0	8
Total	0	12	1	1	4	1	1	8	0	2	2	0	32
Grand Total	1	36	1	2	9	2	2	24	0	3	6	0	86
Apprch %	2.6	94.7	2.6	15.4	69.2	15.4	7.7	92.3	0	33.3	66.7	0	
Total %	1.2	41.9	1.2	2.3	10.5	2.3	2.3	27.9	0	3.5	7	0	

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:00 AM																	
09:00 AM	0	**3**	0	3	0	1	**1**	**2**	0	2	0	2	0	**1**	0	1	8
09:15 AM	0	3	0	3	0	**2**	0	2	0	2	0	2	0	0	0	0	7
09:30 AM	0	3	**1**	**4**	**1**	1	0	2	**1**	0	0	1	**1**	1	0	**2**	**9**
09:45 AM	0	3	0	3	0	0	0	0	0	**4**	0	**4**	1	0	0	1	8
Total Volume	0	12	1	13	1	4	1	6	1	8	0	9	2	2	0	4	32
% App. Total	0	92.3	7.7		16.7	66.7	16.7		11.1	88.9	0		50	50	0		
PHF	.000	1.000	.250	.813	.250	.500	.250	.750	.250	.500	.000	.563	.500	.500	.000	.500	.889

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E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360E
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 AM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	15	18
Total	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	21	24
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	4
08:15 AM	0	0	0	1	0	2	0	0	0	0	0	0	1	1	0	3	8
08:30 AM	0	2	0	1	0	0	0	1	0	0	0	1	0	0	0	0	5
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	6
Total	0	3	0	4	0	2	0	1	0	0	0	1	1	1	0	10	23
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	4
09:15 AM	0	2	0	0	0	0	0	1	0	1	0	1	0	0	0	0	5
09:30 AM	0	0	0	0	1	0	0	2	0	1	0	0	1	0	0	3	8
09:45 AM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Total	0	3	0	0	1	0	0	4	0	2	0	2	1	0	0	6	19
Grand Total	0	8	0	4	1	2	0	6	0	2	0	3	2	1	0	37	66
Apprch %	0	66.7	0	33.3	11.1	22.2	0	66.7	0	40	0	60	5	2.5	0	92.5	
Total %	0	12.1	0	6.1	1.5	3	0	9.1	0	3	0	4.5	3	1.5	0	56.1	

	Boston Avenue From North					Mystic Valley Parkway (Route 16) From East					Boston Avenue From South					Mystic Valley Parkway (Route 16) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**2**	0	0	2	0	0	0	**1**	1	0	0	0	0	0	0	0	0	**15**	**15**	**18**
08:00 AM	0	0	0	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**4**
08:15 AM	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**2**	0	0	0	0	0	**1**	**1**	0	3	5	8
08:30 AM	0	2	0	1	**3**	0	0	0	1	1	0	0	0	**1**	**1**	0	0	0	0	0	5
Total Volume	0	4	0	3	7	0	2	0	2	4	0	0	0	1	1	1	1	0	21	23	35
% App. Total	0	57.1	0	42.9		0	50	0	50		0	0	0	100		4.3	4.3	0	91.3		
PHF	.000	.500	.000	.750	.583	.000	.250	.000	.500	.500	.000	.000	.000	.250	.250	.250	.250	.000	.350	.383	.486

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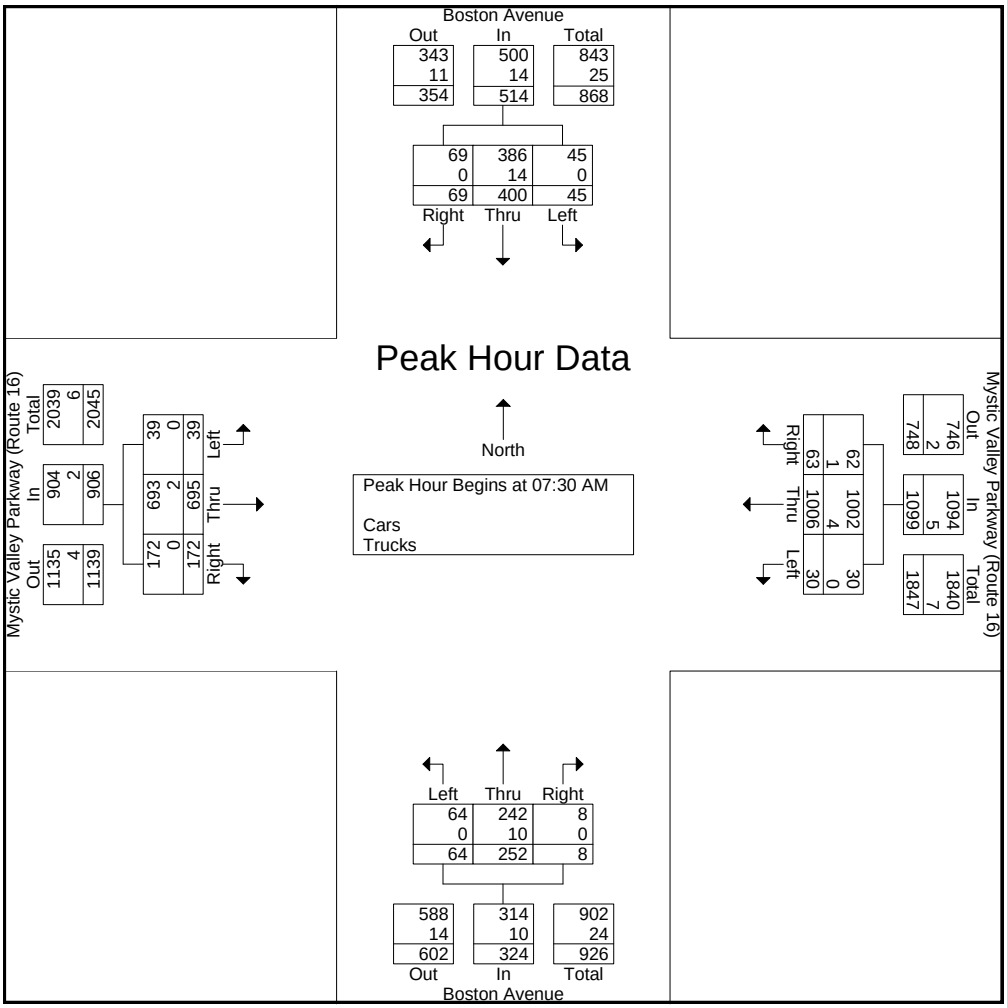
	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	13	93	6	112	**26**	**279**	4	**309**	2	**76**	**19**	**97**	46	**207**	**15**	**268**	**786**
07:45 AM	5	96	11	112	18	226	**9**	253	1	52	17	70	38	148	6	192	627
08:00 AM	**35**	**110**	**14**	**159**	6	239	9	254	**4**	61	10	75	41	179	8	228	716
08:15 AM	16	101	14	131	13	262	8	283	1	63	18	82	**47**	161	10	218	714
Total Volume	69	400	45	514	63	1006	30	1099	8	252	64	324	172	695	39	906	2843
% App. Total	13.4	77.8	8.8		5.7	91.5	2.7		2.5	77.8	19.8		19	76.7	4.3		
PHF	.493	.909	.804	.808	.606	.901	.833	.889	.500	.829	.842	.835	.915	.839	.650	.845	.904
Cars	69	386	45	500	62	1002	30	1094	8	242	64	314	172	693	39	904	2812
% Cars	100	96.5	100	97.3	98.4	99.6	100	99.5	100	96.0	100	96.9	100	99.7	100	99.8	98.9
Trucks	0	14	0	14	1	4	0	5	0	10	0	10	0	2	0	2	31
% Trucks	0	3.5	0	2.7	1.6	0.4	0	0.5	0	4.0	0	3.1	0	0.3	0	0.2	1.1



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Client: VHB/ A. Ng

File Name : 71360EE
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Boston Avenue From North			Mystic Valley Parkway (Route 16) From East			Boston Avenue From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	40	9	18	200	6	12	35	29	27	200	12	595
03:15 PM	11	45	9	11	233	9	4	44	14	41	242	16	679
03:30 PM	5	48	11	10	203	14	14	62	19	33	186	23	628
03:45 PM	9	50	5	11	236	12	6	65	26	36	239	20	715
Total	32	183	34	50	872	41	36	206	88	137	867	71	2617
04:00 PM	2	42	7	11	203	5	8	76	37	41	193	8	633
04:15 PM	11	61	11	11	177	7	7	66	28	32	164	28	603
04:30 PM	5	39	10	18	197	2	6	45	29	23	206	13	593
04:45 PM	14	53	17	17	239	7	5	50	28	30	189	23	672
Total	32	195	45	57	816	21	26	237	122	126	752	72	2501
05:00 PM	10	57	10	14	246	13	18	97	42	32	241	22	802
05:15 PM	9	80	9	16	232	6	7	88	34	40	220	13	754
05:30 PM	6	34	10	13	261	10	19	69	34	32	233	19	740
05:45 PM	6	84	24	23	232	4	10	83	49	32	219	24	790
Total	31	255	53	66	971	33	54	337	159	136	913	78	3086
Grand Total	95	633	132	173	2659	95	116	780	369	399	2532	221	8204
Apprch %	11	73.6	15.3	5.9	90.8	3.2	9.2	61.7	29.2	12.7	80.3	7	
Total %	1.2	7.7	1.6	2.1	32.4	1.2	1.4	9.5	4.5	4.9	30.9	2.7	
Cars	95	608	132	172	2658	95	116	750	369	397	2523	220	8135
% Cars	100	96.1	100	99.4	100	100	100	96.2	100	99.5	99.6	99.5	99.2
Trucks	0	25	0	1	1	0	0	30	0	2	9	1	69
% Trucks	0	3.9	0	0.6	0	0	0	3.8	0	0.5	0.4	0.5	0.8

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**10**	57	10	77	14	246	**13**	273	18	**97**	42	**157**	32	**241**	22	**295**	**802**
05:15 PM	9	80	9	98	16	232	6	254	7	88	34	129	**40**	220	13	273	754
05:30 PM	6	34	10	50	13	**261**	10	**284**	**19**	69	34	122	32	233	19	284	740
05:45 PM	6	**84**	**24**	**114**	**23**	232	4	259	10	83	**49**	142	32	219	**24**	275	790
Total Volume	31	255	53	339	66	971	33	1070	54	337	159	550	136	913	78	1127	3086
% App. Total	9.1	75.2	15.6		6.2	90.7	3.1		9.8	61.3	28.9		12.1	81	6.9		
PHF	.775	.759	.552	.743	.717	.930	.635	.942	.711	.869	.811	.876	.850	.947	.813	.955	.962
Cars	31	245	53	329	66	971	33	1070	54	328	159	541	136	911	78	1125	3065
% Cars	100	96.1	100	97.1	100	100	100	100	100	97.3	100	98.4	100	99.8	100	99.8	99.3
Trucks	0	10	0	10	0	0	0	0	0	9	0	9	0	2	0	2	21
% Trucks	0	3.9	0	2.9	0	0	0	0	0	2.7	0	1.6	0	0.2	0	0.2	0.7

PRECISION
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N/S: Boston Avenue
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360EE
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Boston Avenue From North			Mystic Valley Parkway (Route 16) From East			Boston Avenue From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	39	9	18	200	6	12	34	29	25	199	12	590
03:15 PM	11	42	9	11	233	9	4	42	14	41	241	16	673
03:30 PM	5	45	11	10	203	14	14	59	19	33	185	23	621
03:45 PM	9	49	5	11	236	12	6	58	26	36	239	20	707
Total	32	175	34	50	872	41	36	193	88	135	864	71	2591
04:00 PM	2	40	7	11	203	5	8	73	37	41	192	8	627
04:15 PM	11	59	11	11	176	7	7	65	28	32	162	27	596
04:30 PM	5	38	10	17	197	2	6	42	29	23	205	13	587
04:45 PM	14	51	17	17	239	7	5	49	28	30	189	23	669
Total	32	188	45	56	815	21	26	229	122	126	748	71	2479
05:00 PM	10	54	10	14	246	13	18	94	42	32	241	22	796
05:15 PM	9	76	9	16	232	6	7	88	34	40	220	13	750
05:30 PM	6	34	10	13	261	10	19	67	34	32	232	19	737
05:45 PM	6	81	24	23	232	4	10	79	49	32	218	24	782
Total	31	245	53	66	971	33	54	328	159	136	911	78	3065
Grand Total	95	608	132	172	2658	95	116	750	369	397	2523	220	8135
Apprch %	11.4	72.8	15.8	5.9	90.9	3.2	9.4	60.7	29.9	12.6	80.4	7	
Total %	1.2	7.5	1.6	2.1	32.7	1.2	1.4	9.2	4.5	4.9	31	2.7	

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**10**	54	10	74	14	246	**13**	273	18	**94**	42	**154**	32	**241**	22	**295**	**796**
05:15 PM	9	76	9	94	16	232	6	254	7	88	34	129	**40**	220	13	273	750
05:30 PM	6	34	10	50	13	**261**	10	**284**	**19**	67	34	120	32	232	19	283	737
05:45 PM	6	**81**	**24**	**111**	**23**	232	4	259	10	79	**49**	138	32	218	**24**	274	782
Total Volume	31	245	53	329	66	971	33	1070	54	328	159	541	136	911	78	1125	3065
% App. Total	9.4	74.5	16.1		6.2	90.7	3.1		10	60.6	29.4		12.1	81	6.9		
PHF	.775	.756	.552	.741	.717	.930	.635	.942	.711	.872	.811	.878	.850	.945	.813	.953	.963

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N/S: Boston Avenue
E/W: Mystic Valley Parkway (Route 16)
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360EE
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Trucks

	Boston Avenue From North			Mystic Valley Parkway (Route 16) From East			Boston Avenue From South			Mystic Valley Parkway (Route 16) From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	1	0	0	0	0	0	1	0	2	1	0	5
03:15 PM	0	3	0	0	0	0	0	2	0	0	1	0	6
03:30 PM	0	3	0	0	0	0	0	3	0	0	1	0	7
03:45 PM	0	1	0	0	0	0	0	7	0	0	0	0	8
Total	0	8	0	0	0	0	0	13	0	2	3	0	26
04:00 PM	0	2	0	0	0	0	0	3	0	0	1	0	6
04:15 PM	0	2	0	0	1	0	0	1	0	0	2	1	7
04:30 PM	0	1	0	1	0	0	0	3	0	0	1	0	6
04:45 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
Total	0	7	0	1	1	0	0	8	0	0	4	1	22
05:00 PM	0	3	0	0	0	0	0	3	0	0	0	0	6
05:15 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
05:45 PM	0	3	0	0	0	0	0	4	0	0	1	0	8
Total	0	10	0	0	0	0	0	9	0	0	2	0	21
Grand Total	0	25	0	1	1	0	0	30	0	2	9	1	69
Apprch %	0	100	0	50	50	0	0	100	0	16.7	75	8.3	
Total %	0	36.2	0	1.4	1.4	0	0	43.5	0	2.9	13	1.4	

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	0	**3**	0	**3**	0	0	0	0	0	3	0	3	0	1	0	1	7
03:45 PM	0	1	0	1	0	0	0	0	0	**7**	0	**7**	0	0	0	0	**8**
04:00 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	1	0	1	6
04:15 PM	0	2	0	2	0	**1**	0	**1**	0	1	0	1	0	**2**	**1**	**3**	7
Total Volume	0	8	0	8	0	1	0	1	0	14	0	14	0	4	1	5	28
% App. Total	0	100	0		0	100	0		0	100	0		0	80	20		
PHF	.000	.667	.000	.667	.000	.250	.000	.250	.000	.500	.000	.500	.000	.500	.250	.417	.875

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File Name : 71360EE
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	0	0	0	0	1	0	1	0	2	0	0	0	4	9
03:15 PM	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	2	5
03:30 PM	0	0	0	1	0	1	0	2	0	1	0	1	0	0	0	0	6
03:45 PM	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	3	7
Total	1	3	0	2	0	1	0	5	0	3	0	3	0	0	0	9	27
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3
04:15 PM	0	0	0	0	0	0	0	5	0	2	0	2	0	0	0	2	11
04:30 PM	0	1	0	3	0	0	0	1	0	0	0	0	0	0	0	3	8
04:45 PM	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0	3	7
Total	0	2	0	3	0	0	0	7	0	2	0	5	0	0	0	10	29
05:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	4	6
05:15 PM	0	2	0	0	0	0	0	2	0	1	0	4	0	0	0	0	9
05:30 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	1	0	0	0	3	0	2	0	5	0	0	0	6	19
Grand Total	1	7	0	6	0	1	0	15	0	7	0	13	0	0	0	25	75
Apprch %	7.1	50	0	42.9	0	6.2	0	93.8	0	35	0	65	0	0	0	100	
Total %	1.3	9.3	0	8	0	1.3	0	20	0	9.3	0	17.3	0	0	0	33.3	

	Boston Avenue From North					Mystic Valley Parkway (Route 16) From East					Boston Avenue From South					Mystic Valley Parkway (Route 16) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	0	0	**5**	**5**	0	**2**	**0**	**2**	**4**	0	0	0	2	2	**11**
04:30 PM	0	**1**	0	**3**	**4**	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	8
04:45 PM	0	1	0	0	1	0	0	0	1	1	0	0	0	2	2	0	0	0	3	3	7
05:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	**4**	**4**	6
Total Volume	0	2	0	3	5	0	0	0	8	8	0	2	0	5	7	0	0	0	12	12	32
% App. Total	0	40	0	60		0	0	0	100		0	28.6	0	71.4		0	0	0	100		
PHF	.000	.500	.000	.250	.313	.000	.000	.000	.400	.400	.000	.250	.000	.625	.438	.000	.000	.000	.750	.750	.727

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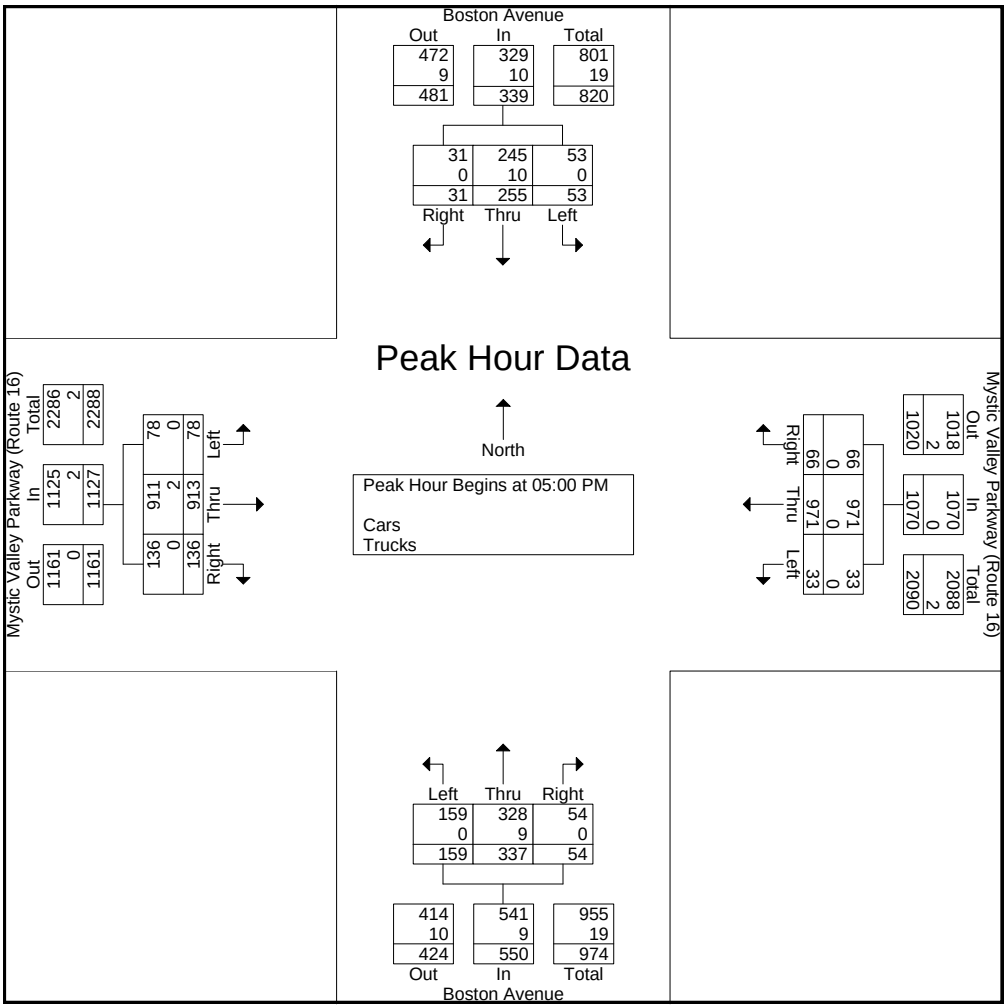
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360EE
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Boston Avenue From North				Mystic Valley Parkway (Route 16) From East				Boston Avenue From South				Mystic Valley Parkway (Route 16) From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**10**	57	10	77	14	246	**13**	273	18	**97**	42	**157**	32	**241**	22	**295**	**802**
05:15 PM	9	80	9	98	16	232	6	254	7	88	34	129	**40**	220	13	273	754
05:30 PM	6	34	10	50	13	**261**	10	**284**	**19**	69	34	122	32	233	19	284	740
05:45 PM	6	**84**	**24**	**114**	**23**	232	4	259	10	83	**49**	142	32	219	**24**	275	790
Total Volume	31	255	53	339	66	971	33	1070	54	337	159	550	136	913	78	1127	3086
% App. Total	9.1	75.2	15.6		6.2	90.7	3.1		9.8	61.3	28.9		12.1	81	6.9		
PHF	.775	.759	.552	.743	.717	.930	.635	.942	.711	.869	.811	.876	.850	.947	.813	.955	.962
Cars	31	245	53	329	66	971	33	1070	54	328	159	541	136	911	78	1125	3065
% Cars	100	96.1	100	97.1	100	100	100	100	100	97.3	100	98.4	100	99.8	100	99.8	99.3
Trucks	0	10	0	10	0	0	0	0	0	9	0	9	0	2	0	2	21
% Trucks	0	3.9	0	2.9	0	0	0	0	0	2.7	0	1.6	0	0.2	0	0.2	0.7



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City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360F
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Boston Avenue From North			North Street From East			Boston Avenue From South			North Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	10	74	1	4	10	9	0	56	2	4	0	3	173
07:15 AM	10	95	2	7	14	15	0	73	7	5	1	2	231
07:30 AM	16	135	0	16	14	14	1	76	3	4	4	8	291
07:45 AM	17	129	1	14	14	20	2	64	3	4	5	4	277
Total	53	433	4	41	52	58	3	269	15	17	10	17	972
08:00 AM	16	126	0	6	18	15	1	63	4	1	2	6	258
08:15 AM	4	117	1	11	7	15	4	61	4	5	8	10	247
08:30 AM	11	110	2	6	15	16	2	43	1	4	1	4	215
08:45 AM	11	121	1	11	12	10	1	56	3	3	3	2	234
Total	42	474	4	34	52	56	8	223	12	13	14	22	954
09:00 AM	7	80	0	8	15	10	1	44	7	3	3	5	183
09:15 AM	9	69	0	10	10	12	1	42	8	8	4	2	175
09:30 AM	6	69	0	15	8	9	2	31	4	5	0	5	154
09:45 AM	10	50	1	3	8	5	4	44	6	4	2	3	140
Total	32	268	1	36	41	36	8	161	25	20	9	15	652
Grand Total	127	1175	9	111	145	150	19	653	52	50	33	54	2578
Apprch %	9.7	89.6	0.7	27.3	35.7	36.9	2.6	90.2	7.2	36.5	24.1	39.4	
Total %	4.9	45.6	0.3	4.3	5.6	5.8	0.7	25.3	2	1.9	1.3	2.1	
Cars	125	1134	9	109	145	148	18	629	52	50	33	54	2506
% Cars	98.4	96.5	100	98.2	100	98.7	94.7	96.3	100	100	100	100	97.2
Trucks	2	41	0	2	0	2	1	24	0	0	0	0	72
% Trucks	1.6	3.5	0	1.8	0	1.3	5.3	3.7	0	0	0	0	2.8

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	**135**	0	**151**	**16**	14	14	44	1	**76**	3	**80**	4	4	8	16	**291**
07:45 AM	**17**	129	**1**	147	14	14	**20**	**48**	2	64	3	69	4	5	4	13	277
08:00 AM	16	126	0	142	6	**18**	15	39	1	63	**4**	68	1	2	6	9	258
08:15 AM	4	117	1	122	11	7	15	33	**4**	61	4	69	**5**	**8**	**10**	**23**	247
Total Volume	53	507	2	562	47	53	64	164	8	264	14	286	14	19	28	61	1073
% App. Total	9.4	90.2	0.4		28.7	32.3	39		2.8	92.3	4.9		23	31.1	45.9		
PHF	.779	.939	.500	.930	.734	.736	.800	.854	.500	.868	.875	.894	.700	.594	.700	.663	.922
Cars	53	490	2	545	45	53	63	161	8	256	14	278	14	19	28	61	1045
% Cars	100	96.6	100	97.0	95.7	100	98.4	98.2	100	97.0	100	97.2	100	100	100	100	97.4
Trucks	0	17	0	17	2	0	1	3	0	8	0	8	0	0	0	0	28
% Trucks	0	3.4	0	3.0	4.3	0	1.6	1.8	0	3.0	0	2.8	0	0	0	0	2.6

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Groups Printed- Cars

	Boston Avenue From North			North Street From East			Boston Avenue From South			North Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	8	69	1	4	10	9	0	53	2	4	0	3	163
07:15 AM	10	93	2	7	14	15	0	71	7	5	1	2	227
07:30 AM	16	131	0	16	14	14	1	75	3	4	4	8	286
07:45 AM	17	122	1	12	14	20	2	64	3	4	5	4	268
Total	51	415	4	39	52	58	3	263	15	17	10	17	944
08:00 AM	16	122	0	6	18	15	1	59	4	1	2	6	250
08:15 AM	4	115	1	11	7	14	4	58	4	5	8	10	241
08:30 AM	11	109	2	6	15	16	2	43	1	4	1	4	214
08:45 AM	11	119	1	11	12	10	1	53	3	3	3	2	229
Total	42	465	4	34	52	55	8	213	12	13	14	22	934
09:00 AM	7	75	0	8	15	10	1	42	7	3	3	5	176
09:15 AM	9	65	0	10	10	11	1	40	8	8	4	2	168
09:30 AM	6	66	0	15	8	9	2	30	4	5	0	5	150
09:45 AM	10	48	1	3	8	5	3	41	6	4	2	3	134
Total	32	254	1	36	41	35	7	153	25	20	9	15	628
Grand Total	125	1134	9	109	145	148	18	629	52	50	33	54	2506
Apprch %	9.9	89.4	0.7	27.1	36.1	36.8	2.6	90	7.4	36.5	24.1	39.4	
Total %	5	45.3	0.4	4.3	5.8	5.9	0.7	25.1	2.1	2	1.3	2.2	

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	**131**	0	**147**	**16**	14	14	44	1	**75**	3	**79**	4	4	8	16	**286**
07:45 AM	**17**	122	**1**	140	12	14	**20**	**46**	2	64	3	69	4	5	4	13	268
08:00 AM	16	122	0	138	6	**18**	15	39	1	59	**4**	64	1	2	6	9	250
08:15 AM	4	115	1	120	11	7	14	32	**4**	58	4	66	**5**	**8**	**10**	**23**	241
Total Volume	53	490	2	545	45	53	63	161	8	256	14	278	14	19	28	61	1045
% App. Total	9.7	89.9	0.4		28	32.9	39.1		2.9	92.1	5		23	31.1	45.9		
PHF	.779	.935	.500	.927	.703	.736	.788	.875	.500	.853	.875	.880	.700	.594	.700	.663	.913

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Client: VHB/ A. Ng

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Groups Printed- Trucks

	Boston Avenue From North			North Street From East			Boston Avenue From South			North Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	5	0	0	0	0	0	3	0	0	0	0	10
07:15 AM	0	2	0	0	0	0	0	2	0	0	0	0	4
07:30 AM	0	4	0	0	0	0	0	1	0	0	0	0	5
07:45 AM	0	7	0	2	0	0	0	0	0	0	0	0	9
Total	2	18	0	2	0	0	0	6	0	0	0	0	28
08:00 AM	0	4	0	0	0	0	0	4	0	0	0	0	8
08:15 AM	0	2	0	0	0	1	0	3	0	0	0	0	6
08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	2	0	0	0	0	0	3	0	0	0	0	5
Total	0	9	0	0	0	1	0	10	0	0	0	0	20
09:00 AM	0	5	0	0	0	0	0	2	0	0	0	0	7
09:15 AM	0	4	0	0	0	1	0	2	0	0	0	0	7
09:30 AM	0	3	0	0	0	0	0	1	0	0	0	0	4
09:45 AM	0	2	0	0	0	0	1	3	0	0	0	0	6
Total	0	14	0	0	0	1	1	8	0	0	0	0	24
Grand Total	2	41	0	2	0	2	1	24	0	0	0	0	72
Apprch %	4.7	95.3	0	50	0	50	4	96	0	0	0	0	
Total %	2.8	56.9	0	2.8	0	2.8	1.4	33.3	0	0	0	0	

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**2**	5	0	**7**	0	0	0	0	0	**3**	0	**3**	0	0	0	0	**10**
07:15 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:30 AM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
07:45 AM	0	**7**	0	7	**2**	0	0	**2**	0	0	0	0	0	0	0	0	9
Total Volume	2	18	0	20	2	0	0	2	0	6	0	6	0	0	0	0	28
% App. Total	10	90	0		100	0	0		0	100	0		0	0	0		
PHF	.250	.643	.000	.714	.250	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.000	.700

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Groups Printed- Peds and Bicycles

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	2	0	0	0	0	0	30	0	1	0	2	0	0	0	3	38
07:15 AM	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	8	12
07:30 AM	0	0	0	1	0	1	1	3	0	1	0	1	0	0	0	4	12
07:45 AM	0	2	0	0	0	0	0	4	0	0	0	2	0	0	0	23	31
Total	0	4	0	1	0	3	2	38	0	2	0	5	0	0	0	38	93
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	10	13
08:15 AM	0	2	0	0	0	0	0	2	0	4	0	2	0	0	0	5	15
08:30 AM	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	11	15
08:45 AM	0	2	0	5	0	0	0	11	0	0	0	2	0	0	0	5	25
Total	0	5	0	5	0	0	0	17	0	4	0	6	0	0	0	31	68
09:00 AM	1	0	0	0	0	0	0	5	0	0	0	1	0	0	0	6	13
09:15 AM	0	2	0	1	1	0	0	6	0	0	0	0	0	0	0	7	17
09:30 AM	0	1	0	1	0	0	0	5	0	0	0	0	0	0	0	7	14
09:45 AM	0	3	0	1	0	0	0	5	0	2	0	1	0	0	0	3	15
Total	1	6	0	3	1	0	0	21	0	2	0	2	0	0	0	23	59
Grand Total	1	15	0	9	1	3	2	76	0	8	0	13	0	0	0	92	220
Apprch %	4	60	0	36	1.2	3.7	2.4	92.7	0	38.1	0	61.9	0	0	0	100	
Total %	0.5	6.8	0	4.1	0.5	1.4	0.9	34.5	0	3.6	0	5.9	0	0	0	41.8	

	Boston Avenue From North					North Street From East					Boston Avenue From South					North Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	**2**	0	0	**2**	0	0	0	**30**	**30**	0	**1**	**0**	**2**	**3**	0	0	0	3	3	**38**
07:15 AM	0	0	0	0	0	0	**2**	**1**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**8**	**12**
07:30 AM	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**3**	**5**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**4**	**4**	**12**
07:45 AM	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**23**	**23**	31
Total Volume	0	4	0	1	5	0	3	2	38	43	0	2	0	5	7	0	0	0	38	38	93
% App. Total	0	80	0	20		0	7	4.7	88.4		0	28.6	0	71.4		0	0	0	100		
PHF	.000	.500	.000	.250	.625	.000	.375	.500	.317	.358	.000	.500	.000	.625	.583	.000	.000	.000	.413	.413	.612

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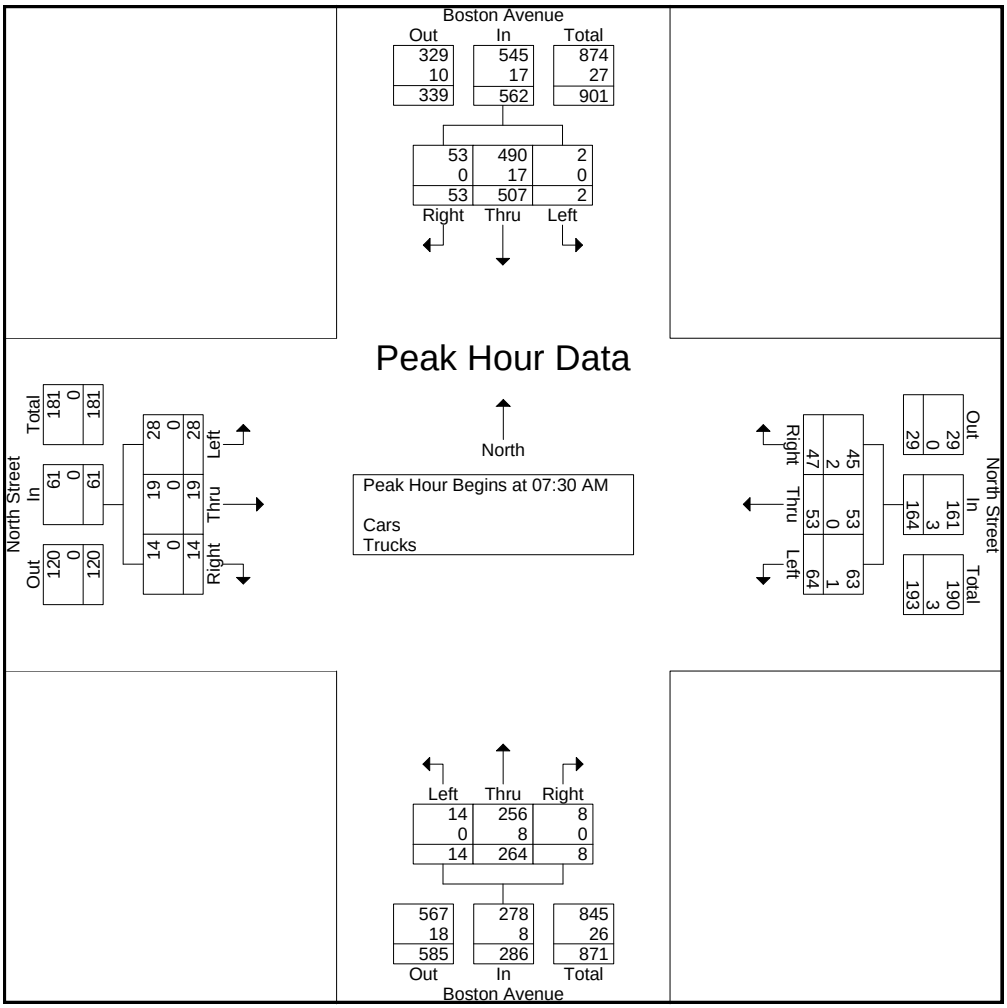
	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	**135**	0	**151**	**16**	14	14	44	1	**76**	3	**80**	4	4	8	16	**291**
07:45 AM	**17**	129	**1**	147	14	14	**20**	**48**	2	64	3	69	4	5	4	13	277
08:00 AM	16	126	0	142	6	**18**	15	39	1	63	**4**	68	1	2	6	9	258
08:15 AM	4	117	1	122	11	7	15	33	**4**	61	4	69	**5**	**8**	**10**	**23**	247
Total Volume	53	507	2	562	47	53	64	164	8	264	14	286	14	19	28	61	1073
% App. Total	9.4	90.2	0.4		28.7	32.3	39		2.8	92.3	4.9		23	31.1	45.9		
PHF	.779	.939	.500	.930	.734	.736	.800	.854	.500	.868	.875	.894	.700	.594	.700	.663	.922
Cars	53	490	2	545	45	53	63	161	8	256	14	278	14	19	28	61	1045
% Cars	100	96.6	100	97.0	95.7	100	98.4	98.2	100	97.0	100	97.2	100	100	100	100	97.4
Trucks	0	17	0	17	2	0	1	3	0	8	0	8	0	0	0	0	28
% Trucks	0	3.4	0	3.0	4.3	0	1.6	1.8	0	3.0	0	2.8	0	0	0	0	2.6



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Groups Printed- Cars - Trucks

	Boston Avenue From North			North Street From East			Boston Avenue From South			North Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	5	52	2	7	12	6	3	65	10	2	1	7	172
03:15 PM	10	77	2	7	11	7	2	55	6	3	2	1	183
03:30 PM	8	72	2	9	6	13	4	74	13	5	4	3	213
03:45 PM	13	73	0	7	9	12	2	82	9	6	2	6	221
Total	36	274	6	30	38	38	11	276	38	16	9	17	789
04:00 PM	16	77	0	10	13	12	0	86	7	5	2	7	235
04:15 PM	6	75	2	10	12	10	2	90	8	3	6	9	233
04:30 PM	10	56	0	3	8	9	4	66	5	3	2	5	171
04:45 PM	8	70	1	4	9	6	4	94	11	6	0	3	216
Total	40	278	3	27	42	37	10	336	31	17	10	24	855
05:00 PM	13	95	2	8	14	9	4	95	12	9	2	15	278
05:15 PM	16	95	4	5	9	7	2	101	12	5	5	11	272
05:30 PM	9	74	2	5	15	7	5	98	10	9	1	4	239
05:45 PM	19	87	0	6	11	12	2	89	7	5	4	7	249
Total	57	351	8	24	49	35	13	383	41	28	12	37	1038
Grand Total	133	903	17	81	129	110	34	995	110	61	31	78	2682
Apprch %	12.6	85.8	1.6	25.3	40.3	34.4	3	87.4	9.7	35.9	18.2	45.9	
Total %	5	33.7	0.6	3	4.8	4.1	1.3	37.1	4.1	2.3	1.2	2.9	
Cars	131	876	16	80	129	110	34	980	110	61	31	75	2633
% Cars	98.5	97	94.1	98.8	100	100	100	98.5	100	100	100	96.2	98.2
Trucks	2	27	1	1	0	0	0	15	0	0	0	3	49
% Trucks	1.5	3	5.9	1.2	0	0	0	1.5	0	0	0	3.8	1.8

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	**95**	2	110	**8**	14	9	**31**	4	95	**12**	111	**9**	2	**15**	**26**	**278**
05:15 PM	16	95	**4**	**115**	5	9	7	21	2	**101**	12	**115**	5	**5**	11	21	272
05:30 PM	9	74	2	85	5	**15**	7	27	**5**	98	10	113	9	1	4	14	239
05:45 PM	**19**	87	0	106	6	11	**12**	29	2	89	7	98	5	4	7	16	249
Total Volume	57	351	8	416	24	49	35	108	13	383	41	437	28	12	37	77	1038
% App. Total	13.7	84.4	1.9		22.2	45.4	32.4		3	87.6	9.4		36.4	15.6	48.1		
PHF	.750	.924	.500	.904	.750	.817	.729	.871	.650	.948	.854	.950	.778	.600	.617	.740	.933
Cars	56	340	8	404	24	49	35	108	13	378	41	432	28	12	37	77	1021
% Cars	98.2	96.9	100	97.1	100	100	100	100	100	98.7	100	98.9	100	100	100	100	98.4
Trucks	1	11	0	12	0	0	0	0	0	5	0	5	0	0	0	0	17
% Trucks	1.8	3.1	0	2.9	0	0	0	0	0	1.3	0	1.1	0	0	0	0	1.6

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Groups Printed- Cars

	Boston Avenue From North			North Street From East			Boston Avenue From South			North Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	4	51	2	7	12	6	3	64	10	2	1	7	169
03:15 PM	10	76	1	7	11	7	2	53	6	3	2	1	179
03:30 PM	8	68	2	9	6	13	4	71	13	5	4	3	206
03:45 PM	13	71	0	7	9	12	2	80	9	6	2	3	214
Total	35	266	5	30	38	38	11	268	38	16	9	14	768
04:00 PM	16	73	0	10	13	12	0	85	7	5	2	7	230
04:15 PM	6	73	2	9	12	10	2	89	8	3	6	9	229
04:30 PM	10	55	0	3	8	9	4	66	5	3	2	5	170
04:45 PM	8	69	1	4	9	6	4	94	11	6	0	3	215
Total	40	270	3	26	42	37	10	334	31	17	10	24	844
05:00 PM	13	92	2	8	14	9	4	92	12	9	2	15	272
05:15 PM	16	92	4	5	9	7	2	101	12	5	5	11	269
05:30 PM	9	73	2	5	15	7	5	97	10	9	1	4	237
05:45 PM	18	83	0	6	11	12	2	88	7	5	4	7	243
Total	56	340	8	24	49	35	13	378	41	28	12	37	1021
Grand Total	131	876	16	80	129	110	34	980	110	61	31	75	2633
Apprch %	12.8	85.6	1.6	25.1	40.4	34.5	3	87.2	9.8	36.5	18.6	44.9	
Total %	5	33.3	0.6	3	4.9	4.2	1.3	37.2	4.2	2.3	1.2	2.8	

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	**92**	2	107	**8**	14	9	**31**	4	92	**12**	108	**9**	2	**15**	**26**	**272**
05:15 PM	16	92	**4**	**112**	5	9	7	21	2	**101**	12	**115**	5	**5**	11	21	269
05:30 PM	9	73	2	84	5	**15**	7	27	**5**	97	10	112	9	1	4	14	237
05:45 PM	**18**	83	0	101	6	11	**12**	29	2	88	7	97	5	4	7	16	243
Total Volume	56	340	8	404	24	49	35	108	13	378	41	432	28	12	37	77	1021
% App. Total	13.9	84.2	2		22.2	45.4	32.4		3	87.5	9.5		36.4	15.6	48.1		
PHF	.778	.924	.500	.902	.750	.817	.729	.871	.650	.936	.854	.939	.778	.600	.617	.740	.938

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Groups Printed- Trucks

	Boston Avenue From North			North Street From East			Boston Avenue From South			North Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	1	0	0	0	0	0	1	0	0	0	0	3
03:15 PM	0	1	1	0	0	0	0	2	0	0	0	0	4
03:30 PM	0	4	0	0	0	0	0	3	0	0	0	0	7
03:45 PM	0	2	0	0	0	0	0	2	0	0	0	3	7
Total	1	8	1	0	0	0	0	8	0	0	0	3	21
04:00 PM	0	4	0	0	0	0	0	1	0	0	0	0	5
04:15 PM	0	2	0	1	0	0	0	1	0	0	0	0	4
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	8	0	1	0	0	0	2	0	0	0	0	11
05:00 PM	0	3	0	0	0	0	0	3	0	0	0	0	6
05:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
05:45 PM	1	4	0	0	0	0	0	1	0	0	0	0	6
Total	1	11	0	0	0	0	0	5	0	0	0	0	17
Grand Total	2	27	1	1	0	0	0	15	0	0	0	3	49
Apprch %	6.7	90	3.3	100	0	0	0	100	0	0	0	100	
Total %	4.1	55.1	2	2	0	0	0	30.6	0	0	0	6.1	

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	0	1	**1**	2	0	0	0	0	0	2	0	2	0	0	0	0	4
03:30 PM	0	**4**	0	**4**	0	0	0	0	0	**3**	0	**3**	0	0	0	0	**7**
03:45 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	**3**	**3**	7
04:00 PM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Total Volume	0	11	1	12	0	0	0	0	0	8	0	8	0	0	3	3	23
% App. Total	0	91.7	8.3		0	0	0		0	100	0		0	0	100		
PHF	.000	.688	.250	.750	.000	.000	.000	.000	.000	.667	.000	.667	.000	.000	.250	.250	.821

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E/W: North Street
City, State: Medford, MA
Client: VHB/ A. Ng

File Name : 71360FF
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	8	11
03:15 PM	0	1	0	4	0	0	0	3	0	0	0	0	0	0	0	1	9
03:30 PM	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	4	11
03:45 PM	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	4	9
Total	0	5	0	4	0	0	0	11	0	1	0	2	0	0	0	17	40
04:00 PM	0	0	0	2	0	0	0	4	0	0	0	3	0	0	0	6	15
04:15 PM	0	0	0	0	0	0	0	7	0	1	0	1	0	0	0	1	10
04:30 PM	0	2	0	3	0	0	0	2	0	0	0	1	0	0	0	5	13
04:45 PM	0	1	0	2	0	0	0	3	0	0	0	0	0	1	0	5	12
Total	0	3	0	7	0	0	0	16	0	1	0	5	0	1	0	17	50
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	6	9
05:15 PM	0	2	0	0	0	0	0	4	0	1	0	1	0	0	0	5	13
05:30 PM	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	2	6
05:45 PM	0	5	0	3	0	0	0	8	0	0	0	1	0	0	0	8	25
Total	0	8	0	3	0	0	0	13	0	3	0	5	0	0	0	21	53
Grand Total	0	16	0	14	0	0	0	40	0	5	0	12	0	1	0	55	143
Apprch %	0	53.3	0	46.7	0	0	0	100	0	29.4	0	70.6	0	1.8	0	98.2	
Total %	0	11.2	0	9.8	0	0	0	28	0	3.5	0	8.4	0	0.7	0	38.5	

	Boston Avenue From North					North Street From East					Boston Avenue From South					North Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	1	1	0	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**6**	**6**	**9**
05:15 PM	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**4**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**5**	**5**	**13**
05:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**3**	0	0	0	2	2	6
05:45 PM	0	**5**	0	**3**	**8**	0	0	0	**8**	**8**	0	0	0	1	1	0	0	0	**8**	**8**	**25**
Total Volume	0	8	0	3	11	0	0	0	13	13	0	3	0	5	8	0	0	0	21	21	53
% App. Total	0	72.7	0	27.3		0	0	0	100		0	37.5	0	62.5		0	0	0	100		
PHF	.000	.400	.000	.250	.344	.000	.000	.000	.406	.406	.000	.750	.000	.625	.667	.000	.000	.000	.656	.656	.530

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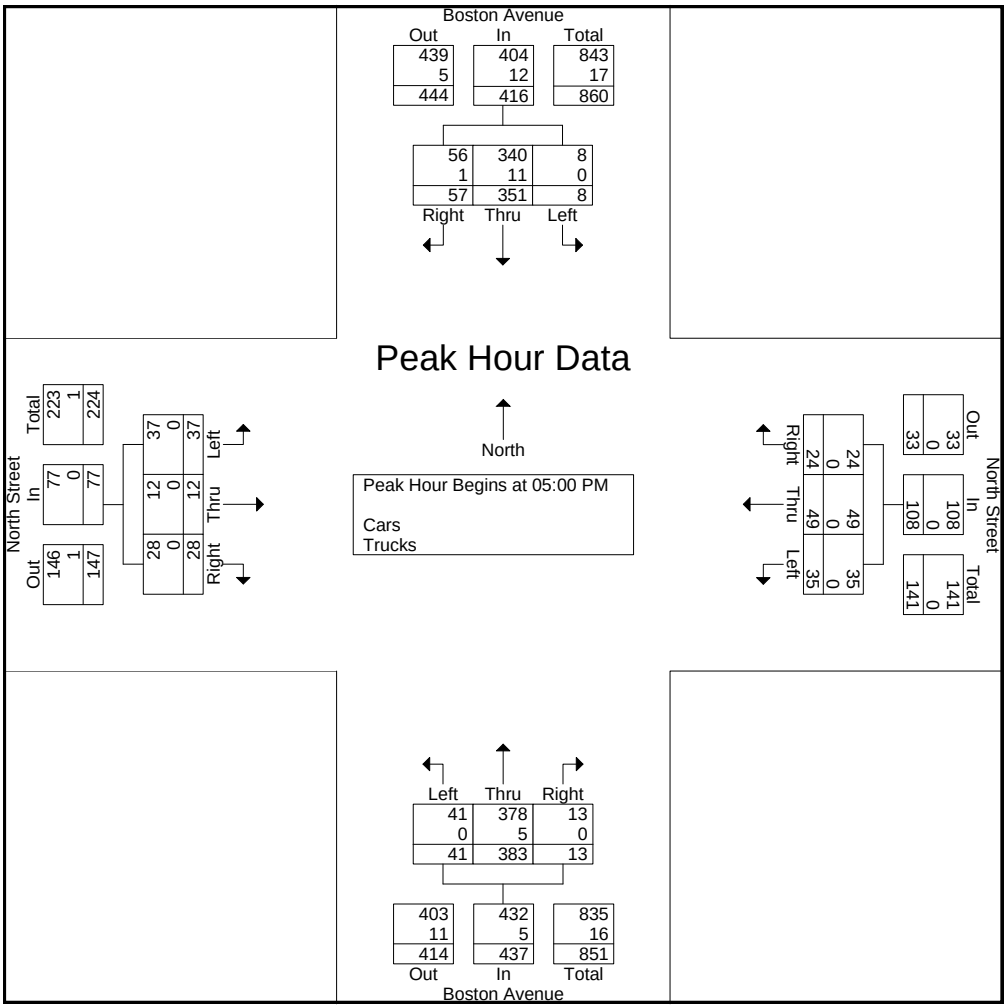
	Boston Avenue From North				North Street From East				Boston Avenue From South				North Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	**95**	2	110	**8**	14	9	**31**	4	95	**12**	111	**9**	2	**15**	**26**	**278**
05:15 PM	16	95	**4**	**115**	5	9	7	21	2	**101**	12	**115**	5	**5**	11	21	272
05:30 PM	9	74	2	85	5	**15**	7	27	**5**	98	10	113	9	1	4	14	239
05:45 PM	**19**	87	0	106	6	11	**12**	29	2	89	7	98	5	4	7	16	249
Total Volume	57	351	8	416	24	49	35	108	13	383	41	437	28	12	37	77	1038
% App. Total	13.7	84.4	1.9		22.2	45.4	32.4		3	87.6	9.4		36.4	15.6	48.1		
PHF	.750	.924	.500	.904	.750	.817	.729	.871	.650	.948	.854	.950	.778	.600	.617	.740	.933
Cars	56	340	8	404	24	49	35	108	13	378	41	432	28	12	37	77	1021
% Cars	98.2	96.9	100	97.1	100	100	100	100	100	98.7	100	98.9	100	100	100	100	98.4
Trucks	1	11	0	12	0	0	0	0	0	5	0	5	0	0	0	0	17
% Trucks	1.8	3.1	0	2.9	0	0	0	0	0	1.3	0	1.1	0	0	0	0	1.6



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File Name : 71360G
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Boston Avenue From North			Winthrop Street From East			Boston Avenue From South			Curtis Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	71	23	16	34	40	23	47	9	9	42	2	318
07:15 AM	5	88	32	27	32	32	18	50	8	1	66	1	360
07:30 AM	5	71	56	28	28	31	22	47	7	14	98	3	410
07:45 AM	5	105	48	31	32	32	23	33	14	15	69	2	409
Total	17	335	159	102	126	135	86	177	38	39	275	8	1497
08:00 AM	5	110	41	14	26	31	19	40	5	14	67	2	374
08:15 AM	8	94	44	15	36	31	18	50	9	17	76	1	399
08:30 AM	8	74	44	13	40	40	20	43	10	5	59	3	359
08:45 AM	6	88	47	22	35	32	21	35	11	20	53	4	374
Total	27	366	176	64	137	134	78	168	35	56	255	10	1506
09:00 AM	5	66	22	18	45	36	12	32	7	12	36	3	294
09:15 AM	9	63	29	14	28	25	16	35	11	13	32	1	276
09:30 AM	6	59	26	14	25	23	21	23	11	8	56	0	272
09:45 AM	1	44	26	16	18	16	15	41	7	16	44	2	246
Total	21	232	103	62	116	100	64	131	36	49	168	6	1088
Grand Total	65	933	438	228	379	369	228	476	109	144	698	24	4091
Apprch %	4.5	65	30.5	23.4	38.8	37.8	28	58.5	13.4	16.6	80.6	2.8	
Total %	1.6	22.8	10.7	5.6	9.3	9	5.6	11.6	2.7	3.5	17.1	0.6	
Cars	63	901	429	221	372	353	217	455	101	140	686	23	3961
% Cars	96.9	96.6	97.9	96.9	98.2	95.7	95.2	95.6	92.7	97.2	98.3	95.8	96.8
Trucks	2	32	9	7	7	16	11	21	8	4	12	1	130
% Trucks	3.1	3.4	2.1	3.1	1.8	4.3	4.8	4.4	7.3	2.8	1.7	4.2	3.2

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	71	**56**	132	28	28	31	87	22	47	7	76	14	**98**	**3**	**115**	**410**
07:45 AM	5	105	48	**158**	**31**	32	**32**	**95**	**23**	33	**14**	70	15	69	2	86	409
08:00 AM	5	**110**	41	156	14	26	31	71	19	40	5	64	14	67	2	83	374
08:15 AM	**8**	94	44	146	15	**36**	31	82	18	**50**	9	**77**	**17**	76	1	94	399
Total Volume	23	380	189	592	88	122	125	335	82	170	35	287	60	310	8	378	1592
% App. Total	3.9	64.2	31.9		26.3	36.4	37.3		28.6	59.2	12.2		15.9	82	2.1		
PHF	.719	.864	.844	.937	.710	.847	.977	.882	.891	.850	.625	.932	.882	.791	.667	.822	.971
Cars	21	368	186	575	88	119	120	327	79	162	32	273	60	305	7	372	1547
% Cars	91.3	96.8	98.4	97.1	100	97.5	96.0	97.6	96.3	95.3	91.4	95.1	100	98.4	87.5	98.4	97.2
Trucks	2	12	3	17	0	3	5	8	3	8	3	14	0	5	1	6	45
% Trucks	8.7	3.2	1.6	2.9	0	2.5	4.0	2.4	3.7	4.7	8.6	4.9	0	1.6	12.5	1.6	2.8

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File Name : 71360G
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Boston Avenue From North			Winthrop Street From East			Boston Avenue From South			Curtis Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	68	22	15	34	39	23	45	8	9	42	2	309
07:15 AM	5	86	31	26	32	30	18	48	8	1	62	1	348
07:30 AM	5	68	54	28	27	30	22	46	5	14	96	2	397
07:45 AM	4	100	48	31	30	30	22	33	14	15	68	2	397
Total	16	322	155	100	123	129	85	172	35	39	268	7	1451
08:00 AM	4	108	40	14	26	30	19	36	4	14	66	2	363
08:15 AM	8	92	44	15	36	30	16	47	9	17	75	1	390
08:30 AM	8	72	44	13	39	38	18	43	10	5	59	3	352
08:45 AM	6	86	47	22	34	32	20	32	9	18	53	4	363
Total	26	358	175	64	135	130	73	158	32	54	253	10	1468
09:00 AM	5	63	21	17	44	35	12	31	7	11	36	3	285
09:15 AM	9	59	27	14	28	24	14	34	10	12	31	1	263
09:30 AM	6	56	26	12	25	20	20	22	11	8	54	0	260
09:45 AM	1	43	25	14	17	15	13	38	6	16	44	2	234
Total	21	221	99	57	114	94	59	125	34	47	165	6	1042
Grand Total	63	901	429	221	372	353	217	455	101	140	686	23	3961
Apprch %	4.5	64.7	30.8	23.4	39.3	37.3	28.1	58.9	13.1	16.5	80.8	2.7	
Total %	1.6	22.7	10.8	5.6	9.4	8.9	5.5	11.5	2.5	3.5	17.3	0.6	

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	68	**54**	127	28	27	**30**	85	**22**	46	5	**73**	14	**96**	**2**	**112**	**397**
07:45 AM	4	100	48	**152**	**31**	30	30	**91**	22	33	**14**	69	15	68	2	85	397
08:00 AM	4	**108**	40	152	14	26	30	70	19	36	4	59	14	66	2	82	363
08:15 AM	**8**	92	44	144	15	**36**	30	81	16	**47**	9	72	**17**	75	1	93	390
Total Volume	21	368	186	575	88	119	120	327	79	162	32	273	60	305	7	372	1547
% App. Total	3.7	64	32.3		26.9	36.4	36.7		28.9	59.3	11.7		16.1	82	1.9		
PHF	.656	.852	.861	.946	.710	.826	1.000	.898	.898	.862	.571	.935	.882	.794	.875	.830	.974

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File Name : 71360G
Site Code : 10303
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Groups Printed- Trucks

	Boston Avenue From North			Winthrop Street From East			Boston Avenue From South			Curtis Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	3	1	1	0	1	0	2	1	0	0	0	9
07:15 AM	0	2	1	1	0	2	0	2	0	0	4	0	12
07:30 AM	0	3	2	0	1	1	0	1	2	0	2	1	13
07:45 AM	1	5	0	0	2	2	1	0	0	0	1	0	12
Total	1	13	4	2	3	6	1	5	3	0	7	1	46
08:00 AM	1	2	1	0	0	1	0	4	1	0	1	0	11
08:15 AM	0	2	0	0	0	1	2	3	0	0	1	0	9
08:30 AM	0	2	0	0	1	2	2	0	0	0	0	0	7
08:45 AM	0	2	0	0	1	0	1	3	2	2	0	0	11
Total	1	8	1	0	2	4	5	10	3	2	2	0	38
09:00 AM	0	3	1	1	1	1	0	1	0	1	0	0	9
09:15 AM	0	4	2	0	0	1	2	1	1	1	1	0	13
09:30 AM	0	3	0	2	0	3	1	1	0	0	2	0	12
09:45 AM	0	1	1	2	1	1	2	3	1	0	0	0	12
Total	0	11	4	5	2	6	5	6	2	2	3	0	46
Grand Total	2	32	9	7	7	16	11	21	8	4	12	1	130
Apprch %	4.7	74.4	20.9	23.3	23.3	53.3	27.5	52.5	20	23.5	70.6	5.9	
Total %	1.5	24.6	6.9	5.4	5.4	12.3	8.5	16.2	6.2	3.1	9.2	0.8	

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	2	1	3	**1**	0	**2**	3	0	2	0	2	0	**4**	0	**4**	12
07:30 AM	0	3	**2**	5	0	1	1	2	0	1	**2**	3	0	2	**1**	3	**13**
07:45 AM	**1**	**5**	0	**6**	0	**2**	2	**4**	**1**	0	0	1	0	1	0	1	12
08:00 AM	1	2	1	4	0	0	1	1	0	**4**	1	**5**	0	1	0	1	11
Total Volume	2	12	4	18	1	3	6	10	1	7	3	11	0	8	1	9	48
% App. Total	11.1	66.7	22.2		10	30	60		9.1	63.6	27.3		0	88.9	11.1		
PHF	.500	.600	.500	.750	.250	.375	.750	.625	.250	.438	.375	.550	.000	.500	.250	.563	.923

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Groups Printed- Peds and Bicycles

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	2	0	3	0	0	1	33	0	0	0	2	0	0	0	5	46
07:15 AM	0	0	0	4	0	0	0	11	1	0	0	1	0	0	0	1	18
07:30 AM	0	0	0	2	0	1	2	9	1	1	0	4	0	0	0	7	27
07:45 AM	0	2	0	7	0	0	0	8	1	0	0	4	0	0	0	19	41
Total	0	4	0	16	0	1	3	61	3	1	0	11	0	0	0	32	132
08:00 AM	0	4	0	2	0	0	2	11	0	0	0	3	0	0	0	11	33
08:15 AM	0	2	1	3	0	2	1	7	0	4	0	3	1	0	0	7	31
08:30 AM	0	3	0	8	0	0	3	7	0	0	0	6	1	0	0	11	39
08:45 AM	0	1	0	5	0	0	1	23	0	0	0	9	0	0	0	7	46
Total	0	10	1	18	0	2	7	48	0	4	0	21	2	0	0	36	149
09:00 AM	0	2	0	2	0	0	1	15	0	0	0	6	0	0	0	4	30
09:15 AM	0	2	0	8	1	1	0	14	0	0	0	8	0	0	0	9	43
09:30 AM	0	2	0	4	0	0	1	14	1	0	0	5	0	0	0	6	33
09:45 AM	0	3	0	0	0	0	0	16	0	1	0	8	0	0	0	6	34
Total	0	9	0	14	1	1	2	59	1	1	0	27	0	0	0	25	140
Grand Total	0	23	1	48	1	4	12	168	4	6	0	59	2	0	0	93	421
Apprch %	0	31.9	1.4	66.7	0.5	2.2	6.5	90.8	5.8	8.7	0	85.5	2.1	0	0	97.9	
Total %	0	5.5	0.2	11.4	0.2	1	2.9	39.9	1	1.4	0	14	0.5	0	0	22.1	

	Boston Avenue From North					Winthrop Street From East					Boston Avenue From South					Curtis Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	**3**	0	**8**	**11**	0	0	**3**	**7**	**10**	**0**	**0**	**0**	**6**	**6**	**1**	**0**	**0**	**11**	**12**	39
08:45 AM	0	1	0	5	6	0	0	1	**23**	**24**	0	0	0	**9**	**9**	0	0	0	7	7	**46**
09:00 AM	0	2	0	2	4	0	0	1	15	16	0	0	0	6	6	0	0	0	4	4	30
09:15 AM	0	2	0	8	10	**1**	**1**	**0**	**14**	**16**	**0**	**0**	**0**	**8**	**8**	**0**	**0**	**0**	**9**	**9**	**43**
Total Volume	0	8	0	23	31	1	1	5	59	66	0	0	0	29	29	1	0	0	31	32	158
% App. Total	0	25.8	0	74.2		1.5	1.5	7.6	89.4		0	0	0	100		3.1	0	0	96.9		
PHF	.000	.667	.000	.719	.705	.250	.250	.417	.641	.688	.000	.000	.000	.806	.806	.250	.000	.000	.705	.667	.859

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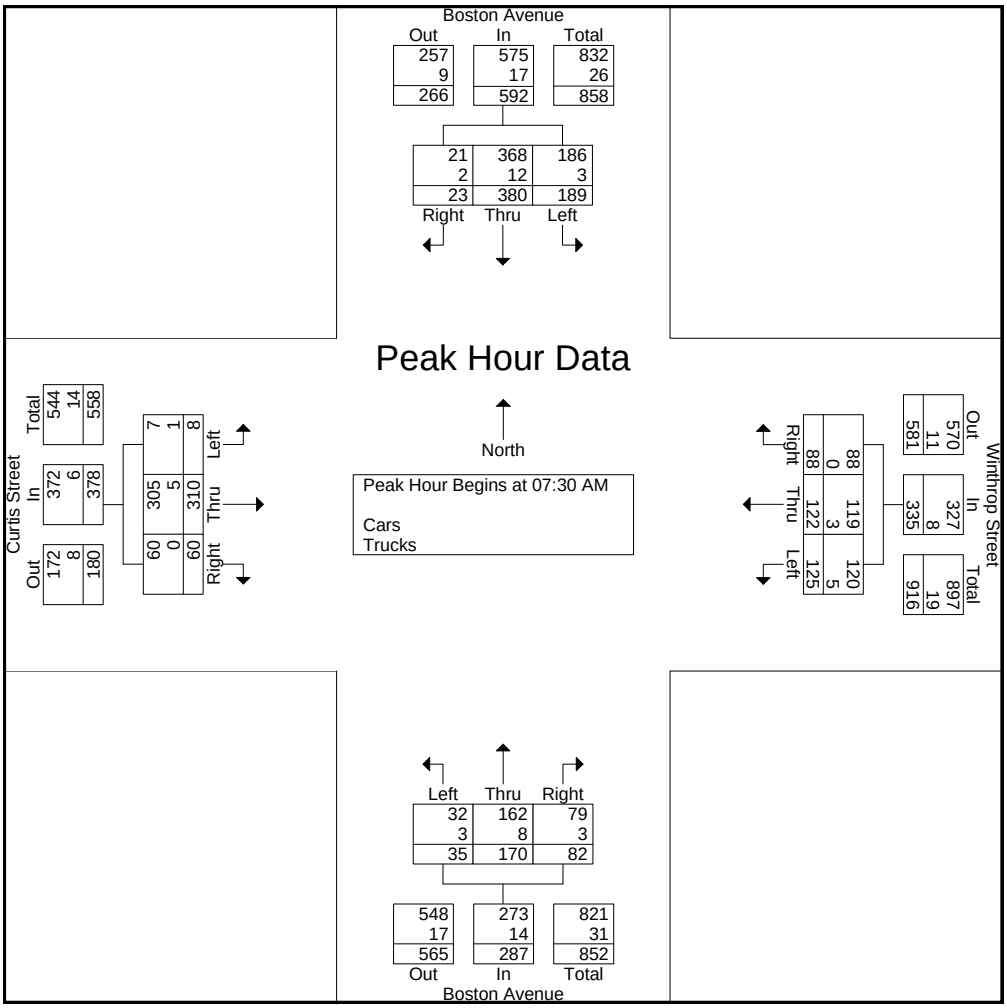
	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	71	**56**	132	28	28	31	87	22	47	7	76	14	**98**	**3**	**115**	**410**
07:45 AM	5	105	48	**158**	**31**	32	**32**	**95**	**23**	33	**14**	70	15	69	2	86	409
08:00 AM	5	**110**	41	156	14	26	31	71	19	40	5	64	14	67	2	83	374
08:15 AM	**8**	94	44	146	15	**36**	31	82	18	**50**	9	**77**	**17**	76	1	94	399
Total Volume	23	380	189	592	88	122	125	335	82	170	35	287	60	310	8	378	1592
% App. Total	3.9	64.2	31.9		26.3	36.4	37.3		28.6	59.2	12.2		15.9	82	2.1		
PHF	.719	.864	.844	.937	.710	.847	.977	.882	.891	.850	.625	.932	.882	.791	.667	.822	.971
Cars	21	368	186	575	88	119	120	327	79	162	32	273	60	305	7	372	1547
% Cars	91.3	96.8	98.4	97.1	100	97.5	96.0	97.6	96.3	95.3	91.4	95.1	100	98.4	87.5	98.4	97.2
Trucks	2	12	3	17	0	3	5	8	3	8	3	14	0	5	1	6	45
% Trucks	8.7	3.2	1.6	2.9	0	2.5	4.0	2.4	3.7	4.7	8.6	4.9	0	1.6	12.5	1.6	2.8



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Groups Printed- Cars - Trucks

	Boston Avenue From North			Winthrop Street From East			Boston Avenue From South			Curtis Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	21	56	10	10	77	5	5	27	33	16	21	15	296
03:15 PM	31	53	9	11	60	3	5	43	40	24	30	14	323
03:30 PM	29	69	10	17	71	4	4	52	40	37	31	8	372
03:45 PM	28	58	17	7	77	9	5	43	46	27	23	10	350
Total	109	236	46	45	285	21	19	165	159	104	105	47	1341
04:00 PM	31	76	8	11	76	6	7	45	38	26	23	19	366
04:15 PM	29	73	13	33	83	7	6	55	39	24	18	27	407
04:30 PM	45	74	12	11	89	5	4	32	42	21	23	13	371
04:45 PM	41	90	8	10	88	8	11	36	39	30	21	15	397
Total	146	313	41	65	336	26	28	168	158	101	85	74	1541
05:00 PM	44	72	8	17	109	8	4	41	53	31	31	10	428
05:15 PM	27	90	16	12	108	5	6	57	37	30	19	18	425
05:30 PM	33	77	18	13	76	9	6	52	49	26	25	25	409
05:45 PM	29	67	21	15	80	5	5	51	50	21	36	15	395
Total	133	306	63	57	373	27	21	201	189	108	111	68	1657
Grand Total	388	855	150	167	994	74	68	534	506	313	301	189	4539
Apprch %	27.9	61.4	10.8	13.5	80.5	6	6.1	48.2	45.7	39	37.5	23.5	
Total %	8.5	18.8	3.3	3.7	21.9	1.6	1.5	11.8	11.1	6.9	6.6	4.2	
Cars	380	831	150	165	981	74	68	511	495	306	299	182	4442
% Cars	97.9	97.2	100	98.8	98.7	100	100	95.7	97.8	97.8	99.3	96.3	97.9
Trucks	8	24	0	2	13	0	0	23	11	7	2	7	97
% Trucks	2.1	2.8	0	1.2	1.3	0	0	4.3	2.2	2.2	0.7	3.7	2.1

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	41	**90**	8	**139**	10	88	8	106	**11**	36	39	86	30	21	15	66	397
05:00 PM	**44**	72	8	124	**17**	**109**	8	**134**	4	41	**53**	98	**31**	**31**	10	72	**428**
05:15 PM	27	90	16	133	12	108	5	125	6	**57**	37	100	30	19	18	67	425
05:30 PM	33	77	**18**	128	13	76	**9**	98	6	52	49	**107**	26	25	**25**	**76**	409
Total Volume	145	329	50	524	52	381	30	463	27	186	178	391	117	96	68	281	1659
% App. Total	27.7	62.8	9.5		11.2	82.3	6.5		6.9	47.6	45.5		41.6	34.2	24.2		
PHF	.824	.914	.694	.942	.765	.874	.833	.864	.614	.816	.840	.914	.944	.774	.680	.924	.969
Cars	141	325	50	516	52	380	30	462	27	179	176	382	115	95	67	277	1637
% Cars	97.2	98.8	100	98.5	100	99.7	100	99.8	100	96.2	98.9	97.7	98.3	99.0	98.5	98.6	98.7
Trucks	4	4	0	8	0	1	0	1	0	7	2	9	2	1	1	4	22
% Trucks	2.8	1.2	0	1.5	0	0.3	0	0.2	0	3.8	1.1	2.3	1.7	1.0	1.5	1.4	1.3

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Groups Printed- Cars

	Boston Avenue From North			Winthrop Street From East			Boston Avenue From South			Curtis Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	21	55	10	10	75	5	5	24	29	16	20	14	284
03:15 PM	31	51	9	11	60	3	5	41	40	23	30	14	318
03:30 PM	28	65	10	16	69	4	4	51	39	35	31	7	359
03:45 PM	28	56	17	7	75	9	5	39	44	25	23	9	337
Total	108	227	46	44	279	21	19	155	152	99	104	44	1298
04:00 PM	30	73	8	11	76	6	7	43	38	26	23	18	359
04:15 PM	28	72	13	33	83	7	6	54	38	24	18	26	402
04:30 PM	45	71	12	10	85	5	4	31	42	21	23	12	361
04:45 PM	39	90	8	10	88	8	11	35	39	30	21	15	394
Total	142	306	41	64	332	26	28	163	157	101	85	71	1516
05:00 PM	44	70	8	17	108	8	4	37	52	30	31	10	419
05:15 PM	26	90	16	12	108	5	6	56	36	30	19	18	422
05:30 PM	32	75	18	13	76	9	6	51	49	25	24	24	402
05:45 PM	28	63	21	15	78	5	5	49	49	21	36	15	385
Total	130	298	63	57	370	27	21	193	186	106	110	67	1628
Grand Total	380	831	150	165	981	74	68	511	495	306	299	182	4442
Apprch %	27.9	61.1	11	13.5	80.4	6.1	6.3	47.6	46.1	38.9	38	23.1	
Total %	8.6	18.7	3.4	3.7	22.1	1.7	1.5	11.5	11.1	6.9	6.7	4.1	

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	39	**90**	8	**137**	10	88	8	106	**11**	35	39	85	**30**	21	15	66	394
05:00 PM	**44**	70	8	122	**17**	**108**	8	**133**	4	37	**52**	93	30	**31**	10	71	419
05:15 PM	26	90	16	132	12	108	5	125	6	**56**	36	98	30	19	18	67	**422**
05:30 PM	32	75	**18**	125	13	76	**9**	98	6	51	49	**106**	25	24	**24**	**73**	402
Total Volume	141	325	50	516	52	380	30	462	27	179	176	382	115	95	67	277	1637
% App. Total	27.3	63	9.7		11.3	82.3	6.5		7.1	46.9	46.1		41.5	34.3	24.2		
PHF	.801	.903	.694	.942	.765	.880	.833	.868	.614	.799	.846	.901	.958	.766	.698	.949	.970

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Groups Printed- Trucks

	Boston Avenue From North			Winthrop Street From East			Boston Avenue From South			Curtis Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	1	0	0	2	0	0	3	4	0	1	1	12
03:15 PM	0	2	0	0	0	0	0	2	0	1	0	0	5
03:30 PM	1	4	0	1	2	0	0	1	1	2	0	1	13
03:45 PM	0	2	0	0	2	0	0	4	2	2	0	1	13
Total	1	9	0	1	6	0	0	10	7	5	1	3	43
04:00 PM	1	3	0	0	0	0	0	2	0	0	0	1	7
04:15 PM	1	1	0	0	0	0	0	1	1	0	0	1	5
04:30 PM	0	3	0	1	4	0	0	1	0	0	0	1	10
04:45 PM	2	0	0	0	0	0	0	1	0	0	0	0	3
Total	4	7	0	1	4	0	0	5	1	0	0	3	25
05:00 PM	0	2	0	0	1	0	0	4	1	1	0	0	9
05:15 PM	1	0	0	0	0	0	0	1	1	0	0	0	3
05:30 PM	1	2	0	0	0	0	0	1	0	1	1	1	7
05:45 PM	1	4	0	0	2	0	0	2	1	0	0	0	10
Total	3	8	0	0	3	0	0	8	3	2	1	1	29
Grand Total	8	24	0	2	13	0	0	23	11	7	2	7	97
Apprch %	25	75	0	13.3	86.7	0	0	67.6	32.4	43.8	12.5	43.8	
Total %	8.2	24.7	0	2.1	13.4	0	0	23.7	11.3	7.2	2.1	7.2	

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	1	0	1	0	**2**	0	2	0	3	**4**	**7**	0	**1**	**1**	2	12
03:15 PM	0	2	0	2	0	0	0	0	0	2	0	2	1	0	0	1	5
03:30 PM	**1**	**4**	0	**5**	**1**	2	0	**3**	0	1	1	2	**2**	0	1	**3**	**13**
03:45 PM	0	2	0	2	0	2	0	2	0	**4**	2	6	2	0	1	3	13
Total Volume	1	9	0	10	1	6	0	7	0	10	7	17	5	1	3	9	43
% App. Total	10	90	0		14.3	85.7	0		0	58.8	41.2		55.6	11.1	33.3		
PHF	.250	.563	.000	.500	.250	.750	.000	.583	.000	.625	.438	.607	.625	.250	.750	.750	.827

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Groups Printed- Peds and Bicycles

	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	2	0	0	0	9	0	1	0	3	0	0	0	16	31
03:15 PM	0	0	0	11	0	1	0	7	0	0	0	4	0	0	0	13	36
03:30 PM	1	0	0	9	1	0	0	12	0	0	0	7	0	0	0	16	46
03:45 PM	0	1	0	7	0	1	0	8	0	0	0	5	0	0	0	11	33
Total	1	1	0	29	1	2	0	36	0	1	0	19	0	0	0	56	146
04:00 PM	0	1	0	4	0	0	0	12	0	0	0	6	0	0	0	11	34
04:15 PM	0	2	0	7	0	1	0	6	0	0	0	3	0	2	1	16	38
04:30 PM	0	1	2	6	0	0	0	5	0	1	0	4	0	0	0	13	32
04:45 PM	0	0	0	11	0	0	0	12	0	0	0	2	0	0	0	11	36
Total	0	4	2	28	0	1	0	35	0	1	0	15	0	2	1	51	140
05:00 PM	1	1	0	13	1	1	0	9	0	0	0	2	0	0	1	9	38
05:15 PM	1	2	0	10	0	0	0	13	0	3	1	3	0	0	1	11	45
05:30 PM	0	3	0	8	1	0	0	8	0	2	0	1	0	1	0	8	32
05:45 PM	0	6	2	9	0	1	0	9	0	4	0	1	0	0	1	12	45
Total	2	12	2	40	2	2	0	39	0	9	1	7	0	1	3	40	160
Grand Total	3	17	4	97	3	5	0	110	0	11	1	41	0	3	4	147	446
Apprch %	2.5	14	3.3	80.2	2.5	4.2	0	93.2	0	20.8	1.9	77.4	0	1.9	2.6	95.5	
Total %	0.7	3.8	0.9	21.7	0.7	1.1	0	24.7	0	2.5	0.2	9.2	0	0.7	0.9	33	

	Boston Avenue From North					Winthrop Street From East					Boston Avenue From South					Curtis Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**1**	**1**	**0**	**13**	**15**	**1**	**1**	**0**	**9**	**11**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**1**	**9**	**10**	**38**
05:15 PM	**1**	**2**	**0**	**10**	**13**	**0**	**0**	**0**	**13**	**13**	0	3	**1**	**3**	**7**	0	0	1	11	12	**45**
05:30 PM	0	3	0	8	11	1	0	0	8	9	0	2	0	1	3	0	**1**	0	8	9	32
05:45 PM	0	**6**	**2**	**9**	**17**	0	1	0	9	10	0	**4**	**0**	**1**	**5**	**0**	**0**	**1**	**12**	**13**	45
Total Volume	2	12	2	40	56	2	2	0	39	43	0	9	1	7	17	0	1	3	40	44	160
% App. Total	3.6	21.4	3.6	71.4		4.7	4.7	0	90.7		0	52.9	5.9	41.2		0	2.3	6.8	90.9		
PHF	.500	.500	.250	.769	.824	.500	.500	.000	.750	.827	.000	.563	.250	.583	.607	.000	.250	.750	.833	.846	.889

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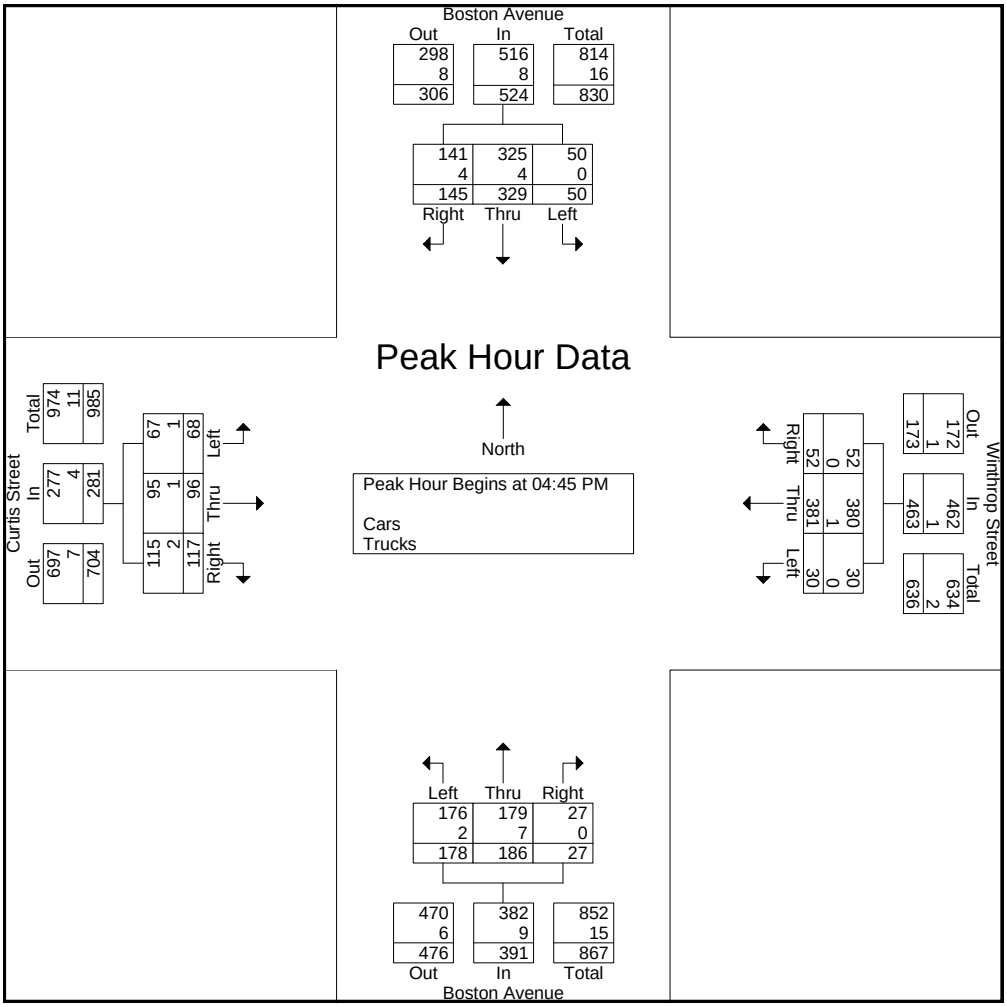
	Boston Avenue From North				Winthrop Street From East				Boston Avenue From South				Curtis Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	41	**90**	8	**139**	10	88	8	106	**11**	36	39	86	30	21	15	66	397
05:00 PM	**44**	72	8	124	**17**	**109**	8	**134**	4	41	**53**	98	**31**	**31**	10	72	**428**
05:15 PM	27	90	16	133	12	108	5	125	6	**57**	37	100	30	19	18	67	425
05:30 PM	33	77	**18**	128	13	76	**9**	98	6	52	49	**107**	26	25	**25**	**76**	409
Total Volume	145	329	50	524	52	381	30	463	27	186	178	391	117	96	68	281	1659
% App. Total	27.7	62.8	9.5		11.2	82.3	6.5		6.9	47.6	45.5		41.6	34.2	24.2		
PHF	.824	.914	.694	.942	.765	.874	.833	.864	.614	.816	.840	.914	.944	.774	.680	.924	.969
Cars	141	325	50	516	52	380	30	462	27	179	176	382	115	95	67	277	1637
% Cars	97.2	98.8	100	98.5	100	99.7	100	99.8	100	96.2	98.9	97.7	98.3	99.0	98.5	98.6	98.7
Trucks	4	4	0	8	0	1	0	1	0	7	2	9	2	1	1	4	22
% Trucks	2.8	1.2	0	1.5	0	0.3	0	0.2	0	3.8	1.1	2.3	1.7	1.0	1.5	1.4	1.3



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E/W: College Avenue
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360H
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Cars - Trucks

	Boston Avenue From North			College Avenue From East			Boston Avenue From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	24	76	6	22	62	12	2	33	2	0	16	6	261
07:15 AM	34	78	8	25	83	14	16	36	2	2	26	8	332
07:30 AM	48	62	9	15	69	19	15	52	2	0	31	11	333
07:45 AM	57	79	17	14	88	19	10	31	4	0	29	25	373
Total	163	295	40	76	302	64	43	152	10	2	102	50	1299
08:00 AM	48	98	16	16	67	9	5	38	2	2	29	18	348
08:15 AM	40	70	19	29	76	8	2	44	0	0	34	15	337
08:30 AM	37	63	12	13	79	6	9	31	1	2	26	21	300
08:45 AM	39	70	7	8	51	10	6	36	0	0	28	16	271
Total	164	301	54	66	273	33	22	149	3	4	117	70	1256
09:00 AM	44	63	12	13	75	9	5	35	5	0	30	17	308
09:15 AM	25	48	8	8	58	15	9	26	2	3	20	23	245
09:30 AM	19	41	11	15	34	8	9	28	3	1	16	13	198
09:45 AM	25	25	17	10	34	15	3	29	1	0	11	13	183
Total	113	177	48	46	201	47	26	118	11	4	77	66	934
Grand Total	440	773	142	188	776	144	91	419	24	10	296	186	3489
Apprch %	32.5	57	10.5	17	70	13	17	78.5	4.5	2	60.2	37.8	
Total %	12.6	22.2	4.1	5.4	22.2	4.1	2.6	12	0.7	0.3	8.5	5.3	
Cars	413	758	139	182	768	140	85	413	24	10	288	168	3388
% Cars	93.9	98.1	97.9	96.8	99	97.2	93.4	98.6	100	100	97.3	90.3	97.1
Trucks	27	15	3	6	8	4	6	6	0	0	8	18	101
% Trucks	6.1	1.9	2.1	3.2	1	2.8	6.6	1.4	0	0	2.7	9.7	2.9

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	48	62	9	119	15	69	**19**	103	**15**	**52**	2	**69**	0	31	11	42	333
07:45 AM	**57**	79	17	153	14	**88**	19	**121**	10	31	**4**	45	0	29	**25**	**54**	**373**
08:00 AM	48	**98**	16	**162**	16	67	9	92	5	38	2	45	**2**	29	18	49	348
08:15 AM	40	70	**19**	129	**29**	76	8	113	2	44	0	46	0	**34**	15	49	337
Total Volume	193	309	61	563	74	300	55	429	32	165	8	205	2	123	69	194	1391
% App. Total	34.3	54.9	10.8		17.2	69.9	12.8		15.6	80.5	3.9		1	63.4	35.6		
PHF	.846	.788	.803	.869	.638	.852	.724	.886	.533	.793	.500	.743	.250	.904	.690	.898	.932
Cars	184	304	60	548	71	299	53	423	32	163	8	203	2	121	59	182	1356
% Cars	95.3	98.4	98.4	97.3	95.9	99.7	96.4	98.6	100	98.8	100	99.0	100	98.4	85.5	93.8	97.5
Trucks	9	5	1	15	3	1	2	6	0	2	0	2	0	2	10	12	35
% Trucks	4.7	1.6	1.6	2.7	4.1	0.3	3.6	1.4	0	1.2	0	1.0	0	1.6	14.5	6.2	2.5

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Groups Printed- Cars

	Boston Avenue From North			College Avenue From East			Boston Avenue From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	75	6	22	62	12	2	33	2	0	16	5	257
07:15 AM	33	76	8	24	83	14	14	36	2	2	25	8	325
07:30 AM	45	61	9	15	69	19	15	51	2	0	30	9	325
07:45 AM	56	77	17	13	88	18	10	31	4	0	28	22	364
Total	156	289	40	74	302	63	41	151	10	2	99	44	1271
08:00 AM	44	97	16	15	66	8	5	37	2	2	29	16	337
08:15 AM	39	69	18	28	76	8	2	44	0	0	34	12	330
08:30 AM	35	63	12	13	78	6	7	31	1	2	25	20	293
08:45 AM	35	68	7	7	49	10	6	36	0	0	26	15	259
Total	153	297	53	63	269	32	20	148	3	4	114	63	1219
09:00 AM	40	61	11	13	74	9	5	34	5	0	30	16	298
09:15 AM	24	47	7	8	57	14	9	26	2	3	20	22	239
09:30 AM	16	39	11	14	34	8	7	27	3	1	14	12	186
09:45 AM	24	25	17	10	32	14	3	27	1	0	11	11	175
Total	104	172	46	45	197	45	24	114	11	4	75	61	898
Grand Total	413	758	139	182	768	140	85	413	24	10	288	168	3388
Apprch %	31.5	57.9	10.6	16.7	70.5	12.8	16.3	79.1	4.6	2.1	61.8	36.1	
Total %	12.2	22.4	4.1	5.4	22.7	4.1	2.5	12.2	0.7	0.3	8.5	5	

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	45	61	9	115	15	69	**19**	103	**15**	**51**	2	**68**	0	30	9	39	325
07:45 AM	**56**	77	17	150	13	**88**	18	**119**	10	31	**4**	45	0	28	**22**	**50**	**364**
08:00 AM	44	**97**	16	**157**	15	66	8	89	5	37	2	44	**2**	29	16	47	337
08:15 AM	39	69	**18**	126	**28**	76	8	112	2	44	0	46	0	**34**	12	46	330
Total Volume	184	304	60	548	71	299	53	423	32	163	8	203	2	121	59	182	1356
% App. Total	33.6	55.5	10.9		16.8	70.7	12.5		15.8	80.3	3.9		1.1	66.5	32.4		
PHF	.821	.784	.833	.873	.634	.849	.697	.889	.533	.799	.500	.746	.250	.890	.670	.910	.931

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Groups Printed- Trucks

	Boston Avenue From North			College Avenue From East			Boston Avenue From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	1	0	0	0	0	0	0	0	0	0	1	4
07:15 AM	1	2	0	1	0	0	2	0	0	0	1	0	7
07:30 AM	3	1	0	0	0	0	0	1	0	0	1	2	8
07:45 AM	1	2	0	1	0	1	0	0	0	0	1	3	9
Total	7	6	0	2	0	1	2	1	0	0	3	6	28
08:00 AM	4	1	0	1	1	1	0	1	0	0	0	2	11
08:15 AM	1	1	1	1	0	0	0	0	0	0	0	3	7
08:30 AM	2	0	0	0	1	0	2	0	0	0	1	1	7
08:45 AM	4	2	0	1	2	0	0	0	0	0	2	1	12
Total	11	4	1	3	4	1	2	1	0	0	3	7	37
09:00 AM	4	2	1	0	1	0	0	1	0	0	0	1	10
09:15 AM	1	1	1	0	1	1	0	0	0	0	0	1	6
09:30 AM	3	2	0	1	0	0	2	1	0	0	2	1	12
09:45 AM	1	0	0	0	2	1	0	2	0	0	0	2	8
Total	9	5	2	1	4	2	2	4	0	0	2	5	36
Grand Total	27	15	3	6	8	4	6	6	0	0	8	18	101
Apprch %	60	33.3	6.7	33.3	44.4	22.2	50	50	0	0	30.8	69.2	
Total %	26.7	14.9	3	5.9	7.9	4	5.9	5.9	0	0	7.9	17.8	

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	**4**	**2**	0	6	**1**	**2**	0	**3**	0	0	0	0	0	**2**	**1**	**3**	**12**
09:00 AM	4	2	**1**	**7**	0	1	0	1	0	**1**	0	1	0	0	1	1	10
09:15 AM	1	1	1	3	0	1	**1**	2	0	0	0	0	0	0	1	1	6
09:30 AM	3	2	0	5	1	0	0	1	**2**	1	0	**3**	0	2	1	3	12
Total Volume	12	7	2	21	2	4	1	7	2	2	0	4	0	4	4	8	40
% App. Total	57.1	33.3	9.5		28.6	57.1	14.3		50	50	0		0	50	50		
PHF	.750	.875	.500	.750	.500	.500	.250	.583	.250	.500	.000	.333	.000	.500	1.000	.667	.833

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Groups Printed- Peds and Bicycles

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	2	0	1	5	0	1	0	5	0	0	0	6	0	0	0	1	21
07:15 AM	0	1	0	5	0	1	0	1	0	2	0	11	0	0	0	2	23
07:30 AM	1	0	0	7	0	1	1	3	0	0	0	5	0	0	0	0	18
07:45 AM	3	0	0	0	0	3	0	5	0	2	0	8	0	0	0	1	22
Total	6	1	1	17	0	6	1	14	0	4	0	30	0	0	0	4	84
08:00 AM	1	1	0	15	0	1	0	8	0	0	0	5	0	0	0	1	32
08:15 AM	2	2	0	17	0	1	0	4	0	2	0	5	0	0	0	3	36
08:30 AM	0	1	0	16	0	1	0	1	0	0	0	15	0	0	0	2	36
08:45 AM	0	0	0	7	0	1	0	5	0	1	0	5	0	0	0	2	21
Total	3	4	0	55	0	4	0	18	0	3	0	30	0	0	0	8	125
09:00 AM	2	1	0	6	0	0	0	2	0	0	0	13	0	0	0	1	25
09:15 AM	2	1	0	26	0	2	0	0	0	0	0	23	0	1	1	9	65
09:30 AM	0	1	0	18	0	2	1	2	0	0	1	16	0	0	0	6	47
09:45 AM	0	0	0	13	0	2	1	1	0	0	0	12	0	2	0	4	35
Total	4	3	0	63	0	6	2	5	0	0	1	64	0	3	1	20	172
Grand Total	13	8	1	135	0	16	3	37	0	7	1	124	0	3	1	32	381
Apprch %	8.3	5.1	0.6	86	0	28.6	5.4	66.1	0	5.3	0.8	93.9	0	8.3	2.8	88.9	
Total %	3.4	2.1	0.3	35.4	0	4.2	0.8	9.7	0	1.8	0.3	32.5	0	0.8	0.3	8.4	

	Boston Avenue From North					College Avenue From East					Boston Avenue From South					College Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	**2**	**1**	0	6	9	0	0	0	**2**	2	0	0	0	13	13	0	0	0	1	1	25
09:15 AM	2	1	0	**26**	**29**	0	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**23**	**23**	0	1	**1**	**9**	**11**	**65**
09:30 AM	0	1	0	18	19	0	2	**1**	**2**	**5**	0	0	**1**	16	17	0	0	0	6	6	47
09:45 AM	0	0	0	13	13	0	2	1	1	4	0	0	0	12	12	0	**2**	0	4	6	35
Total Volume	4	3	0	63	70	0	6	2	5	13	0	0	1	64	65	0	3	1	20	24	172
% App. Total	5.7	4.3	0	90		0	46.2	15.4	38.5		0	0	1.5	98.5		0	12.5	4.2	83.3		
PHF	.500	.750	.000	.606	.603	.000	.750	.500	.625	.650	.000	.000	.250	.696	.707	.000	.375	.250	.556	.545	.662

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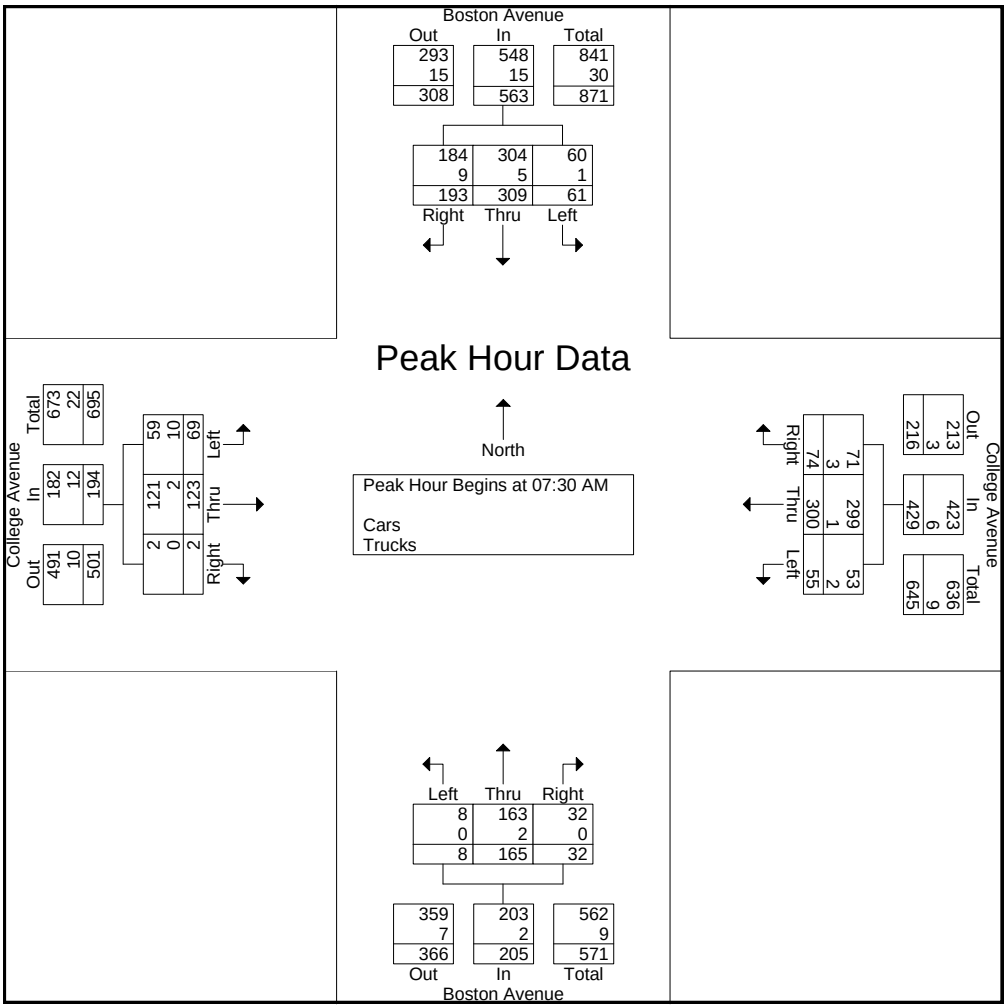
	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	48	62	9	119	15	69	**19**	103	**15**	**52**	2	**69**	0	31	11	42	333
07:45 AM	**57**	79	17	153	14	**88**	19	**121**	10	31	**4**	45	0	29	**25**	**54**	**373**
08:00 AM	48	**98**	16	**162**	16	67	9	92	5	38	2	45	**2**	29	18	49	348
08:15 AM	40	70	**19**	129	**29**	76	8	113	2	44	0	46	0	**34**	15	49	337
Total Volume	193	309	61	563	74	300	55	429	32	165	8	205	2	123	69	194	1391
% App. Total	34.3	54.9	10.8		17.2	69.9	12.8		15.6	80.5	3.9		1	63.4	35.6		
PHF	.846	.788	.803	.869	.638	.852	.724	.886	.533	.793	.500	.743	.250	.904	.690	.898	.932
Cars	184	304	60	548	71	299	53	423	32	163	8	203	2	121	59	182	1356
% Cars	95.3	98.4	98.4	97.3	95.9	99.7	96.4	98.6	100	98.8	100	99.0	100	98.4	85.5	93.8	97.5
Trucks	9	5	1	15	3	1	2	6	0	2	0	2	0	2	10	12	35
% Trucks	4.7	1.6	1.6	2.7	4.1	0.3	3.6	1.4	0	1.2	0	1.0	0	1.6	14.5	6.2	2.5



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Groups Printed- Cars - Trucks

	Boston Avenue From North			College Avenue From East			Boston Avenue From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	21	26	9	26	28	7	13	48	1	3	32	25	239
03:15 PM	21	37	8	13	34	8	7	44	3	2	50	23	250
03:30 PM	19	34	27	14	42	9	27	56	4	1	40	26	299
03:45 PM	26	38	21	24	26	5	21	59	1	4	50	24	299
Total	87	135	65	77	130	29	68	207	9	10	172	98	1087
04:00 PM	24	39	29	17	41	7	23	59	1	1	54	31	326
04:15 PM	21	54	38	20	44	8	12	49	2	3	50	36	337
04:30 PM	39	41	21	26	41	13	15	51	2	0	50	34	333
04:45 PM	27	37	25	26	51	10	15	68	2	0	51	28	340
Total	111	171	113	89	177	38	65	227	7	4	205	129	1336
05:00 PM	19	38	24	31	49	9	7	59	1	0	58	42	337
05:15 PM	40	41	25	35	46	4	16	61	2	0	56	40	366
05:30 PM	25	58	24	26	64	9	16	70	4	1	62	34	393
05:45 PM	29	41	23	40	44	14	14	51	2	2	44	30	334
Total	113	178	96	132	203	36	53	241	9	3	220	146	1430
Grand Total	311	484	274	298	510	103	186	675	25	17	597	373	3853
Apprch %	29.1	45.3	25.6	32.7	56	11.3	21	76.2	2.8	1.7	60.5	37.8	
Total %	8.1	12.6	7.1	7.7	13.2	2.7	4.8	17.5	0.6	0.4	15.5	9.7	
Cars	294	484	273	297	510	103	182	666	24	16	582	350	3781
% Cars	94.5	100	99.6	99.7	100	100	97.8	98.7	96	94.1	97.5	93.8	98.1
Trucks	17	0	1	1	0	0	4	9	1	1	15	23	72
% Trucks	5.5	0	0.4	0.3	0	0	2.2	1.3	4	5.9	2.5	6.2	1.9

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	27	37	**25**	89	26	51	**10**	87	15	68	2	85	0	51	28	79	340
05:00 PM	19	38	24	81	31	49	9	89	7	59	1	67	0	58	**42**	**100**	337
05:15 PM	**40**	41	25	106	**35**	46	4	85	**16**	61	2	79	0	56	40	96	366
05:30 PM	25	**58**	24	**107**	26	**64**	9	**99**	16	**70**	**4**	**90**	**1**	**62**	34	97	**393**
Total Volume	111	174	98	383	118	210	32	360	54	258	9	321	1	227	144	372	1436
% App. Total	29	45.4	25.6		32.8	58.3	8.9		16.8	80.4	2.8		0.3	61	38.7		
PHF	.694	.750	.980	.895	.843	.820	.800	.909	.844	.921	.563	.892	.250	.915	.857	.930	.913
Cars	105	174	98	377	118	210	32	360	54	257	9	320	1	224	139	364	1421
% Cars	94.6	100	100	98.4	100	100	100	100	100	99.6	100	99.7	100	98.7	96.5	97.8	99.0
Trucks	6	0	0	6	0	0	0	0	0	1	0	1	0	3	5	8	15
% Trucks	5.4	0	0	1.6	0	0	0	0	0	0.4	0	0.3	0	1.3	3.5	2.2	1.0

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E/W: College Avenue
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360HH
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Cars

	Boston Avenue From North			College Avenue From East			Boston Avenue From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	20	26	9	26	28	7	11	48	1	3	31	24	234
03:15 PM	19	37	8	13	34	8	7	43	3	2	48	20	242
03:30 PM	18	34	26	14	42	9	27	53	3	0	39	25	290
03:45 PM	25	38	21	24	26	5	20	58	1	4	47	24	293
Total	82	135	64	77	130	29	65	202	8	9	165	93	1059
04:00 PM	24	39	29	17	41	7	22	58	1	1	52	26	317
04:15 PM	19	54	38	20	44	8	12	49	2	3	48	34	331
04:30 PM	37	41	21	25	41	13	15	51	2	0	49	31	326
04:45 PM	25	37	25	26	51	10	15	68	2	0	50	28	337
Total	105	171	113	88	177	38	64	226	7	4	199	119	1311
05:00 PM	17	38	24	31	49	9	7	59	1	0	56	40	331
05:15 PM	38	41	25	35	46	4	16	61	2	0	56	37	361
05:30 PM	25	58	24	26	64	9	16	69	4	1	62	34	392
05:45 PM	27	41	23	40	44	14	14	49	2	2	44	27	327
Total	107	178	96	132	203	36	53	238	9	3	218	138	1411
Grand Total	294	484	273	297	510	103	182	666	24	16	582	350	3781
Apprch %	28	46.1	26	32.6	56	11.3	20.9	76.4	2.8	1.7	61.4	36.9	
Total %	7.8	12.8	7.2	7.9	13.5	2.7	4.8	17.6	0.6	0.4	15.4	9.3	

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	25	37	**25**	87	26	51	**10**	87	15	68	2	85	0	50	28	78	337
05:00 PM	17	38	24	79	31	49	9	89	7	59	1	67	0	56	**40**	96	331
05:15 PM	**38**	41	25	104	**35**	46	4	85	**16**	61	2	79	0	56	37	93	361
05:30 PM	25	**58**	24	**107**	26	**64**	9	**99**	16	**69**	**4**	**89**	**1**	**62**	34	**97**	**392**
Total Volume	105	174	98	377	118	210	32	360	54	257	9	320	1	224	139	364	1421
% App. Total	27.9	46.2	26		32.8	58.3	8.9		16.9	80.3	2.8		0.3	61.5	38.2		
PHF	.691	.750	.980	.881	.843	.820	.800	.909	.844	.931	.563	.899	.250	.903	.869	.938	.906

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Groups Printed- Trucks

	Boston Avenue From North			College Avenue From East			Boston Avenue From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	0	0	0	0	0	2	0	0	0	1	1	5
03:15 PM	2	0	0	0	0	0	0	1	0	0	2	3	8
03:30 PM	1	0	1	0	0	0	0	3	1	1	1	1	9
03:45 PM	1	0	0	0	0	0	1	1	0	0	3	0	6
Total	5	0	1	0	0	0	3	5	1	1	7	5	28
04:00 PM	0	0	0	0	0	0	1	1	0	0	2	5	9
04:15 PM	2	0	0	0	0	0	0	0	0	0	2	2	6
04:30 PM	2	0	0	1	0	0	0	0	0	0	1	3	7
04:45 PM	2	0	0	0	0	0	0	0	0	0	1	0	3
Total	6	0	0	1	0	0	1	1	0	0	6	10	25
05:00 PM	2	0	0	0	0	0	0	0	0	0	2	2	6
05:15 PM	2	0	0	0	0	0	0	0	0	0	0	3	5
05:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
05:45 PM	2	0	0	0	0	0	0	2	0	0	0	3	7
Total	6	0	0	0	0	0	0	3	0	0	2	8	19
Grand Total	17	0	1	1	0	0	4	9	1	1	15	23	72
Apprch %	94.4	0	5.6	100	0	0	28.6	64.3	7.1	2.6	38.5	59	
Total %	23.6	0	1.4	1.4	0	0	5.6	12.5	1.4	1.4	20.8	31.9	

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	**2**	0	0	**2**	0	0	0	0	0	1	0	1	0	2	3	5	8
03:30 PM	1	0	**1**	2	0	0	0	0	0	**3**	**1**	**4**	**1**	1	1	3	**9**
03:45 PM	1	0	0	1	0	0	0	0	**1**	1	0	2	0	**3**	0	3	6
04:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	2	**5**	**7**	9
Total Volume	4	0	1	5	0	0	0	0	2	6	1	9	1	8	9	18	32
% App. Total	80	0	20		0	0	0		22.2	66.7	11.1		5.6	44.4	50		
PHF	.500	.000	.250	.625	.000	.000	.000	.000	.500	.500	.250	.563	.250	.667	.450	.643	.889

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Groups Printed- Peds and Bicycles

	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	31	0	0	0	6	0	0	0	30	1	0	0	8	76
03:15 PM	0	2	0	32	0	5	0	1	0	0	0	26	0	0	0	10	76
03:30 PM	0	0	1	24	2	0	0	0	0	0	2	25	0	0	2	11	67
03:45 PM	0	0	0	50	1	0	0	0	0	1	0	43	0	3	0	14	112
Total	0	2	1	137	3	5	0	7	0	1	2	124	1	3	2	43	331
04:00 PM	0	0	0	83	0	5	0	0	1	2	0	38	0	1	1	25	156
04:15 PM	1	0	0	95	0	0	0	0	0	0	0	64	2	3	0	26	191
04:30 PM	0	0	0	43	0	1	0	1	1	0	0	41	0	1	0	19	107
04:45 PM	0	0	0	23	0	0	0	0	1	0	0	19	0	1	0	2	46
Total	1	0	0	244	0	6	0	1	3	2	0	162	2	6	1	72	500
05:00 PM	1	0	0	31	0	1	0	0	0	0	0	19	0	1	1	2	56
05:15 PM	1	1	0	28	1	1	1	0	1	1	0	23	0	1	0	7	66
05:30 PM	2	0	0	63	2	2	0	0	3	0	0	20	0	2	1	0	95
05:45 PM	5	0	0	95	3	2	0	0	2	0	0	67	0	6	2	31	213
Total	9	1	0	217	6	6	1	0	6	1	0	129	0	10	4	40	430
Grand Total	10	3	1	598	9	17	1	8	9	4	2	415	3	19	7	155	1261
Apprch %	1.6	0.5	0.2	97.7	25.7	48.6	2.9	22.9	2.1	0.9	0.5	96.5	1.6	10.3	3.8	84.2	
Total %	0.8	0.2	0.1	47.4	0.7	1.3	0.1	0.6	0.7	0.3	0.2	32.9	0.2	1.5	0.6	12.3	

	Boston Avenue From North					College Avenue From East					Boston Avenue From South					College Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	50	50	**1**	0	0	0	1	0	1	0	43	44	0	**3**	0	14	17	112
04:00 PM	0	0	0	83	83	0	**5**	**0**	**0**	**5**	**1**	**2**	**0**	**38**	**41**	**0**	**1**	**1**	**25**	**27**	**156**
04:15 PM	**1**	**0**	**0**	**95**	**96**	0	0	0	0	0	0	0	0	**64**	**64**	**2**	**3**	**0**	**26**	**31**	**191**
04:30 PM	0	0	0	43	43	0	1	0	**1**	2	1	0	0	41	42	0	1	0	19	20	107
Total Volume	1	0	0	271	272	1	6	0	1	8	2	3	0	186	191	2	8	1	84	95	566
% App. Total	0.4	0	0	99.6		12.5	75	0	12.5		1	1.6	0	97.4		2.1	8.4	1.1	88.4		
PHF	.250	.000	.000	.713	.708	.250	.300	.000	.250	.400	.500	.375	.000	.727	.746	.250	.667	.250	.808	.766	.741

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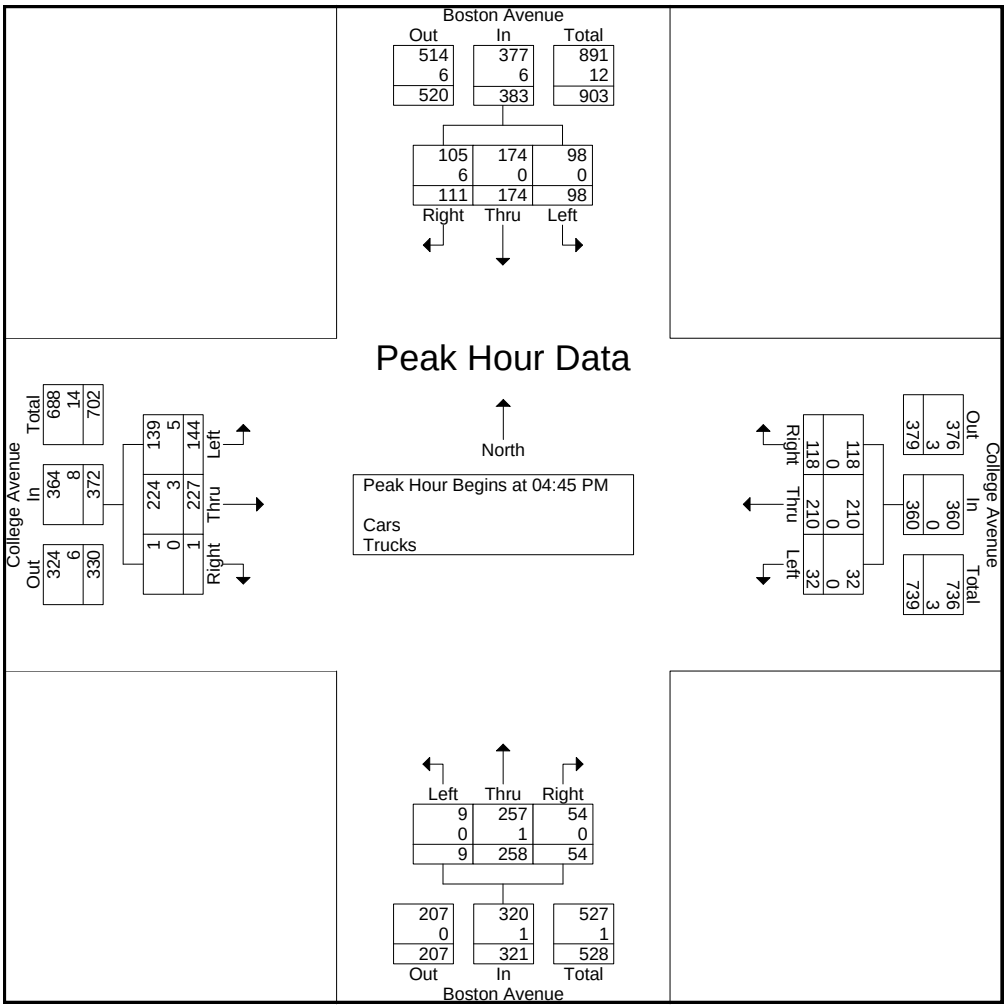
	Boston Avenue From North				College Avenue From East				Boston Avenue From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	27	37	**25**	89	26	51	**10**	87	15	68	2	85	0	51	28	79	340
05:00 PM	19	38	24	81	31	49	9	89	7	59	1	67	0	58	**42**	**100**	337
05:15 PM	**40**	41	25	106	**35**	46	4	85	**16**	61	2	79	0	56	40	96	366
05:30 PM	25	**58**	24	**107**	26	**64**	9	**99**	16	**70**	**4**	**90**	**1**	**62**	34	97	**393**
Total Volume	111	174	98	383	118	210	32	360	54	258	9	321	1	227	144	372	1436
% App. Total	29	45.4	25.6		32.8	58.3	8.9		16.8	80.4	2.8		0.3	61	38.7		
PHF	.694	.750	.980	.895	.843	.820	.800	.909	.844	.921	.563	.892	.250	.915	.857	.930	.913
Cars	105	174	98	377	118	210	32	360	54	257	9	320	1	224	139	364	1421
% Cars	94.6	100	100	98.4	100	100	100	100	100	99.6	100	99.7	100	98.7	96.5	97.8	99.0
Trucks	6	0	0	6	0	0	0	0	0	1	0	1	0	3	5	8	15
% Trucks	5.4	0	0	1.6	0	0	0	0	0	0.4	0	0.3	0	1.3	3.5	2.2	1.0



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City, State: Medford, MA
Client: VHB/A.Ng

File Name : 71360J
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Boston Avenue From North			Harvard Street From East			Boston Avenue From South			Warner Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	1	76	19	120	4	5	8	4	2	138	0	377
07:15 AM	0	7	87	44	144	4	7	9	0	5	166	1	474
07:30 AM	0	12	59	45	148	13	12	7	6	5	188	1	496
07:45 AM	0	13	69	30	132	16	16	9	4	16	209	1	515
Total	0	33	291	138	544	37	40	33	14	28	701	3	1862
08:00 AM	0	8	72	39	128	19	17	11	5	8	193	1	501
08:15 AM	0	14	81	29	138	11	14	9	8	11	194	2	511
08:30 AM	0	8	65	31	118	8	15	6	7	7	159	2	426
08:45 AM	0	4	80	39	98	4	13	6	3	9	179	0	435
Total	0	34	298	138	482	42	59	32	23	35	725	5	1873
09:00 AM	0	7	70	21	80	5	10	5	2	10	147	1	358
09:15 AM	0	7	39	23	79	11	11	6	0	7	157	2	342
09:30 AM	0	6	50	20	69	9	12	6	2	16	115	0	305
09:45 AM	0	11	26	19	71	5	11	8	5	11	117	1	285
Total	0	31	185	83	299	30	44	25	9	44	536	4	1290
Grand Total	0	98	774	359	1325	109	143	90	46	107	1962	12	5025
Apprch %	0	11.2	88.8	20	73.9	6.1	51.3	32.3	16.5	5.1	94.3	0.6	
Total %	0	2	15.4	7.1	26.4	2.2	2.8	1.8	0.9	2.1	39	0.2	
Cars	0	93	761	347	1269	109	142	89	46	102	1893	12	4863
% Cars	0	94.9	98.3	96.7	95.8	100	99.3	98.9	100	95.3	96.5	100	96.8
Trucks	0	5	13	12	56	0	1	1	0	5	69	0	162
% Trucks	0	5.1	1.7	3.3	4.2	0	0.7	1.1	0	4.7	3.5	0	3.2

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	12	59	71	**45**	**148**	13	**206**	12	7	6	25	5	188	1	194	496
07:45 AM	0	13	69	82	30	132	16	178	16	9	4	29	**16**	**209**	1	**226**	**515**
08:00 AM	0	8	72	80	39	128	**19**	186	**17**	**11**	5	**33**	8	193	1	202	501
08:15 AM	0	**14**	**81**	**95**	29	138	11	178	14	9	**8**	31	11	194	**2**	207	511
Total Volume	0	47	281	328	143	546	59	748	59	36	23	118	40	784	5	829	2023
% App. Total	0	14.3	85.7		19.1	73	7.9		50	30.5	19.5		4.8	94.6	0.6		
PHF	.000	.839	.867	.863	.794	.922	.776	.908	.868	.818	.719	.894	.625	.938	.625	.917	.982
Cars	0	45	275	320	139	524	59	722	59	36	23	118	38	768	5	811	1971
% Cars	0	95.7	97.9	97.6	97.2	96.0	100	96.5	100	100	100	100	95.0	98.0	100	97.8	97.4
Trucks	0	2	6	8	4	22	0	26	0	0	0	0	2	16	0	18	52
% Trucks	0	4.3	2.1	2.4	2.8	4.0	0	3.5	0	0	0	0	5.0	2.0	0	2.2	2.6

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File Name : 71360J
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Groups Printed- Cars

	Boston Avenue From North			Harvard Street From East			Boston Avenue From South			Warner Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	1	75	17	118	4	5	8	4	2	135	0	369
07:15 AM	0	7	87	42	139	4	7	9	0	5	164	1	465
07:30 AM	0	10	57	44	142	13	12	7	6	5	183	1	480
07:45 AM	0	13	68	30	122	16	16	9	4	16	204	1	499
Total	0	31	287	133	521	37	40	33	14	28	686	3	1813
08:00 AM	0	8	71	38	126	19	17	11	5	7	189	1	492
08:15 AM	0	14	79	27	134	11	14	9	8	10	192	2	500
08:30 AM	0	8	65	31	115	8	14	6	7	6	155	2	417
08:45 AM	0	4	79	37	91	4	13	6	3	9	170	0	416
Total	0	34	294	133	466	42	58	32	23	32	706	5	1825
09:00 AM	0	6	68	21	74	5	10	5	2	9	139	1	340
09:15 AM	0	7	38	22	75	11	11	5	0	7	144	2	322
09:30 AM	0	5	48	19	66	9	12	6	2	16	107	0	290
09:45 AM	0	10	26	19	67	5	11	8	5	10	111	1	273
Total	0	28	180	81	282	30	44	24	9	42	501	4	1225
Grand Total	0	93	761	347	1269	109	142	89	46	102	1893	12	4863
Apprch %	0	10.9	89.1	20.1	73.6	6.3	51.3	32.1	16.6	5.1	94.3	0.6	
Total %	0	1.9	15.6	7.1	26.1	2.2	2.9	1.8	0.9	2.1	38.9	0.2	

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	10	57	67	**44**	**142**	13	**199**	12	7	6	25	5	183	1	189	480
07:45 AM	0	13	68	81	30	122	16	168	16	9	4	29	**16**	**204**	1	**221**	499
08:00 AM	0	8	71	79	38	126	**19**	183	**17**	**11**	5	**33**	7	189	1	197	492
08:15 AM	0	**14**	**79**	**93**	27	134	11	172	14	9	**8**	31	10	192	**2**	204	**500**
Total Volume	0	45	275	320	139	524	59	722	59	36	23	118	38	768	5	811	1971
% App. Total	0	14.1	85.9		19.3	72.6	8.2		50	30.5	19.5		4.7	94.7	0.6		
PHF	.000	.804	.870	.860	.790	.923	.776	.907	.868	.818	.719	.894	.594	.941	.625	.917	.986

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Groups Printed- Trucks

	Boston Avenue From North			Harvard Street From East			Boston Avenue From South			Warner Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	1	2	2	0	0	0	0	0	3	0	8
07:15 AM	0	0	0	2	5	0	0	0	0	0	2	0	9
07:30 AM	0	2	2	1	6	0	0	0	0	0	5	0	16
07:45 AM	0	0	1	0	10	0	0	0	0	0	5	0	16
Total	0	2	4	5	23	0	0	0	0	0	15	0	49
08:00 AM	0	0	1	1	2	0	0	0	0	1	4	0	9
08:15 AM	0	0	2	2	4	0	0	0	0	1	2	0	11
08:30 AM	0	0	0	0	3	0	1	0	0	1	4	0	9
08:45 AM	0	0	1	2	7	0	0	0	0	0	9	0	19
Total	0	0	4	5	16	0	1	0	0	3	19	0	48
09:00 AM	0	1	2	0	6	0	0	0	0	1	8	0	18
09:15 AM	0	0	1	1	4	0	0	1	0	0	13	0	20
09:30 AM	0	1	2	1	3	0	0	0	0	0	8	0	15
09:45 AM	0	1	0	0	4	0	0	0	0	1	6	0	12
Total	0	3	5	2	17	0	0	1	0	2	35	0	65
Grand Total	0	5	13	12	56	0	1	1	0	5	69	0	162
Apprch %	0	27.8	72.2	17.6	82.4	0	50	50	0	6.8	93.2	0	
Total %	0	3.1	8	7.4	34.6	0	0.6	0.6	0	3.1	42.6	0	

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	0	0	1	1	**2**	**7**	0	**9**	0	0	0	0	0	9	0	9	19
09:00 AM	0	**1**	**2**	**3**	0	6	0	6	0	0	0	0	**1**	8	0	9	18
09:15 AM	0	0	1	1	1	4	0	5	0	**1**	0	**1**	0	**13**	0	**13**	**20**
09:30 AM	0	1	2	3	1	3	0	4	0	0	0	0	0	8	0	8	15
Total Volume	0	2	6	8	4	20	0	24	0	1	0	1	1	38	0	39	72
% App. Total	0	25	75		16.7	83.3	0		0	100	0		2.6	97.4	0		
PHF	.000	.500	.750	.667	.500	.714	.000	.667	.000	.250	.000	.250	.250	.731	.000	.750	.900

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Groups Printed- Peds and Bicycles

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0	0	6
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0	0	6
08:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	7
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	0	0	7	0	0	0	1	0	0	0	1	0	0	0	2	11
09:00 AM	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	0	5
09:15 AM	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0	4	9
09:30 AM	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0	1	7
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
Total	0	0	0	5	0	0	0	4	0	0	0	11	0	0	0	5	25
Grand Total	0	0	0	15	0	0	0	7	0	0	0	13	0	0	0	7	42
Apprch %	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	
Total %	0	0	0	35.7	0	0	0	16.7	0	0	0	31	0	0	0	16.7	

	Boston Avenue From North					Harvard Street From East					Boston Avenue From South					Warner Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	0	0	0	1	1	0	0	0	**2**	**2**	0	0	0	2	2	0	0	0	0	0	5
09:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	3	3	0	0	0	**4**	**4**	**9**
09:30 AM	0	0	0	**3**	**3**	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	7
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**	**4**	0	0	0	0	0	4
Total Volume	0	0	0	5	5	0	0	0	4	4	0	0	0	11	11	0	0	0	5	5	25
% App. Total	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	100		
PHF	.000	.000	.000	.417	.417	.000	.000	.000	.500	.500	.000	.000	.000	.688	.688	.000	.000	.000	.313	.313	.694

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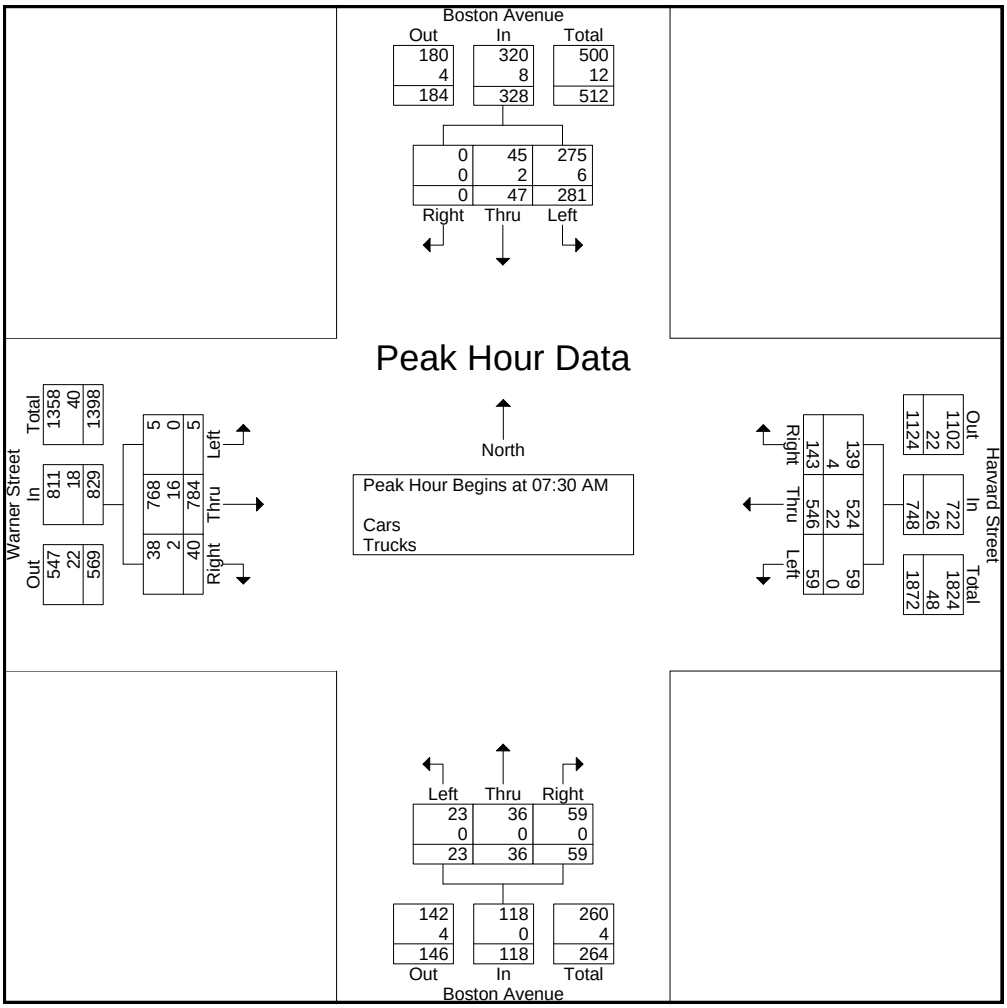
	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	12	59	71	**45**	**148**	13	**206**	12	7	6	25	5	188	1	194	496
07:45 AM	0	13	69	82	30	132	16	178	16	9	4	29	**16**	**209**	1	**226**	**515**
08:00 AM	0	8	72	80	39	128	**19**	186	**17**	**11**	5	**33**	8	193	1	202	501
08:15 AM	0	**14**	**81**	**95**	29	138	11	178	14	9	**8**	31	11	194	**2**	207	511
Total Volume	0	47	281	328	143	546	59	748	59	36	23	118	40	784	5	829	2023
% App. Total	0	14.3	85.7		19.1	73	7.9		50	30.5	19.5		4.8	94.6	0.6		
PHF	.000	.839	.867	.863	.794	.922	.776	.908	.868	.818	.719	.894	.625	.938	.625	.917	.982
Cars	0	45	275	320	139	524	59	722	59	36	23	118	38	768	5	811	1971
% Cars	0	95.7	97.9	97.6	97.2	96.0	100	96.5	100	100	100	100	95.0	98.0	100	97.8	97.4
Trucks	0	2	6	8	4	22	0	26	0	0	0	0	2	16	0	18	52
% Trucks	0	4.3	2.1	2.4	2.8	4.0	0	3.5	0	0	0	0	5.0	2.0	0	2.2	2.6



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Groups Printed- Cars - Trucks

	Boston Avenue From North			Harvard Street From East			Boston Avenue From South			Warner Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	24	23	31	120	17	5	33	2	4	90	0	356
03:15 PM	4	20	17	26	104	8	2	24	3	2	97	3	310
03:30 PM	3	27	20	22	112	16	7	51	4	1	102	1	366
03:45 PM	8	31	30	25	106	13	13	41	3	0	116	1	387
Total	22	102	90	104	442	54	27	149	12	7	405	5	1419
04:00 PM	1	34	24	16	110	17	11	78	4	1	106	2	404
04:15 PM	7	28	25	37	109	16	11	38	3	2	106	2	384
04:30 PM	5	31	29	35	111	18	8	53	4	4	109	1	408
04:45 PM	2	36	21	41	109	14	10	63	3	2	107	1	409
Total	15	129	99	129	439	65	40	232	14	9	428	6	1605
05:00 PM	2	34	22	25	129	13	6	60	4	1	132	1	429
05:15 PM	2	51	25	37	158	29	12	72	4	3	106	3	502
05:30 PM	1	42	29	39	135	22	4	63	7	4	104	7	457
05:45 PM	2	21	13	23	116	9	5	37	5	4	82	2	319
Total	7	148	89	124	538	73	27	232	20	12	424	13	1707
Grand Total	44	379	278	357	1419	192	94	613	46	28	1257	24	4731
Apprch %	6.3	54.1	39.7	18.1	72.1	9.8	12.5	81.4	6.1	2.1	96	1.8	
Total %	0.9	8	5.9	7.5	30	4.1	2	13	1	0.6	26.6	0.5	
Cars	44	378	277	356	1399	190	92	611	46	27	1223	24	4667
% Cars	100	99.7	99.6	99.7	98.6	99	97.9	99.7	100	96.4	97.3	100	98.6
Trucks	0	1	1	1	20	2	2	2	0	1	34	0	64
% Trucks	0	0.3	0.4	0.3	1.4	1	2.1	0.3	0	3.6	2.7	0	1.4

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	36	21	59	**41**	109	14	164	10	63	3	76	2	107	1	110	409
05:00 PM	2	34	22	58	25	129	13	167	6	60	4	70	1	**132**	1	**134**	429
05:15 PM	2	**51**	25	**78**	37	**158**	**29**	**224**	**12**	**72**	4	**88**	3	106	3	112	**502**
05:30 PM	1	42	**29**	72	39	135	22	196	4	63	**7**	74	**4**	104	**7**	115	457
Total Volume	7	163	97	267	142	531	78	751	32	258	18	308	10	449	12	471	1797
% App. Total	2.6	61	36.3		18.9	70.7	10.4		10.4	83.8	5.8		2.1	95.3	2.5		
PHF	.875	.799	.836	.856	.866	.840	.672	.838	.667	.896	.643	.875	.625	.850	.429	.879	.895
Cars	7	163	96	266	142	526	78	746	32	258	18	308	9	439	12	460	1780
% Cars	100	100	99.0	99.6	100	99.1	100	99.3	100	100	100	100	90.0	97.8	100	97.7	99.1
Trucks	0	0	1	1	0	5	0	5	0	0	0	0	1	10	0	11	17
% Trucks	0	0	1.0	0.4	0	0.9	0	0.7	0	0	0	0	10.0	2.2	0	2.3	0.9

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Groups Printed- Cars

	Boston Avenue From North			Harvard Street From East			Boston Avenue From South			Warner Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	24	23	31	116	17	5	33	2	4	88	0	350
03:15 PM	4	20	17	26	102	7	2	24	3	2	94	3	304
03:30 PM	3	27	20	21	109	16	7	51	4	1	98	1	358
03:45 PM	8	31	30	25	103	13	13	40	3	0	110	1	377
Total	22	102	90	103	430	53	27	148	12	7	390	5	1389
04:00 PM	1	34	24	16	110	16	11	78	4	1	104	2	401
04:15 PM	7	27	25	37	109	16	10	37	3	2	102	2	377
04:30 PM	5	31	29	35	109	18	8	53	4	4	107	1	404
04:45 PM	2	36	21	41	108	14	10	63	3	2	106	1	407
Total	15	128	99	129	436	64	39	231	14	9	419	6	1589
05:00 PM	2	34	21	25	128	13	6	60	4	1	124	1	419
05:15 PM	2	51	25	37	156	29	12	72	4	3	106	3	500
05:30 PM	1	42	29	39	134	22	4	63	7	3	103	7	454
05:45 PM	2	21	13	23	115	9	4	37	5	4	81	2	316
Total	7	148	88	124	533	73	26	232	20	11	414	13	1689
Grand Total	44	378	277	356	1399	190	92	611	46	27	1223	24	4667
Apprch %	6.3	54.1	39.6	18.3	71.9	9.8	12.3	81.6	6.1	2.1	96	1.9	
Total %	0.9	8.1	5.9	7.6	30	4.1	2	13.1	1	0.6	26.2	0.5	

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	36	21	59	**41**	108	14	163	10	63	3	76	2	106	1	109	407
05:00 PM	2	34	21	57	25	128	13	166	6	60	4	70	1	**124**	1	**126**	419
05:15 PM	2	**51**	25	**78**	37	**156**	**29**	**222**	**12**	**72**	4	**88**	**3**	106	3	112	**500**
05:30 PM	1	42	**29**	72	39	134	22	195	4	63	**7**	74	3	103	**7**	113	454
Total Volume	7	163	96	266	142	526	78	746	32	258	18	308	9	439	12	460	1780
% App. Total	2.6	61.3	36.1		19	70.5	10.5		10.4	83.8	5.8		2	95.4	2.6		
PHF	.875	.799	.828	.853	.866	.843	.672	.840	.667	.896	.643	.875	.750	.885	.429	.913	.890

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Groups Printed- Trucks

	Boston Avenue From North			Harvard Street From East			Boston Avenue From South			Warner Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	4	0	0	0	0	0	2	0	6
03:15 PM	0	0	0	0	2	1	0	0	0	0	3	0	6
03:30 PM	0	0	0	1	3	0	0	0	0	0	4	0	8
03:45 PM	0	0	0	0	3	0	0	1	0	0	6	0	10
Total	0	0	0	1	12	1	0	1	0	0	15	0	30
04:00 PM	0	0	0	0	0	1	0	0	0	0	2	0	3
04:15 PM	0	1	0	0	0	0	1	1	0	0	4	0	7
04:30 PM	0	0	0	0	2	0	0	0	0	0	2	0	4
04:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	1	0	0	3	1	1	1	0	0	9	0	16
05:00 PM	0	0	1	0	1	0	0	0	0	0	8	0	10
05:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	1	0	0	0	0	1	1	0	3
05:45 PM	0	0	0	0	1	0	1	0	0	0	1	0	3
Total	0	0	1	0	5	0	1	0	0	1	10	0	18
Grand Total	0	1	1	1	20	2	2	2	0	1	34	0	64
Apprch %	0	50	50	4.3	87	8.7	50	50	0	2.9	97.1	0	
Total %	0	1.6	1.6	1.6	31.2	3.1	3.1	3.1	0	1.6	53.1	0	

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	**4**	0	**4**	0	0	0	0	0	2	0	2	6
03:15 PM	0	0	0	0	0	2	**1**	3	0	0	0	0	0	3	0	3	6
03:30 PM	0	0	0	0	**1**	3	0	4	0	0	0	0	0	4	0	4	8
03:45 PM	0	0	0	0	0	3	0	3	0	**1**	0	**1**	0	**6**	0	**6**	**10**
Total Volume	0	0	0	0	1	12	1	14	0	1	0	1	0	15	0	15	30
% App. Total	0	0	0		7.1	85.7	7.1		0	100	0		0	100	0		
PHF	.000	.000	.000	.000	.250	.750	.250	.875	.000	.250	.000	.250	.000	.625	.000	.625	.750

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E/W: Harvard Street/Warner Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360JJ
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	8	0	0	0	3	0	0	0	5	0	1	0	1	18
03:15 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	3	9
03:30 PM	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	1	31
03:45 PM	0	0	0	0	0	0	0	2	0	0	0	5	0	0	0	2	9
Total	0	0	0	38	0	0	0	8	0	0	0	13	0	1	0	7	67
04:00 PM	0	0	0	5	0	0	0	1	0	0	0	5	0	0	0	2	13
04:15 PM	0	0	0	7	0	0	0	1	0	0	0	4	0	0	0	1	13
04:30 PM	0	0	0	4	0	0	0	1	0	0	0	7	0	0	0	3	15
04:45 PM	0	0	0	2	0	0	0	2	0	0	0	3	0	0	0	2	9
Total	0	0	0	18	0	0	0	5	0	0	0	19	0	0	0	8	50
05:00 PM	0	0	0	45	0	0	0	2	0	0	0	2	0	0	0	2	51
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	2	7
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	6
Total	0	0	0	45	0	0	0	3	0	0	0	10	0	0	0	6	64
Grand Total	0	0	0	101	0	0	0	16	0	0	0	42	0	1	0	21	181
Apprch %	0	0	0	100	0	0	0	100	0	0	0	100	0	4.5	0	95.5	
Total %	0	0	0	55.8	0	0	0	8.8	0	0	0	23.2	0	0.6	0	11.6	

	Boston Avenue From North					Harvard Street From East					Boston Avenue From South					Warner Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	7	7	0	0	0	1	1	0	0	0	4	4	0	0	0	1	1	13
04:30 PM	0	0	0	4	4	0	0	0	1	1	0	0	0	**7**	**7**	0	0	0	**3**	**3**	15
04:45 PM	0	0	0	2	2	0	0	0	**2**	**2**	0	0	0	3	3	0	0	0	2	2	9
05:00 PM	0	0	0	**45**	**45**	0	0	0	2	2	0	0	0	2	2	0	0	0	2	2	**51**
Total Volume	0	0	0	58	58	0	0	0	6	6	0	0	0	16	16	0	0	0	8	8	88
% App. Total	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	100		
PHF	.000	.000	.000	.322	.322	.000	.000	.000	.750	.750	.000	.000	.000	.571	.571	.000	.000	.000	.667	.667	.431

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N/S: Boston Avenue
E/W: Harvard Street/Warner Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360JJ
Site Code : 10303
Start Date : 11/7/2007
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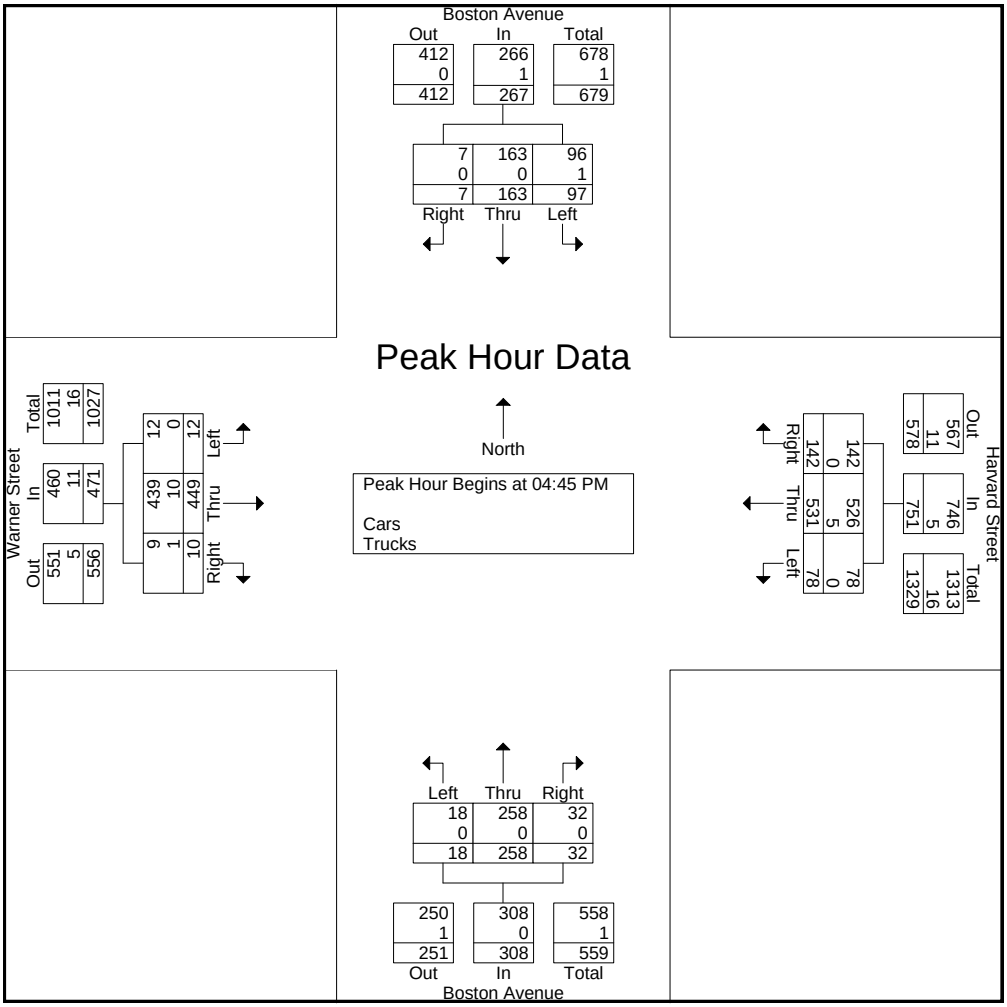
	Boston Avenue From North				Harvard Street From East				Boston Avenue From South				Warner Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	36	21	59	**41**	109	14	164	10	63	3	76	2	107	1	110	409
05:00 PM	2	34	22	58	25	129	13	167	6	60	4	70	1	**132**	1	**134**	429
05:15 PM	2	**51**	25	**78**	37	**158**	**29**	**224**	**12**	**72**	4	**88**	3	106	3	112	**502**
05:30 PM	1	42	**29**	72	39	135	22	196	4	63	**7**	74	**4**	104	**7**	115	457
Total Volume	7	163	97	267	142	531	78	751	32	258	18	308	10	449	12	471	1797
% App. Total	2.6	61	36.3		18.9	70.7	10.4		10.4	83.8	5.8		2.1	95.3	2.5		
PHF	.875	.799	.836	.856	.866	.840	.672	.838	.667	.896	.643	.875	.625	.850	.429	.879	.895
Cars	7	163	96	266	142	526	78	746	32	258	18	308	9	439	12	460	1780
% Cars	100	100	99.0	99.6	100	99.1	100	99.3	100	100	100	100	90.0	97.8	100	97.7	99.1
Trucks	0	0	1	1	0	5	0	5	0	0	0	0	1	10	0	11	17
% Trucks	0	0	1.0	0.4	0	0.9	0	0.7	0	0	0	0	10.0	2.2	0	2.3	0.9



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N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360P
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Forest Street From North				Salem Street (Route 60) From Northeast				Riverside Street (Route 60) From East				Main Street From South				High Street (Route 60) From West				
Start	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Int. Total
07:00 AM	1	110	1	0	17	158	273	0	0	0	0	0	12	0	0	0	50	66	0	0	688
07:15 AM	2	100	7	0	13	170	298	0	0	0	0	0	14	0	0	0	49	62	0	0	715
07:30 AM	2	93	10	0	17	149	312	0	0	0	0	0	24	0	0	0	26	81	0	0	714
07:45 AM	5	86	9	0	13	120	284	0	0	0	0	0	13	0	0	0	65	78	0	0	673
Total	10	389	27	0	60	597	1167	0	0	0	0	0	63	0	0	0	190	287	0	0	2790
08:00 AM	1	98	6	0	24	117	280	0	0	0	0	0	19	0	0	0	72	71	0	0	688
08:15 AM	6	94	6	0	11	102	264	0	0	0	0	0	21	0	0	0	73	67	0	0	644
08:30 AM	9	87	8	0	26	133	301	0	0	0	0	0	17	0	0	0	64	74	0	0	719
08:45 AM	6	78	12	0	19	116	284	1	0	0	0	0	23	0	0	0	65	68	0	0	672
Total	22	357	32	0	80	468	1129	1	0	0	0	0	80	0	0	0	274	280	0	0	2723
09:00 AM	6	96	9	0	29	86	291	1	0	0	0	0	14	0	0	0	53	62	0	0	647
09:15 AM	6	81	15	0	8	97	230	0	0	0	0	0	16	0	0	0	52	66	0	0	571
09:30 AM	4	88	17	0	27	111	220	0	0	0	0	0	9	0	0	0	44	64	0	0	584
09:45 AM	5	79	22	0	21	104	220	0	0	0	0	0	22	0	0	0	31	70	0	0	574
Total	21	344	63	0	85	398	961	1	0	0	0	0	61	0	0	0	180	262	0	0	2376
Grand Total	53	1090	122	0	225	1463	3257	2	0	0	0	0	204	0	0	0	644	829	0	0	7889
Apprch %	4.2	86.2	9.6	0	4.5	29.6	65.8	0	0	0	0	0	100	0	0	0	43.7	56.3	0	0	
Total %	0.7	13.8	1.5	0	2.9	18.5	41.3	0	0	0	0	0	2.6	0	0	0	8.2	10.5	0	0	
Cars	50	1062	117	0	211	1384	3157	2	0	0	0	0	154	0	0	0	613	777	0	0	7527
% Cars	94.3	97.4	95.9	0	93.8	94.6	96.9	100	0	0	0	0	75.5	0	0	0	95.2	93.7	0	0	95.4
Trucks	3	28	5	0	14	79	100	0	0	0	0	0	50	0	0	0	31	52	0	0	362
% Trucks	5.7	2.6	4.1	0	6.2	5.4	3.1	0	0	0	0	0	24.5	0	0	0	4.8	6.3	0	0	4.6

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Street (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	1	**110**	1	0	**112**	**17**	158	273	0	448	0	0	0	0	0	12	0	0	0	12	50	66	0	0	116	688
07:15 AM	2	100	7	0	109	13	**170**	298	0	**481**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**14**	**49**	**62**	**0**	**0**	**111**	**715**
07:30 AM	2	93	**10**	**0**	**105**	**17**	149	**312**	0	478	0	0	0	0	0	**24**	**0**	**0**	**0**	**24**	26	**81**	**0**	**0**	**107**	**714**
07:45 AM	**5**	**86**	**9**	**0**	**100**	**13**	120	284	0	417	0	0	0	0	0	13	0	0	0	13	**65**	**78**	**0**	**0**	**143**	**673**
Total Volume	10	389	27	0	426	60	597	1167	0	1824	0	0	0	0	0	63	0	0	0	63	190	287	0	0	477	2790
% App. Total		91.3					32.7	64	0		0	0	0	0		100	0	0	0		39.8	60.2	0	0		
PHF	.500	.884	.675	.000	.951	.882	.878	.935	.000	.948	.000	.000	.000	.000		.656	.000	.000	.000	.656	.731	.886	.000	.000	.834	.976
Cars	8	380					568	1144													182	273	0	0	455	2683
% Cars	80.0	97.7	96.3	0	97.2	88.3	95.1	98.0								77.8	0	0	0	77.8	95.8	95.1	0	0	95.4	96.2
Trucks	2	9	1	0	12	7	29	23	0	59	0	0	0	0	0	14	0	0	0	14	8	14	0	0	22	107
% Trucks	20.0	2.3	3.7	0	2.8	11.7	4.9	2.0	0	3.2	0	0	0	0	0	22.2	0	0	0	22.2	4.2	4.9	0	0	4.6	3.8

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N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360P
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Forest Street From North				Salem Street (Route 60) From Northeast				Riverside Street (Route 60) From East				Main Street From South				High Street (Route 60) From West				
Start	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Int. Total
07:00 AM	1	108	1	0	15	152	268	0	0	0	0	0	7	0	0	0	48	61	0	0	661
07:15 AM	1	97	6	0	13	159	294	0	0	0	0	0	12	0	0	0	48	60	0	0	690
07:30 AM	2	90	10	0	15	144	306	0	0	0	0	0	18	0	0	0	25	79	0	0	689
07:45 AM	4	85	9	0	10	113	276	0	0	0	0	0	12	0	0	0	61	73	0	0	643
Total	8	380	26	0	53	568	1144	0	0	0	0	0	49	0	0	0	182	273	0	0	2683
08:00 AM	1	96	6	0	24	110	270	0	0	0	0	0	15	0	0	0	70	64	0	0	656
08:15 AM	6	90	6	0	10	97	252	0	0	0	0	0	14	0	0	0	67	62	0	0	604
08:30 AM	9	84	7	0	24	126	293	0	0	0	0	0	15	0	0	0	61	70	0	0	689
08:45 AM	6	76	12	0	19	110	276	1	0	0	0	0	16	0	0	0	62	64	0	0	642
Total	22	346	31	0	77	443	1091	1	0	0	0	0	60	0	0	0	260	260	0	0	2591
09:00 AM	5	94	9	0	27	80	281	1	0	0	0	0	9	0	0	0	52	57	0	0	615
09:15 AM	6	78	14	0	8	93	219	0	0	0	0	0	12	0	0	0	49	63	0	0	542
09:30 AM	4	87	16	0	26	106	212	0	0	0	0	0	7	0	0	0	43	59	0	0	560
09:45 AM	5	77	21	0	20	94	210	0	0	0	0	0	17	0	0	0	27	65	0	0	536
Total	20	336	60	0	81	373	922	1	0	0	0	0	45	0	0	0	171	244	0	0	2253
Grand Total	50	1062	117	0	211	1384	3157	2	0	0	0	0	154	0	0	0	613	777	0	0	7527
Apprch %	4.1	86.4	9.5	0	4.4	29.1	66.4	0	0	0	0	0	100	0	0	0	44.1	55.9	0	0	
Total %	0.7	14.1	1.6	0	2.8	18.4	41.9	0	0	0	0	0	2	0	0	0	8.1	10.3	0	0	

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Street (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	1	**108**	1	0	**110**	**15**	152	268	0	435	0	0	0	0	0	7	0	0	0	7	48	61	0	0	109	661
07:15 AM	1	97	6	0	104	13	**159**	294	0	**466**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**12**	**48**	**60**	**0**	**0**	**108**	**690**
07:30 AM	2	90	**10**	**0**	**102**	**15**	144	**306**	0	465	0	0	0	0	0	**18**	**0**	**0**	**0**	**18**	25	**79**	**0**	**0**	**104**	**689**
07:45 AM	**4**	**85**	**9**	**0**	**98**	**10**	113	276	0	399	0	0	0	0	0	12	0	0	0	12	**61**	**73**	**0**	**0**	**134**	**643**
Total Volume	8	380	26	0	414	53	568	1144	0	1765	0	0	0	0	0	49	0	0	0	49	182	273	0	0	455	2683
% App. Total		91.8					32.2	64.8								100	0	0	0		40	60	0	0		
PHF	.500	.880	.650	.000	.941	.883	.893	.935	.000	.947	.000	.000	.000	.000		.681	.000	.000	.000	.681	.746	.864	.000	.000	.849	.972

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File Name : 71360P
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Groups Printed- Trucks

	Forest Street From North				Salem Street (Route 60) From Northeast				Riverside Street (Route 60) From East				Main Street From South				High Street (Route 60) From West				
Start	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Int. Total
07:00 AM	0	2	0	0	2	6	5	0	0	0	0	0	5	0	0	0	2	5	0	0	27
07:15 AM	1	3	1	0	0	11	4	0	0	0	0	0	2	0	0	0	1	2	0	0	25
07:30 AM	0	3	0	0	2	5	6	0	0	0	0	0	6	0	0	0	1	2	0	0	25
07:45 AM	1	1	0	0	3	7	8	0	0	0	0	0	1	0	0	0	4	5	0	0	30
Total	2	9	1	0	7	29	23	0	0	0	0	0	14	0	0	0	8	14	0	0	107
08:00 AM	0	2	0	0	0	7	10	0	0	0	0	0	4	0	0	0	2	7	0	0	32
08:15 AM	0	4	0	0	1	5	12	0	0	0	0	0	7	0	0	0	6	5	0	0	40
08:30 AM	0	3	1	0	2	7	8	0	0	0	0	0	2	0	0	0	3	4	0	0	30
08:45 AM	0	2	0	0	0	6	8	0	0	0	0	0	7	0	0	0	3	4	0	0	30
Total	0	11	1	0	3	25	38	0	0	0	0	0	20	0	0	0	14	20	0	0	132
09:00 AM	1	2	0	0	2	6	10	0	0	0	0	0	5	0	0	0	1	5	0	0	32
09:15 AM	0	3	1	0	0	4	11	0	0	0	0	0	4	0	0	0	3	3	0	0	29
09:30 AM	0	1	1	0	1	5	8	0	0	0	0	0	2	0	0	0	1	5	0	0	24
09:45 AM	0	2	1	0	1	10	10	0	0	0	0	0	5	0	0	0	4	5	0	0	38
Total	1	8	3	0	4	25	39	0	0	0	0	0	16	0	0	0	9	18	0	0	123
Grand Total	3	28	5	0	14	79	100	0	0	0	0	0	50	0	0	0	31	52	0	0	362
Apprch %	8.3	77.8	13.9	0	7.3	40.9	51.8	0	0	0	0	0	100	0	0	0	37.3	62.7	0	0	
Total %	0.8	7.7	1.4	0	3.9	21.8	27.6	0	0	0	0	0	13.8	0	0	0	8.6	14.4	0	0	

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Street (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:45 AM																									
07:45 AM	**1**	**1**	**0**	**0**	**2**	**3**	**7**	**8**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**5**	**0**	**0**	**9**	**30**
08:00 AM	0	2	0	0	2	0	7	10	0	17	0	0	0	0	0	4	0	0	0	4	2	**7**	**0**	**0**	**9**	**32**
08:15 AM	0	**4**	0	0	**4**	1	5	**12**	0	18	0	0	0	0	0	**7**	**0**	**0**	**0**	**7**	**6**	**5**	**0**	**0**	**11**	**40**
08:30 AM	0	3	**1**	**0**	**4**	**2**	**7**	**8**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**3**	**4**	**0**	**0**	**7**	**30**
Total Volume	1	10	1	0	12	6	26	38	0	70	0	0	0	0	0	14	0	0	0	14	15	21	0	0	36	132
% App. Total	8.3	83.3	8.3	0		8.6	37.1	54.3	0		0	0	0	0		100	0	0	0		41.7	58.3	0	0		
PHF	.250	.625	.250	.000	.750	.500	.929	.792	.000	.972	.000	.000	.000	.000		.500	.000	.000	.000	.500	.625	.750	.000	.000	.818	.825

PRECISION DATA INDUSTRIES, LLC
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N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360P
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Street (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Int. Total
07:00 AM	0	0	0	0	11	0	0	0	0	5	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	24
07:15 AM	0	0	0	0	15	0	0	1	0	11	0	0	0	0	0	0	0	0	0	4	0	2	0	0	4	37
07:30 AM	0	0	0	0	13	0	0	0	0	11	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	28
07:45 AM	0	2	0	0	28	0	1	0	0	13	0	0	0	0	0	0	0	0	0	6	0	0	0	0	2	52
Total	0	2	0	0	67	0	1	1	0	40	0	0	0	0	0	0	0	0	0	18	0	2	0	0	10	141
08:00 AM	0	2	0	0	21	0	0	0	0	13	0	0	0	0	0	0	0	0	0	2	0	0	0	0	4	42
08:15 AM	0	2	0	0	16	0	0	0	0	15	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	37
08:30 AM	0	1	0	0	18	0	1	0	0	17	0	0	0	0	0	0	0	0	0	6	0	0	0	0	2	45
08:45 AM	0	0	0	0	24	0	0	2	0	16	0	0	0	0	0	0	0	0	0	3	0	2	0	0	1	48
Total	0	5	0	0	79	0	1	2	0	61	0	0	0	0	0	0	0	0	0	15	0	2	0	0	7	172
09:00 AM	0	1	0	0	18	0	0	0	0	6	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	33
09:15 AM	0	1	0	0	22	0	0	0	0	7	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	36
09:30 AM	0	0	0	0	21	0	0	0	0	14	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	39
09:45 AM	0	0	0	0	25	0	0	0	0	8	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	39
Total	0	2	0	0	86	0	0	0	0	35	0	0	0	0	0	2	0	0	0	14	0	0	0	0	8	147
Grand Total	0	9	0	0	232	0	2	3	0	136	0	0	0	0	0	2	0	0	0	47	0	4	0	0	25	460
Apprch %	0	3.7	0	0	96.3	0	1.4	2.1	0	96.5	0	0	0	0	0	4.1	0	0	0	95.9	0	13.8	0	0	86.2	
Total %	0	2	0	0	50.4	0	0.4	0.7	0	29.6	0	0	0	0	0	0.4	0	0	0	10.2	0	0.9	0	0	5.4	

	Forest Street From North						Salem Street (Route 60) From Northeast						Riverside Street (Route 60) From East						Main Street From South						High Street (Route 60) From West						
Start Time	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:45 AM																															
07:45 AM	0	**2**	0	0	**28**	**30**	0	**1**	0	0	13	14	0	0	0	0	0	0	0	0	0	0	**6**	**6**	0	0	0	0	2	2	**52**
08:00 AM	0	2	0	0	21	23	0	0	0	0	13	13	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	**4**	**4**	42
08:15 AM	0	2	0	0	16	18	0	0	0	0	15	15	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	37
08:30 AM	0	1	0	0	18	19	0	1	0	0	**17**	**18**	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0	2	2	45
Total Volume	0	7	0	0	83	90	0	2	0	0	58	60	0	0	0	0	0	0	0	0	0	0	18	18	0	0	0	0	8	8	176
% App. Total	0	7.8	0	0	92.2		0	3.3	0	0	96.7		0	0	0	0	0		0	0	0	0	100		0	0	0	0	100		
PHF	.000	.875	.000	.000	.741	.750	.000	.500	.000	.000	.853	.833	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.750	.000	.000	.000	.000	.500	.500	.846

PRECISION
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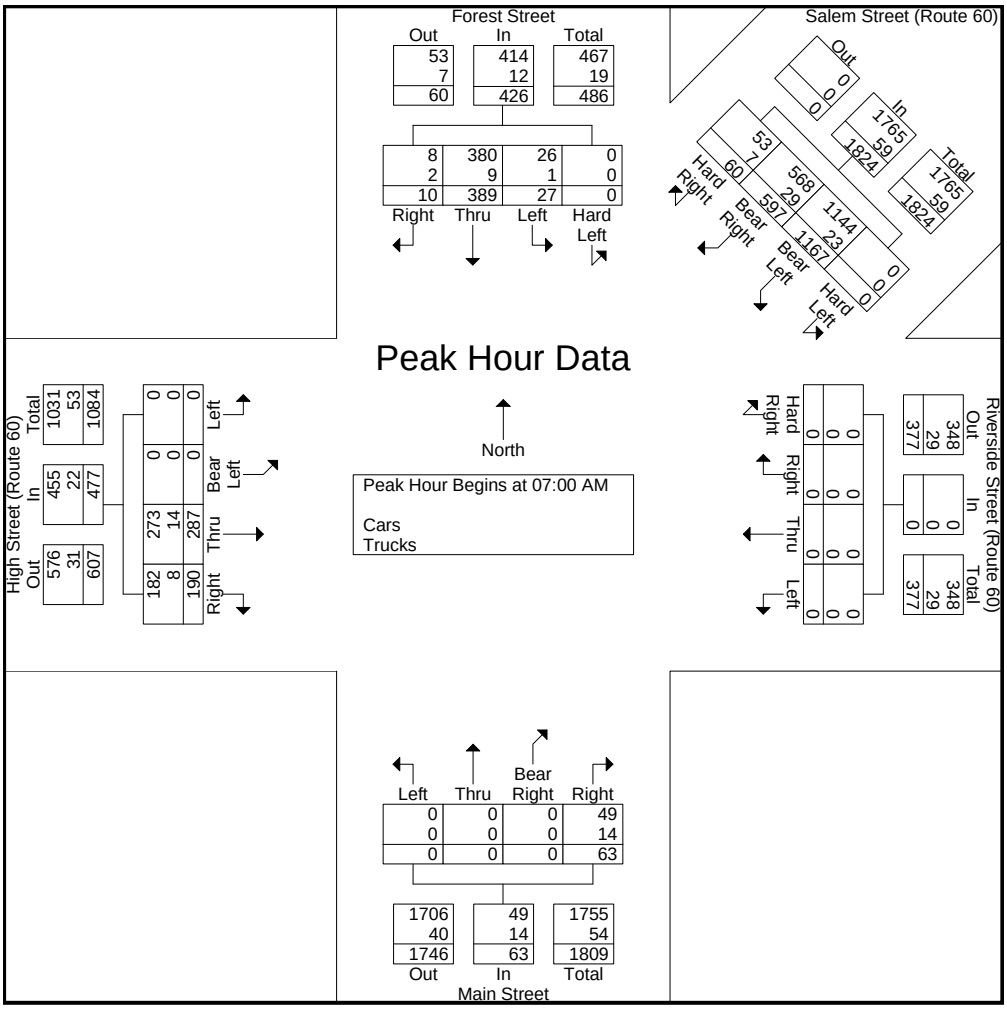
N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360P
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Street (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:00 AM																										
07:00 AM	1	**110**	1	0	**112**	**17**	158	273	0	448	0	0	0	0	0	12	0	0	0	12	50	66	0	0	116	688
07:15 AM	2	100	7	0	109	13	**170**	298	0	**481**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**14**	**49**	**62**	**0**	**0**	**111**	**715**
07:30 AM	2	93	**10**	**0**	**105**	**17**	149	**312**	0	478	0	0	0	0	0	**24**	**0**	**0**	**0**	**24**	26	**81**	**0**	**0**	**107**	**714**
07:45 AM	**5**	**86**	**9**	**0**	**100**	**13**	120	284	0	417	0	0	0	0	0	13	0	0	0	13	**65**	**78**	**0**	**0**	**143**	**673**
Total Volume	10	389	27	0	426	60	597	1167	0	1824	0	0	0	0	0	63	0	0	0	63	190	287	0	0	477	2790
% App. Total		91.3					32.7	64	0		0	0	0	0		100	0	0	0		39.8	60.2	0	0		
PHF	.500	.884	.675	.000	.951	.882	.878	.935	.000	.948	.000	.000	.000	.000		.656	.000	.000	.000	.656	.731	.886	.000	.000	.834	.976
Cars	8	380					568	1144													182	273	0	0	455	2683
% Cars	80.0	97.7	96.3	0	97.2	88.3	95.1	98.0								77.8	0	0	0	77.8	95.8	95.1	0	0	95.4	96.2
Trucks	2	9	1	0	12	7	29	23	0	59	0	0	0	0	0	14	0	0	0	14	8	14	0	0	22	107
% Trucks	20.0	2.3	3.7	0	2.8	11.7	4.9	2.0	0	3.2	0	0	0	0	0	22.2	0	0	0	22.2	4.2	4.9	0	0	4.6	3.8



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N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360PP
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Forest Street From North				Salem Street (Route 60) From Northeast				Riverside Avenue (Route 60) From East				Main Street From South				High Street (Route 60) From West				
Start	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Int. Total
03:00 PM	12	43	16	0	27	139	171	1	0	0	0	0	30	0	0	0	34	74	0	0	547
03:15 PM	8	50	17	0	40	136	190	1	0	0	0	0	37	0	0	0	31	85	0	0	595
03:30 PM	10	44	15	0	51	126	200	0	0	0	0	0	44	0	0	0	32	87	0	0	609
03:45 PM	10	51	14	0	44	145	184	1	0	0	0	0	44	0	0	0	25	79	0	0	597
Total	40	188	62	0	162	546	745	3	0	0	0	0	155	0	0	0	122	325	0	0	2348
04:00 PM	3	51	16	0	41	135	171	0	0	0	0	0	36	0	0	0	16	73	0	0	542
04:15 PM	4	53	21	0	50	133	203	4	0	0	0	0	38	0	0	0	32	83	0	0	621
04:30 PM	10	51	15	0	45	161	201	0	0	0	0	0	45	0	0	0	43	88	0	0	659
04:45 PM	9	55	19	0	48	158	208	0	0	0	0	0	47	0	0	0	40	86	0	0	670
Total	26	210	71	0	184	587	783	4	0	0	0	0	166	0	0	0	131	330	0	0	2492
05:00 PM	3	36	10	0	42	135	205	1	0	0	0	0	44	0	0	0	32	87	0	0	595
05:15 PM	11	35	31	0	62	148	202	1	0	0	0	0	49	0	0	0	21	90	0	0	650
05:30 PM	11	53	18	0	36	153	208	0	0	0	0	0	43	0	0	0	28	70	0	0	620
05:45 PM	8	43	16	0	41	145	189	0	0	0	0	0	43	0	0	0	18	87	0	0	590
Total	33	167	75	0	181	581	804	2	0	0	0	0	179	0	0	0	99	334	0	0	2455
Grand Total	99	565	208	0	527	1714	2332	9	0	0	0	0	500	0	0	0	352	989	0	0	7295
Apprch %	11.4	64.8	23.9	0	11.5	37.4	50.9	0.2	0	0	0	0	100	0	0	0	26.2	73.8	0	0	
Total %	1.4	7.7	2.9	0	7.2	23.5	32	0.1	0	0	0	0	6.9	0	0	0	4.8	13.6	0	0	
Cars	95	557	201	0	515	1650	2291	9	0	0	0	0	468	0	0	0	327	943	0	0	7056
% Cars	96	98.6	96.6	0	97.7	96.3	98.2	100	0	0	0	0	93.6	0	0	0	92.9	95.3	0	0	96.7
Trucks	4	8	7	0	12	64	41	0	0	0	0	0	32	0	0	0	25	46	0	0	239
% Trucks	4	1.4	3.4	0	2.3	3.7	1.8	0	0	0	0	0	6.4	0	0	0	7.1	4.7	0	0	3.3

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Avenue (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	10	51	15	0	76	45	**161**	201	0	407	0	0	0	0	0	45	0	0	0	45	**43**	**88**	**0**	**0**	**131**	**659**
04:45 PM	9	**55**	19	0	**83**	48	158	**208**	0	**414**	**0**	**0**	**0**	**0**	**0**	**47**	**0**	**0**	**0**	**47**	**40**	**86**	**0**	**0**	**126**	**670**
05:00 PM	3	36	10	0	49	42	135	205	**1**	**383**	**0**	**0**	**0**	**0**	**0**	**44**	**0**	**0**	**0**	**44**	**32**	**87**	**0**	**0**	**119**	**595**
05:15 PM	**11**	**35**	**31**	**0**	**77**	**62**	148	202	1	413	0	0	0	0	0	**49**	**0**	**0**	**0**	**49**	21	**90**	**0**	**0**	**111**	**650**
Total Volume	33	177	75	0	285	197	602	816	2	1617	0	0	0	0	0	185	0	0	0	185	136	351	0	0	487	2574
% App. Total	11.6	62.1	26.3	0		12.2	37.2	50.5								100	0	0	0		27.9	72.1	0	0		
PHF	.750	.805	.605	.000	.858	.794	.935	.981	.500	.976	.000	.000	.000	.000		.944	.000	.000	.000	.944	.791	.975	.000	.000	.929	.960
Cars	33	173				196	579	804								172	0	0	0	172	127	335	0	0	462	2493
% Cars	100	97.7	96.0	0	97.5	99.5	96.2	98.5	100	97.8	0	0	0	0	0	93.0	0	0	0	93.0	93.4	95.4	0	0	94.9	96.9
Trucks	0	4	3	0	7	1	23	12	0	36	0	0	0	0	0	13	0	0	0	13	9	16	0	0	25	81
% Trucks																										

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E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360PP
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Forest Street From North				Salem Street (Route 60) From Northeast				Riverside Avenue (Route 60) From East				Main Street From South				High Street (Route 60) From West				
Start	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Int. Total
03:00 PM	12	42	16	0	27	132	168	1	0	0	0	0	28	0	0	0	31	70	0	0	527
03:15 PM	8	50	16	0	38	134	187	1	0	0	0	0	36	0	0	0	28	83	0	0	581
03:30 PM	9	43	15	0	47	122	195	0	0	0	0	0	39	0	0	0	31	83	0	0	584
03:45 PM	8	50	13	0	43	135	179	1	0	0	0	0	42	0	0	0	23	77	0	0	571
Total	37	185	60	0	155	523	729	3	0	0	0	0	145	0	0	0	113	313	0	0	2263
04:00 PM	3	51	16	0	39	128	168	0	0	0	0	0	34	0	0	0	13	69	0	0	521
04:15 PM	4	53	21	0	50	130	198	4	0	0	0	0	38	0	0	0	30	76	0	0	604
04:30 PM	10	49	13	0	45	155	198	0	0	0	0	0	40	0	0	0	40	86	0	0	636
04:45 PM	9	54	19	0	47	151	207	0	0	0	0	0	43	0	0	0	38	82	0	0	650
Total	26	207	69	0	181	564	771	4	0	0	0	0	155	0	0	0	121	313	0	0	2411
05:00 PM	3	35	10	0	42	131	200	1	0	0	0	0	42	0	0	0	28	82	0	0	574
05:15 PM	11	35	30	0	62	142	199	1	0	0	0	0	47	0	0	0	21	85	0	0	633
05:30 PM	11	53	18	0	35	148	207	0	0	0	0	0	39	0	0	0	26	67	0	0	604
05:45 PM	7	42	14	0	40	142	185	0	0	0	0	0	40	0	0	0	18	83	0	0	571
Total	32	165	72	0	179	563	791	2	0	0	0	0	168	0	0	0	93	317	0	0	2382
Grand Total	95	557	201	0	515	1650	2291	9	0	0	0	0	468	0	0	0	327	943	0	0	7056
Apprch %	11.1	65.3	23.6	0	11.5	37	51.3	0.2	0	0	0	0	100	0	0	0	25.7	74.3	0	0	
Total %	1.3	7.9	2.8	0	7.3	23.4	32.5	0.1	0	0	0	0	6.6	0	0	0	4.6	13.4	0	0	

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Avenue (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	10	49	13	0	72	45	**155**	198	0	398	0	0	0	0	0	40	0	0	0	40	**40**	**86**	**0**	**0**	**126**	**636**
04:45 PM	9	**54**	19	0	**82**	47	151	**207**	0	**405**	**0**	**0**	**0**	**0**	**0**	**43**	**0**	**0**	**0**	**43**	**38**	**82**	**0**	**0**	**120**	**650**
05:00 PM	3	35	10	0	48	42	131	200	**1**	**374**	**0**	**0**	**0**	**0**	**0**	**42**	**0**	**0**	**0**	**42**	**28**	**82**	**0**	**0**	**110**	**574**
05:15 PM	**11**	**35**	**30**	**0**	**76**	**62**	142	199	1	404	0	0	0	0	0	**47**	**0**	**0**	**0**	**47**	21	85	0	0	106	633
Total Volume	33	173	72	0	278	196	579	804	2	1581	0	0	0	0	0	172	0	0	0	172	127	335	0	0	462	2493
% App. Total	11.9	62.2	25.9	0		12.4	36.6	50.9								100	0	0	0		27.5	72.5	0	0		
PHF	.750	.801	.600	.000	.848	.790	.934	.971	.500	.976	.000	.000	.000	.000		.915	.000	.000	.000	.915	.794	.974	.000	.000	.917	.959

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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360PP
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Forest Street From North				Salem Street (Route 60) From Northeast				Riverside Avenue (Route 60) From East				Main Street From South				High Street (Route 60) From West				
Start	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Int. Total
03:00 PM	0	1	0	0	0	7	3	0	0	0	0	0	2	0	0	0	3	4	0	0	20
03:15 PM	0	0	1	0	2	2	3	0	0	0	0	0	1	0	0	0	3	2	0	0	14
03:30 PM	1	1	0	0	4	4	5	0	0	0	0	0	5	0	0	0	1	4	0	0	25
03:45 PM	2	1	1	0	1	10	5	0	0	0	0	0	2	0	0	0	2	2	0	0	26
Total	3	3	2	0	7	23	16	0	0	0	0	0	10	0	0	0	9	12	0	0	85
04:00 PM	0	0	0	0	2	7	3	0	0	0	0	0	2	0	0	0	3	4	0	0	21
04:15 PM	0	0	0	0	0	3	5	0	0	0	0	0	0	0	0	0	2	7	0	0	17
04:30 PM	0	2	2	0	0	6	3	0	0	0	0	0	5	0	0	0	3	2	0	0	23
04:45 PM	0	1	0	0	1	7	1	0	0	0	0	0	4	0	0	0	2	4	0	0	20
Total	0	3	2	0	3	23	12	0	0	0	0	0	11	0	0	0	10	17	0	0	81
05:00 PM	0	1	0	0	0	4	5	0	0	0	0	0	2	0	0	0	4	5	0	0	21
05:15 PM	0	0	1	0	0	6	3	0	0	0	0	0	2	0	0	0	0	5	0	0	17
05:30 PM	0	0	0	0	1	5	1	0	0	0	0	0	4	0	0	0	2	3	0	0	16
05:45 PM	1	1	2	0	1	3	4	0	0	0	0	0	3	0	0	0	0	4	0	0	19
Total	1	2	3	0	2	18	13	0	0	0	0	0	11	0	0	0	6	17	0	0	73
Grand Total	4	8	7	0	12	64	41	0	0	0	0	0	32	0	0	0	25	46	0	0	239
Apprch %	21.1	42.1	36.8	0	10.3	54.7	35	0	0	0	0	0	100	0	0	0	35.2	64.8	0	0	
Total %	1.7	3.3	2.9	0	5	26.8	17.2	0	0	0	0	0	13.4	0	0	0	10.5	19.2	0	0	

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Avenue (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 03:30 PM																									
03:30 PM	1	**1**	0	0	2	**4**	**4**	**5**	0	13	0	0	0	0	0	**5**	**0**	**0**	**0**	**5**	1	4	0	0	5	25
03:45 PM	**2**	**1**	**1**	**0**	**4**	1	**10**	**5**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**2**	**2**	**0**	**0**	**4**	**26**
04:00 PM	0	0	0	0	0	2	7	3	0	12	0	0	0	0	0	2	0	0	0	2	**3**	**4**	**0**	**0**	**7**	**21**
04:15 PM	0	0	0	0	0	0	3	5	0	8	0	0	0	0	0	0	0	0	0	0	2	**7**	**0**	**0**	**9**	**17**
Total Volume	3	2	1	0	6	7	24	18	0	49	0	0	0	0	0	9	0	0	0	9	8	17	0	0	25	89
% App. Total	50	33.3	16.7	0		14.3	49	36.7	0		0	0	0	0		100	0	0	0		32	68	0	0		
PHF	.375	.500	.250	.000	.375	.438	.600	.900	.000	.766	.000	.000	.000	.000		.450	.000	.000	.000	.450	.667	.607	.000	.000	.694	.856

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N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360PP
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Avenue (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Int. Total
03:00 PM	0	0	0	0	28	0	0	0	0	18	0	0	0	0	0	0	0	0	0	6	0	0	0	0	4	56
03:15 PM	0	0	0	0	18	0	0	0	0	16	0	0	0	0	0	0	0	0	0	2	0	2	0	0	4	42
03:30 PM	0	0	0	0	25	0	0	0	0	28	0	0	0	0	0	0	0	0	0	10	0	0	0	0	2	65
03:45 PM	0	0	0	0	22	0	0	0	0	28	0	0	0	0	0	0	0	0	0	8	0	0	0	0	6	64
Total	0	0	0	0	93	0	0	0	0	90	0	0	0	0	0	0	0	0	0	26	0	2	0	0	16	227
04:00 PM	0	1	0	0	17	0	0	0	0	20	0	0	0	0	0	0	0	0	0	8	0	0	0	0	2	48
04:15 PM	0	1	0	0	18	0	0	0	0	16	0	0	0	0	0	0	0	0	0	4	0	2	0	0	4	45
04:30 PM	0	0	0	0	6	0	1	0	0	14	0	0	0	0	0	0	0	0	0	6	0	0	0	0	2	29
04:45 PM	0	1	0	0	9	0	1	0	0	7	0	0	0	0	0	2	0	0	0	6	0	2	0	0	2	30
Total	0	3	0	0	50	0	2	0	0	57	0	0	0	0	0	2	0	0	0	24	0	4	0	0	10	152
05:00 PM	0	0	0	0	15	0	1	0	0	13	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	37
05:15 PM	0	0	0	0	11	0	0	0	0	14	0	0	0	0	0	0	0	0	0	5	0	0	0	0	7	37
05:30 PM	0	0	0	0	7	0	0	0	0	10	0	0	0	0	0	0	0	0	0	6	0	0	0	0	2	25
05:45 PM	0	0	0	0	4	0	0	0	0	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	13
Total	0	0	0	0	37	0	1	0	0	44	0	0	0	0	0	0	0	0	0	17	0	0	0	0	13	112
Grand Total	0	3	0	0	180	0	3	0	0	191	0	0	0	0	0	2	0	0	0	67	0	6	0	0	39	491
Apprch %	0	1.6	0	0	98.4	0	1.5	0	0	98.5	0	0	0	0	0	2.9	0	0	0	97.1	0	13.3	0	0	86.7	
Total %	0	0.6	0	0	36.7	0	0.6	0	0	38.9	0	0	0	0	0	0.4	0	0	0	13.6	0	1.2	0	0	7.9	

	Forest Street From North						Salem Street (Route 60) From Northeast						Riverside Avenue (Route 60) From East						Main Street From South						High Street (Route 60) From West						
Start Time	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 03:00 PM																															
03:00 PM	0	0	0	0	**28**	**28**	0	0	0	0	18	18	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0	4	4	56
03:15 PM	0	0	0	0	18	18	0	0	0	0	16	16	0	0	0	0	0	0	0	0	0	0	2	2	0	**2**	0	0	4	**6**	42
03:30 PM	0	0	0	0	25	25	0	0	0	0	**28**	**28**	0	0	0	0	0	0	0	0	0	0	**10**	**10**	0	0	0	0	2	2	**65**
03:45 PM	0	0	0	0	22	22	0	0	0	0	28	28	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	**6**	6	64
Total Volume	0	0	0	0	93	93	0	0	0	0	90	90	0	0	0	0	0	0	0	0	0	0	26	26	0	2	0	0	16	18	227
% App. Total	0	0	0	0	100		0	0	0	0	100		0	0	0	0	0		0	0	0	0	100		0	11.1	0	0	88.9		
PHF	.000	.000	.000	.000	.830	.830	.000	.000	.000	.000	.804	.804	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.650	.650	.000	.250	.000	.000	.667	.750	.873

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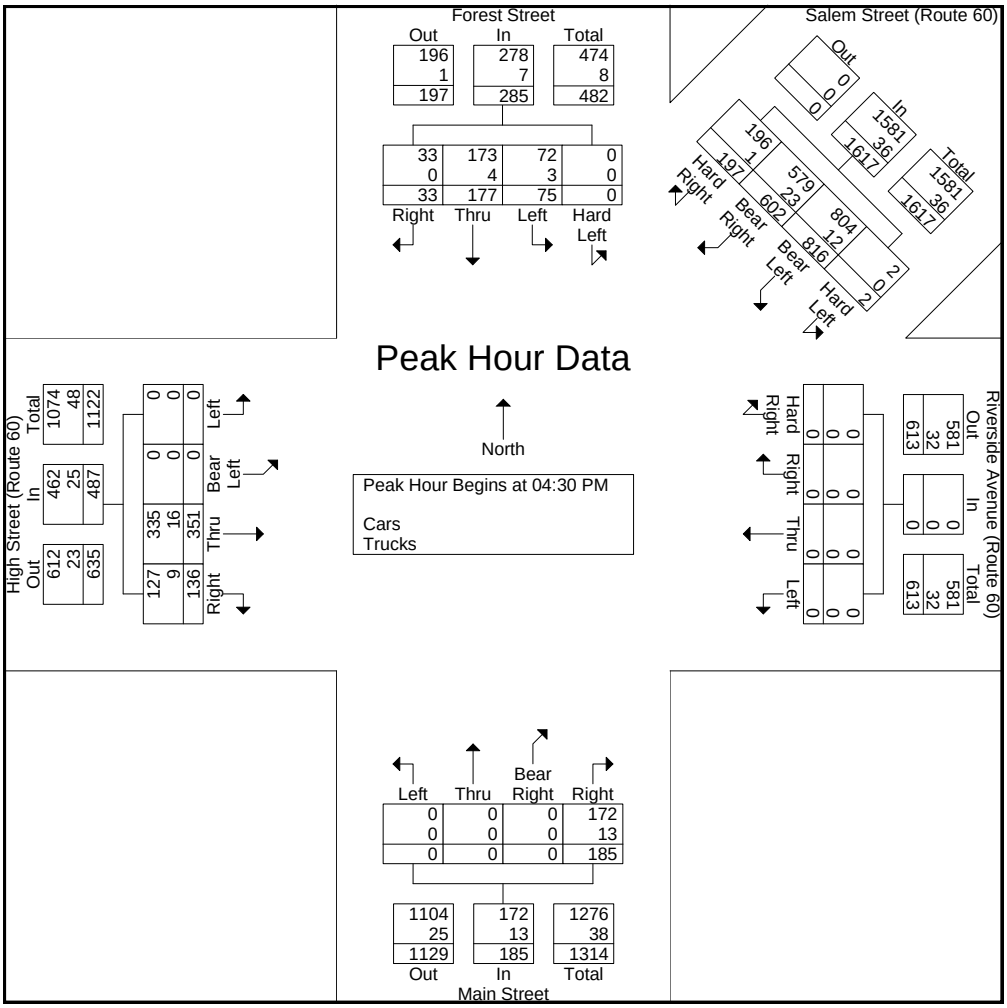
N/S/NE: Forest St/Main St/Salem St
E/W: Riverside St/High St (Rte 60)
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360PP
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Forest Street From North					Salem Street (Route 60) From Northeast					Riverside Avenue (Route 60) From East					Main Street From South					High Street (Route 60) From West					
Start Time	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	10	51	15	0	76	45	**161**	201	0	407	0	0	0	0	0	45	0	0	0	45	**43**	**88**	**0**	**0**	**131**	**659**
04:45 PM	9	**55**	19	0	**83**	48	158	**208**	0	**414**	**0**	**0**	**0**	**0**	**0**	**47**	**0**	**0**	**0**	**47**	**40**	**86**	**0**	**0**	**126**	**670**
05:00 PM	3	36	10	0	49	42	135	205	**1**	**383**	**0**	**0**	**0**	**0**	**0**	**44**	**0**	**0**	**0**	**44**	**32**	**87**	**0**	**0**	**119**	**595**
05:15 PM	**11**	**35**	**31**	**0**	**77**	**62**	148	202	1	413	0	0	0	0	0	**49**	**0**	**0**	**0**	**49**	21	**90**	**0**	**0**	**111**	**650**
Total Volume	33	177	75	0	285	197	602	816	2	1617	0	0	0	0	0	185	0	0	0	185	136	351	0	0	487	2574
% App. Total	11.6	62.1	26.3	0		12.2	37.2	50.5								100	0	0	0		27.9	72.1	0	0		
PHF	.750	.805	.605	.000	.858	.794	.935	.981	.500	.976	.000	.000	.000	.000		.944	.000	.000	.000	.944	.791	.975	.000	.000	.929	.960
Cars	33	173				196	579	804								172	0	0	0	172	127	335	0	0	462	2493
% Cars	100	97.7	96.0	0	97.5	99.5	96.2	98.5	100	97.8	0	0	0	0	0	93.0	0	0	0	93.0	93.4	95.4	0	0	94.9	96.9
Trucks	0	4	3	0	7	1	23	12	0	36	0	0	0	0	0	13	0	0	0	13	9	16	0	0	25	81
% Trucks																										



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N/S: Main Street (Route 38)
E/W: Mystic Valley Pkwy EB/South Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360Q
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East			Main Street (Route 38) From South				South Street From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
07:00 AM	0	372	20	1	0	0	0	89	76	0	1	70	24	22	675
07:15 AM	0	401	18	0	0	0	0	96	90	0	0	74	40	30	749
07:30 AM	0	358	39	0	0	0	0	116	84	0	0	70	62	33	762
07:45 AM	0	358	44	0	0	0	0	101	91	0	0	67	89	14	764
Total	0	1489	121	1	0	0	0	402	341	0	1	281	215	99	2950
08:00 AM	0	370	34	0	0	0	0	107	94	0	0	70	47	20	742
08:15 AM	0	357	31	0	0	0	0	96	118	0	0	79	44	18	743
08:30 AM	0	391	28	0	0	0	0	90	95	0	0	71	45	27	747
08:45 AM	0	365	23	0	0	0	0	68	106	0	1	65	38	24	690
Total	0	1483	116	0	0	0	0	361	413	0	1	285	174	89	2922
09:00 AM	0	390	17	0	0	0	0	70	87	0	0	82	32	30	708
09:15 AM	0	312	20	0	0	0	0	70	107	0	0	84	40	33	666
09:30 AM	0	289	15	0	0	0	0	65	104	0	0	48	29	29	579
09:45 AM	0	275	20	0	0	0	0	61	138	0	0	46	21	29	590
Total	0	1266	72	0	0	0	0	266	436	0	0	260	122	121	2543
Grand Total	0	4238	309	1	0	0	0	1029	1190	0	2	826	511	309	8415
Apprch %	0	93.2	6.8	0	0	0	0	46.3	53.6	0	0.1	50.2	31	18.8	
Total %	0	50.4	3.7	0	0	0	0	12.2	14.1	0	0	9.8	6.1	3.7	
Cars	0	4105	282	1	0	0	0	992	1123	0	2	808	490	304	8107
% Cars	0	96.9	91.3	100	0	0	0	96.4	94.4	0	100	97.8	95.9	98.4	96.3
Trucks	0	133	27	0	0	0	0	37	67	0	0	18	21	5	308
% Trucks	0	3.1	8.7	0	0	0	0	3.6	5.6	0	0	2.2	4.1	1.6	3.7

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:15 AM																			
07:15 AM	0	**401**	18	0	**419**	0	0	0	0	96	90	0	0	186	**74**	40	30	144	749
07:30 AM	0	358	39	0	397	0	0	0	0	**116**	**84**	**0**	**0**	**200**	**70**	**62**	**33**	165	762
07:45 AM	0	358	**44**	0	402	0	0	0	0	101	91	0	0	192	67	**89**	14	**170**	**764**
08:00 AM	0	370	34	0	404	0	0	0	0	107	**94**	0	0	**201**	70	47	20	137	742
Total Volume	0	1487	135	0	1622	0	0	0	0	420	359	0	0	779	281	238	97	616	3017
% App. Total	0	91.7	8.3	0		0	0	0		53.9	46.1	0	0		45.6	38.6	15.7		
PHF	.000	.927	.767	.000	.968	.000	.000	.000	.000	.905	.955	.000	.000	.969	.949	.669	.735	.906	.987
Cars	0	1448	124	0	1572	0	0	0	0	412	339	0	0	751	276	232	95	603	2926
% Cars	0	97.4	91.9	0	96.9	0	0	0	0	98.1	94.4	0	0	96.4	98.2	97.5	97.9	97.9	97.0
Trucks	0	39	11	0	50	0	0	0	0	8	20	0	0	28	5	6	2	13	91
% Trucks	0	2.6	8.1	0	3.1	0	0	0	0	1.9	5.6	0	0	3.6	1.8	2.5	2.1	2.1	3.0

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N/S: Main Street (Route 38)
E/W: Mystic Valley Pkwy EB/South Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360Q
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East			Main Street (Route 38) From South				South Street From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
07:00 AM	0	363	19	1	0	0	0	86	70	0	1	68	22	22	652
07:15 AM	0	393	16	0	0	0	0	94	83	0	0	72	37	30	725
07:30 AM	0	348	37	0	0	0	0	115	80	0	0	69	60	32	741
07:45 AM	0	351	40	0	0	0	0	98	86	0	0	67	89	14	745
Total	0	1455	112	1	0	0	0	393	319	0	1	276	208	98	2863
08:00 AM	0	356	31	0	0	0	0	105	90	0	0	68	46	19	715
08:15 AM	0	341	29	0	0	0	0	94	111	0	0	78	43	18	714
08:30 AM	0	381	27	0	0	0	0	83	95	0	0	70	44	26	726
08:45 AM	0	355	22	0	0	0	0	65	99	0	1	62	37	23	664
Total	0	1433	109	0	0	0	0	347	395	0	1	278	170	86	2819
09:00 AM	0	375	15	0	0	0	0	65	78	0	0	82	30	30	675
09:15 AM	0	299	16	0	0	0	0	66	98	0	0	82	36	33	630
09:30 AM	0	281	14	0	0	0	0	62	102	0	0	47	26	28	560
09:45 AM	0	262	16	0	0	0	0	59	131	0	0	43	20	29	560
Total	0	1217	61	0	0	0	0	252	409	0	0	254	112	120	2425
Grand Total	0	4105	282	1	0	0	0	992	1123	0	2	808	490	304	8107
Apprch %	0	93.6	6.4	0	0	0	0	46.9	53	0	0.1	50.4	30.6	19	
Total %	0	50.6	3.5	0	0	0	0	12.2	13.9	0	0	10	6	3.7	

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:15 AM																			
07:15 AM	0	**393**	16	0	**409**	0	0	0	0	94	83	0	0	177	**72**	37	30	139	725
07:30 AM	0	348	37	0	385	0	0	0	0	**115**	**80**	**0**	**0**	**195**	69	60	**32**	161	741
07:45 AM	0	351	**40**	0	391	0	0	0	0	98	86	0	0	184	67	**89**	14	**170**	**745**
08:00 AM	0	356	31	0	387	0	0	0	0	105	**90**	0	0	195	68	46	19	133	715
Total Volume	0	1448	124	0	1572	0	0	0	0	412	339	0	0	751	276	232	95	603	2926
% App. Total	0	92.1	7.9	0		0	0	0		54.9	45.1	0	0		45.8	38.5	15.8		
PHF	.000	.921	.775	.000	.961	.000	.000	.000	.000	.896	.942	.000	.000	.963	.958	.652	.742	.887	.982

PRECISION DATA INDUSTRIES, LLC
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Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Main Street (Route 38)
E/W: Mystic Valley Pkwy EB/South Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360Q
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East			Main Street (Route 38) From South				South Street From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
07:00 AM	0	9	1	0	0	0	0	3	6	0	0	2	2	0	23
07:15 AM	0	8	2	0	0	0	0	2	7	0	0	2	3	0	24
07:30 AM	0	10	2	0	0	0	0	1	4	0	0	1	2	1	21
07:45 AM	0	7	4	0	0	0	0	3	5	0	0	0	0	0	19
Total	0	34	9	0	0	0	0	9	22	0	0	5	7	1	87
08:00 AM	0	14	3	0	0	0	0	2	4	0	0	2	1	1	27
08:15 AM	0	16	2	0	0	0	0	2	7	0	0	1	1	0	29
08:30 AM	0	10	1	0	0	0	0	7	0	0	0	1	1	1	21
08:45 AM	0	10	1	0	0	0	0	3	7	0	0	3	1	1	26
Total	0	50	7	0	0	0	0	14	18	0	0	7	4	3	103
09:00 AM	0	15	2	0	0	0	0	5	9	0	0	0	2	0	33
09:15 AM	0	13	4	0	0	0	0	4	9	0	0	2	4	0	36
09:30 AM	0	8	1	0	0	0	0	3	2	0	0	1	3	1	19
09:45 AM	0	13	4	0	0	0	0	2	7	0	0	3	1	0	30
Total	0	49	11	0	0	0	0	14	27	0	0	6	10	1	118
Grand Total	0	133	27	0	0	0	0	37	67	0	0	18	21	5	308
Apprch %	0	83.1	16.9	0	0	0	0	35.6	64.4	0	0	40.9	47.7	11.4	
Total %	0	43.2	8.8	0	0	0	0	12	21.8	0	0	5.8	6.8	1.6	

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 09:00 AM																			
09:00 AM	0	**15**	2	0	**17**	0	0	0	0	**5**	**9**	0	0	**14**	0	2	0	2	33
09:15 AM	0	13	**4**	0	17	0	0	0	0	4	9	0	0	13	2	**4**	0	**6**	**36**
09:30 AM	0	8	1	0	9	0	0	0	0	3	2	0	0	5	1	3	**1**	5	19
09:45 AM	0	13	4	0	17	0	0	0	0	2	7	0	0	9	**3**	1	0	4	30
Total Volume	0	49	11	0	60	0	0	0	0	14	27	0	0	41	6	10	1	17	118
% App. Total	0	81.7	18.3	0		0	0	0		34.1	65.9	0	0		35.3	58.8	5.9		
PHF	.000	.817	.688	.000	.882	.000	.000	.000	.000	.700	.750	.000	.000	.732	.500	.625	.250	.708	.819

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File Name : 71360Q
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South				South Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	4
07:15 AM	0	2	0	0	0	0	0	0	0	2	0	0	1	0	0	2	7
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	8	9
07:45 AM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1	4
Total	0	3	0	1	0	0	0	2	0	3	0	0	1	0	0	14	24
08:00 AM	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	3	8
08:15 AM	1	2	0	0	0	0	0	2	0	0	0	0	1	0	0	0	6
08:30 AM	0	1	0	0	0	0	0	2	0	1	0	0	1	0	0	1	6
08:45 AM	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	8	12
Total	1	7	0	0	0	0	0	8	0	2	0	0	2	0	0	12	32
09:00 AM	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	1	5
09:15 AM	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	3	6
09:30 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
09:45 AM	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	1	4
Total	0	4	0	0	0	0	0	4	0	3	0	2	0	0	0	6	19
Grand Total	1	14	0	1	0	0	0	14	0	8	0	2	3	0	0	32	75
Apprch %	6.2	87.5	0	6.2	0	0	0	100	0	80	0	20	8.6	0	0	91.4	
Total %	1.3	18.7	0	1.3	0	0	0	18.7	0	10.7	0	2.7	4	0	0	42.7	

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East					Main Street (Route 38) From South					South Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	**2**	0	0	2	0	0	0	**2**	**2**	0	**1**	**0**	**0**	**1**	0	0	0	3	3	8
08:15 AM	**1**	**2**	**0**	**0**	**3**	0	0	0	2	2	0	0	0	0	0	**1**	**0**	**0**	**0**	**1**	**6**
08:30 AM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**2**	**6**
08:45 AM	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**8**	**12**
Total Volume	1	7	0	0	8	0	0	0	8	8	0	2	0	0	2	2	0	0	12	14	32
% App. Total	12.5	87.5	0	0		0	0	0	100		0	100	0	0		14.3	0	0	85.7		
PHF	.250	.875	.000	.000	.667	.000	.000	.000	1.000	1.000	.000	.500	.000	.000	.500	.500	.000	.000	.375	.438	.667

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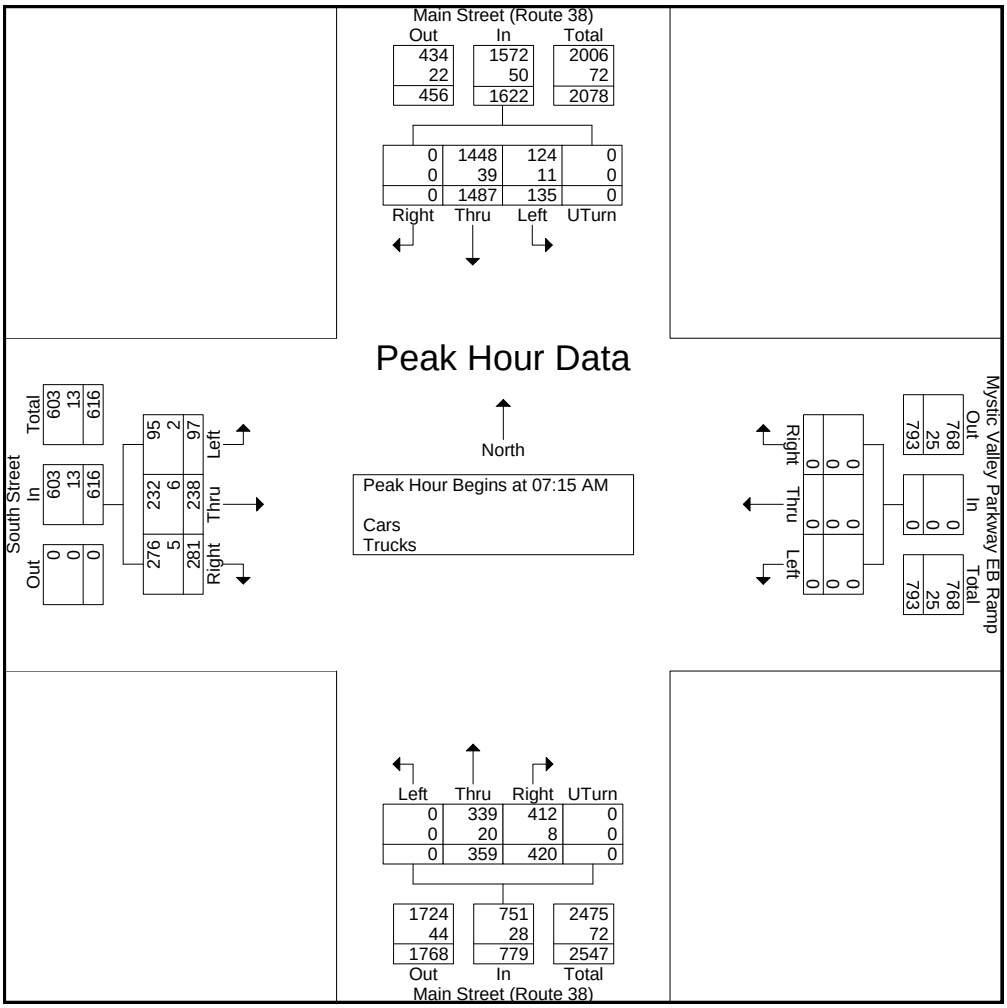
	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:15 AM																			
07:15 AM	0	**401**	18	0	**419**	0	0	0	0	96	90	0	0	186	**74**	40	30	144	749
07:30 AM	0	358	39	0	397	0	0	0	0	**116**	**84**	**0**	**0**	**200**	**70**	**62**	**33**	165	762
07:45 AM	0	358	**44**	0	402	0	0	0	0	101	91	0	0	192	67	**89**	14	**170**	**764**
08:00 AM	0	370	34	0	404	0	0	0	0	107	**94**	0	0	**201**	70	47	20	137	742
Total Volume	0	1487	135	0	1622	0	0	0	0	420	359	0	0	779	281	238	97	616	3017
% App. Total	0	91.7	8.3	0		0	0	0		53.9	46.1	0	0		45.6	38.6	15.7		
PHF	.000	.927	.767	.000	.968	.000	.000	.000	.000	.905	.955	.000	.000	.969	.949	.669	.735	.906	.987
Cars	0	1448	124	0	1572	0	0	0	0	412	339	0	0	751	276	232	95	603	2926
% Cars	0	97.4	91.9	0	96.9	0	0	0	0	98.1	94.4	0	0	96.4	98.2	97.5	97.9	97.9	97.0
Trucks	0	39	11	0	50	0	0	0	0	8	20	0	0	28	5	6	2	13	91
% Trucks	0	2.6	8.1	0	3.1	0	0	0	0	1.9	5.6	0	0	3.6	1.8	2.5	2.1	2.1	3.0



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File Name : 71360QQ
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East			Main Street (Route 38) From South				South Street From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
03:00 PM	0	217	29	1	0	0	0	97	155	0	0	60	56	44	659
03:15 PM	0	277	11	0	0	0	0	84	171	0	0	59	44	68	714
03:30 PM	0	255	17	0	0	0	0	102	174	0	0	54	45	66	713
03:45 PM	0	252	26	0	0	0	0	101	215	0	0	46	37	42	719
Total	0	1001	83	1	0	0	0	384	715	0	0	219	182	220	2805
04:00 PM	0	221	16	2	0	0	0	130	210	0	0	51	29	70	729
04:15 PM	0	262	21	0	0	0	0	91	200	0	0	31	42	56	703
04:30 PM	0	247	23	1	0	0	0	97	227	0	2	47	52	53	749
04:45 PM	0	237	14	0	0	0	0	96	222	0	2	51	45	63	730
Total	0	967	74	3	0	0	0	414	859	0	4	180	168	242	2911
05:00 PM	0	222	16	3	0	0	1	118	270	0	0	48	55	50	783
05:15 PM	0	202	17	3	0	0	0	112	248	0	3	46	52	45	728
05:30 PM	0	213	25	3	0	0	0	94	236	0	0	37	37	41	686
05:45 PM	0	196	15	0	0	0	0	110	203	0	0	30	26	58	638
Total	0	833	73	9	0	0	1	434	957	0	3	161	170	194	2835
Grand Total	0	2801	230	13	0	0	1	1232	2531	0	7	560	520	656	8551
Apprch %	0	92	7.6	0.4	0	0	100	32.7	67.1	0	0.2	32.3	30	37.8	
Total %	0	32.8	2.7	0.2	0	0	0	14.4	29.6	0	0.1	6.5	6.1	7.7	
Cars	0	2729	217	13	0	0	1	1215	2467	0	7	555	509	652	8365
% Cars	0	97.4	94.3	100	0	0	100	98.6	97.5	0	100	99.1	97.9	99.4	97.8
Trucks	0	72	13	0	0	0	0	17	64	0	0	5	11	4	186
% Trucks	0	2.6	5.7	0	0	0	0	1.4	2.5	0	0	0.9	2.1	0.6	2.2

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	**247**	**23**	1	**271**	0	0	0	0	97	227	0	2	326	47	52	53	152	749
04:45 PM	0	237	14	0	251	0	0	0	0	96	222	0	2	320	**51**	45	**63**	**159**	730
05:00 PM	0	222	16	**3**	241	0	0	**1**	**1**	**118**	**270**	0	0	**388**	48	**55**	50	153	**783**
05:15 PM	0	202	17	3	222	0	0	0	0	112	248	0	**3**	363	46	52	45	143	728
Total Volume	0	908	70	7	985	0	0	1	1	423	967	0	7	1397	192	204	211	607	2990
% App. Total	0	92.2	7.1	0.7		0	0	100		30.3	69.2	0	0.5		31.6	33.6	34.8		
PHF	.000	.919	.761	.583	.909	.000	.000	.250	.250	.896	.895	.000	.583	.900	.941	.927	.837	.954	.955
Cars	0	886	67	7	960	0	0	1	1	418	944	0	7	1369	188	200	209	597	2927
% Cars	0	97.6	95.7	100	97.5	0	0	100	100	98.8	97.6	0	100	98.0	97.9	98.0	99.1	98.4	97.9
Trucks	0	22	3	0	25	0	0	0	0	5	23	0	0	28	4	4	2	10	63
% Trucks	0	2.4	4.3	0	2.5	0	0	0	0	1.2	2.4	0	0	2.0	2.1	2.0	0.9	1.6	2.1

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Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East			Main Street (Route 38) From South				South Street From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
03:00 PM	0	212	26	1	0	0	0	94	152	0	0	60	55	44	644
03:15 PM	0	272	10	0	0	0	0	84	165	0	0	59	43	68	701
03:30 PM	0	249	16	0	0	0	0	101	168	0	0	54	41	65	694
03:45 PM	0	243	26	0	0	0	0	99	208	0	0	46	36	42	700
Total	0	976	78	1	0	0	0	378	693	0	0	219	175	219	2739
04:00 PM	0	217	12	2	0	0	0	129	204	0	0	51	29	70	714
04:15 PM	0	253	21	0	0	0	0	88	198	0	0	30	42	56	688
04:30 PM	0	239	23	1	0	0	0	95	219	0	2	44	51	52	726
04:45 PM	0	235	12	0	0	0	0	94	215	0	2	51	44	63	716
Total	0	944	68	3	0	0	0	406	836	0	4	176	166	241	2844
05:00 PM	0	213	15	3	0	0	1	117	265	0	0	47	53	49	763
05:15 PM	0	199	17	3	0	0	0	112	245	0	3	46	52	45	722
05:30 PM	0	206	25	3	0	0	0	93	231	0	0	37	37	40	672
05:45 PM	0	191	14	0	0	0	0	109	197	0	0	30	26	58	625
Total	0	809	71	9	0	0	1	431	938	0	3	160	168	192	2782
Grand Total	0	2729	217	13	0	0	1	1215	2467	0	7	555	509	652	8365
Apprch %	0	92.2	7.3	0.4	0	0	100	32.9	66.9	0	0.2	32.3	29.7	38	
Total %	0	32.6	2.6	0.2	0	0	0	14.5	29.5	0	0.1	6.6	6.1	7.8	

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	**239**	**23**	1	**263**	0	0	0	0	95	219	0	2	316	44	51	52	147	726
04:45 PM	0	235	12	0	247	0	0	0	0	94	215	0	2	311	**51**	44	**63**	**158**	716
05:00 PM	0	213	15	**3**	231	0	0	**1**	**1**	**117**	**265**	0	0	**382**	47	**53**	49	149	**763**
05:15 PM	0	199	17	3	219	0	0	0	0	112	245	0	**3**	360	46	52	45	143	722
Total Volume	0	886	67	7	960	0	0	1	1	418	944	0	7	1369	188	200	209	597	2927
% App. Total	0	92.3	7	0.7		0	0	100		30.5	69	0	0.5		31.5	33.5	35		
PHF	.000	.927	.728	.583	.913	.000	.000	.250	.250	.893	.891	.000	.583	.896	.922	.943	.829	.945	.959

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Groups Printed- Trucks

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East			Main Street (Route 38) From South				South Street From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
03:00 PM	0	5	3	0	0	0	0	3	3	0	0	0	1	0	15
03:15 PM	0	5	1	0	0	0	0	0	6	0	0	0	1	0	13
03:30 PM	0	6	1	0	0	0	0	1	6	0	0	0	4	1	19
03:45 PM	0	9	0	0	0	0	0	2	7	0	0	0	1	0	19
Total	0	25	5	0	0	0	0	6	22	0	0	0	7	1	66
04:00 PM	0	4	4	0	0	0	0	1	6	0	0	0	0	0	15
04:15 PM	0	9	0	0	0	0	0	3	2	0	0	1	0	0	15
04:30 PM	0	8	0	0	0	0	0	2	8	0	0	3	1	1	23
04:45 PM	0	2	2	0	0	0	0	2	7	0	0	0	1	0	14
Total	0	23	6	0	0	0	0	8	23	0	0	4	2	1	67
05:00 PM	0	9	1	0	0	0	0	1	5	0	0	1	2	1	20
05:15 PM	0	3	0	0	0	0	0	0	3	0	0	0	0	0	6
05:30 PM	0	7	0	0	0	0	0	1	5	0	0	0	0	1	14
05:45 PM	0	5	1	0	0	0	0	1	6	0	0	0	0	0	13
Total	0	24	2	0	0	0	0	3	19	0	0	1	2	2	53
Grand Total	0	72	13	0	0	0	0	17	64	0	0	5	11	4	186
Apprch %	0	84.7	15.3	0	0	0	0	21	79	0	0	25	55	20	
Total %	0	38.7	7	0	0	0	0	9.1	34.4	0	0	2.7	5.9	2.2	

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 03:45 PM																			
03:45 PM	0	**9**	0	0	**9**	0	0	0	0	2	7	0	0	9	0	**1**	0	1	19
04:00 PM	0	4	**4**	0	8	0	0	0	0	1	6	0	0	7	0	0	0	0	15
04:15 PM	0	9	0	0	9	0	0	0	0	**3**	**2**	**0**	**0**	**5**	**1**	**0**	**0**	**1**	**15**
04:30 PM	**0**	**8**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**2**	**8**	0	0	**10**	**3**	1	**1**	**5**	**23**
Total Volume	0	30	4	0	34	0	0	0	0	8	23	0	0	31	4	2	1	7	72
% App. Total	0	88.2	11.8	0		0	0	0		25.8	74.2	0	0		57.1	28.6	14.3		
PHF	.000	.833	.250	.000	.944	.000	.000	.000	.000	.667	.719	.000	.000	.775	.333	.500	.250	.350	.783

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N/S: Main Street (Route 38)
E/W: Mystic Valley Prkwy EB/South Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360QQ
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South				South Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	0	0	0	0	4	0	0	0	1	0	0	0	1	7
03:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	6
03:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	12
03:45 PM	0	0	0	2	0	0	0	3	0	0	0	1	0	0	0	8	14
Total	0	2	0	2	0	0	0	8	0	1	0	2	0	0	0	24	39
04:00 PM	0	1	0	0	0	0	0	6	0	0	0	0	0	0	0	5	12
04:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	9	11
04:30 PM	0	1	0	0	0	0	0	4	0	2	0	3	0	0	0	3	13
04:45 PM	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	6	9
Total	1	3	0	0	0	0	0	12	0	3	0	3	0	0	0	23	45
05:00 PM	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	8	12
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	7	0	0	1	2	11
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
05:45 PM	0	1	0	2	0	0	0	0	0	2	0	2	0	0	1	6	14
Total	0	1	0	3	0	0	0	2	0	4	0	10	0	0	2	17	39
Grand Total	1	6	0	5	0	0	0	22	0	8	0	15	0	0	2	64	123
Apprch %	8.3	50	0	41.7	0	0	0	100	0	34.8	0	65.2	0	0	3	97	
Total %	0.8	4.9	0	4.1	0	0	0	17.9	0	6.5	0	12.2	0	0	1.6	52	

	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East					Main Street (Route 38) From South					South Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	**2**	**2**	0	0	0	3	3	0	0	0	1	1	0	0	0	8	8	**14**
04:00 PM	0	**1**	0	0	1	0	0	0	**6**	**6**	0	0	0	0	0	0	0	0	5	5	12
04:15 PM	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	**9**	**9**	11
04:30 PM	0	1	0	0	1	0	0	0	4	4	0	**2**	**0**	**3**	**5**	0	0	0	3	3	13
Total Volume	0	3	0	2	5	0	0	0	14	14	0	2	0	4	6	0	0	0	25	25	50
% App. Total	0	60	0	40		0	0	0	100		0	33.3	0	66.7		0	0	0	100		
PHF	.000	.750	.000	.250	.625	.000	.000	.000	.583	.583	.000	.250	.000	.333	.300	.000	.000	.000	.694	.694	.893

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N/S: Main Street (Route 38)
E/W: Mystic Valley Prkwy EB/South Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360QQ
Site Code : 10303
Start Date : 11/7/2007
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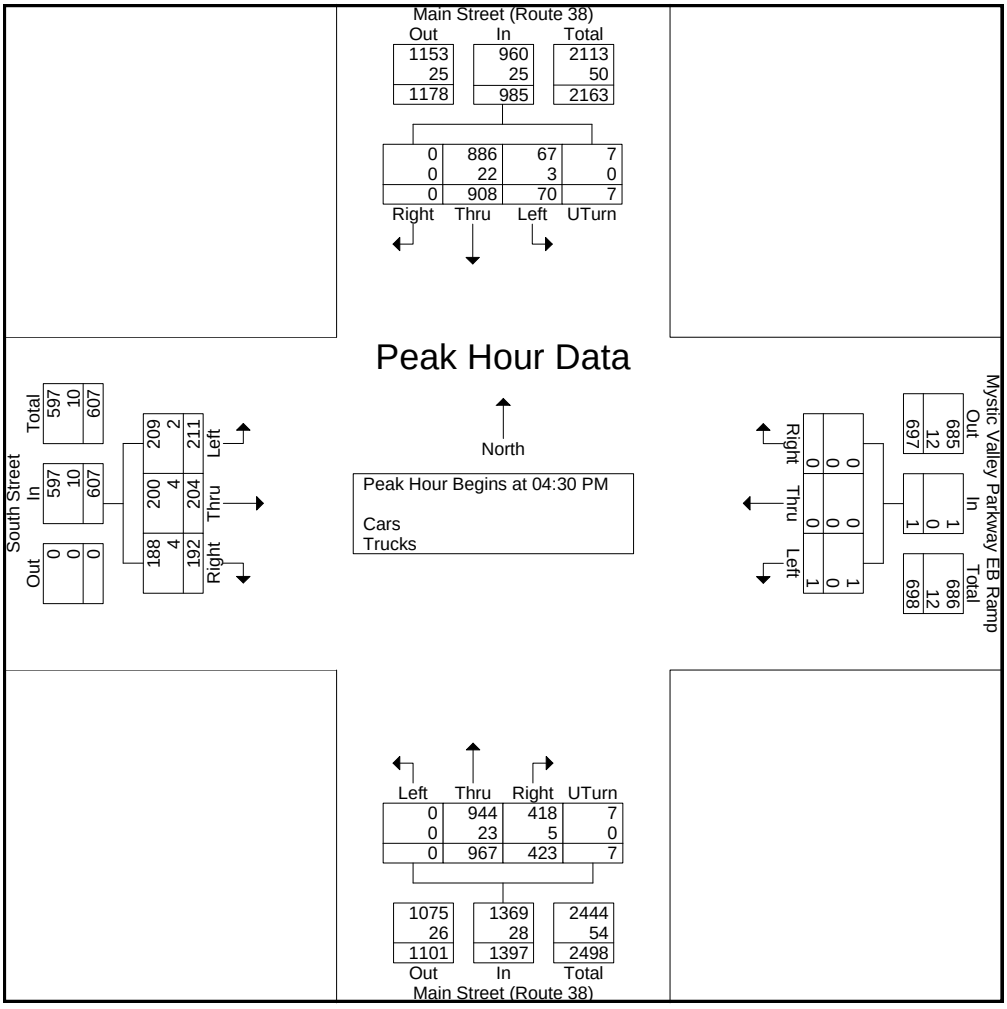
	Main Street (Route 38) From North					Mystic Valley Parkway EB Ramp From East				Main Street (Route 38) From South					South Street From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	**247**	**23**	1	**271**	0	0	0	0	97	227	0	2	326	47	52	53	152	749
04:45 PM	0	237	14	0	251	0	0	0	0	96	222	0	2	320	**51**	45	**63**	**159**	730
05:00 PM	0	222	16	**3**	241	0	0	**1**	**1**	**118**	**270**	0	0	**388**	48	**55**	50	153	**783**
05:15 PM	0	202	17	3	222	0	0	0	0	112	248	0	**3**	363	46	52	45	143	728
Total Volume	0	908	70	7	985	0	0	1	1	423	967	0	7	1397	192	204	211	607	2990
% App. Total	0	92.2	7.1	0.7		0	0	100		30.3	69.2	0	0.5		31.6	33.6	34.8		
PHF	.000	.919	.761	.583	.909	.000	.000	.250	.250	.896	.895	.000	.583	.900	.941	.927	.837	.954	.955
Cars	0	886	67	7	960	0	0	1	1	418	944	0	7	1369	188	200	209	597	2927
% Cars	0	97.6	95.7	100	97.5	0	0	100	100	98.8	97.6	0	100	98.0	97.9	98.0	99.1	98.4	97.9
Trucks	0	22	3	0	25	0	0	0	0	5	23	0	0	28	4	4	2	10	63
% Trucks	0	2.4	4.3	0	2.5	0	0	0	0	1.2	2.4	0	0	2.0	2.1	2.0	0.9	1.6	2.1



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N/S: Main Street (Route 38)
E/W: Mystic Valley Parkway WB Ramps
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360R
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Main Street (Route 38) From North				Mystic Valley Parkway WB Offramp From East			Main Street (Route 38) From South				Mystic Valley Parkway WB Onramp From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
07:00 AM	61	363	0	0	12	2	31	0	77	13	0	0	0	0	559
07:15 AM	63	399	0	0	11	2	17	0	80	25	2	0	0	0	599
07:30 AM	63	384	0	0	14	5	26	0	77	24	3	0	0	0	596
07:45 AM	64	383	0	0	19	19	30	0	87	18	1	0	0	0	621
Total	251	1529	0	0	56	28	104	0	321	80	6	0	0	0	2375
08:00 AM	54	376	0	0	15	7	32	0	86	18	2	0	0	0	590
08:15 AM	53	368	0	0	20	8	24	0	111	21	3	0	0	0	608
08:30 AM	45	392	0	1	15	0	26	0	100	19	3	0	0	0	601
08:45 AM	57	364	0	0	13	1	27	0	107	19	1	0	0	0	589
Total	209	1500	0	1	63	16	109	0	404	77	9	0	0	0	2388
09:00 AM	50	374	0	0	13	1	22	0	85	19	4	0	0	0	568
09:15 AM	53	296	0	0	15	3	22	0	107	24	4	0	0	0	524
09:30 AM	62	276	0	1	18	2	23	0	93	22	0	0	0	0	497
09:45 AM	51	257	0	1	13	0	26	0	132	18	7	0	0	0	505
Total	216	1203	0	2	59	6	93	0	417	83	15	0	0	0	2094
Grand Total	676	4232	0	3	178	50	306	0	1142	240	30	0	0	0	6857
Apprch %	13.8	86.2	0	0.1	33.3	9.4	57.3	0	80.9	17	2.1	0	0	0	
Total %	9.9	61.7	0	0	2.6	0.7	4.5	0	16.7	3.5	0.4	0	0	0	
Cars	671	4054	0	3	159	48	290	0	1072	234	29	0	0	0	6560
% Cars	99.3	95.8	0	100	89.3	96	94.8	0	93.9	97.5	96.7	0	0	0	95.7
Trucks	5	178	0	0	19	2	16	0	70	6	1	0	0	0	297
% Trucks	0.7	4.2	0	0	10.7	4	5.2	0	6.1	2.5	3.3	0	0	0	4.3

	Main Street (Route 38) From North					Mystic Valley Parkway WB Offramp From East				Main Street (Route 38) From South					Mystic Valley Parkway WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	**64**	383	0	0	**447**	19	**19**	30	**68**	0	87	18	1	106	0	0	0	0	**621**
08:00 AM	54	376	0	0	430	15	7	**32**	54	0	86	18	2	106	0	0	0	0	590
08:15 AM	53	368	0	0	421	**20**	8	24	52	0	**111**	**21**	**3**	**135**	0	0	0	0	608
08:30 AM	45	**392**	0	**1**	438	15	0	26	41	0	100	19	3	122	0	0	0	0	601
Total Volume	216	1519	0	1	1736	69	34	112	215	0	384	76	9	469	0	0	0	0	2420
% App. Total	12.4	87.5	0	0.1		32.1	15.8	52.1		0	81.9	16.2	1.9		0	0	0		
PHF	.844	.969	.000	.250	.971	.863	.447	.875	.790	.000	.865	.905	.750	.869	.000	.000	.000	.000	.974
Cars	215	1457	0	1	1673	62	33	109	204	0	366	76	8	450	0	0	0	0	2327
% Cars	99.5	95.9	0	100	96.4	89.9	97.1	97.3	94.9	0	95.3	100	88.9	95.9	0	0	0	0	96.2
Trucks	1	62	0	0	63	7	1	3	11	0	18	0	1	19	0	0	0	0	93
% Trucks	0.5	4.1	0	0	3.6	10.1	2.9	2.7	5.1	0	4.7	0	11.1	4.1	0	0	0	0	3.8

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N/S: Main Street (Route 38)
E/W: Mystic Valley Parkway WB Ramps
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360R
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North				Mystic Valley Parkway WB Offramp From East			Main Street (Route 38) From South				Mystic Valley Parkway WB Onramp From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
07:00 AM	61	353	0	0	9	2	30	0	69	13	0	0	0	0	537
07:15 AM	63	388	0	0	11	2	16	0	73	25	2	0	0	0	580
07:30 AM	63	373	0	0	10	5	24	0	71	23	3	0	0	0	572
07:45 AM	64	371	0	0	18	19	30	0	82	18	1	0	0	0	603
Total	251	1485	0	0	48	28	100	0	295	79	6	0	0	0	2292
08:00 AM	54	360	0	0	13	7	30	0	84	18	1	0	0	0	567
08:15 AM	52	347	0	0	17	7	23	0	103	21	3	0	0	0	573
08:30 AM	45	379	0	1	14	0	26	0	97	19	3	0	0	0	584
08:45 AM	57	348	0	0	12	1	24	0	101	17	1	0	0	0	561
Total	208	1434	0	1	56	15	103	0	385	75	8	0	0	0	2285
09:00 AM	49	359	0	0	11	1	21	0	77	19	4	0	0	0	541
09:15 AM	50	275	0	0	15	2	20	0	99	22	4	0	0	0	487
09:30 AM	62	262	0	1	17	2	21	0	89	22	0	0	0	0	476
09:45 AM	51	239	0	1	12	0	25	0	127	17	7	0	0	0	479
Total	212	1135	0	2	55	5	87	0	392	80	15	0	0	0	1983
Grand Total	671	4054	0	3	159	48	290	0	1072	234	29	0	0	0	6560
Apprch %	14.2	85.7	0	0.1	32	9.7	58.4	0	80.3	17.5	2.2	0	0	0	
Total %	10.2	61.8	0	0	2.4	0.7	4.4	0	16.3	3.6	0.4	0	0	0	

	Main Street (Route 38) From North					Mystic Valley Parkway WB Offramp From East				Main Street (Route 38) From South					Mystic Valley Parkway WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	**64**	371	0	0	**435**	**18**	**19**	**30**	**67**	0	82	18	1	101	0	0	0	0	**603**
08:00 AM	54	360	0	0	414	13	7	30	50	0	84	18	1	103	0	0	0	0	567
08:15 AM	52	347	0	0	399	17	7	23	47	0	**103**	**21**	**3**	**127**	0	0	0	0	573
08:30 AM	45	**379**	0	**1**	425	14	0	26	40	0	97	19	3	119	0	0	0	0	584
Total Volume	215	1457	0	1	1673	62	33	109	204	0	366	76	8	450	0	0	0	0	2327
% App. Total	12.9	87.1	0	0.1		30.4	16.2	53.4		0	81.3	16.9	1.8		0	0	0		
PHF	.840	.961	.000	.250	.961	.861	.434	.908	.761	.000	.888	.905	.667	.886	.000	.000	.000	.000	.965

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Client: VHB/A. Ng

File Name : 71360R
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Main Street (Route 38) From North				Mystic Valley Parkway WB Offramp From East			Main Street (Route 38) From South				Mystic Valley Parkway WB Onramp From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
07:00 AM	0	10	0	0	3	0	1	0	8	0	0	0	0	0	22
07:15 AM	0	11	0	0	0	0	1	0	7	0	0	0	0	0	19
07:30 AM	0	11	0	0	4	0	2	0	6	1	0	0	0	0	24
07:45 AM	0	12	0	0	1	0	0	0	5	0	0	0	0	0	18
Total	0	44	0	0	8	0	4	0	26	1	0	0	0	0	83
08:00 AM	0	16	0	0	2	0	2	0	2	0	1	0	0	0	23
08:15 AM	1	21	0	0	3	1	1	0	8	0	0	0	0	0	35
08:30 AM	0	13	0	0	1	0	0	0	3	0	0	0	0	0	17
08:45 AM	0	16	0	0	1	0	3	0	6	2	0	0	0	0	28
Total	1	66	0	0	7	1	6	0	19	2	1	0	0	0	103
09:00 AM	1	15	0	0	2	0	1	0	8	0	0	0	0	0	27
09:15 AM	3	21	0	0	0	1	2	0	8	2	0	0	0	0	37
09:30 AM	0	14	0	0	1	0	2	0	4	0	0	0	0	0	21
09:45 AM	0	18	0	0	1	0	1	0	5	1	0	0	0	0	26
Total	4	68	0	0	4	1	6	0	25	3	0	0	0	0	111
Grand Total	5	178	0	0	19	2	16	0	70	6	1	0	0	0	297
Apprch %	2.7	97.3	0	0	51.4	5.4	43.2	0	90.9	7.8	1.3	0	0	0	
Total %	1.7	59.9	0	0	6.4	0.7	5.4	0	23.6	2	0.3	0	0	0	

	Main Street (Route 38) From North					Mystic Valley Parkway WB Offramp From East				Main Street (Route 38) From South					Mystic Valley Parkway WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 08:45 AM																			
08:45 AM	0	16	0	0	16	1	0	**3**	**4**	0	6	**2**	**0**	**8**	**0**	**0**	**0**	**0**	**28**
09:00 AM	**1**	**15**	**0**	**0**	**16**	**2**	0	1	3	0	**8**	0	0	8	0	0	0	0	27
09:15 AM	**3**	**21**	0	0	**24**	0	**1**	2	3	0	8	2	0	**10**	0	0	0	0	**37**
09:30 AM	0	14	0	0	14	1	0	2	3	0	4	0	0	4	0	0	0	0	21
Total Volume	4	66	0	0	70	4	1	8	13	0	26	4	0	30	0	0	0	0	113
% App. Total	5.7	94.3	0	0		30.8	7.7	61.5		0	86.7	13.3	0		0	0	0		
PHF	.333	.786	.000	.000	.729	.500	.250	.667	.813	.000	.813	.500	.000	.750	.000	.000	.000	.000	.764

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File Name : 71360R
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Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Mystic Valley Parkway WB Offramp From East				Main Street (Route 38) From South				Mystic Valley Parkway WB Onramp From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	5
07:15 AM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	1	5
07:30 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	9	11
07:45 AM	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	1	5
Total	0	3	0	1	0	0	0	7	0	3	0	0	0	0	0	12	26
08:00 AM	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	3	8
08:15 AM	0	3	0	2	0	0	0	1	0	0	0	0	0	0	0	4	10
08:30 AM	0	1	0	1	0	0	0	2	0	1	0	0	0	0	0	4	9
08:45 AM	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	9	13
Total	1	8	0	3	0	0	0	6	0	2	0	0	0	0	0	20	40
09:00 AM	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	1	6
09:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3	5
09:30 AM	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	6	10
09:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4	6
Total	1	4	0	0	0	1	0	4	0	3	0	0	0	0	0	14	27
Grand Total	2	15	0	4	0	1	0	17	0	8	0	0	0	0	0	46	93
Apprch %	9.5	71.4	0	19	0	5.6	0	94.4	0	100	0	0	0	0	0	100	
Total %	2.2	16.1	0	4.3	0	1.1	0	18.3	0	8.6	0	0	0	0	0	49.5	

	Main Street (Route 38) From North					Mystic Valley Parkway WB Offramp From East					Main Street (Route 38) From South					Mystic Valley Parkway WB Onramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	2	0	0	2	0	0	0	**2**	**2**	0	**1**	**0**	**0**	**1**	0	0	0	3	3	8
08:15 AM	0	**3**	0	**2**	**5**	0	0	0	1	1	0	0	0	0	0	0	0	0	4	4	10
08:30 AM	0	1	0	1	2	0	0	0	2	2	0	1	0	0	1	0	0	0	4	4	9
08:45 AM	**1**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**9**	**13**
Total Volume	1	8	0	3	12	0	0	0	6	6	0	2	0	0	2	0	0	0	20	20	40
% App. Total	8.3	66.7	0	25		0	0	0	100		0	100	0	0		0	0	0	100		
PHF	.250	.667	.000	.375	.600	.000	.000	.000	.750	.750	.000	.500	.000	.000	.500	.000	.000	.000	.556	.556	.769

PRECISION
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N/S: Main Street (Route 38)
E/W: Mystic Valley Parkway WB Ramps
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360R
Site Code : 10303
Start Date : 11/7/2007
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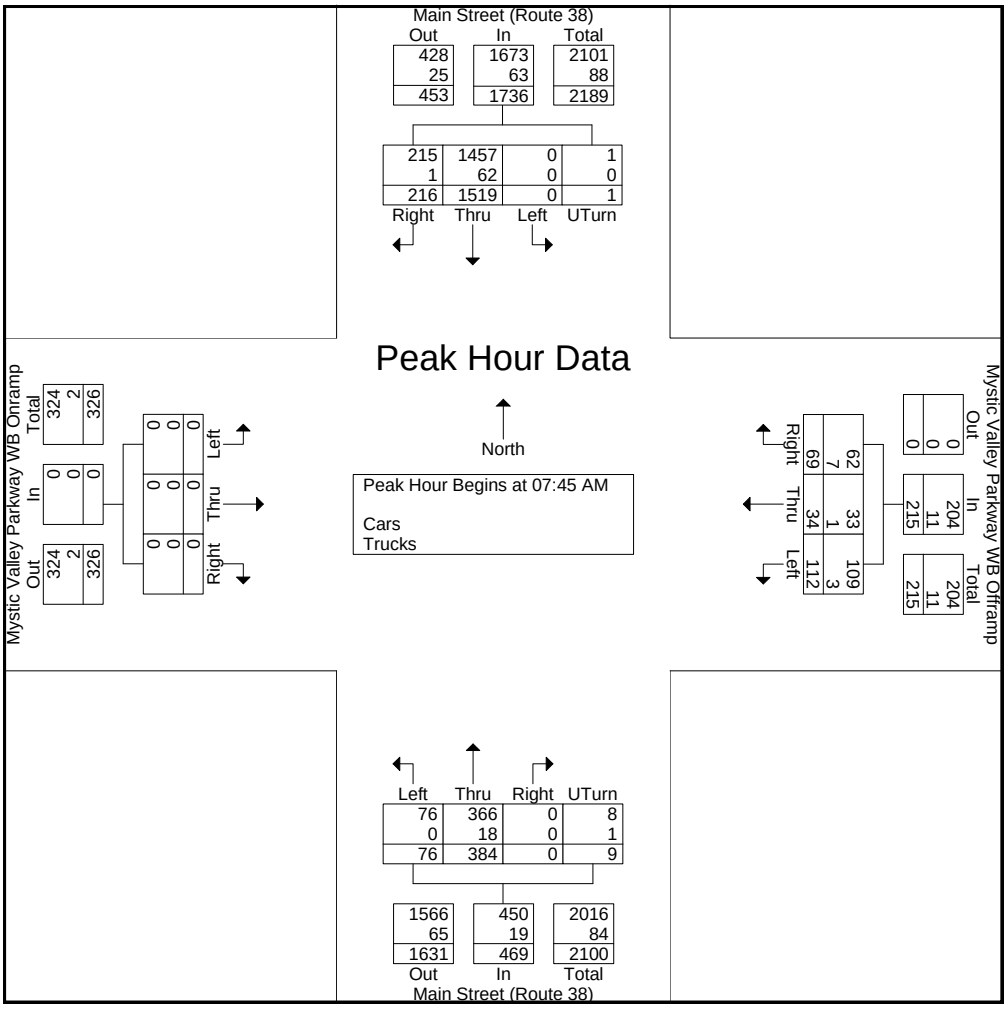
	Main Street (Route 38) From North					Mystic Valley Parkway WB Offramp From East				Main Street (Route 38) From South					Mystic Valley Parkway WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	**64**	383	0	0	**447**	19	**19**	30	**68**	0	87	18	1	106	0	0	0	0	**621**
08:00 AM	54	376	0	0	430	15	7	**32**	54	0	86	18	2	106	0	0	0	0	590
08:15 AM	53	368	0	0	421	**20**	8	24	52	0	**111**	**21**	**3**	**135**	0	0	0	0	608
08:30 AM	45	**392**	0	**1**	438	15	0	26	41	0	100	19	3	122	0	0	0	0	601
Total Volume	216	1519	0	1	1736	69	34	112	215	0	384	76	9	469	0	0	0	0	2420
% App. Total	12.4	87.5	0	0.1		32.1	15.8	52.1		0	81.9	16.2	1.9		0	0	0		
PHF	.844	.969	.000	.250	.971	.863	.447	.875	.790	.000	.865	.905	.750	.869	.000	.000	.000	.000	.974
Cars	215	1457	0	1	1673	62	33	109	204	0	366	76	8	450	0	0	0	0	2327
% Cars	99.5	95.9	0	100	96.4	89.9	97.1	97.3	94.9	0	95.3	100	88.9	95.9	0	0	0	0	96.2
Trucks	1	62	0	0	63	7	1	3	11	0	18	0	1	19	0	0	0	0	93
% Trucks	0.5	4.1	0	0	3.6	10.1	2.9	2.7	5.1	0	4.7	0	11.1	4.1	0	0	0	0	3.8



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N/S: Main Street (Route 38)
E/W: Mystic Valley Parkway WB Ramps
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360RR
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Main Street (Route 38) From North				Mystic Valley WB Offramp From East			Main Street (Route 38) From South				Mystic Valley WB Onramp From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
03:00 PM	55	180	0	1	21	1	37	0	174	40	3	0	0	0	512
03:15 PM	47	193	0	0	22	7	46	0	189	41	3	0	0	0	548
03:30 PM	45	189	0	0	25	4	42	0	182	49	0	0	0	0	536
03:45 PM	38	202	0	0	29	5	34	0	188	48	6	0	0	0	550
Total	185	764	0	1	97	17	159	0	733	178	12	0	0	0	2146
04:00 PM	33	182	0	0	29	0	51	0	214	51	3	0	0	0	563
04:15 PM	47	215	0	0	25	4	46	0	200	49	0	0	0	0	586
04:30 PM	34	206	0	0	23	13	37	0	210	58	2	0	0	0	583
04:45 PM	49	208	0	0	21	6	32	0	216	57	1	0	0	0	590
Total	163	811	0	0	98	23	166	0	840	215	6	0	0	0	2322
05:00 PM	39	228	0	0	25	5	32	0	234	67	0	0	0	0	630
05:15 PM	30	178	0	0	26	11	35	0	234	60	0	0	0	0	574
05:30 PM	49	206	0	0	21	13	40	1	211	57	1	0	0	0	599
05:45 PM	24	172	0	0	20	2	38	0	208	53	2	0	0	0	519
Total	142	784	0	0	92	31	145	1	887	237	3	0	0	0	2322
Grand Total	490	2359	0	1	287	71	470	1	2460	630	21	0	0	0	6790
Apprch %	17.2	82.8	0	0	34.7	8.6	56.8	0	79	20.2	0.7	0	0	0	
Total %	7.2	34.7	0	0	4.2	1	6.9	0	36.2	9.3	0.3	0	0	0	
Cars	488	2278	0	1	280	71	466	0	2391	625	21	0	0	0	6621
% Cars	99.6	96.6	0	100	97.6	100	99.1	0	97.2	99.2	100	0	0	0	97.5
Trucks	2	81	0	0	7	0	4	1	69	5	0	0	0	0	169
% Trucks	0.4	3.4	0	0	2.4	0	0.9	100	2.8	0.8	0	0	0	0	2.5

	Main Street (Route 38) From North					Mystic Valley WB Offramp From East				Main Street (Route 38) From South					Mystic Valley WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:45 PM																			
04:45 PM	**49**	208	0	0	257	21	6	32	59	0	216	57	**1**	274	0	0	0	0	590
05:00 PM	39	**228**	0	0	**267**	25	5	32	62	0	**234**	**67**	**0**	**301**	0	0	0	0	**630**
05:15 PM	30	178	0	0	208	**26**	11	35	72	0	234	60	0	294	0	0	0	0	574
05:30 PM	49	206	0	0	255	21	**13**	**40**	**74**	**1**	**211**	**57**	**1**	**270**	**0**	**0**	**0**	**0**	**599**
Total Volume	167	820	0	0	987	93	35	139	267	1	895	241	2	1139	0	0	0	0	2393
% App. Total	16.9	83.1	0	0		34.8	13.1	52.1		0.1	78.6	21.2	0.2		0	0	0		
PHF	.852	.899	.000	.000	.924	.894	.673	.869	.902	.250	.956	.899	.500	.946	.000	.000	.000	.000	.950
Cars	166	800	0	0	966	93	35	137	265	0	875	238	2	1115	0	0	0	0	2346
% Cars	99.4	97.6	0	0	97.9	100	100	98.6	99.3	0	97.8	98.8	100	97.9	0	0	0	0	98.0
Trucks	1	20	0	0	21	0	0	2	2	1	20	3	0	24	0	0	0	0	47
% Trucks	0.6	2.4	0	0	2.1	0	0	1.4	0.7	100	2.2	1.2	0	2.1	0	0	0	0	2.0

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N/S: Main Street (Route 38)
E/W: Mystic Valley Parkway WB Ramps
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360RR
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North				Mystic Valley WB Offramp From East			Main Street (Route 38) From South				Mystic Valley WB Onramp From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
03:00 PM	55	172	0	1	18	1	36	0	170	40	3	0	0	0	496
03:15 PM	47	187	0	0	21	7	46	0	182	41	3	0	0	0	534
03:30 PM	45	182	0	0	25	4	42	0	175	49	0	0	0	0	522
03:45 PM	38	193	0	0	27	5	34	0	181	48	6	0	0	0	532
Total	185	734	0	1	91	17	158	0	708	178	12	0	0	0	2084
04:00 PM	33	175	0	0	28	0	50	0	207	51	3	0	0	0	547
04:15 PM	47	206	0	0	25	4	46	0	198	49	0	0	0	0	575
04:30 PM	33	198	0	0	23	13	37	0	201	57	2	0	0	0	564
04:45 PM	48	205	0	0	21	6	31	0	208	56	1	0	0	0	576
Total	161	784	0	0	97	23	164	0	814	213	6	0	0	0	2262
05:00 PM	39	217	0	0	25	5	32	0	231	65	0	0	0	0	614
05:15 PM	30	175	0	0	26	11	35	0	230	60	0	0	0	0	567
05:30 PM	49	203	0	0	21	13	39	0	206	57	1	0	0	0	589
05:45 PM	24	165	0	0	20	2	38	0	202	52	2	0	0	0	505
Total	142	760	0	0	92	31	144	0	869	234	3	0	0	0	2275
Grand Total	488	2278	0	1	280	71	466	0	2391	625	21	0	0	0	6621
Apprch %	17.6	82.3	0	0	34.3	8.7	57	0	78.7	20.6	0.7	0	0	0	
Total %	7.4	34.4	0	0	4.2	1.1	7	0	36.1	9.4	0.3	0	0	0	

	Main Street (Route 38) From North					Mystic Valley WB Offramp From East				Main Street (Route 38) From South					Mystic Valley WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:45 PM																			
04:45 PM	48	205	0	0	253	21	6	31	58	0	208	56	**1**	265	0	0	0	0	576
05:00 PM	39	**217**	0	0	**256**	25	5	32	62	0	**231**	**65**	**0**	**296**	0	0	0	0	**614**
05:15 PM	30	175	0	0	205	**26**	11	35	72	0	230	60	0	290	0	0	0	0	567
05:30 PM	**49**	203	0	0	252	21	**13**	**39**	**73**	0	206	57	1	264	0	0	0	0	589
Total Volume	166	800	0	0	966	93	35	137	265	0	875	238	2	1115	0	0	0	0	2346
% App. Total	17.2	82.8	0	0		35.1	13.2	51.7		0	78.5	21.3	0.2		0	0	0		
PHF	.847	.922	.000	.000	.943	.894	.673	.878	.908	.000	.947	.915	.500	.942	.000	.000	.000	.000	.955

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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360RR
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Main Street (Route 38) From North				Mystic Valley WB Offramp From East			Main Street (Route 38) From South				Mystic Valley WB Onramp From West			
Start Time	Right	Thru	Left	UTurn	Right	Thru	Left	Right	Thru	Left	UTurn	Right	Thru	Left	Int. Total
03:00 PM	0	8	0	0	3	0	1	0	4	0	0	0	0	0	16
03:15 PM	0	6	0	0	1	0	0	0	7	0	0	0	0	0	14
03:30 PM	0	7	0	0	0	0	0	0	7	0	0	0	0	0	14
03:45 PM	0	9	0	0	2	0	0	0	7	0	0	0	0	0	18
Total	0	30	0	0	6	0	1	0	25	0	0	0	0	0	62
04:00 PM	0	7	0	0	1	0	1	0	7	0	0	0	0	0	16
04:15 PM	0	9	0	0	0	0	0	0	2	0	0	0	0	0	11
04:30 PM	1	8	0	0	0	0	0	0	9	1	0	0	0	0	19
04:45 PM	1	3	0	0	0	0	1	0	8	1	0	0	0	0	14
Total	2	27	0	0	1	0	2	0	26	2	0	0	0	0	60
05:00 PM	0	11	0	0	0	0	0	0	3	2	0	0	0	0	16
05:15 PM	0	3	0	0	0	0	0	0	4	0	0	0	0	0	7
05:30 PM	0	3	0	0	0	0	1	1	5	0	0	0	0	0	10
05:45 PM	0	7	0	0	0	0	0	0	6	1	0	0	0	0	14
Total	0	24	0	0	0	0	1	1	18	3	0	0	0	0	47
Grand Total	2	81	0	0	7	0	4	1	69	5	0	0	0	0	169
Apprch %	2.4	97.6	0	0	63.6	0	36.4	1.3	92	6.7	0	0	0	0	
Total %	1.2	47.9	0	0	4.1	0	2.4	0.6	40.8	3	0	0	0	0	

	Main Street (Route 38) From North					Mystic Valley WB Offramp From East				Main Street (Route 38) From South					Mystic Valley WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 03:45 PM																			
03:45 PM	0	**9**	0	0	**9**	**2**	0	0	**2**	0	7	0	0	7	0	0	0	0	18
04:00 PM	0	7	0	0	7	1	0	**1**	2	0	7	0	0	7	0	0	0	0	16
04:15 PM	0	9	0	0	9	0	0	0	0	0	2	0	0	2	0	0	0	0	11
04:30 PM	**1**	8	0	0	9	0	0	0	0	0	**9**	**1**	**0**	**10**	0	0	0	0	**19**
Total Volume	1	33	0	0	34	3	0	1	4	0	25	1	0	26	0	0	0	0	64
% App. Total	2.9	97.1	0	0		75	0	25		0	96.2	3.8	0		0	0	0		
PHF	.250	.917	.000	.000	.944	.375	.000	.250	.500	.000	.694	.250	.000	.650	.000	.000	.000	.000	.842

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Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Mystic Valley WB Offramp From East				Main Street (Route 38) From South				Mystic Valley WB Onramp From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	1	5
03:15 PM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	7	10
03:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	11	13
03:45 PM	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	5	12
Total	0	2	0	0	0	0	0	13	0	1	0	0	0	0	0	24	40
04:00 PM	0	1	0	0	0	0	0	7	0	0	0	0	0	0	0	6	14
04:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7
04:30 PM	0	1	0	0	0	0	0	6	0	2	0	0	0	0	0	4	13
04:45 PM	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	11	16
Total	1	4	0	2	0	0	0	13	0	3	0	0	0	0	0	27	50
05:00 PM	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	8	13
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	1	0	0	0	0	0	1	0	3	0	0	0	0	0	9	14
Total	0	1	0	0	0	0	0	5	0	6	0	0	0	0	0	19	31
Grand Total	1	7	0	2	0	0	0	31	0	10	0	0	0	0	0	70	121
Apprch %	10	70	0	20	0	0	0	100	0	100	0	0	0	0	0	100	
Total %	0.8	5.8	0	1.7	0	0	0	25.6	0	8.3	0	0	0	0	0	57.9	

	Main Street (Route 38) From North					Mystic Valley WB Offramp From East					Main Street (Route 38) From South					Mystic Valley WB Onramp From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	**1**	0	0	1	0	0	0	**7**	**7**	0	0	0	0	0	0	0	0	6	6	14
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	7
04:30 PM	0	1	0	0	1	0	0	0	6	6	0	**2**	**0**	**0**	**2**	0	0	0	4	4	13
04:45 PM	**1**	**1**	**0**	**2**	**4**	0	0	0	0	0	0	1	0	0	1	0	0	0	**11**	**11**	**16**
Total Volume	1	4	0	2	7	0	0	0	13	13	0	3	0	0	3	0	0	0	27	27	50
% App. Total	14.3	57.1	0	28.6		0	0	0	100		0	100	0	0		0	0	0	100		
PHF	.250	1.000	.000	.250	.438	.000	.000	.000	.464	.464	.000	.375	.000	.000	.375	.000	.000	.000	.614	.614	.781

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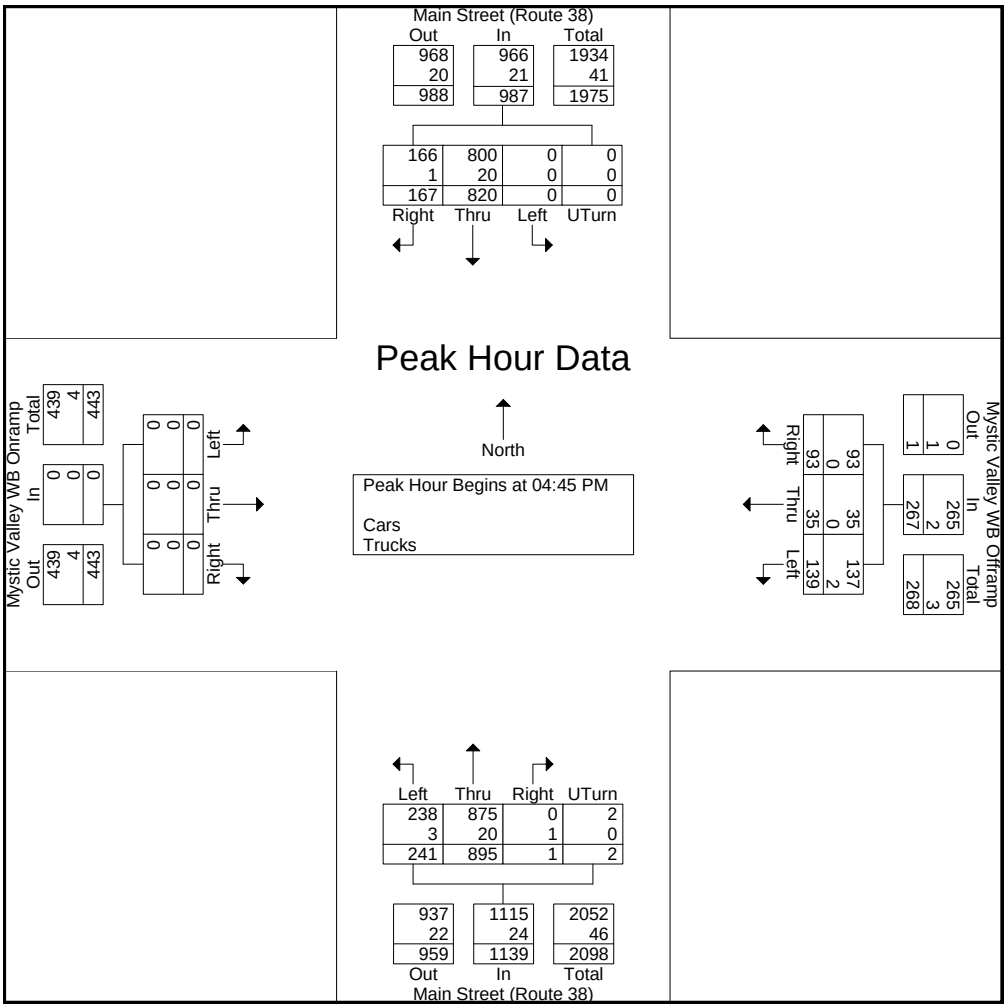
N/S: Main Street (Route 38)
E/W: Mystic Valley Parkway WB Ramps
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360RR
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Main Street (Route 38) From North					Mystic Valley WB Offramp From East				Main Street (Route 38) From South					Mystic Valley WB Onramp From West				
Start Time	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	UTurn	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:45 PM																			
04:45 PM	**49**	208	0	0	257	21	6	32	59	0	216	57	**1**	274	0	0	0	0	590
05:00 PM	39	**228**	0	0	**267**	25	5	32	62	0	**234**	**67**	**0**	**301**	0	0	0	0	**630**
05:15 PM	30	178	0	0	208	**26**	11	35	72	0	234	60	0	294	0	0	0	0	574
05:30 PM	49	206	0	0	255	21	**13**	**40**	**74**	**1**	**211**	**57**	**1**	**270**	**0**	**0**	**0**	**0**	**599**
Total Volume	167	820	0	0	987	93	35	139	267	1	895	241	2	1139	0	0	0	0	2393
% App. Total	16.9	83.1	0	0		34.8	13.1	52.1		0.1	78.6	21.2	0.2		0	0	0		
PHF	.852	.899	.000	.000	.924	.894	.673	.869	.902	.250	.956	.899	.500	.946	.000	.000	.000	.000	.950
Cars	166	800	0	0	966	93	35	137	265	0	875	238	2	1115	0	0	0	0	2346
% Cars	99.4	97.6	0	0	97.9	100	100	98.6	99.3	0	97.8	98.8	100	97.9	0	0	0	0	98.0
Trucks	1	20	0	0	21	0	0	2	2	1	20	3	0	24	0	0	0	0	47
% Trucks	0.6	2.4	0	0	2.1	0	0	1.4	0.7	100	2.2	1.2	0	2.1	0	0	0	0	2.0



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N/S: Main Street/Mystic Avenue (Rte 38)
E/W: Fire Station/Main Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360S
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Main Street (Route 38) From North			Fire Station Driveway From East			Mystic Avenue (Route 38) From South			Main Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	214	202	0	0	0	0	0	102	4	3	0	76	601
07:15 AM	240	216	2	0	0	0	0	102	12	1	0	79	652
07:30 AM	236	190	0	1	0	0	0	98	10	4	0	91	630
07:45 AM	250	202	2	3	1	0	0	105	8	4	0	87	662
Total	940	810	4	4	1	0	0	407	34	12	0	333	2545
08:00 AM	245	263	0	2	0	0	0	106	11	10	1	78	716
08:15 AM	246	222	2	1	0	0	0	123	10	6	1	96	707
08:30 AM	251	220	0	3	0	0	0	92	2	0	0	84	652
08:45 AM	246	214	2	2	0	0	0	103	14	6	1	85	673
Total	988	919	4	8	0	0	0	424	37	22	3	343	2748
09:00 AM	257	193	1	1	0	0	0	75	7	4	0	77	615
09:15 AM	186	194	0	3	1	0	0	86	8	7	0	80	565
09:30 AM	219	124	0	4	0	0	0	76	1	8	1	94	527
09:45 AM	164	143	1	3	0	0	0	85	3	2	1	88	490
Total	826	654	2	11	1	0	0	322	19	21	2	339	2197
Grand Total	2754	2383	10	23	2	0	0	1153	90	55	5	1015	7490
Apprch %	53.5	46.3	0.2	92	8	0	0	92.8	7.2	5.1	0.5	94.4	
Total %	36.8	31.8	0.1	0.3	0	0	0	15.4	1.2	0.7	0.1	13.6	
Cars	2671	2294	9	23	2	0	0	1081	76	54	4	969	7183
% Cars	97	96.3	90	100	100	0	0	93.8	84.4	98.2	80	95.5	95.9
Trucks	83	89	1	0	0	0	0	72	14	1	1	46	307
% Trucks	3	3.7	10	0	0	0	0	6.2	15.6	1.8	20	4.5	4.1

	Main Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	245	**263**	0	**508**	2	0	0	2	0	106	11	117	**10**	**1**	78	89	**716**
08:15 AM	246	222	**2**	470	1	0	0	1	0	**123**	10	**133**	6	1	**96**	**103**	707
08:30 AM	**251**	220	0	471	**3**	0	0	**3**	0	92	2	94	0	0	84	84	652
08:45 AM	246	214	2	462	2	0	0	2	0	103	**14**	117	6	1	85	92	673
Total Volume	988	919	4	1911	8	0	0	8	0	424	37	461	22	3	343	368	2748
% App. Total	51.7	48.1	0.2		100	0	0		0	92	8		6	0.8	93.2		
PHF	.984	.874	.500	.940	.667	.000	.000	.667	.000	.862	.661	.867	.550	.750	.893	.893	.959
Cars	957	886	4	1847	8	0	0	8	0	401	31	432	21	3	329	353	2640
% Cars	96.9	96.4	100	96.7	100	0	0	100	0	94.6	83.8	93.7	95.5	100	95.9	95.9	96.1
Trucks	31	33	0	64	0	0	0	0	0	23	6	29	1	0	14	15	108
% Trucks	3.1	3.6	0	3.3	0	0	0	0	0	5.4	16.2	6.3	4.5	0	4.1	4.1	3.9

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E/W: Fire Station/Main Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360S
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Main Street (Route 38) From North			Fire Station Driveway From East			Mystic Avenue (Route 38) From South			Main Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	209	196	0	0	0	0	0	97	4	3	0	74	583
07:15 AM	232	214	2	0	0	0	0	96	12	1	0	76	633
07:30 AM	230	183	0	1	0	0	0	91	9	4	0	89	607
07:45 AM	245	196	2	3	1	0	0	100	6	4	0	81	638
Total	916	789	4	4	1	0	0	384	31	12	0	320	2461
08:00 AM	234	255	0	2	0	0	0	104	9	9	1	75	689
08:15 AM	235	214	2	1	0	0	0	116	10	6	1	92	677
08:30 AM	248	210	0	3	0	0	0	87	2	0	0	81	631
08:45 AM	240	207	2	2	0	0	0	94	10	6	1	81	643
Total	957	886	4	8	0	0	0	401	31	21	3	329	2640
09:00 AM	248	181	0	1	0	0	0	63	5	4	0	74	576
09:15 AM	178	185	0	3	1	0	0	77	7	7	0	73	531
09:30 AM	211	120	0	4	0	0	0	73	1	8	0	88	505
09:45 AM	161	133	1	3	0	0	0	83	1	2	1	85	470
Total	798	619	1	11	1	0	0	296	14	21	1	320	2082
Grand Total	2671	2294	9	23	2	0	0	1081	76	54	4	969	7183
Apprch %	53.7	46.1	0.2	92	8	0	0	93.4	6.6	5.3	0.4	94.4	
Total %	37.2	31.9	0.1	0.3	0	0	0	15	1.1	0.8	0.1	13.5	

	Main Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	234	**255**	0	**489**	2	0	0	2	0	104	9	113	**9**	**1**	75	85	**689**
08:15 AM	235	214	**2**	451	1	0	0	1	0	**116**	**10**	**126**	6	1	**92**	**99**	677
08:30 AM	**248**	210	0	458	**3**	0	0	**3**	0	87	2	89	0	0	81	81	631
08:45 AM	240	207	2	449	2	0	0	2	0	94	10	104	6	1	81	88	643
Total Volume	957	886	4	1847	8	0	0	8	0	401	31	432	21	3	329	353	2640
% App. Total	51.8	48	0.2		100	0	0		0	92.8	7.2		5.9	0.8	93.2		
PHF	.965	.869	.500	.944	.667	.000	.000	.667	.000	.864	.775	.857	.583	.750	.894	.891	.958

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N/S: Main Street/Mystic Avenue (Rte 38)
E/W: Fire Station/Main Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360S
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Main Street (Route 38) From North			Fire Station Driveway From East			Mystic Avenue (Route 38) From South			Main Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	5	6	0	0	0	0	0	5	0	0	0	2	18
07:15 AM	8	2	0	0	0	0	0	6	0	0	0	3	19
07:30 AM	6	7	0	0	0	0	0	7	1	0	0	2	23
07:45 AM	5	6	0	0	0	0	0	5	2	0	0	6	24
Total	24	21	0	0	0	0	0	23	3	0	0	13	84
08:00 AM	11	8	0	0	0	0	0	2	2	1	0	3	27
08:15 AM	11	8	0	0	0	0	0	7	0	0	0	4	30
08:30 AM	3	10	0	0	0	0	0	5	0	0	0	3	21
08:45 AM	6	7	0	0	0	0	0	9	4	0	0	4	30
Total	31	33	0	0	0	0	0	23	6	1	0	14	108
09:00 AM	9	12	1	0	0	0	0	12	2	0	0	3	39
09:15 AM	8	9	0	0	0	0	0	9	1	0	0	7	34
09:30 AM	8	4	0	0	0	0	0	3	0	0	1	6	22
09:45 AM	3	10	0	0	0	0	0	2	2	0	0	3	20
Total	28	35	1	0	0	0	0	26	5	0	1	19	115
Grand Total	83	89	1	0	0	0	0	72	14	1	1	46	307
Apprch %	48	51.4	0.6	0	0	0	0	83.7	16.3	2.1	2.1	95.8	
Total %	27	29	0.3	0	0	0	0	23.5	4.6	0.3	0.3	15	

	Main Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	6	7	0	13	0	0	0	0	0	9	**4**	13	0	0	4	4	30
09:00 AM	**9**	**12**	**1**	**22**	0	0	0	0	0	**12**	2	**14**	0	0	3	3	**39**
09:15 AM	8	9	0	17	0	0	0	0	0	9	1	10	0	0	**7**	**7**	34
09:30 AM	8	4	0	12	0	0	0	0	0	3	0	3	0	**1**	6	7	22
Total Volume	31	32	1	64	0	0	0	0	0	33	7	40	0	1	20	21	125
% App. Total	48.4	50	1.6		0	0	0		0	82.5	17.5		0	4.8	95.2		
PHF	.861	.667	.250	.727	.000	.000	.000	.000	.000	.688	.438	.714	.000	.250	.714	.750	.801

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Client: VHB/A. Ng

File Name : 71360S
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	3	1	0	0	0	0	0	0	0	1	1	2	0	0	1	0	9
07:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	6	1	0	1	0	0	0	0	0	1	1	2	0	0	1	1	14
08:00 AM	2	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	6
08:15 AM	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	5
08:30 AM	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4
08:45 AM	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3
Total	7	3	0	1	0	0	0	2	1	0	0	4	0	0	0	0	18
09:00 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
09:15 AM	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3
09:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total	4	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	8
Grand Total	17	4	0	2	0	0	0	3	1	1	1	7	0	0	3	1	40
Apprch %	73.9	17.4	0	8.7	0	0	0	100	10	10	10	70	0	0	75	25	
Total %	42.5	10	0	5	0	0	0	7.5	2.5	2.5	2.5	17.5	0	0	7.5	2.5	

	Main Street (Route 38) From North					Fire Station Driveway From East					Mystic Avenue (Route 38) From South					Main Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**3**	**1**	0	0	**4**	0	0	0	0	0	0	**1**	**1**	**2**	**4**	0	0	**1**	**0**	**1**	**9**
07:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
07:45 AM	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
08:00 AM	**2**	**1**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**6**
Total Volume	7	2	0	2	11	0	0	0	0	0	1	1	1	3	6	0	0	1	1	2	19
% App. Total	63.6	18.2	0	18.2		0	0	0	0		16.7	16.7	16.7	50		0	0	50	50		
PHF	.583	.500	.000	.500	.688	.000	.000	.000	.000	.000	.250	.250	.250	.375	.375	.000	.000	.250	.250	.500	.528

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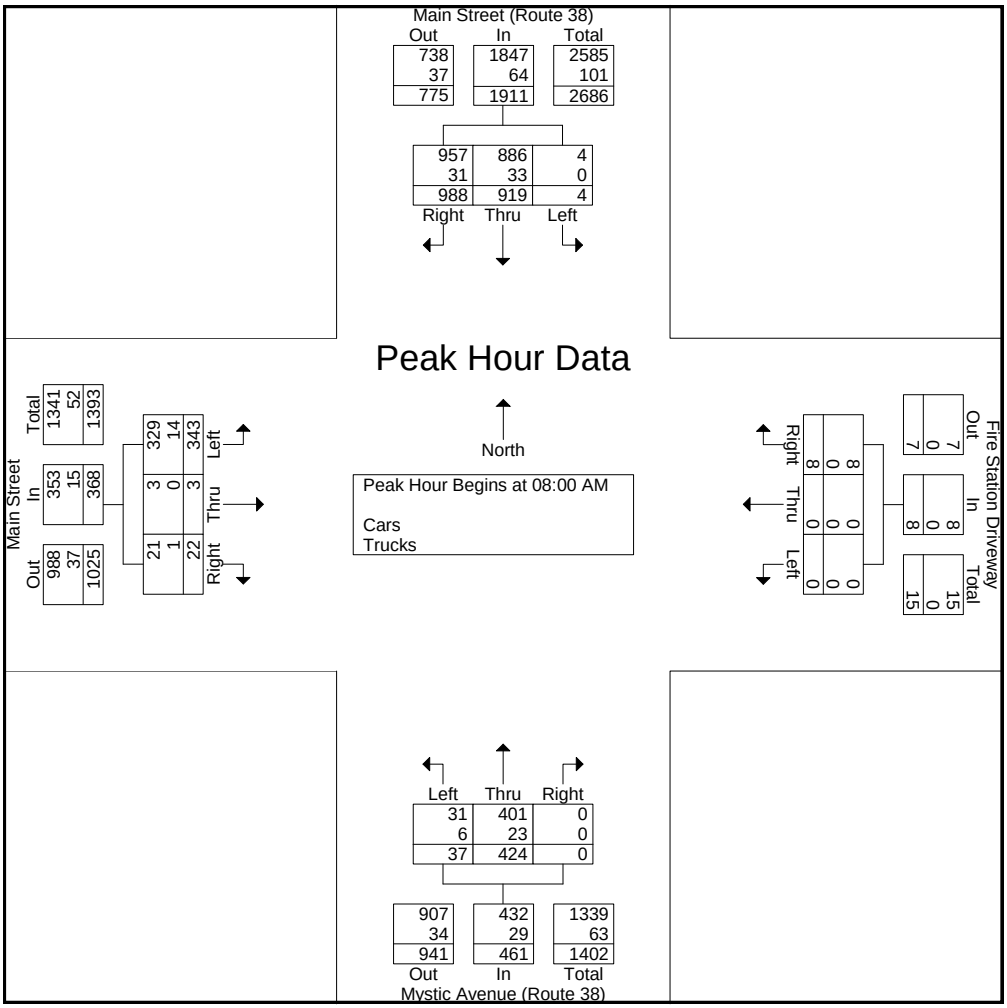
	Main Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	245	**263**	0	**508**	2	0	0	2	0	106	11	117	**10**	**1**	78	89	**716**
08:15 AM	246	222	**2**	470	1	0	0	1	0	**123**	10	**133**	6	1	**96**	**103**	707
08:30 AM	**251**	220	0	471	**3**	0	0	**3**	0	92	2	94	0	0	84	84	652
08:45 AM	246	214	2	462	2	0	0	2	0	103	**14**	117	6	1	85	92	673
Total Volume	988	919	4	1911	8	0	0	8	0	424	37	461	22	3	343	368	2748
% App. Total	51.7	48.1	0.2		100	0	0		0	92	8		6	0.8	93.2		
PHF	.984	.874	.500	.940	.667	.000	.000	.667	.000	.862	.661	.867	.550	.750	.893	.893	.959
Cars	957	886	4	1847	8	0	0	8	0	401	31	432	21	3	329	353	2640
% Cars	96.9	96.4	100	96.7	100	0	0	100	0	94.6	83.8	93.7	95.5	100	95.9	95.9	96.1
Trucks	31	33	0	64	0	0	0	0	0	23	6	29	1	0	14	15	108
% Trucks	3.1	3.6	0	3.3	0	0	0	0	0	5.4	16.2	6.3	4.5	0	4.1	4.1	3.9



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Groups Printed- Cars - Trucks

	Mian Street (Route 38) From North			Fire Station Driveway From East			Mystic Avenue (Route 38) From South			Main Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	142	103	4	4	0	0	0	116	16	8	1	95	489
03:15 PM	203	84	1	5	0	0	0	127	14	8	2	112	556
03:30 PM	193	86	2	3	0	1	0	161	17	5	1	99	568
03:45 PM	201	99	4	5	0	0	2	191	19	1	2	89	613
Total	739	372	11	17	0	1	2	595	66	22	6	395	2226
04:00 PM	203	97	3	3	0	1	0	211	18	6	0	109	651
04:15 PM	221	100	2	1	0	0	0	189	23	4	2	103	645
04:30 PM	237	98	3	6	1	0	0	209	17	6	0	121	698
04:45 PM	196	89	3	1	1	0	0	213	16	1	0	102	622
Total	857	384	11	11	2	1	0	822	74	17	2	435	2616
05:00 PM	190	100	1	1	0	0	1	272	19	3	0	88	675
05:15 PM	197	85	1	4	0	0	0	280	21	1	2	111	702
05:30 PM	219	76	0	0	0	0	0	256	17	4	1	87	660
05:45 PM	200	70	1	1	0	0	0	217	10	2	0	124	625
Total	806	331	3	6	0	0	1	1025	67	10	3	410	2662
Grand Total	2402	1087	25	34	2	2	3	2442	207	49	11	1240	7504
Apprch %	68.4	30.9	0.7	89.5	5.3	5.3	0.1	92.1	7.8	3.8	0.8	95.4	
Total %	32	14.5	0.3	0.5	0	0	0	32.5	2.8	0.7	0.1	16.5	
Cars	2362	1044	24	33	1	2	2	2395	202	49	11	1202	7327
% Cars	98.3	96	96	97.1	50	100	66.7	98.1	97.6	100	100	96.9	97.6
Trucks	40	43	1	1	1	0	1	47	5	0	0	38	177
% Trucks	1.7	4	4	2.9	50	0	33.3	1.9	2.4	0	0	3.1	2.4

	Mian Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**237**	98	**3**	**338**	**6**	**1**	0	**7**	0	209	17	226	**6**	0	**121**	**127**	698
04:45 PM	196	89	3	288	1	1	0	2	0	213	16	229	1	0	102	103	622
05:00 PM	190	**100**	1	291	1	0	0	1	**1**	272	19	292	3	0	88	91	675
05:15 PM	197	85	1	283	4	0	0	4	0	**280**	**21**	**301**	1	**2**	111	114	**702**
Total Volume	820	372	8	1200	12	2	0	14	1	974	73	1048	11	2	422	435	2697
% App. Total	68.3	31	0.7		85.7	14.3	0		0.1	92.9	7		2.5	0.5	97		
PHF	.865	.930	.667	.888	.500	.500	.000	.500	.250	.870	.869	.870	.458	.250	.872	.856	.960
Cars	805	355	7	1167	12	1	0	13	1	959	73	1033	11	2	409	422	2635
% Cars	98.2	95.4	87.5	97.3	100	50.0	0	92.9	100	98.5	100	98.6	100	100	96.9	97.0	97.7
Trucks	15	17	1	33	0	1	0	1	0	15	0	15	0	0	13	13	62
% Trucks	1.8	4.6	12.5	2.8	0	50.0	0	7.1	0	1.5	0	1.4	0	0	3.1	3.0	2.3

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E/W: Fire Station/Main Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360SS
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Mian Street (Route 38) From North			Fire Station Driveway From East			Mystic Avenue (Route 38) From South			Main Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	140	100	4	4	0	0	0	113	16	8	1	91	477
03:15 PM	200	81	1	5	0	0	0	123	14	8	2	109	543
03:30 PM	191	84	2	3	0	1	0	157	16	5	1	95	555
03:45 PM	195	95	4	4	0	0	1	183	19	1	2	86	590
Total	726	360	11	16	0	1	1	576	65	22	6	381	2165
04:00 PM	203	93	3	3	0	1	0	206	17	6	0	107	639
04:15 PM	217	93	2	1	0	0	0	187	20	4	2	100	626
04:30 PM	233	91	3	6	1	0	0	206	17	6	0	113	676
04:45 PM	192	86	3	1	0	0	0	207	16	1	0	99	605
Total	845	363	11	11	1	1	0	806	70	17	2	419	2546
05:00 PM	186	93	0	1	0	0	1	266	19	3	0	88	657
05:15 PM	194	85	1	4	0	0	0	280	21	1	2	109	697
05:30 PM	216	75	0	0	0	0	0	253	17	4	1	86	652
05:45 PM	195	68	1	1	0	0	0	214	10	2	0	119	610
Total	791	321	2	6	0	0	1	1013	67	10	3	402	2616
Grand Total	2362	1044	24	33	1	2	2	2395	202	49	11	1202	7327
Apprch %	68.9	30.4	0.7	91.7	2.8	5.6	0.1	92.2	7.8	3.9	0.9	95.2	
Total %	32.2	14.2	0.3	0.5	0	0	0	32.7	2.8	0.7	0.2	16.4	

	Mian Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**233**	91	**3**	**327**	**6**	**1**	0	**7**	0	206	17	223	**6**	0	**113**	**119**	676
04:45 PM	192	86	3	281	1	0	0	1	0	207	16	223	1	0	99	100	605
05:00 PM	186	**93**	0	279	1	0	0	1	**1**	266	19	286	3	0	88	91	657
05:15 PM	194	85	1	280	4	0	0	4	0	**280**	**21**	**301**	1	**2**	109	112	**697**
Total Volume	805	355	7	1167	12	1	0	13	1	959	73	1033	11	2	409	422	2635
% App. Total	69	30.4	0.6		92.3	7.7	0		0.1	92.8	7.1		2.6	0.5	96.9		
PHF	.864	.954	.583	.892	.500	.250	.000	.464	.250	.856	.869	.858	.458	.250	.905	.887	.945

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E/W: Fire Station/Main Street
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Client: VHB/A. Ng

File Name : 71360SS
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Mian Street (Route 38) From North			Fire Station Driveway From East			Mystic Avenue (Route 38) From South			Main Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	2	3	0	0	0	0	0	3	0	0	0	4	12
03:15 PM	3	3	0	0	0	0	0	4	0	0	0	3	13
03:30 PM	2	2	0	0	0	0	0	4	1	0	0	4	13
03:45 PM	6	4	0	1	0	0	1	8	0	0	0	3	23
Total	13	12	0	1	0	0	1	19	1	0	0	14	61
04:00 PM	0	4	0	0	0	0	0	5	1	0	0	2	12
04:15 PM	4	7	0	0	0	0	0	2	3	0	0	3	19
04:30 PM	4	7	0	0	0	0	0	3	0	0	0	8	22
04:45 PM	4	3	0	0	1	0	0	6	0	0	0	3	17
Total	12	21	0	0	1	0	0	16	4	0	0	16	70
05:00 PM	4	7	1	0	0	0	0	6	0	0	0	0	18
05:15 PM	3	0	0	0	0	0	0	0	0	0	0	2	5
05:30 PM	3	1	0	0	0	0	0	3	0	0	0	1	8
05:45 PM	5	2	0	0	0	0	0	3	0	0	0	5	15
Total	15	10	1	0	0	0	0	12	0	0	0	8	46
Grand Total	40	43	1	1	1	0	1	47	5	0	0	38	177
Apprch %	47.6	51.2	1.2	50	50	0	1.9	88.7	9.4	0	0	100	
Total %	22.6	24.3	0.6	0.6	0.6	0	0.6	26.6	2.8	0	0	21.5	

	Mian Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	**6**	4	0	10	**1**	0	0	**1**	**1**	**8**	0	**9**	0	0	3	3	**23**
04:00 PM	0	4	0	4	0	0	0	0	0	5	1	6	0	0	2	2	12
04:15 PM	4	**7**	0	**11**	0	0	0	0	0	2	**3**	5	0	0	3	3	19
04:30 PM	4	7	0	11	0	0	0	0	0	3	0	3	0	0	**8**	**8**	22
Total Volume	14	22	0	36	1	0	0	1	1	18	4	23	0	0	16	16	76
% App. Total	38.9	61.1	0		100	0	0		4.3	78.3	17.4		0	0	100		
PHF	.583	.786	.000	.818	.250	.000	.000	.250	.250	.563	.333	.639	.000	.000	.500	.500	.826

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Client: VHB/A. Ng

File Name : 71360SS
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Peds and Bicycles

	Mian Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
03:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	4
04:00 PM	1	0	0	1	0	0	0	0	0	0	0	6	0	0	0	0	8
04:15 PM	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3
04:45 PM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	1	0	5
Total	2	0	0	3	0	0	0	1	0	0	0	10	0	0	2	0	18
05:00 PM	0	0	0	0	0	0	0	2	0	0	0	3	0	0	1	0	6
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	1	4
05:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
05:45 PM	1	0	0	4	0	0	0	0	0	0	0	0	0	0	2	2	9
Total	1	0	0	4	0	0	0	4	0	0	0	4	0	0	5	3	21
Grand Total	4	0	0	7	0	0	1	6	0	0	0	15	0	0	7	3	43
Apprch %	36.4	0	0	63.6	0	0	14.3	85.7	0	0	0	100	0	0	70	30	
Total %	9.3	0	0	16.3	0	0	2.3	14	0	0	0	34.9	0	0	16.3	7	

	Mian Street (Route 38) From North					Fire Station Driveway From East					Mystic Avenue (Route 38) From South					Main Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	**2**	**2**	0	0	0	**3**	**3**	0	0	1	0	1	6
05:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	**2**	**1**	**3**	**4**
05:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**2**
05:45 PM	**1**	**0**	**0**	**4**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	2	**2**	**4**	**9**
Total Volume	1	0	0	4	5	0	0	0	4	4	0	0	0	4	4	0	0	5	3	8	21
% App. Total	20	0	0	80		0	0	0	100		0	0	0	100		0	0	62.5	37.5		
PHF	.250	.000	.000	.250	.250	.000	.000	.000	.500	.500	.000	.000	.000	.333	.333	.000	.000	.625	.375	.500	.583

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File Name : 71360SS
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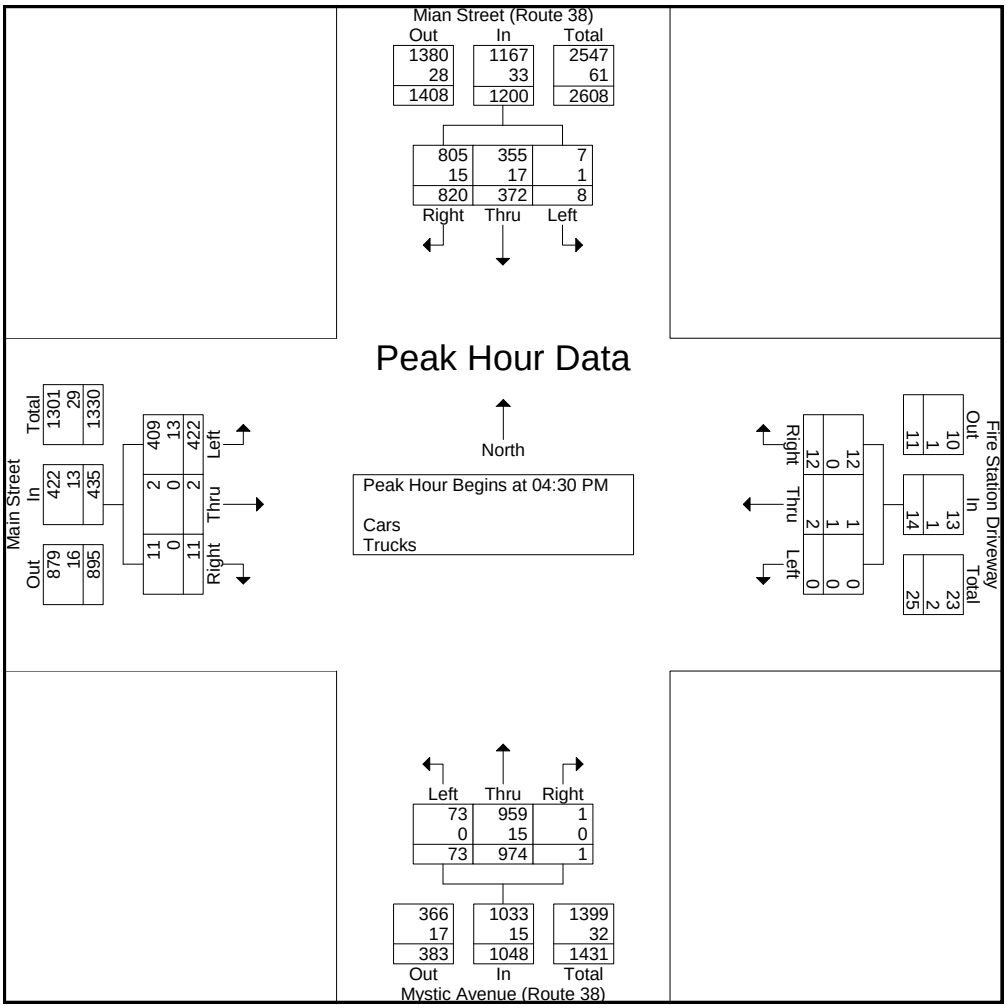
	Mian Street (Route 38) From North				Fire Station Driveway From East				Mystic Avenue (Route 38) From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**237**	98	**3**	**338**	**6**	**1**	0	**7**	0	209	17	226	**6**	0	**121**	**127**	698
04:45 PM	196	89	3	288	1	1	0	2	0	213	16	229	1	0	102	103	622
05:00 PM	190	**100**	1	291	1	0	0	1	**1**	272	19	292	3	0	88	91	675
05:15 PM	197	85	1	283	4	0	0	4	0	**280**	**21**	**301**	1	**2**	111	114	**702**
Total Volume	820	372	8	1200	12	2	0	14	1	974	73	1048	11	2	422	435	2697
% App. Total	68.3	31	0.7		85.7	14.3	0		0.1	92.9	7		2.5	0.5	97		
PHF	.865	.930	.667	.888	.500	.500	.000	.500	.250	.870	.869	.870	.458	.250	.872	.856	.960
Cars	805	355	7	1167	12	1	0	13	1	959	73	1033	11	2	409	422	2635
% Cars	98.2	95.4	87.5	97.3	100	50.0	0	92.9	100	98.5	100	98.6	100	100	96.9	97.0	97.7
Trucks	15	17	1	33	0	1	0	1	0	15	0	15	0	0	13	13	62
% Trucks	1.8	4.6	12.5	2.8	0	50.0	0	7.1	0	1.5	0	1.4	0	0	3.1	3.0	2.3



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Client: VHB/A. Ng

File Name : 71360T
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Cars - Trucks

	Main Street From North			Harvard Street From East			Medford Street From South			Harvard Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	16	118	3	2	125	20	14	69	6	6	124	18	521
07:15 AM	13	140	2	4	121	17	15	64	8	13	82	11	490
07:30 AM	10	104	6	3	90	22	14	54	5	11	92	23	434
07:45 AM	16	143	12	4	94	23	27	75	12	12	107	15	540
Total	55	505	23	13	430	82	70	262	31	42	405	67	1985
08:00 AM	26	110	5	4	111	21	22	56	12	9	97	16	489
08:15 AM	24	139	5	2	121	19	25	98	10	13	121	11	588
08:30 AM	17	116	7	7	96	19	31	88	16	9	95	9	510
08:45 AM	16	127	6	7	111	25	24	67	9	10	79	15	496
Total	83	492	23	20	439	84	102	309	47	41	392	51	2083
09:00 AM	16	119	9	8	106	16	17	33	6	8	76	15	429
09:15 AM	13	130	4	4	88	16	18	57	8	9	87	10	444
09:30 AM	18	81	3	4	84	16	22	44	8	11	71	10	372
09:45 AM	43	77	11	5	98	23	30	58	5	7	64	9	430
Total	90	407	27	21	376	71	87	192	27	35	298	44	1675
Grand Total	228	1404	73	54	1245	237	259	763	105	118	1095	162	5743
Apprch %	13.4	82.3	4.3	3.5	81.1	15.4	23	67.7	9.3	8.6	79.6	11.8	
Total %	4	24.4	1.3	0.9	21.7	4.1	4.5	13.3	1.8	2.1	19.1	2.8	
Cars	216	1362	69	49	1176	230	245	734	104	116	1057	154	5512
% Cars	94.7	97	94.5	90.7	94.5	97	94.6	96.2	99	98.3	96.5	95.1	96
Trucks	12	42	4	5	69	7	14	29	1	2	38	8	231
% Trucks	5.3	3	5.5	9.3	5.5	3	5.4	3.8	1	1.7	3.5	4.9	4

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	**143**	**12**	**171**	4	94	**23**	121	27	75	12	114	12	107	15	134	540
08:00 AM	**26**	110	5	141	4	111	21	136	22	56	12	90	9	97	**16**	122	489
08:15 AM	24	139	5	168	2	**121**	19	**142**	25	**98**	10	133	**13**	**121**	11	**145**	**588**
08:30 AM	17	116	7	140	**7**	96	19	122	**31**	88	**16**	**135**	9	95	9	113	510
Total Volume	83	508	29	620	17	422	82	521	105	317	50	472	43	420	51	514	2127
% App. Total	13.4	81.9	4.7		3.3	81	15.7		22.2	67.2	10.6		8.4	81.7	9.9		
PHF	.798	.888	.604	.906	.607	.872	.891	.917	.847	.809	.781	.874	.827	.868	.797	.886	.904
Cars	82	489	27	598	15	400	79	494	99	306	50	455	43	409	51	503	2050
% Cars	98.8	96.3	93.1	96.5	88.2	94.8	96.3	94.8	94.3	96.5	100	96.4	100	97.4	100	97.9	96.4
Trucks	1	19	2	22	2	22	3	27	6	11	0	17	0	11	0	11	77
% Trucks	1.2	3.7	6.9	3.5	11.8	5.2	3.7	5.2	5.7	3.5	0	3.6	0	2.6	0	2.1	3.6

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N/S: Main Street/Medford Street
E/W: Harvard Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360T
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Main Street From North			Harvard Street From East			Medford Street From South			Harvard Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	16	115	3	2	116	20	13	65	6	5	122	18	501
07:15 AM	13	136	2	4	111	16	15	62	8	13	80	10	470
07:30 AM	10	101	5	3	84	21	13	50	5	10	91	23	416
07:45 AM	15	140	11	4	87	23	26	70	12	12	104	15	519
Total	54	492	21	13	398	80	67	247	31	40	397	66	1906
08:00 AM	26	103	5	4	108	20	22	53	12	9	93	16	471
08:15 AM	24	132	5	2	118	19	23	95	10	13	120	11	572
08:30 AM	17	114	6	5	87	17	28	88	16	9	92	9	488
08:45 AM	13	123	6	7	110	25	22	64	9	10	75	13	477
Total	80	472	22	18	423	81	95	300	47	41	380	49	2008
09:00 AM	15	115	8	6	98	15	15	32	6	8	72	15	405
09:15 AM	10	129	4	3	85	16	18	56	8	9	82	9	429
09:30 AM	16	78	3	4	79	16	22	44	7	11	64	8	352
09:45 AM	41	76	11	5	93	22	28	55	5	7	62	7	412
Total	82	398	26	18	355	69	83	187	26	35	280	39	1598
Grand Total	216	1362	69	49	1176	230	245	734	104	116	1057	154	5512
Apprch %	13.1	82.7	4.2	3.4	80.8	15.8	22.6	67.8	9.6	8.7	79.7	11.6	
Total %	3.9	24.7	1.3	0.9	21.3	4.2	4.4	13.3	1.9	2.1	19.2	2.8	

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	15	**140**	**11**	**166**	4	87	**23**	114	26	70	12	108	12	104	15	131	519
08:00 AM	**26**	103	5	134	4	108	20	132	22	53	12	87	9	93	**16**	118	471
08:15 AM	24	132	5	161	2	**118**	19	**139**	23	**95**	10	128	**13**	**120**	11	**144**	**572**
08:30 AM	17	114	6	137	**5**	87	17	109	**28**	88	**16**	**132**	9	92	9	110	488
Total Volume	82	489	27	598	15	400	79	494	99	306	50	455	43	409	51	503	2050
% App. Total	13.7	81.8	4.5		3	81	16		21.8	67.3	11		8.5	81.3	10.1		
PHF	.788	.873	.614	.901	.750	.847	.859	.888	.884	.805	.781	.862	.827	.852	.797	.873	.896

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Groups Printed- Trucks

	Main Street From North			Harvard Street From East			Medford Street From South			Harvard Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	3	0	0	9	0	1	4	0	1	2	0	20
07:15 AM	0	4	0	0	10	1	0	2	0	0	2	1	20
07:30 AM	0	3	1	0	6	1	1	4	0	1	1	0	18
07:45 AM	1	3	1	0	7	0	1	5	0	0	3	0	21
Total	1	13	2	0	32	2	3	15	0	2	8	1	79
08:00 AM	0	7	0	0	3	1	0	3	0	0	4	0	18
08:15 AM	0	7	0	0	3	0	2	3	0	0	1	0	16
08:30 AM	0	2	1	2	9	2	3	0	0	0	3	0	22
08:45 AM	3	4	0	0	1	0	2	3	0	0	4	2	19
Total	3	20	1	2	16	3	7	9	0	0	12	2	75
09:00 AM	1	4	1	2	8	1	2	1	0	0	4	0	24
09:15 AM	3	1	0	1	3	0	0	1	0	0	5	1	15
09:30 AM	2	3	0	0	5	0	0	0	1	0	7	2	20
09:45 AM	2	1	0	0	5	1	2	3	0	0	2	2	18
Total	8	9	1	3	21	2	4	5	1	0	18	5	77
Grand Total	12	42	4	5	69	7	14	29	1	2	38	8	231
Apprch %	20.7	72.4	6.9	6.2	85.2	8.6	31.8	65.9	2.3	4.2	79.2	16.7	
Total %	5.2	18.2	1.7	2.2	29.9	3	6.1	12.6	0.4	0.9	16.5	3.5	

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:15 AM																	
08:15 AM	0	**7**	0	**7**	0	3	0	3	2	**3**	0	**5**	0	1	0	1	16
08:30 AM	0	2	**1**	3	**2**	**9**	**2**	**13**	**3**	0	0	3	0	3	0	3	22
08:45 AM	**3**	4	0	7	0	1	0	1	2	3	0	5	0	**4**	**2**	**6**	19
09:00 AM	1	4	1	6	2	8	1	11	2	1	0	3	0	4	0	4	**24**
Total Volume	4	17	2	23	4	21	3	28	9	7	0	16	0	12	2	14	81
% App. Total	17.4	73.9	8.7		14.3	75	10.7		56.2	43.8	0		0	85.7	14.3		
PHF	.333	.607	.500	.821	.500	.583	.375	.538	.750	.583	.000	.800	.000	.750	.250	.583	.844

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Groups Printed- Peds and Bicycles

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	2	0	0	0	8	0	0	0	1	0	0	0	2	13
07:15 AM	0	0	0	3	0	0	0	4	0	0	0	2	0	0	0	4	13
07:30 AM	0	1	0	2	0	0	0	5	0	0	0	0	0	0	0	1	9
07:45 AM	0	0	0	1	0	0	0	4	0	0	0	1	0	0	0	1	7
Total	0	1	0	8	0	0	0	21	0	0	0	4	0	0	0	8	42
08:00 AM	0	2	0	2	0	0	0	1	0	3	0	2	0	0	0	2	12
08:15 AM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0	4
08:30 AM	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	3	7
08:45 AM	0	0	0	4	0	3	0	7	0	0	0	0	1	0	0	3	18
Total	1	3	0	8	0	3	0	11	0	3	0	3	1	0	0	8	41
09:00 AM	0	1	0	0	0	0	0	4	0	0	0	3	0	0	0	2	10
09:15 AM	0	0	0	3	0	0	0	5	0	0	0	4	0	0	0	3	15
09:30 AM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	1	4
09:45 AM	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	2	9
Total	0	3	0	3	0	0	0	16	0	0	0	8	0	0	0	8	38
Grand Total	1	7	0	19	0	3	0	48	0	3	0	15	1	0	0	24	121
Apprch %	3.7	25.9	0	70.4	0	5.9	0	94.1	0	16.7	0	83.3	4	0	0	96	
Total %	0.8	5.8	0	15.7	0	2.5	0	39.7	0	2.5	0	12.4	0.8	0	0	19.8	

	Main Street From North					Harvard Street From East					Medford Street From South					Harvard Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	**1**	**1**	0	1	3	0	0	0	1	1	0	0	0	0	0	0	0	0	**3**	**3**	**7**
08:45 AM	**0**	**0**	**0**	**4**	**4**	0	**3**	**0**	**7**	**10**	0	0	0	0	0	**1**	**0**	**0**	**3**	**4**	**18**
09:00 AM	0	1	0	0	1	0	0	0	4	4	0	0	0	3	3	0	0	0	2	2	10
09:15 AM	0	0	0	3	3	0	0	0	5	5	0	0	0	**4**	**4**	0	0	0	3	3	15
Total Volume	1	2	0	8	11	0	3	0	17	20	0	0	0	7	7	1	0	0	11	12	50
% App. Total	9.1	18.2	0	72.7		0	15	0	85		0	0	0	100		8.3	0	0	91.7		
PHF	.250	.500	.000	.500	.688	.000	.250	.000	.607	.500	.000	.000	.000	.438	.438	.250	.000	.000	.917	.750	.694

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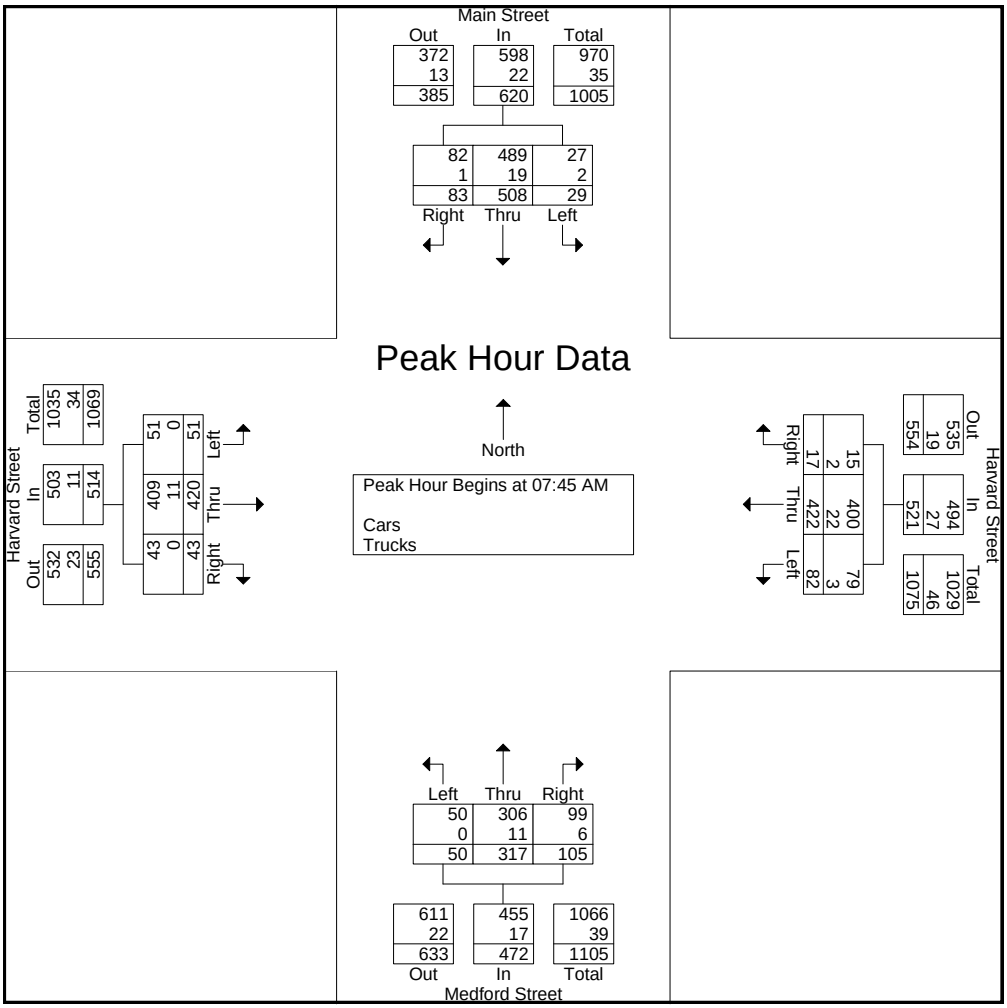
	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	**143**	**12**	**171**	4	94	**23**	121	27	75	12	114	12	107	15	134	540
08:00 AM	**26**	110	5	141	4	111	21	136	22	56	12	90	9	97	**16**	122	489
08:15 AM	24	139	5	168	2	**121**	19	**142**	25	**98**	10	133	**13**	**121**	11	**145**	**588**
08:30 AM	17	116	7	140	**7**	96	19	122	**31**	88	**16**	**135**	9	95	9	113	510
Total Volume	83	508	29	620	17	422	82	521	105	317	50	472	43	420	51	514	2127
% App. Total	13.4	81.9	4.7		3.3	81	15.7		22.2	67.2	10.6		8.4	81.7	9.9		
PHF	.798	.888	.604	.906	.607	.872	.891	.917	.847	.809	.781	.874	.827	.868	.797	.886	.904
Cars	82	489	27	598	15	400	79	494	99	306	50	455	43	409	51	503	2050
% Cars	98.8	96.3	93.1	96.5	88.2	94.8	96.3	94.8	94.3	96.5	100	96.4	100	97.4	100	97.9	96.4
Trucks	1	19	2	22	2	22	3	27	6	11	0	17	0	11	0	11	77
% Trucks	1.2	3.7	6.9	3.5	11.8	5.2	3.7	5.2	5.7	3.5	0	3.6	0	2.6	0	2.1	3.6



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Groups Printed- Cars - Trucks

	Main Street From North			Harvard Street From East			Medford Street From South			Harvard Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	63	12	9	111	22	24	75	14	7	95	12	451
03:15 PM	11	38	9	10	108	17	21	83	3	9	79	12	400
03:30 PM	10	79	7	6	115	20	15	107	14	6	99	12	490
03:45 PM	18	73	10	14	95	17	28	104	4	7	96	23	489
Total	46	253	38	39	429	76	88	369	35	29	369	59	1830
04:00 PM	13	55	11	5	112	22	22	101	7	7	112	14	481
04:15 PM	16	68	5	7	121	17	20	98	8	9	104	17	490
04:30 PM	11	65	8	3	116	16	25	86	12	8	102	20	472
04:45 PM	9	74	15	6	94	27	35	98	18	11	103	21	511
Total	49	262	39	21	443	82	102	383	45	35	421	72	1954
05:00 PM	13	72	7	11	113	21	24	99	13	8	106	17	504
05:15 PM	19	73	9	8	117	16	20	106	17	15	109	20	529
05:30 PM	18	89	9	8	126	20	28	99	16	22	103	24	562
05:45 PM	17	66	10	6	111	23	34	112	12	12	84	23	510
Total	67	300	35	33	467	80	106	416	58	57	402	84	2105
Grand Total	162	815	112	93	1339	238	296	1168	138	121	1192	215	5889
Apprch %	14.9	74.8	10.3	5.6	80.2	14.3	18.5	72.9	8.6	7.9	78	14.1	
Total %	2.8	13.8	1.9	1.6	22.7	4	5	19.8	2.3	2.1	20.2	3.7	
Cars	161	793	111	92	1323	236	290	1145	137	119	1166	213	5786
% Cars	99.4	97.3	99.1	98.9	98.8	99.2	98	98	99.3	98.3	97.8	99.1	98.3
Trucks	1	22	1	1	16	2	6	23	1	2	26	2	103
% Trucks	0.6	2.7	0.9	1.1	1.2	0.8	2	2	0.7	1.7	2.2	0.9	1.7

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	9	74	**15**	98	6	94	**27**	127	**35**	98	**18**	**151**	11	103	21	135	511
05:00 PM	13	72	7	92	**11**	113	21	145	24	99	13	136	8	106	17	131	504
05:15 PM	**19**	73	9	101	8	117	16	141	20	**106**	17	143	15	**109**	20	144	529
05:30 PM	18	**89**	9	**116**	8	**126**	20	**154**	28	99	16	143	**22**	103	**24**	**149**	**562**
Total Volume	59	308	40	407	33	450	84	567	107	402	64	573	56	421	82	559	2106
% App. Total	14.5	75.7	9.8		5.8	79.4	14.8		18.7	70.2	11.2		10	75.3	14.7		
PHF	.776	.865	.667	.877	.750	.893	.778	.920	.764	.948	.889	.949	.636	.966	.854	.938	.937
Cars	59	301	40	400	33	447	84	564	104	394	63	561	56	415	81	552	2077
% Cars	100	97.7	100	98.3	100	99.3	100	99.5	97.2	98.0	98.4	97.9	100	98.6	98.8	98.7	98.6
Trucks	0	7	0	7	0	3	0	3	3	8	1	12	0	6	1	7	29
% Trucks	0	2.3	0	1.7	0	0.7	0	0.5	2.8	2.0	1.6	2.1	0	1.4	1.2	1.3	1.4

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Groups Printed- Cars

	Main Street From North			Harvard Street From East			Medford Street From South			Harvard Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	61	12	9	107	22	24	73	14	6	93	12	440
03:15 PM	11	37	9	10	105	17	21	81	3	8	77	12	391
03:30 PM	10	78	7	6	112	19	14	105	14	6	97	12	480
03:45 PM	18	70	10	13	93	17	26	103	4	7	90	23	474
Total	46	246	38	38	417	75	85	362	35	27	357	59	1785
04:00 PM	13	54	11	5	112	21	22	99	7	7	109	14	474
04:15 PM	16	65	5	7	121	17	20	97	8	9	102	16	483
04:30 PM	11	62	7	3	115	16	25	83	12	8	101	20	463
04:45 PM	9	74	15	6	93	27	35	95	17	11	102	21	505
Total	49	255	38	21	441	81	102	374	44	35	414	71	1925
05:00 PM	13	67	7	11	112	21	23	98	13	8	103	17	493
05:15 PM	19	72	9	8	117	16	19	104	17	15	108	19	523
05:30 PM	18	88	9	8	125	20	27	97	16	22	102	24	556
05:45 PM	16	65	10	6	111	23	34	110	12	12	82	23	504
Total	66	292	35	33	465	80	103	409	58	57	395	83	2076
Grand Total	161	793	111	92	1323	236	290	1145	137	119	1166	213	5786
Apprch %	15.1	74.5	10.4	5.6	80.1	14.3	18.4	72.8	8.7	7.9	77.8	14.2	
Total %	2.8	13.7	1.9	1.6	22.9	4.1	5	19.8	2.4	2.1	20.2	3.7	

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	9	74	**15**	98	6	93	**27**	126	**35**	95	**17**	**147**	11	102	21	134	505
05:00 PM	13	67	7	87	**11**	112	21	144	23	98	13	134	8	103	17	128	493
05:15 PM	**19**	72	9	100	8	117	16	141	19	**104**	17	140	15	**108**	19	142	523
05:30 PM	18	**88**	9	**115**	8	**125**	20	**153**	27	97	16	140	**22**	102	**24**	**148**	**556**
Total Volume	59	301	40	400	33	447	84	564	104	394	63	561	56	415	81	552	2077
% App. Total	14.8	75.2	10		5.9	79.3	14.9		18.5	70.2	11.2		10.1	75.2	14.7		
PHF	.776	.855	.667	.870	.750	.894	.778	.922	.743	.947	.926	.954	.636	.961	.844	.932	.934

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Groups Printed- Trucks

	Main Street From North			Harvard Street From East			Medford Street From South			Harvard Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	2	0	0	4	0	0	2	0	1	2	0	11
03:15 PM	0	1	0	0	3	0	0	2	0	1	2	0	9
03:30 PM	0	1	0	0	3	1	1	2	0	0	2	0	10
03:45 PM	0	3	0	1	2	0	2	1	0	0	6	0	15
Total	0	7	0	1	12	1	3	7	0	2	12	0	45
04:00 PM	0	1	0	0	0	1	0	2	0	0	3	0	7
04:15 PM	0	3	0	0	0	0	0	1	0	0	2	1	7
04:30 PM	0	3	1	0	1	0	0	3	0	0	1	0	9
04:45 PM	0	0	0	0	1	0	0	3	1	0	1	0	6
Total	0	7	1	0	2	1	0	9	1	0	7	1	29
05:00 PM	0	5	0	0	1	0	1	1	0	0	3	0	11
05:15 PM	0	1	0	0	0	0	1	2	0	0	1	1	6
05:30 PM	0	1	0	0	1	0	1	2	0	0	1	0	6
05:45 PM	1	1	0	0	0	0	0	2	0	0	2	0	6
Total	1	8	0	0	2	0	3	7	0	0	7	1	29
Grand Total	1	22	1	1	16	2	6	23	1	2	26	2	103
Apprch %	4.2	91.7	4.2	5.3	84.2	10.5	20	76.7	3.3	6.7	86.7	6.7	
Total %	1	21.4	1	1	15.5	1.9	5.8	22.3	1	1.9	25.2	1.9	

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	2	0	2	0	**4**	0	**4**	0	**2**	0	2	**1**	2	0	3	11
03:15 PM	0	1	0	1	0	3	0	3	0	2	0	2	1	2	0	3	9
03:30 PM	0	1	0	1	0	3	**1**	4	1	2	0	**3**	0	2	0	2	10
03:45 PM	0	**3**	0	**3**	**1**	2	0	3	**2**	1	0	3	0	**6**	0	**6**	**15**
Total Volume	0	7	0	7	1	12	1	14	3	7	0	10	2	12	0	14	45
% App. Total	0	100	0		7.1	85.7	7.1		30	70	0		14.3	85.7	0		
PHF	.000	.583	.000	.583	.250	.750	.250	.875	.375	.875	.000	.833	.500	.500	.000	.583	.750

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N/S: Main Street/Medford Street
E/W: Harvard Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360TT
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	2	0	0	0	3	0	0	0	5	0	0	0	4	15
03:15 PM	0	0	0	1	0	0	0	2	0	0	0	2	0	1	0	10	16
03:30 PM	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	2	16
03:45 PM	0	0	0	2	0	1	0	2	0	0	0	4	0	0	0	5	14
Total	0	1	0	12	0	1	0	14	0	0	0	11	0	1	0	21	61
04:00 PM	0	0	0	7	0	0	0	2	0	0	0	0	0	0	0	5	14
04:15 PM	0	0	0	3	0	0	0	6	0	0	0	4	0	0	0	9	22
04:30 PM	0	3	0	3	0	0	0	8	0	1	0	0	0	0	0	5	20
04:45 PM	0	1	0	0	0	1	0	4	0	2	0	1	0	0	0	3	12
Total	0	4	0	13	0	1	0	20	0	3	0	5	0	0	0	22	68
05:00 PM	0	1	0	1	0	1	0	7	0	1	0	4	0	0	0	4	19
05:15 PM	0	0	0	3	0	0	0	3	0	2	0	0	0	1	0	9	18
05:30 PM	0	1	0	1	0	0	0	3	0	2	0	0	0	0	0	4	11
05:45 PM	0	0	0	1	0	1	0	8	0	1	0	0	0	1	0	5	17
Total	0	2	0	6	0	2	0	21	0	6	0	4	0	2	0	22	65
Grand Total	0	7	0	31	0	4	0	55	0	9	0	20	0	3	0	65	194
Apprch %	0	18.4	0	81.6	0	6.8	0	93.2	0	31	0	69	0	4.4	0	95.6	
Total %	0	3.6	0	16	0	2.1	0	28.4	0	4.6	0	10.3	0	1.5	0	33.5	

	Main Street From North					Harvard Street From East					Medford Street From South					Harvard Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	**3**	**3**	**0**	**0**	**0**	**6**	**6**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**9**	**9**	**22**
04:30 PM	0	**3**	0	3	**6**	0	0	0	**8**	**8**	0	1	0	0	1	0	0	0	5	5	20
04:45 PM	0	1	0	0	1	0	**1**	**0**	**4**	**5**	**0**	**2**	**0**	**1**	**3**	**0**	**0**	**0**	**3**	**3**	**12**
05:00 PM	**0**	**1**	**0**	**1**	**2**	**0**	**1**	**0**	**7**	**8**	**0**	**1**	**0**	**4**	**5**	0	0	0	4	4	19
Total Volume	0	5	0	7	12	0	2	0	25	27	0	4	0	9	13	0	0	0	21	21	73
% App. Total	0	41.7	0	58.3		0	7.4	0	92.6		0	30.8	0	69.2		0	0	0	100		
PHF	.000	.417	.000	.583	.500	.000	.500	.000	.781	.844	.000	.500	.000	.563	.650	.000	.000	.000	.583	.583	.830

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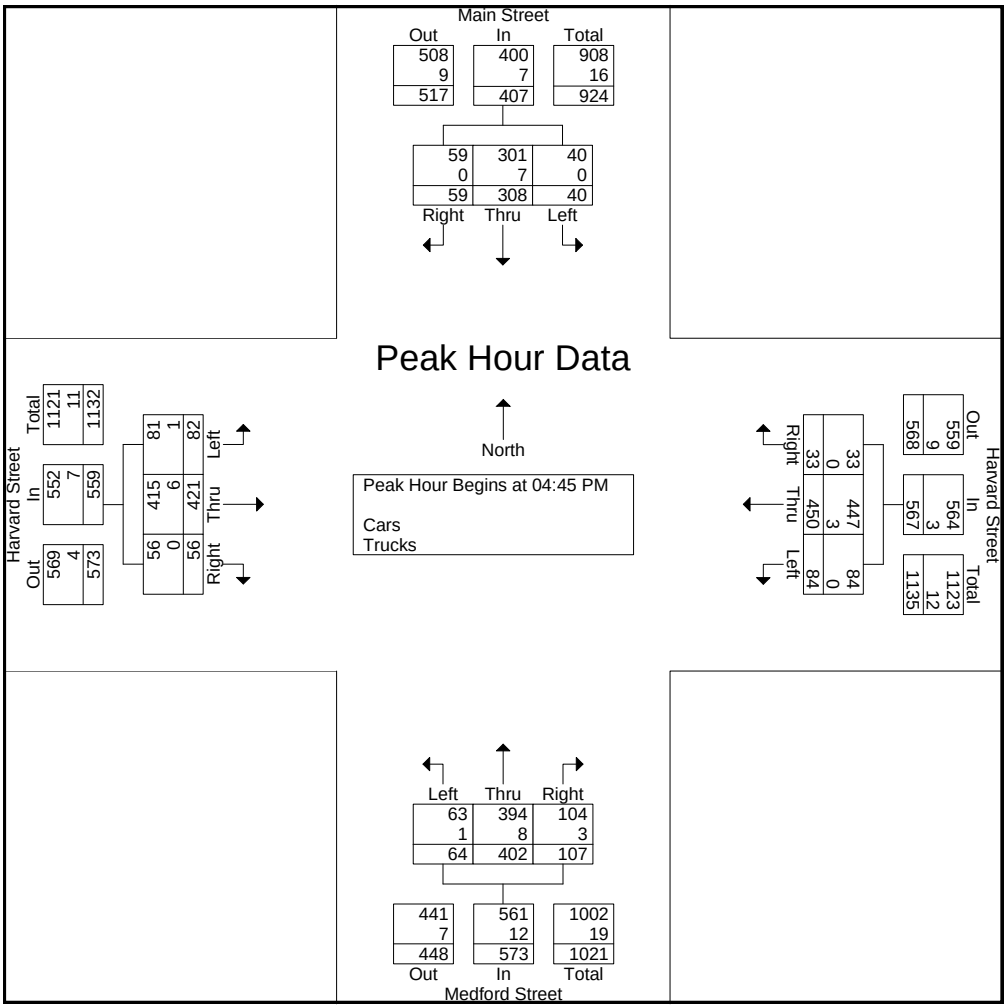
N/S: Main Street/Medford Street
E/W: Harvard Street
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360TT
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Main Street From North				Harvard Street From East				Medford Street From South				Harvard Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	9	74	**15**	98	6	94	**27**	127	**35**	98	**18**	**151**	11	103	21	135	511
05:00 PM	13	72	7	92	**11**	113	21	145	24	99	13	136	8	106	17	131	504
05:15 PM	**19**	73	9	101	8	117	16	141	20	**106**	17	143	15	**109**	20	144	529
05:30 PM	18	**89**	9	**116**	8	**126**	20	**154**	28	99	16	143	**22**	103	**24**	**149**	**562**
Total Volume	59	308	40	407	33	450	84	567	107	402	64	573	56	421	82	559	2106
% App. Total	14.5	75.7	9.8		5.8	79.4	14.8		18.7	70.2	11.2		10	75.3	14.7		
PHF	.776	.865	.667	.877	.750	.893	.778	.920	.764	.948	.889	.949	.636	.966	.854	.938	.937
Cars	59	301	40	400	33	447	84	564	104	394	63	561	56	415	81	552	2077
% Cars	100	97.7	100	98.3	100	99.3	100	99.5	97.2	98.0	98.4	97.9	100	98.6	98.8	98.7	98.6
Trucks	0	7	0	7	0	3	0	3	3	8	1	12	0	6	1	7	29
% Trucks	0	2.3	0	1.7	0	0.7	0	0.5	2.8	2.0	1.6	2.1	0	1.4	1.2	1.3	1.4



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N/S/NE: Medford Street/Dexter Street
E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360U
Site Code : 10303
Start Date : 11/7/2007

Groups Printed- Cars - Trucks

	Medford Street From North				Dexter Street From Northeast					Broadway From East					Medford Street From South				CVS/Dunkin Donuts Lot From Southwest				Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Right	Thru	Bear Left	Left	UTurn	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	UTurn	Int. Total
07:00 AM	1	0	50	9	1	7	0	12	2	11	87	0	5	3	4	24	45	0	0	16	0	0	2	66	84	0	4	433
07:15 AM	6	3	61	7	1	14	2	12	1	10	109	3	1	5	7	35	60	0	0	10	0	0	3	116	116	0	5	587
07:30 AM	7	3	48	0	2	5	3	29	5	6	121	3	0	1	8	33	52	0	0	18	0	0	5	112	157	4	1	623
07:45 AM	5	7	65	6	1	10	4	18	3	10	101	7	4	0	8	33	48	0	0	24	0	0	4	111	148	0	2	619
Total	19	13	224	22	5	36	9	71	11	37	418	13	10	9	27	125	205	0	0	68	0	0	14	405	505	4	12	2262
08:00 AM											119													111	169			
08:15 AM	3	4	62	5	1	12	3	10	7	19	93	4	0	0	5	33	50	0	0	18	0	0	4	104	143	6	1	587
08:30 AM	9	1	67	3	1	12	3	11	3	9	89	1	0	0	3	30	62	0	0	16	0	0	2	113	143	4	0	582
08:45 AM	8	3	73	2	0	8	1	17	0	1	76	3	0	1	5	32	36	0	0	17	0	0	5	111	101	3	0	503
Total	25	12	274	17	4	40	11	57	13	44	377	12	0	1	21	131	200	0	0	74	0	0	17	439	556	17	1	2343
09:00 AM																												
09:15 AM	10	4	61	11	0	5	3	6	2	9	62	4	2	0	6	20	37	0	0	10	0	0	5	92	97	4	0	450
09:30 AM	13	2	38	8	1	4	0	3	1	10	45	2	1	1	5	25	35	0	0	14	0	0	4	76	80	4	2	374
09:45 AM	11	5	49	3	0	5	0	2	0	9	63	5	0	0	3	36	42	0	0	11	0	0	4	64	77	4	1	394
Total	43	16	210	30	1	22	4	18	7	34	236	16	3	1	22	99	145	0	0	46	0	0	20	329	353	16	3	1674
Grand Total	87	41	708	69	10	98	24	146	31	115	1031	41	13	11	70	355	550	0	0	188	0	0	51	1173	1414	37	16	6279
Apprch %	9.6	4.5	78.2	7.6	3.2	31.7	7.8	47.2	10	9.5	85.1	3.4	1.1	0.9	7.2	36.4	56.4	0	0	100	0	0	1.9	43.6	52.5	1.4	0.6	
Total %	1.4	0.7	11.3	1.1	0.2	1.6	0.4	2.3	0.5	1.8	16.4	0.7	0.2	0.2	1.1	5.7	8.8	0	0	3	0	0	0.8	18.7	22.5	0.6	0.3	
Cars	80	41	690	67	10	97	24	145	31	112	992	41	11	10	67	348	522	0	0	188	0	0	51	1131	1352	34	15	6059
% Cars	92	100	97.5	97.1	100		100	99.3	100	97.4	96.2	100	84.6	90.9	95.7		94.9			100			100	96.4	95.6	91.9	93.8	
Trucks	7	0	18	2	0	1	0	1	0	3	39	0	2	1	3	7	28	0	0	0	0	0	0	42	62	3	1	220
% Trucks	8	0	2.5	2.9	0	1	0	0.7	0	2.6	3.8	0	15.4	9.1	4.3	2	5.1	0	0	0	0	0	0	3.6	4.4	8.1	6.2	3.5

	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest						Broadway From West						
Start Time	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																																				
Peak Hour for Entire Intersection Begins at 07:15 AM																																				
07:15 AM	6	3	61	**7**	77	1	**14**	2	12	1	30	10	109	3	1	**5**	128	7	35	**60**	0	**102**	0	10	0	0	10	3	**116**	116	0	**5**	240	587
07:30 AM	**7**	3	48	0	58	**2**	5	3	**29**	**5**	**44**	6	**121**	3	0	1	131	**8**	33	52	0	93	0	18	0	0	18	5	112	157	**4**	1	279	623
07:45 AM	5	**7**	65	6	83	1	10	**4**	18	3	36	10	101	**7**	**4**	0	122	8	33	48	0	89	0	**24**	0	0	**24**	4	111	148	0	2	265	619
08:00 AM	5	4	**72**	7	**88**	2	8	4	19	3	36	**15**	119	4	0	0	**138**	8	**36**	52	0	96	0	23	0	0	23	**6**	111	**169**	4	0	**290**	**671**
Total Volume	23	17	246	20	306	6	37	13	78	12	146	41	450	17	5	6	519	31	137	212	0	380	0	75	0	0	75	18	450	590	8	8	1074	2500
% App. Total	7.5	5.6	80.4	6.5		4.1	25.3	8.9	53.4	8.2		7.9	86.7	3.3	1	1.2		8.2	36.1	55.8	0		0	100	0	0		1.7	41.9	54.9	0.7	0.7		
PHF	.821	.607	.854	.714	.869	.750	.661	.813	.672	.600	.830	.683	.930	.607	.313	.300	.940	.969	.951	.883	.000	.931	.000	.781	.000	.000	.781	.750	.970	.873	.500	.400	.926	.931
Cars	21	17	237	20	295	6	36	13	78	12	145	41	439	17	4	6	507	29	136	203	0	368	0	75	0	0	75	18	437	569	8	7	1039	2429
% Cars	91.3	100	96.3	100	96.4	100	97.3	100	100	100	99.3	100	97.6	100	80.0	100	97.7	93.5	99.3	95.8	0	96.8	0	100	0	0	100	100	97.1	96.4	100	87.5	96.7	97.2
Trucks	2	0	9	0	11	0	1	0	0	0	1	0	11	0	1	0	12	2	1	9	0	12	0	0	0	0	0	0	13	21	0	1	35	71
% Trucks	8.7	0	3.7	0	3.6	0	2.7	0	0	0	0.7	0	2.4	0	20.0	0	2.3	6.5	0.7	4.2	0	3.2	0	0	0	0	0	0	2.9	3.6	0	12.5	3.3	2.8

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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360U
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Medford Street From North				Dexter Street From Northeast					Broadway From East					Medford Street From South				CVS/Dunkin Donuts Lot From Southwest				Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Right	Thru	Bear Left	Left	UTurn	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	UTurn	Int. Total
07:00 AM	1	0	48	8	1	7	0	11	2	10	82	0	4	2	4	23	45	0	0	16	0	0	2	65	81	0	4	416
07:15 AM	5	3	57	7	1	13	2	12	1	10	107	3	1	5	6	35	58	0	0	10	0	0	3	113	111	0	5	568
07:30 AM	6	3	47	0	2	5	3	29	5	6	116	3	0	1	8	33	49	0	0	18	0	0	5	107	152	4	1	603
07:45 AM	5	7	63	6	1	10	4	18	3	10	98	7	3	0	8	32	45	0	0	24	0	0	4	109	142	0	1	600
Total	17	13	215	21	5	35	9	70	11	36	403	13	8	8	26	123	197	0	0	68	0	0	14	394	486	4	11	2187
08:00 AM											118													108	164			
08:15 AM	3	4	61	5	1	12	3	10	7	19	90	4	0	0	5	33	49	0	0	18	0	0	4	102	141	4	1	576
08:30 AM	9	1	64	3	1	12	3	11	3	8	85	1	0	0	3	30	57	0	0	16	0	0	2	107	139	4	0	559
08:45 AM	6	3	73	2	0	8	1	17	0	1	73	3	0	1	5	30	33	0	0	17	0	0	5	104	96	3	0	481
Total	23	12	268	17	4	40	11	57	13	43	366	12	0	1	20	129	190	0	0	74	0	0	17	421	540	15	1	2274
09:00 AM																												
09:15 AM	9	4	61	11	0	5	3	6	2	9	60	4	2	0	6	19	34	0	0	10	0	0	5	88	83	4	0	425
09:30 AM	12	2	37	8	1	4	0	3	1	9	43	2	1	1	4	24	31	0	0	14	0	0	4	73	75	4	2	355
09:45 AM	11	5	49	3	0	5	0	2	0	9	60	5	0	0	3	35	42	0	0	11	0	0	4	61	73	3	1	382
Total	40	16	207	29	1	22	4	18	7	33	223	16	3	1	21	96	135	0	0	46	0	0	20	316	326	15	3	1598
Grand Total	80	41	690	67	10	97	24	145	31	112	992	41	11	10	67	348	522	0	0	188	0	0	51	1131	1352	34	15	6059
Apprch %	9.1	4.7	78.6	7.6	3.3	31.6	7.8	47.2	10.1	9.6	85.1	3.5	0.9	0.9	7.2	37.1	55.7	0	0	100	0	0	2	43.8	52.3	1.3	0.6	
Total %	1.3	0.7	11.4	1.1	0.2	1.6	0.4	2.4	0.5	1.8	16.4	0.7	0.2	0.2	1.1	5.7	8.6	0	0	3.1	0	0	0.8	18.7	22.3	0.6	0.2	

	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West						
Start Time	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																																		
Peak Hour for Entire Intersection Begins at 07:30 AM																																		
07:30 AM	**6**	3	47	0	56	**2**	5	3	**29**	5	**44**	6	116	3	0	**1**	126	**8**	33	49	0	90	0	18	0	0	18	5	107	152	**4**	**1**	269	603
07:45 AM	5	**7**	63	6	81	1	10	**4**	18	3	36	10	98	**7**	**3**	0	118	8	32	45	0	85	0	**24**	0	0	**24**	4	**109**	142	0	1	256	600
08:00 AM	5	4	**70**	**7**	**86**	2	8	4	19	3	36	15	**118**	4	0	0	**137**	7	**36**	**51**	0	**94**	0	23	0	0	23	**6**	108	**164**	4	0	**282**	**658**
08:15 AM	3	4	61	5	73	1	**12**	3	10	**7**	33	**19**	90	4	0	0	113	5	33	49	0	87	0	18	0	0	18	4	102	141	4	1	252	576
Total Volume	19	18	241	18	296	6	35	14	76	18	149	50	422	18	3	1	494	28	134	194	0	356	0	83	0	0	83	19	426	599	12	3	1059	2437
% App. Total	6.4	6.1	81.4	6.1		4	23.5	9.4	51	12.1		10.1	85.4	3.6	0.6	0.2		7.9	37.6	54.5	0		0	100	0	0		1.8	40.2	56.6	1.1	0.3		
PHF	.792	.643	.861	.643	.860	.750	.729	.875	.655	.643	.847	.658	.894	.643	.250	.250	.901	.875	.931	.951	.000	.947	.000	.865	.000	.000	.865	.792	.977	.913	.750	.750	.939	.926

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N/S/NE: Medford Street/Dexter Street
E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360U
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Medford Street From North				Dexter Street From Northeast					Broadway From East					Medford Street From South				CVS/Dunkin Donuts Lot From Southwest				Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Right	Thru	Bear Left	Left	UTurn	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	UTurn	Int. Total
07:00 AM	0	0	2	1	0	0	0	1	0	1	5	0	1	1	0	1	0	0	0	0	0	0	0	1	3	0	0	17
07:15 AM	1	0	4	0	0	1	0	0	0	0	2	0	0	0	1	0	2	0	0	0	0	0	0	3	5	0	0	19
07:30 AM	1	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	0	5	5	0	0	20
07:45 AM	0	0	2	0	0	0	0	0	0	0	3	0	1	0	0	1	3	0	0	0	0	0	0	2	6	0	1	19
Total	2	0	9	1	0	1	0	1	0	1	15	0	2	1	1	2	8	0	0	0	0	0	0	11	19	0	1	75
08:00 AM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	3	5	0	0	13
08:15 AM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	2	2	2	0	11
08:30 AM	0	0	3	0	0	0	0	0	0	1	4	0	0	0	0	0	5	0	0	0	0	0	0	6	4	0	0	23
08:45 AM	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	3	0	0	0	0	0	0	7	5	0	0	22
Total	2	0	6	0	0	0	0	0	0	1	11	0	0	0	1	2	10	0	0	0	0	0	0	18	16	2	0	69
09:00 AM	1	0	2	1	0	0	0	0	0	0	6	0	0	0	0	0	3	0	0	0	0	0	0	3	4	0	0	20
09:15 AM	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	3	0	0	0	0	0	0	4	14	0	0	25
09:30 AM	1	0	1	0	0	0	0	0	0	1	2	0	0	0	1	1	4	0	0	0	0	0	0	3	5	0	0	19
09:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	3	4	1	0	12
Total	3	0	3	1	0	0	0	0	0	1	13	0	0	0	1	3	10	0	0	0	0	0	0	13	27	1	0	76
Grand Total	7	0	18	2	0	1	0	1	0	3	39	0	2	1	3	7	28	0	0	0	0	0	0	42	62	3	1	220
Apprch %	25.9	0	66.7	7.4	0	50	0	50	0	6.7	86.7	0	4.4	2.2	7.9	18.4	73.7	0	0	0	0	0	0	38.9	57.4	2.8	0.9	
Total %	3.2	0	8.2	0.9	0	0.5	0	0.5	0	1.4	17.7	0	0.9	0.5	1.4	3.2	12.7	0	0	0	0	0	0	19.1	28.2	1.4	0.5	

	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest						Broadway From West						
Start Time	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																																			
Peak Hour for Entire Intersection Begins at 08:30 AM																																			
08:30 AM	0	0	**3**	0	3	0	0	0	0	0	0	**1**	4	0	0	0	5	0	0	**5**	0	**5**	0	0	0	0	0	0	6	4	0	0	10	23
08:45 AM	**2**	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	0	**2**	3	0	5	0	0	0	0	0	0	**7**	5	0	0	12	22
09:00 AM	1	0	2	**1**	**4**	0	0	0	0	0	0	0	**6**	0	0	0	**6**	0	0	3	0	3	0	0	0	0	0	0	3	4	0	0	7	20
09:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	0	1	3	0	4	0	0	0	0	0	0	4	**14**	0	0	**18**	**25**
Total Volume	4	0	5	1	10	0	0	0	0	0	0	1	15	0	0	0	16	0	3	14	0	17	0	0	0	0	0	0	20	27	0	0	47	90
% App. Total	40	0	50	10		0	0	0	0	0		6.2	93.8	0	0	0		0	17.6	82.4	0		0	0	0	0		0	42.6	57.4	0	0		
PHF	.500	.000	.417	.250	.625	.000	.000	.000	.000	.000	.000	.250	.625	.000	.000	.000	.667	.000	.375	.700	.000	.850	.000	.000	.000	.000	.000	.000	.714	.482	.000	.000	.653	.900

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E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360U
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Medford Street From North					Dexter Street From Northeast						Broadway From East					Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	10
07:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	10
07:30 AM	0	0	1	0	2	0	0	0	0	0	2	0	0	0	0	5	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	18
07:45 AM	0	0	0	0	9	0	0	0	0	0	4	0	0	0	0	4	0	0	2	0	3	0	0	0	0	0	0	0	1	0	0	23
Total	0	0	1	0	15	0	0	0	0	0	7	0	1	0	0	13	0	0	2	0	20	0	0	0	0	0	0	0	1	0	1	61
08:00 AM	0	0	1	1	2	0	0	0	0	0	1	0	2	0	0	3	0	0	1	0	5	0	0	0	0	0	0	4	0	0	0	20
08:15 AM	0	0	1	0	1	0	0	0	0	0	3	0	2	0	0	7	0	1	1	0	3	0	0	0	0	0	0	1	2	0	0	22
08:30 AM	0	0	2	0	3	0	0	0	0	0	1	0	0	0	0	9	0	0	0	0	11	0	0	0	0	0	0	0	1	0	2	29
08:45 AM	0	0	0	0	9	0	0	0	0	0	4	0	2	0	0	4	0	1	2	0	4	0	0	0	0	0	0	1	1	0	4	32
Total	0	0	4	1	15	0	0	0	0	0	9	0	6	0	0	23	0	2	4	0	23	0	0	0	0	0	0	6	4	0	6	103
09:00 AM	1	0	0	0	3	0	0	0	0	0	3	0	0	0	0	4	0	0	2	0	3	0	0	0	0	0	0	0	1	0	4	21
09:15 AM	0	0	0	0	4	0	0	0	1	0	4	0	0	0	0	5	0	0	1	0	4	0	0	0	0	0	0	2	1	0	0	22
09:30 AM	0	0	0	0	3	0	0	0	0	0	1	0	1	0	0	5	0	0	1	0	3	0	0	0	0	0	0	1	1	0	1	17
09:45 AM	0	0	0	0	3	0	0	0	0	0	4	0	3	0	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	20
Total	1	0	0	0	13	0	0	0	1	0	12	0	4	0	0	20	0	0	4	0	11	0	0	0	0	0	0	3	3	0	8	80
Grand Total	1	0	5	1	43	0	0	0	1	0	28	0	11	0	0	56	0	2	10	0	54	0	0	0	0	0	0	9	8	0	15	244
Apprch %	2	0	10	2	86	0	0	0	3.4	0	96.6	0	16.4	0	0	83.6	0	3	15.2	0	81.8	0	0	0	0	0	0	28.1	25	0	46.9	
Total %	0.4	0	2	0.4	17.6	0	0	0	0.4	0	11.5	0	4.5	0	0	23	0	0.8	4.1	0	22.1	0	0	0	0	0	0	3.7	3.3	0	6.1	

	Medford Street From North						Dexter Street From Northeast							Broadway From East						Medford Street From South						CVS/Dunkin Donuts Lot From Southwest						Broadway From West						
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																																					
Peak Hour for Entire Intersection Begins at 08:15 AM																																					
08:15 AM	0	0	1	0	1	2	0	0	0	0	0	3	3	0	**2**	0	0	7	**9**	0	**1**	**1**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**	**22**
08:30 AM	0	0	**2**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**9**	9	0	0	0	0	**11**	**11**	0	0	0	0	0	0	0	0	1	0	2	3	29
08:45 AM	0	0	0	0	**9**	**9**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	0	2	0	0	4	6	0	1	**2**	0	4	7	0	0	0	0	0	0	0	1	1	0	**4**	**6**	**32**
09:00 AM	**1**	0	0	0	3	4	0	0	0	0	0	3	3	0	0	0	0	4	4	0	0	2	0	3	5	0	0	0	0	0	0	0	0	1	0	4	5	21
Total Volume	1	0	3	0	16	20	0	0	0	0	0	11	11	0	4	0	0	24	28	0	2	5	0	21	28	0	0	0	0	0	0	0	2	5	0	10	17	104
% App. Total	5	0	15	0	80		0	0	0	0	0	100		0	14.3	0	0	85.7		0	7.1	17.9	0	75		0	0	0	0	0		0	11.8	29.4	0	58.8		
PHF	.250	.000	.375	.000	.444	.556	.000	.000	.000	.000	.000	.688	.688	.000	.500	.000	.000	.667	.778	.000	.500	.625	.000	.477	.636	.000	.000	.000	.000	.000	.000	.000	.500	.625	.000	.625	.708	.813

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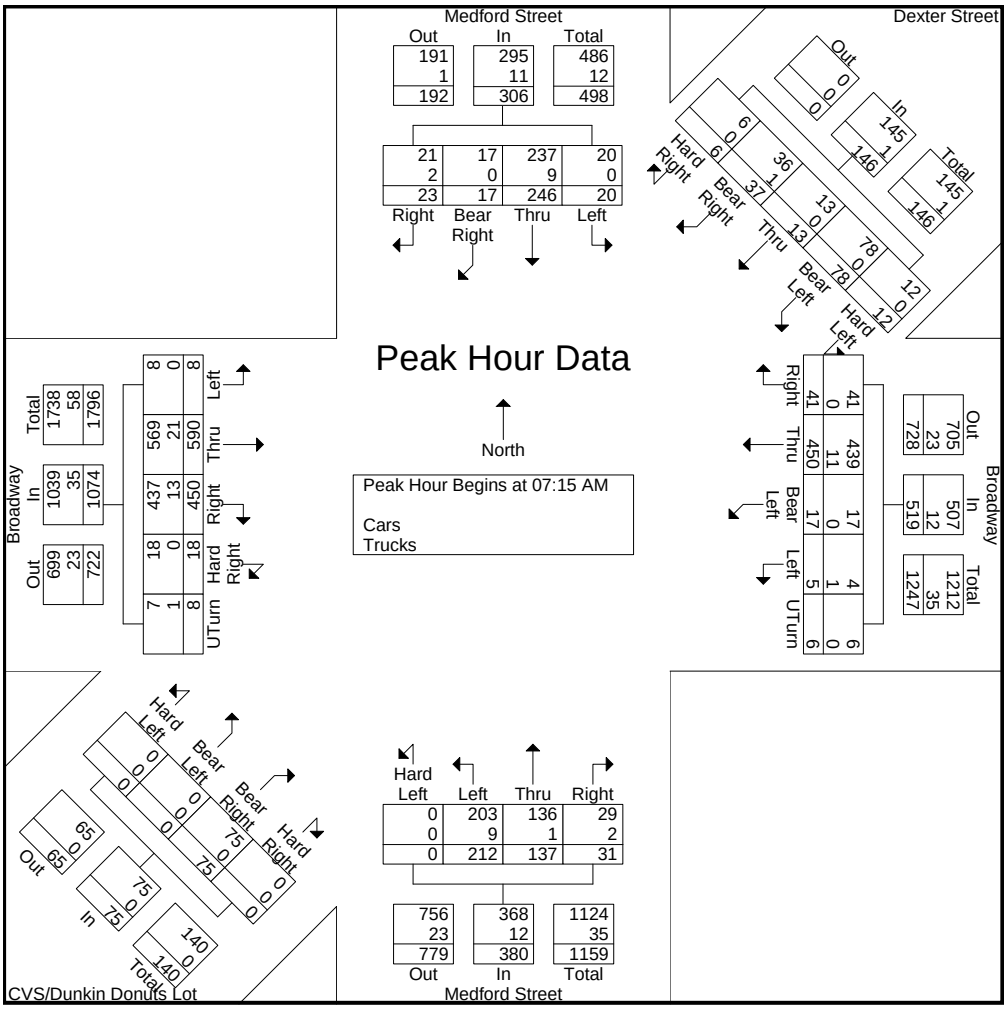
Start Time	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West						
	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																																	
Peak Hour for Entire Intersection Begins at 07:15 AM																																	
07:15 AM	6	3	61	**7**	77	1	**14**	2	12	1	30	10	109	3	1	**5**	128	7	35	**60**	0	**102**	0	10	0	0	10	3	**116**	116	0	**5**	240	587
07:30 AM	**7**	3	48	0	58	**2**	5	3	**29**	**5**	**44**	6	**121**	3	0	1	131	**8**	33	52	0	93	0	18	0	0	18	5	112	157	**4**	1	279	623
07:45 AM	5	**7**	65	6	83	1	10	**4**	18	3	36	10	101	**7**	**4**	0	122	8	33	48	0	89	0	**24**	0	0	**24**	4	111	148	0	2	265	619
08:00 AM	5	4	**72**	7	**88**	2	8	4	19	3	36	**15**	119	4	0	0	**138**	8	**36**	52	0	96	0	23	0	0	23	**6**	111	**169**	4	0	**290**	**671**
Total Volume	23	17	246	20	306	6	37	13	78	12	146	41	450	17	5	6	519	31	137	212	0	380	0	75	0	0	75	18	450	590	8	8	1074	2500
% App. Total	7.5	5.6	80.4	6.5		4.1	25.3	8.9	53.4	8.2		7.9	86.7	3.3	1	1.2		8.2	36.1	55.8	0		0	100	0	0		1.7	41.9	54.9	0.7	0.7		
PHF	.821	.607	.854	.714	.869	.750	.661	.813	.672	.600	.830	.683	.930	.607	.313	.300	.940	.969	.951	.883	.000	.931	.000	.781	.000	.000	.781	.750	.970	.873	.500	.400	.926	.931
Cars	21	17	237	20	295	6	36	13	78	12	145	41	439	17	4	6	507	29	136	203	0	368	0	75	0	0	75	18	437	569	8	7	1039	2429
% Cars	91.3	100	96.3	100	96.4	100	97.3	100	100	100	99.3	100	97.6	100	80.0	100	97.7	93.5	99.3	95.8	0	96.8	0	100	0	0	100	100	97.1	96.4	100	87.5	96.7	97.2
Trucks	2	0	9	0	11	0	1	0	0	0	1	0	11	0	1	0	12	2	1	9	0	12	0	0	0	0	0	0	13	21	0	1	35	71
% Trucks	8.7	0	3.7	0	3.6	0	2.7	0	0	0	0.7	0	2.4	0	20.0	0	2.3	6.5	0.7	4.2	0	3.2	0	0	0	0	0	0	2.9	3.6	0	12.5	3.3	2.8



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Page No : 1

Groups Printed- Cars - Trucks

	Medford Street From North				Dexter Street From Northeast					Broadway From East					Medford Street From South				CVS/Dunkin Donuts Lot From Southwest				Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Right	Thru	Bear Left	Left	UTurn	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	UTurn	Int. Total
03:00 PM	14	0	34	6	0	0	0	3	0	20	101	2	1	0	3	41	10	0	0	11	0	0	3	47	90	10	0	396
03:15 PM	14	1	30	4	1	6	0	4	3	23	105	2	1	0	2	39	36	0	0	9	0	0	4	58	95	3	0	440
03:30 PM	12	1	35	6	1	5	1	11	0	21	122	0	2	1	1	45	36	0	0	8	0	0	5	59	75	8	0	455
03:45 PM	9	1	39	7	1	3	5	9	1	15	122	2	2	0	2	42	52	0	0	18	0	0	5	59	90	8	4	496
Total	49	3	138	23	3	14	6	27	4	79	450	6	6	1	8	167	134	0	0	46	0	0	17	223	350	29	4	1787
04:00 PM											100																	
04:15 PM	15	2	33	7	5	6	1	3	0	17	89	2	2	0	1	43	44	0	0	9	0	0	2	48	88	8	0	425
04:30 PM	12	6	30	6	3	4	0	8	2	24	119	1	2	0	3	43	47	0	0	14	0	0	6	51	88	7	0	476
04:45 PM	18	1	41	5	4	9	2	5	0	24	129	5	3	0	1	35	57	0	0	13	0	0	3	61	86	3	0	505
Total	60	14	129	19	15	23	3	18	7	84	437	10	7	1	6	168	192	0	0	43	0	0	15	226	336	24	0	1837
05:00 PM											141																	
05:15 PM	13	2	41	7	1	11	1	5	3	27	145	1	3	1	3	25	59	0	0	15	0	0	4	56	100	7	1	531
05:30 PM	14	2	33	7	2	7	0	4	0	34	148	3	5	0	2	29	55	0	0	15	0	0	2	48	96	4	0	510
05:45 PM	7	1	30	13	3	3	1	6	4	30	128	0	1	2	1	37	60	0	0	9	0	0	5	59	85	6	0	491
Total	46	5	142	34	7	26	4	22	9	120	562	12	13	3	6	124	220	0	0	46	0	0	12	212	366	25	2	2018
Grand Total	155	22	409	76	25	63	13	67	20	283	1449	28	26	5	20	459	546	0	0	135	0	0	44	661	1052	78	6	5642
Apprch %	23.4	3.3	61.8	11.5	13.3	33.5	6.9	35.6	10.6	15.8	80.9	1.6	1.5	0.3	2	44.8	53.3	0	0	100	0	0	2.4	35.9	57.1	4.2	0.3	
Total %	2.7	0.4	7.2	1.3	0.4	1.1	0.2	1.2	0.4	5	25.7	0.5	0.5	0.1	0.4	8.1	9.7	0	0	2.4	0	0	0.8	11.7	18.6	1.4	0.1	
Cars	151	22	406	76	24	62	13	67	19	282	1404	28	26	4	20	439	522	0	0	135	0	0	44	619	983	76	6	5428
% Cars	97.4	100	99.3	100		98.4	100	100		99.6	96.9	100	100		100	95.6	95.6			100			100	93.6	93.4	97.4	100	
Trucks	4	0	3	0	1	1	0	0	1	1	45	0	0	1	0	20	24	0	0	0	0	0	0	42	69	2	0	214
% Trucks	2.6	0	0.7	0	4	1.6	0	0	5	0.4	3.1	0	0	20	0	4.4	4.4	0	0	0	0	0	0	6.4	6.6	2.6	0	3.8

	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest						Broadway From West						
Start Time	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																																			
Peak Hour for Entire Intersection Begins at 04:45 PM																																			
04:45 PM	**18**	1	**41**	5	**65**	**4**	9	**2**	5	0	20	24	129	5	3	0	161	1	**35**	57	0	**93**	0	13	0	0	13	3	**61**	86	3	0	153	505
05:00 PM	12	0	38	**7**	57	1	5	2	**7**	2	17	29	141	**8**	4	0	182	0	33	46	0	79	0	7	0	0	7	1	49	85	**8**	**1**	144	486
05:15 PM	13	**2**	41	7	63	1	**11**	1	5	**3**	**21**	27	145	1	3	**1**	177	**3**	25	**59**	0	87	0	**15**	0	0	**15**	**4**	56	**100**	7	1	**168**	**531**
05:30 PM	14	2	33	7	56	2	7	0	4	0	13	**34**	**148**	3	**5**	0	**190**	2	29	55	0	86	0	15	0	0	15	2	48	96	4	0	150	510
Total Volume	57	5	153	26	241	8	32	5	21	5	71	114	563	17	15	1	710	6	122	217	0	345	0	50	0	0	50	10	214	367	22	2	615	2032
% App. Total	23.7	2.1	63.5	10.8		11.3	45.1	7	29.6	7		16.1	79.3	2.4	2.1	0.1		1.7	35.4	62.9	0		0	100	0	0		1.6	34.8	59.7	3.6	0.3		
PHF	.792	.625	.933	.929	.927	.500	.727	.625	.750	.417	.845	.838	.951	.531	.750	.250	.934	.500	.871	.919	.000	.927	.000	.833	.000	.000	.833	.625	.877	.918	.688	.500	.915	.957
Cars	56	5	152	26	239	7	32	5	21	5	70	114	551	17	15	1	698	6	121	212	0	339	0	50	0	0	50	10	210	356	22	2	600	1996
% Cars	98.2	100	99.3	100	99.2	87.5	100	100	100	100	98.6	100	97.9	100	100	100	98.3	100	99.2	97.7	0	98.3	0	100	0	0	100	100	98.1	97.0	100	100	97.6	98.2
Trucks	1	0	1	0	2	1	0	0	0	0	1	0	12	0	0	0	12	0	1	5	0	6	0	0	0	0	0	0	4	11	0	0	15	36
% Trucks	1.8	0	0.7	0	0.8	12.5	0	0	0	0	1.4	0	2.1	0	0	0	1.7	0	0.8	2.3	0	1.7	0	0	0	0	0	0	1.9	3.0	0	0	2.4	1.8

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N/S/NE: Medford Street/Dexter Street
E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360UU
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Medford Street From North				Dexter Street From Northeast					Broadway From East					Medford Street From South				CVS/Dunkin Donuts Lot From Southwest				Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Right	Thru	Bear Left	Left	UTurn	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	UTurn	Int. Total
03:00 PM	13	0	34	6	0	0	0	3	0	20	99	2	1	0	3	39	9	0	0	11	0	0	3	42	79	10	0	374
03:15 PM	14	1	30	4	1	5	0	4	2	22	98	2	1	0	2	36	32	0	0	9	0	0	4	49	81	2	0	399
03:30 PM	12	1	35	6	1	5	1	11	0	21	119	0	2	0	1	41	32	0	0	8	0	0	5	52	68	8	0	429
03:45 PM	9	1	38	7	1	3	5	9	1	15	119	2	2	0	2	40	49	0	0	18	0	0	5	55	82	8	4	475
Total	48	3	137	23	3	13	6	27	3	78	435	6	6	0	8	156	122	0	0	46	0	0	17	198	310	28	4	1677
04:00 PM																												
04:15 PM	14	2	33	7	5	6	1	3	0	17	86	2	2	0	1	39	43	0	0	9	0	0	2	48	82	8	0	410
04:30 PM	11	6	30	6	3	4	0	8	2	24	112	1	2	0	3	43	45	0	0	14	0	0	6	44	82	7	0	453
04:45 PM	18	1	40	5	4	9	2	5	0	24	127	5	3	0	1	35	55	0	0	13	0	0	3	59	84	3	0	496
Total	58	14	127	19	15	23	3	18	7	84	422	10	7	1	6	161	183	0	0	43	0	0	15	212	319	24	0	1771
05:00 PM											137																	
05:15 PM	13	2	41	7	1	11	1	5	3	27	142	1	3	1	3	24	58	0	0	15	0	0	4	56	99	7	1	525
05:30 PM	14	2	33	7	1	7	0	4	0	34	145	3	5	0	2	29	55	0	0	15	0	0	2	47	94	4	0	503
05:45 PM	7	1	30	13	3	3	1	6	4	30	123	0	1	2	1	36	60	0	0	9	0	0	5	58	82	5	0	480
Total	45	5	142	34	6	26	4	22	9	120	547	12	13	3	6	122	217	0	0	46	0	0	12	209	354	24	2	1980
Grand Total	151	22	406	76	24	62	13	67	19	282	1404	28	26	4	20	439	522	0	0	135	0	0	44	619	983	76	6	5428
Apprch %	23.1	3.4	62	11.6	13	33.5	7	36.2	10.3	16.2	80.5	1.6	1.5	0.2	2	44.8	53.2	0	0	100	0	0	2.5	35.8	56.9	4.4	0.3	
Total %	2.8	0.4	7.5	1.4	0.4	1.1	0.2	1.2	0.4	5.2	25.9	0.5	0.5	0.1	0.4	8.1	9.6	0	0	2.5	0	0	0.8	11.4	18.1	1.4	0.1	

	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West						
Start Time	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																																		
Peak Hour for Entire Intersection Begins at 04:45 PM																																		
04:45 PM	**18**	1	40	5	**64**	**4**	9	**2**	5	0	20	24	127	5	3	0	159	1	**35**	55	0	**91**	0	13	0	0	13	3	**59**	84	3	0	149	496
05:00 PM	11	0	38	**7**	56	1	5	2	**7**	2	17	29	137	**8**	4	0	178	0	33	44	0	77	0	7	0	0	7	1	48	79	**8**	**1**	137	472
05:15 PM	13	**2**	**41**	7	63	1	**11**	1	5	**3**	**21**	27	142	1	3	**1**	174	**3**	24	**58**	0	85	0	**15**	0	0	**15**	**4**	56	**99**	7	1	**167**	**525**
05:30 PM	14	2	33	7	56	1	7	0	4	0	12	**34**	**145**	3	**5**	0	**187**	2	29	55	0	86	0	15	0	0	15	2	47	94	4	0	147	503
Total Volume	56	5	152	26	239	7	32	5	21	5	70	114	551	17	15	1	698	6	121	212	0	339	0	50	0	0	50	10	210	356	22	2	600	1996
% App. Total	23.4	2.1	63.6	10.9		10	45.7	7.1	30	7.1		16.3	78.9	2.4	2.1	0.1		1.8	35.7	62.5	0		0	100	0	0		1.7	35	59.3	3.7	0.3		
PHF	.778	.625	.927	.929	.934	.438	.727	.625	.750	.417	.833	.838	.950	.531	.750	.250	.933	.500	.864	.914	.000	.931	.000	.833	.000	.000	.833	.625	.890	.899	.688	.500	.898	.950

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N/S/NE: Medford Street/Dexter Street
E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360UU
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Medford Street From North				Dexter Street From Northeast					Broadway From East					Medford Street From South				CVS/Dunkin Donuts Lot From Southwest				Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Right	Thru	Bear Left	Left	UTurn	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	UTurn	Int. Total
03:00 PM	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	0	5	11	0	0	22
03:15 PM	0	0	0	0	0	1	0	0	1	1	7	0	0	0	0	3	4	0	0	0	0	0	0	9	14	1	0	41
03:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	4	4	0	0	0	0	0	0	7	7	0	0	26
03:45 PM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	2	3	0	0	0	0	0	0	4	8	0	0	21
Total	1	0	1	0	0	1	0	0	1	1	15	0	0	1	0	11	12	0	0	0	0	0	0	25	40	1	0	110
04:00 PM	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	3	4	0	0	0	0	0	0	5	3	0	0	19
04:15 PM	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	1	0	0	0	0	0	0	0	6	0	0	15
04:30 PM	1	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	2	0	0	0	0	0	0	7	6	0	0	23
04:45 PM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	2	2	0	0	9
Total	2	0	2	0	0	0	0	0	0	0	15	0	0	0	0	7	9	0	0	0	0	0	0	14	17	0	0	66
05:00 PM	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	2	0	0	0	0	0	0	1	6	0	0	14
05:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	6
05:30 PM	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	7
05:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	1	3	1	0	11
Total	1	0	0	0	1	0	0	0	0	0	15	0	0	0	0	2	3	0	0	0	0	0	0	3	12	1	0	38
Grand Total	4	0	3	0	1	1	0	0	1	1	45	0	0	1	0	20	24	0	0	0	0	0	0	42	69	2	0	214
Apprch %	57.1	0	42.9	0	33.3	33.3	0	0	33.3	2.1	95.7	0	0	2.1	0	45.5	54.5	0	0	0	0	0	0	37.2	61.1	1.8	0	
Total %	1.9	0	1.4	0	0.5	0.5	0	0	0.5	0.5	21	0	0	0.5	0	9.3	11.2	0	0	0	0	0	0	19.6	32.2	0.9	0	

	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West						
Start Time	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																																		
Peak Hour for Entire Intersection Begins at 03:00 PM																																		
03:00 PM	**1**	0	0	0	**1**	0	0	0	0	0	0	0	2	0	0	0	2	0	2	1	0	3	0	0	0	0	0	0	5	11	0	0	16	22
03:15 PM	0	0	0	0	0	0	**1**	0	0	**1**	**2**	**1**	**7**	0	0	0	**8**	0	3	**4**	0	7	0	0	0	0	0	0	**9**	**14**	**1**	0	**24**	**41**
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	**1**	4	0	**4**	4	0	**8**	0	0	0	0	0	0	7	7	0	0	14	26
03:45 PM	0	0	**1**	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	2	3	0	5	0	0	0	0	0	0	4	8	0	0	12	21
Total Volume	1	0	1	0	2	0	1	0	0	1	2	1	15	0	0	1	17	0	11	12	0	23	0	0	0	0	0	0	25	40	1	0	66	110
% App. Total	50	0	50	0		0	50	0	0	50		5.9	88.2	0	0	5.9		0	47.8	52.2	0		0	0	0	0		0	37.9	60.6	1.5	0		
PHF	.250	.000	.250	.000	.500	.000	.250	.000	.000	.250	.250	.250	.536	.000	.000	.250	.531	.000	.688	.750	.000	.719	.000	.000	.000	.000	.000	.000	.694	.714	.250	.000	.688	.671

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E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360UU
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Medford Street From North					Dexter Street From Northeast						Broadway From East					Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Hard Right	Bear Right	Thru	Bear Left	Hard Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	3	0	0	0	0	0	5	0	1	0	0	7	0	0	0	0	4	0	0	0	0	0	0	2	3	1	3	29
03:15 PM	0	0	0	0	8	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	4	0	0	0	0	0	0	2	2	0	5	27
03:30 PM	0	0	0	0	6	0	0	0	0	0	7	0	1	0	0	7	0	0	0	0	5	0	0	0	0	0	0	1	0	0	2	29
03:45 PM	0	0	0	0	7	0	0	0	0	0	6	0	2	0	0	13	0	0	0	0	9	0	0	0	0	0	0	1	0	0	5	43
Total	0	0	0	0	24	0	0	0	0	0	21	0	4	0	0	30	0	0	0	0	22	0	0	0	0	0	0	6	5	1	15	128
04:00 PM	0	0	0	0	13	0	0	0	0	0	8	0	0	0	0	13	0	0	0	0	3	0	0	0	0	0	0	1	0	0	3	41
04:15 PM	0	0	0	0	3	0	0	0	0	0	6	0	1	0	0	19	0	0	0	0	9	0	0	0	0	0	0	1	0	0	0	39
04:30 PM	0	0	0	0	10	0	0	0	0	0	17	1	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	50
04:45 PM	0	0	1	0	9	0	0	0	0	0	14	0	0	0	0	14	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	41
Total	0	0	1	0	35	0	0	0	0	0	45	1	1	0	0	66	1	0	0	0	13	0	0	0	0	0	0	2	0	0	6	171
05:00 PM	0	0	0	0	2	0	0	0	0	0	3	0	1	0	0	8	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	17
05:15 PM	0	0	0	0	8	0	0	0	0	0	7	0	1	0	0	27	0	0	1	0	3	0	0	0	0	0	0	0	1	0	0	48
05:30 PM	0	0	0	0	5	0	0	0	0	0	4	0	1	0	0	16	0	0	0	0	9	0	0	0	0	0	0	0	0	0	1	36
05:45 PM	0	0	0	0	9	0	0	0	0	0	8	0	1	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	33
Total	0	0	0	0	24	0	0	0	0	0	22	0	4	0	0	63	0	0	1	0	14	0	0	0	0	0	0	1	1	0	4	134
Grand Total	0	0	1	0	83	0	0	0	0	0	88	1	9	0	0	159	1	0	1	0	49	0	0	0	0	0	0	9	6	1	25	433
Apprch %	0	0	1.2	0	98.8	0	0	0	0	0	100	0.6	5.3	0	0	94.1	2	0	2	0	96.1	0	0	0	0	0	0	22	14.6	2.4	61	
Total %	0	0	0.2	0	19.2	0	0	0	0	0	20.3	0.2	2.1	0	0	36.7	0.2	0	0.2	0	11.3	0	0	0	0	0	0	2.1	1.4	0.2	5.8	

	Medford Street From North						Dexter Street From Northeast						Broadway From East						Medford Street From South						CVS/Dunkin Donuts Lot From Southwest						Broadway From West						
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Hard Right	Bear Right	Thru	Bear Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																																			
Peak Hour for Entire Intersection Begins at 03:45 PM																																			
03:45 PM	0	0	0	0	7	7	0	0	0	0	6	6	0	**2**	0	0	13	15	0	0	0	0	**9**	**9**	0	0	0	0	0	0	0	**1**	0	0	**5**	**6**	43
04:00 PM	0	0	0	0	**13**	**13**	**0**	**0**	**0**	**0**	**0**	**8**	**8**	**0**	**0**	**0**	**0**	13	13	0	0	0	0	3	3	0	0	0	0	0	0	0	1	0	0	3	4	41
04:15 PM	0	0	0	0	3	3	0	0	0	0	0	6	6	0	1	0	0	19	20	0	0	0	0	9	9	0	0	0	0	0	0	0	1	0	0	0	1	39
04:30 PM	0	0	0	0	10	10	0	0	0	0	0	**17**	**17**	**1**	0	0	0	**20**	**21**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**50**
Total Volume	0	0	0	0	33	33	0	0	0	0	0	37	37	1	3	0	0	65	69	1	0	0	0	21	22	0	0	0	0	0	0	0	3	0	0	9	12	173
% App. Total	0	0	0	0	100		0	0	0	0	0	100		1.4	4.3	0	0	94.2		4.5	0	0	0	95.5		0	0	0	0	0		0	25	0	0	75		
PHF	.000	.000	.000	.000	.635	.635	.000	.000	.000	.000	.000	.544	.544	.250	.375	.000	.000	.813	.821	.250	.000	.000	.000	.583	.611	.000	.000	.000	.000	.000	.000	.000	.750	.000	.000	.450	.500	.865

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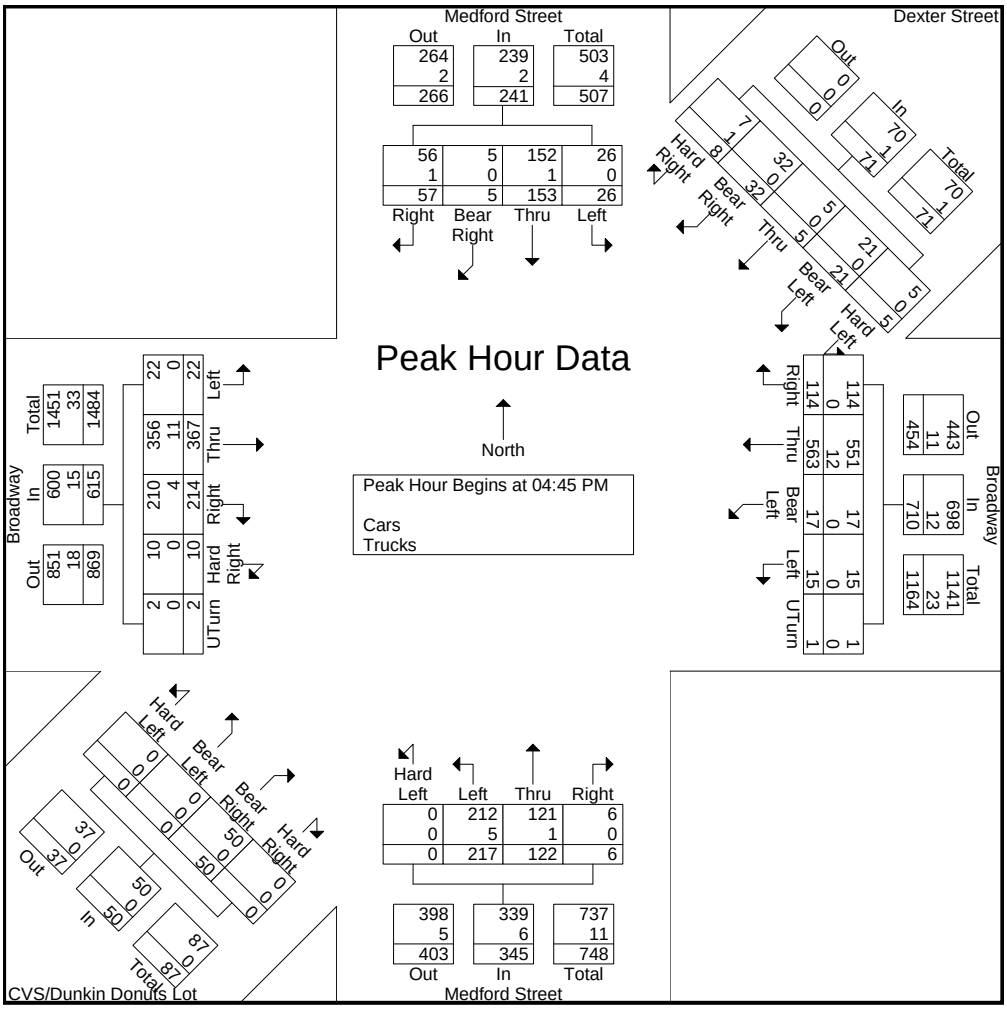
N/S/NE: Medford Street/Dexter Street
E/W/SW: Broadway/CVS Dunkin Donuts
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360UU
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Start Time	Medford Street From North					Dexter Street From Northeast						Broadway From East						Medford Street From South					CVS/Dunkin Donuts Lot From Southwest					Broadway From West						
	Right	Bear Right	Thru	Left	App. Total	Hard Right	Bear Right	Thru	Bear Left	Hard Left	App. Total	Right	Thru	Bear Left	Left	UTurn	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	UTurn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																																	
Peak Hour for Entire Intersection Begins at 04:45 PM																																	
04:45 PM	**18**	1	**41**	5	**65**	**4**	9	**2**	5	0	20	24	129	5	3	0	161	1	**35**	57	0	**93**	0	13	0	0	13	3	**61**	86	3	0	153	505
05:00 PM	12	0	38	**7**	57	1	5	2	**7**	2	17	29	141	**8**	4	0	182	0	33	46	0	79	0	7	0	0	7	1	49	85	**8**	**1**	144	486
05:15 PM	13	**2**	41	7	63	1	**11**	1	5	**3**	**21**	27	145	1	3	**1**	177	**3**	25	**59**	0	87	0	**15**	0	0	**15**	**4**	56	**100**	7	1	**168**	**531**
05:30 PM	14	2	33	7	56	2	7	0	4	0	13	**34**	**148**	3	**5**	0	**190**	2	29	55	0	86	0	15	0	0	15	2	48	96	4	0	150	510
Total Volume	57	5	153	26	241	8	32	5	21	5	71	114	563	17	15	1	710	6	122	217	0	345	0	50	0	0	50	10	214	367	22	2	615	2032
% App. Total	23.7	2.1	63.5	10.8		11.3	45.1	7	29.6	7		16.1	79.3	2.4	2.1	0.1		1.7	35.4	62.9	0		0	100	0	0		1.6	34.8	59.7	3.6	0.3		
PHF	.792	.625	.933	.929	.927	.500	.727	.625	.750	.417	.845	.838	.951	.531	.750	.250	.934	.500	.871	.919	.000	.927	.000	.833	.000	.000	.833	.625	.877	.918	.688	.500	.915	.957
Cars	56	5	152	26	239	7	32	5	21	5	70	114	551	17	15	1	698	6	121	212	0	339	0	50	0	0	50	10	210	356	22	2	600	1996
% Cars	98.2	100	99.3	100	99.2	87.5	100	100	100	100	98.6	100	97.9	100	100	100	98.3	100	99.2	97.7	0	98.3	0	100	0	0	100	100	98.1	97.0	100	100	97.6	98.2
Trucks	1	0	1	0	2	1	0	0	0	0	1	0	12	0	0	0	12	0	1	5	0	6	0	0	0	0	0	0	4	11	0	0	15	36
% Trucks	1.8	0	0.7	0	0.8	12.5	0	0	0	0	1.4	0	2.1	0	0	0	1.7	0	0.8	2.3	0	1.7	0	0	0	0	0	0	1.9	3.0	0	0	2.4	1.8



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N/S: Medford Street
W: Lowell Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360V
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Medford Street From North		Medford Street From South		Lowell Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	6	134	53	14	6	16	229
07:15 AM	12	209	82	6	13	25	347
07:30 AM	20	188	70	10	19	22	329
07:45 AM	51	168	83	18	3	9	332
Total	89	699	288	48	41	72	1237
08:00 AM	45	190	83	19	16	21	374
08:15 AM	33	158	81	7	12	22	313
08:30 AM	38	162	72	11	8	17	308
08:45 AM	19	166	59	6	7	11	268
Total	135	676	295	43	43	71	1263
09:00 AM	23	160	58	9	15	12	277
09:15 AM	14	144	54	5	13	7	237
09:30 AM	9	104	48	6	13	17	197
09:45 AM	19	94	64	3	8	12	200
Total	65	502	224	23	49	48	911
Grand Total	289	1877	807	114	133	191	3411
Apprch %	13.3	86.7	87.6	12.4	41	59	
Total %	8.5	55	23.7	3.3	3.9	5.6	
Cars	285	1825	772	113	132	190	3317
% Cars	98.6	97.2	95.7	99.1	99.2	99.5	97.2
Trucks	4	52	35	1	1	1	94
% Trucks	1.4	2.8	4.3	0.9	0.8	0.5	2.8

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	12	**209**	221	82	6	88	13	**25**	38	347
07:30 AM	20	188	208	70	10	80	**19**	22	**41**	329
07:45 AM	**51**	168	219	**83**	18	101	3	9	12	332
08:00 AM	45	190	**235**	83	**19**	**102**	16	21	37	**374**
Total Volume	**128**	**755**	**883**	**318**	**53**	**371**	**51**	**77**	**128**	**1382**
% App. Total	**14.5**	**85.5**		**85.7**	**14.3**		**39.8**	**60.2**		
PHF	**.627**	**.903**	**.939**	**.958**	**.697**	**.909**	**.671**	**.770**	**.780**	**.924**
Cars	**125**	**738**	**863**	**309**	**52**	**361**	**51**	**77**	**128**	**1352**
% Cars	**97.7**	**97.7**	**97.7**	**97.2**	**98.1**	**97.3**	**100**	**100**	**100**	**97.8**
Trucks	**3**	**17**	**20**	**9**	**1**	**10**	**0**	**0**	**0**	**30**
% Trucks	**2.3**	**2.3**	**2.3**	**2.8**	**1.9**	**2.7**	**0**	**0**	**0**	**2.2**

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Client: VHB/A. Ng

File Name : 71360V
Site Code : 10303
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Page No : 1

Groups Printed- Cars

	Medford Street From North		Medford Street From South		Lowell Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	6	132	51	14	6	16	225
07:15 AM	11	205	80	6	13	25	340
07:30 AM	19	184	68	9	19	22	321
07:45 AM	50	164	80	18	3	9	324
Total	86	685	279	47	41	72	1210
08:00 AM	45	185	81	19	16	21	367
08:15 AM	33	155	79	7	12	22	308
08:30 AM	38	156	68	11	8	16	297
08:45 AM	19	157	55	6	7	11	255
Total	135	653	283	43	43	70	1227
09:00 AM	23	155	53	9	14	12	266
09:15 AM	14	141	50	5	13	7	230
09:30 AM	9	99	44	6	13	17	188
09:45 AM	18	92	63	3	8	12	196
Total	64	487	210	23	48	48	880
Grand Total	285	1825	772	113	132	190	3317
Apprch %	13.5	86.5	87.2	12.8	41	59	
Total %	8.6	55	23.3	3.4	4	5.7	

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	11	**205**	216	80	6	86	13	**25**	38	340
07:30 AM	19	184	203	68	9	77	**19**	22	**41**	321
07:45 AM	**50**	164	214	80	18	98	3	9	12	324
08:00 AM	45	185	**230**	**81**	**19**	**100**	16	21	37	**367**
Total Volume	**125**	**738**	**863**	**309**	**52**	**361**	**51**	**77**	**128**	**1352**
% App. Total	**14.5**	**85.5**		**85.6**	**14.4**		**39.8**	**60.2**		
PHF	**.625**	**.900**	**.938**	**.954**	**.684**	**.903**	**.671**	**.770**	**.780**	**.921**

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Client: VHB/A. Ng

File Name : 71360V
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Trucks

	Medford Street From North		Medford Street From South		Lowell Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	0	2	2	0	0	0	4
07:15 AM	1	4	2	0	0	0	7
07:30 AM	1	4	2	1	0	0	8
07:45 AM	1	4	3	0	0	0	8
Total	3	14	9	1	0	0	27
08:00 AM	0	5	2	0	0	0	7
08:15 AM	0	3	2	0	0	0	5
08:30 AM	0	6	4	0	0	1	11
08:45 AM	0	9	4	0	0	0	13
Total	0	23	12	0	0	1	36
09:00 AM	0	5	5	0	1	0	11
09:15 AM	0	3	4	0	0	0	7
09:30 AM	0	5	4	0	0	0	9
09:45 AM	1	2	1	0	0	0	4
Total	1	15	14	0	1	0	31
Grand Total	4	52	35	1	1	1	94
Apprch %	7.1	92.9	97.2	2.8	50	50	
Total %	4.3	55.3	37.2	1.1	1.1	1.1	

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:30 AM										
08:30 AM	0	6	6	4	0	4	0	**1**	**1**	11
08:45 AM	0	**9**	**9**	4	0	4	0	0	0	**13**
09:00 AM	**0**	**5**	**5**	**5**	0	**5**	**1**	0	1	11
09:15 AM	0	3	3	4	0	4	0	0	0	7
Total Volume	0	23	23	17	0	17	1	1	2	42
% App. Total	0	100		100	0		50	50		
PHF	.000	.639	.639	.850	.000	.850	.250	.250	.500	.808

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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360V
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
07:00 AM	0	6	0	0	0	4	1	1	1	13
07:15 AM	0	0	1	2	0	17	0	0	3	23
07:30 AM	0	4	0	0	0	15	0	0	4	23
07:45 AM	0	1	2	1	0	4	0	0	3	11
Total	0	11	3	3	0	40	1	1	11	70
08:00 AM	1	3	7	0	1	12	0	0	5	29
08:15 AM	0	1	2	2	1	3	0	0	0	9
08:30 AM	0	5	0	0	0	5	0	0	5	15
08:45 AM	0	2	7	1	0	2	0	0	3	15
Total	1	11	16	3	2	22	0	0	13	68
09:00 AM	1	0	5	2	0	5	0	0	7	20
09:15 AM	0	2	1	1	0	0	0	1	0	5
09:30 AM	0	0	4	0	0	3	0	0	4	11
09:45 AM	0	1	9	0	0	1	0	0	2	13
Total	1	3	19	3	0	9	0	1	13	49
Grand Total	2	25	38	9	2	71	1	2	37	187
Apprch %	3.1	38.5	58.5	11	2.4	86.6	2.5	5	92.5	
Total %	1.1	13.4	20.3	4.8	1.1	38	0.5	1.1	19.8	

	Medford Street From North				Medford Street From South				Lowell Street From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	0	1	1	**2**	0	**17**	**19**	0	0	3	3	23
07:30 AM	0	**4**	**0**	**4**	**0**	**0**	**15**	**15**	**0**	**0**	**4**	**4**	**23**
07:45 AM	**0**	**1**	**2**	**3**	**1**	**0**	**4**	**5**	**0**	**0**	**3**	**3**	**11**
08:00 AM	**1**	3	**7**	**11**	0	**1**	12	13	0	0	**5**	**5**	**29**
Total Volume	1	8	10	19	3	1	48	52	0	0	15	15	86
% App. Total	5.3	42.1	52.6		5.8	1.9	92.3		0	0	100		
PHF	.250	.500	.357	.432	.375	.250	.706	.684	.000	.000	.750	.750	.741

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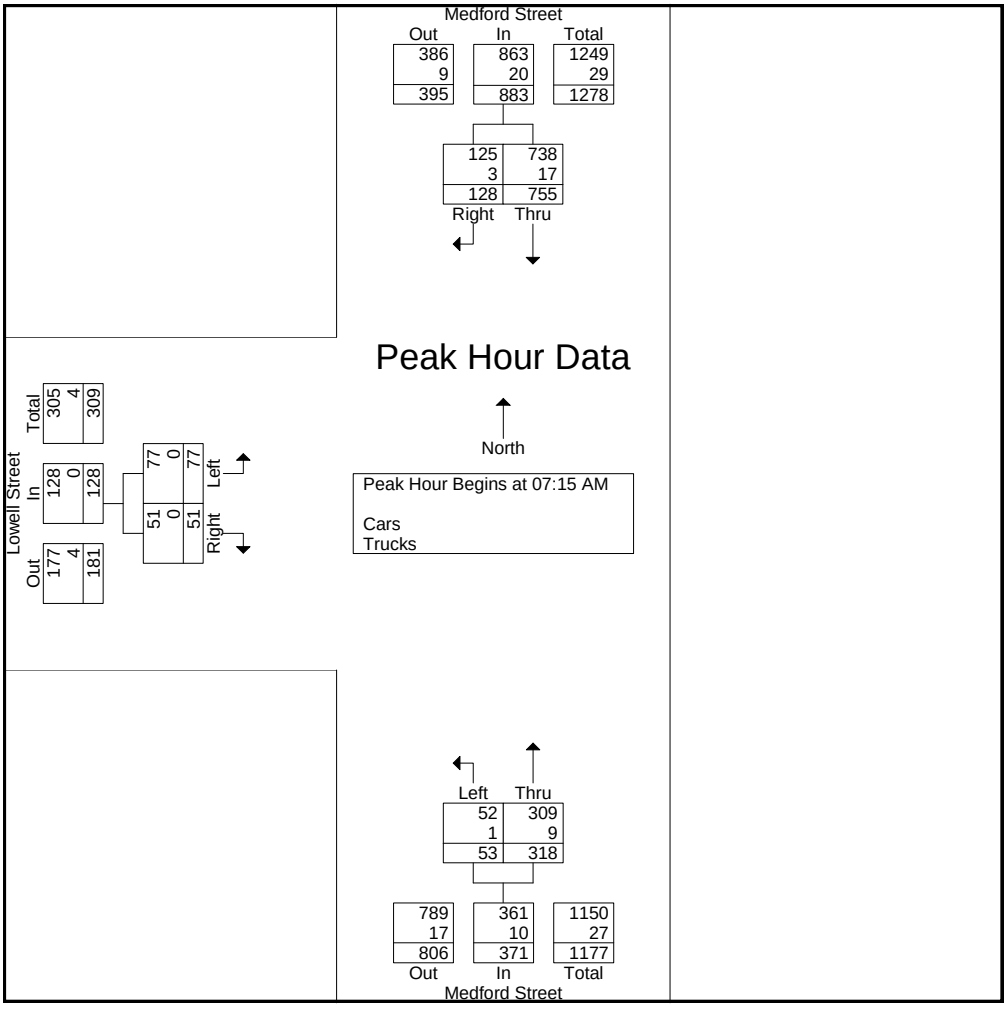
	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	12	**209**	221	82	6	88	13	**25**	38	347
07:30 AM	20	188	208	70	10	80	**19**	22	**41**	329
07:45 AM	**51**	168	219	**83**	18	101	3	9	12	332
08:00 AM	45	190	**235**	83	**19**	**102**	16	21	37	**374**
Total Volume	**128**	**755**	**883**	**318**	**53**	**371**	**51**	**77**	**128**	**1382**
% App. Total	**14.5**	**85.5**		**85.7**	**14.3**		**39.8**	**60.2**		
PHF	**.627**	**.903**	**.939**	**.958**	**.697**	**.909**	**.671**	**.770**	**.780**	**.924**
Cars	**125**	**738**	**863**	**309**	**52**	**361**	**51**	**77**	**128**	**1352**
% Cars	**97.7**	**97.7**	**97.7**	**97.2**	**98.1**	**97.3**	**100**	**100**	**100**	**97.8**
Trucks	**3**	**17**	**20**	**9**	**1**	**10**	**0**	**0**	**0**	**30**
% Trucks	**2.3**	**2.3**	**2.3**	**2.8**	**1.9**	**2.7**	**0**	**0**	**0**	**2.2**



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File Name : 71360VV
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Medford Street From North		Medford Street From South		Lowell Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	24	84	80	17	14	8	227
03:15 PM	15	79	76	12	8	9	199
03:30 PM	15	84	70	11	11	15	206
03:45 PM	22	97	80	4	11	18	232
Total	76	344	306	44	44	50	864
04:00 PM	18	85	94	11	10	12	230
04:15 PM	16	73	83	15	17	18	222
04:30 PM	14	74	87	15	20	10	220
04:45 PM	14	80	90	6	15	8	213
Total	62	312	354	47	62	48	885
05:00 PM	22	90	89	8	16	15	240
05:15 PM	16	101	86	12	19	15	249
05:30 PM	24	73	91	4	16	13	221
05:45 PM	13	72	117	8	16	3	229
Total	75	336	383	32	67	46	939
Grand Total	213	992	1043	123	173	144	2688
Apprch %	17.7	82.3	89.5	10.5	54.6	45.4	
Total %	7.9	36.9	38.8	4.6	6.4	5.4	

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	22	90	112	89	8	97	16	**15**	31	240
05:15 PM	16	**101**	**117**	86	**12**	98	**19**	15	**34**	**249**
05:30 PM	**24**	73	97	91	4	95	16	13	29	221
05:45 PM	13	72	85	**117**	8	**125**	16	3	19	229
Total Volume	75	336	411	383	32	415	67	46	113	939
% App. Total	18.2	81.8		92.3	7.7		59.3	40.7		
PHF	.781	.832	.878	.818	.667	.830	.882	.767	.831	.943

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File Name : 71360VV
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Groups Printed- Trucks

	Medford Street From North		Medford Street From South		Lowell Street From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	0	4	3	0	0	1	8
03:15 PM	2	4	4	1	0	0	11
03:30 PM	0	5	6	0	1	0	12
03:45 PM	0	4	3	0	0	1	8
Total	2	17	16	1	1	2	39
04:00 PM	0	4	6	0	0	1	11
04:15 PM	0	1	4	0	0	0	5
04:30 PM	1	5	2	0	0	0	8
04:45 PM	1	2	2	0	0	0	5
Total	2	12	14	0	0	1	29
05:00 PM	0	5	1	0	0	0	6
05:15 PM	0	2	1	0	0	0	3
05:30 PM	0	2	2	0	1	0	5
05:45 PM	1	3	2	0	0	1	7
Total	1	12	6	0	1	1	21
Grand Total	5	41	36	1	2	4	89
Apprch %	10.9	89.1	97.3	2.7	33.3	66.7	
Total %	5.6	46.1	40.4	1.1	2.2	4.5	

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:15 PM										
03:15 PM	**2**	4	**6**	4	**1**	5	0	0	0	11
03:30 PM	0	**5**	5	**6**	0	**6**	**1**	0	**1**	**12**
03:45 PM	**0**	**4**	**4**	**3**	**0**	**3**	**0**	**1**	1	8
04:00 PM	0	4	4	6	0	6	0	1	1	11
Total Volume	2	17	19	19	1	20	1	2	3	42
% App. Total	10.5	89.5		95	5		33.3	66.7		
PHF	.250	.850	.792	.792	.250	.833	.250	.500	.750	.875

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N/S: Medford Street
W: Lowell Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360VV
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
03:00 PM	0	1	7	0	0	3	0	0	9	20
03:15 PM	0	0	13	0	0	3	0	0	11	27
03:30 PM	0	1	9	0	0	2	1	0	5	18
03:45 PM	0	1	8	0	0	3	0	0	5	17
Total	0	3	37	0	0	11	1	0	30	82
04:00 PM	0	1	10	0	0	1	0	0	4	16
04:15 PM	0	0	5	0	0	4	0	0	6	15
04:30 PM	0	1	6	1	0	1	0	0	11	20
04:45 PM	1	1	6	0	0	0	0	0	10	18
Total	1	3	27	1	0	6	0	0	31	69
05:00 PM	0	3	7	1	0	2	0	0	4	17
05:15 PM	0	0	9	1	0	5	0	0	6	21
05:30 PM	0	1	7	1	0	0	0	0	6	15
05:45 PM	0	0	3	0	0	1	0	1	7	12
Total	0	4	26	3	0	8	0	1	23	65
Grand Total	1	10	90	4	0	25	1	1	84	216
Apprch %	1	9.9	89.1	13.8	0	86.2	1.2	1.2	97.7	
Total %	0.5	4.6	41.7	1.9	0	11.6	0.5	0.5	38.9	

	Medford Street From North				Medford Street From South				Lowell Street From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	**1**	**7**	**8**	**0**	**0**	**3**	**3**	0	0	9	9	20
03:15 PM	0	0	**13**	**13**	0	0	3	3	0	0	**11**	**11**	**27**
03:30 PM	0	1	9	10	0	0	2	2	**1**	0	5	6	18
03:45 PM	0	1	8	9	0	0	3	3	0	0	5	5	17
Total Volume	0	3	37	40	0	0	11	11	1	0	30	31	82
% App. Total	0	7.5	92.5		0	0	100		3.2	0	96.8		
PHF	.000	.750	.712	.769	.000	.000	.917	.917	.250	.000	.682	.705	.759

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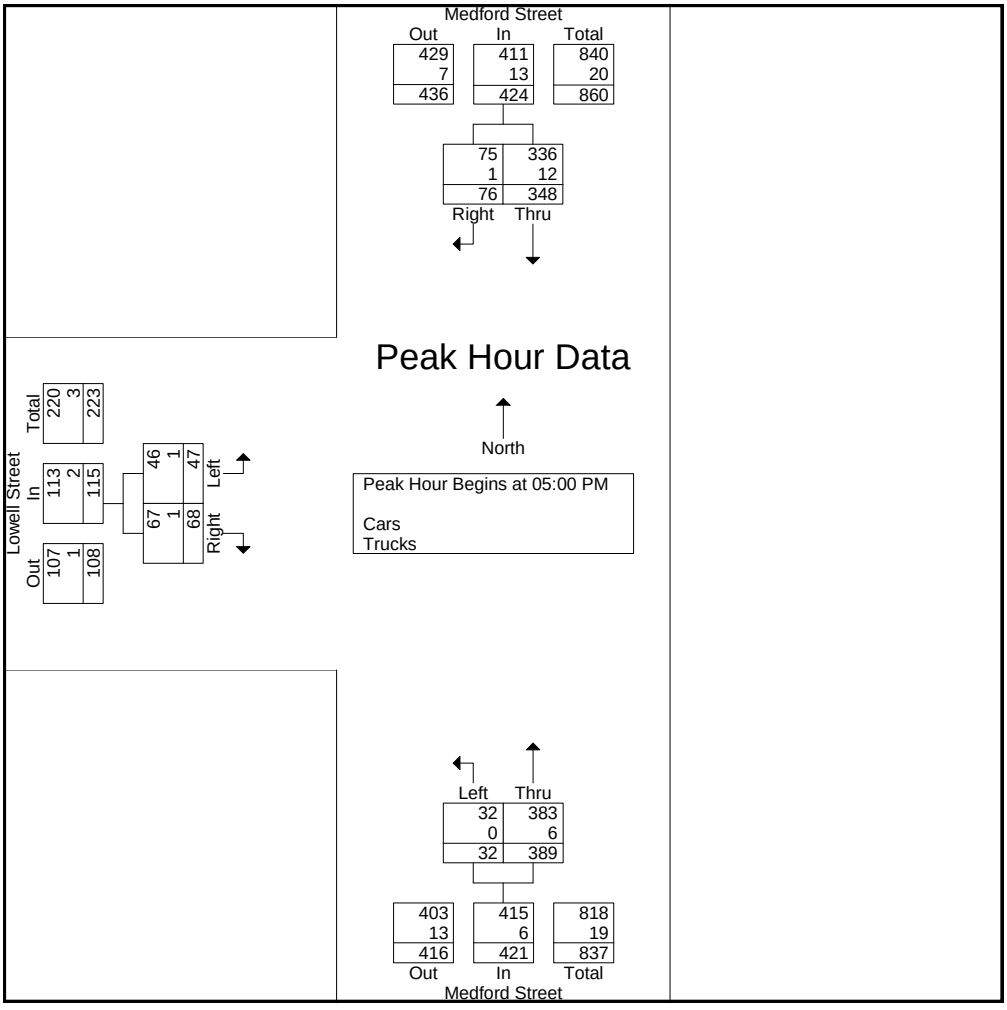
	Medford Street From North			Medford Street From South			Lowell Street From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	22	95	117	90	8	98	16	**15**	31	246
05:15 PM	16	**103**	**119**	87	**12**	99	**19**	15	**34**	**252**
05:30 PM	**24**	75	99	93	4	97	17	13	30	226
05:45 PM	14	75	89	**119**	8	**127**	16	4	20	236
Total Volume	76	348	424	389	32	421	68	47	115	960
% App. Total	17.9	82.1		92.4	7.6		59.1	40.9		
PHF	.792	.845	.891	.817	.667	.829	.895	.783	.846	.952
Cars	75	336	411	383	32	415	67	46	113	939
% Cars	98.7	96.6	96.9	98.5	100	98.6	98.5	97.9	98.3	97.8
Trucks	1	12	13	6	0	6	1	1	2	21
% Trucks	1.3	3.4	3.1	1.5	0	1.4	1.5	2.1	1.7	2.2



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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360K
Site Code : 10303
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Groups Printed- Cars - Trucks

	College Avenue From North			Rotary From East			Rotary From South			Powder House Boulevard From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	14	93	0	33	58	171	0	0	0	92	0	0	461
07:15 AM	5	89	0	33	63	184	0	0	0	97	0	0	471
07:30 AM	4	110	0	39	111	187	0	0	0	142	0	0	593
07:45 AM	6	132	0	48	77	197	0	0	0	136	0	0	596
Total	29	424	0	153	309	739	0	0	0	467	0	0	2121
08:00 AM	8	112	0	44	77	190	0	0	0	119	0	0	550
08:15 AM	3	88	0	53	67	215	0	0	0	129	0	0	555
08:30 AM	4	103	0	52	68	163	0	0	0	127	0	0	517
08:45 AM	6	80	0	45	54	189	0	0	0	117	0	0	491
Total	21	383	0	194	266	757	0	0	0	492	0	0	2113
09:00 AM	4	92	0	40	49	150	0	0	0	102	0	0	437
09:15 AM	5	63	0	46	52	129	0	0	0	83	0	0	378
09:30 AM	4	59	0	28	41	139	0	0	0	70	0	0	341
09:45 AM	6	47	0	41	31	122	0	0	0	57	0	0	304
Total	19	261	0	155	173	540	0	0	0	312	0	0	1460
Grand Total	69	1068	0	502	748	2036	0	0	0	1271	0	0	5694
Apprch %	6.1	93.9	0	15.3	22.8	62	0	0	0	100	0	0	
Total %	1.2	18.8	0	8.8	13.1	35.8	0	0	0	22.3	0	0	
Cars	69	1011	0	462	741	1917	0	0	0	1256	0	0	5456
% Cars	100	94.7	0	92	99.1	94.2	0	0	0	98.8	0	0	95.8
Trucks	0	57	0	40	7	119	0	0	0	15	0	0	238
% Trucks	0	5.3	0	8	0.9	5.8	0	0	0	1.2	0	0	4.2

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	110	0	114	39	**111**	187	**337**	0	0	0	0	**142**	0	0	**142**	593
07:45 AM	6	**132**	0	**138**	48	77	197	322	0	0	0	0	136	0	0	136	**596**
08:00 AM	**8**	112	0	120	44	77	190	311	0	0	0	0	119	0	0	119	550
08:15 AM	3	88	0	91	**53**	67	**215**	335	0	0	0	0	129	0	0	129	555
Total Volume	21	442	0	463	184	332	789	1305	0	0	0	0	526	0	0	526	2294
% App. Total	4.5	95.5	0		14.1	25.4	60.5		0	0	0		100	0	0		
PHF	.656	.837	.000	.839	.868	.748	.917	.968	.000	.000	.000	.000	.926	.000	.000	.926	.962
Cars	21	420	0	441	170	330	756	1256	0	0	0	0	522	0	0	522	2219
% Cars	100	95.0	0	95.2	92.4	99.4	95.8	96.2	0	0	0	0	99.2	0	0	99.2	96.7
Trucks	0	22	0	22	14	2	33	49	0	0	0	0	4	0	0	4	75
% Trucks	0	5.0	0	4.8	7.6	0.6	4.2	3.8	0	0	0	0	0.8	0	0	0.8	3.3

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Groups Printed- Cars

	College Avenue From North			Rotary From East			Rotary From South			Powder House Boulevard From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	14	89	0	31	58	164	0	0	0	91	0	0	447
07:15 AM	5	84	0	30	63	174	0	0	0	97	0	0	453
07:30 AM	4	105	0	37	110	179	0	0	0	141	0	0	576
07:45 AM	6	123	0	44	77	188	0	0	0	136	0	0	574
Total	29	401	0	142	308	705	0	0	0	465	0	0	2050
08:00 AM	8	104	0	42	77	181	0	0	0	118	0	0	530
08:15 AM	3	88	0	47	66	208	0	0	0	127	0	0	539
08:30 AM	4	97	0	49	68	155	0	0	0	126	0	0	499
08:45 AM	6	76	0	40	54	170	0	0	0	116	0	0	462
Total	21	365	0	178	265	714	0	0	0	487	0	0	2030
09:00 AM	4	88	0	38	47	138	0	0	0	101	0	0	416
09:15 AM	5	61	0	42	50	115	0	0	0	80	0	0	353
09:30 AM	4	52	0	25	40	131	0	0	0	69	0	0	321
09:45 AM	6	44	0	37	31	114	0	0	0	54	0	0	286
Total	19	245	0	142	168	498	0	0	0	304	0	0	1376
Grand Total	69	1011	0	462	741	1917	0	0	0	1256	0	0	5456
Apprch %	6.4	93.6	0	14.8	23.8	61.4	0	0	0	100	0	0	
Total %	1.3	18.5	0	8.5	13.6	35.1	0	0	0	23	0	0	

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	105	0	109	37	**110**	179	**326**	0	0	0	0	**141**	0	0	**141**	**576**
07:45 AM	6	**123**	0	**129**	44	77	188	309	0	0	0	0	136	0	0	136	574
08:00 AM	**8**	104	0	112	42	77	181	300	0	0	0	0	118	0	0	118	530
08:15 AM	3	88	0	91	**47**	66	**208**	321	0	0	0	0	127	0	0	127	539
Total Volume	21	420	0	441	170	330	756	1256	0	0	0	0	522	0	0	522	2219
% App. Total	4.8	95.2	0		13.5	26.3	60.2		0	0	0		100	0	0		
PHF	.656	.854	.000	.855	.904	.750	.909	.963	.000	.000	.000	.000	.926	.000	.000	.926	.963

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File Name : 71360K
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Page No : 1

Groups Printed- Trucks

	College Avenue From North			Rotary From East			Rotary From South			Powder House Boulevard From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	4	0	2	0	7	0	0	0	1	0	0	14
07:15 AM	0	5	0	3	0	10	0	0	0	0	0	0	18
07:30 AM	0	5	0	2	1	8	0	0	0	1	0	0	17
07:45 AM	0	9	0	4	0	9	0	0	0	0	0	0	22
Total	0	23	0	11	1	34	0	0	0	2	0	0	71
08:00 AM	0	8	0	2	0	9	0	0	0	1	0	0	20
08:15 AM	0	0	0	6	1	7	0	0	0	2	0	0	16
08:30 AM	0	6	0	3	0	8	0	0	0	1	0	0	18
08:45 AM	0	4	0	5	0	19	0	0	0	1	0	0	29
Total	0	18	0	16	1	43	0	0	0	5	0	0	83
09:00 AM	0	4	0	2	2	12	0	0	0	1	0	0	21
09:15 AM	0	2	0	4	2	14	0	0	0	3	0	0	25
09:30 AM	0	7	0	3	1	8	0	0	0	1	0	0	20
09:45 AM	0	3	0	4	0	8	0	0	0	3	0	0	18
Total	0	16	0	13	5	42	0	0	0	8	0	0	84
Grand Total	0	57	0	40	7	119	0	0	0	15	0	0	238
Apprch %	0	100	0	24.1	4.2	71.7	0	0	0	100	0	0	
Total %	0	23.9	0	16.8	2.9	50	0	0	0	6.3	0	0	

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	0	4	0	4	**5**	0	**19**	**24**	0	0	0	0	1	0	0	1	**29**
09:00 AM	0	4	0	4	2	**2**	12	16	0	0	0	0	1	0	0	1	21
09:15 AM	0	2	0	2	4	2	14	20	0	0	0	0	**3**	0	0	**3**	25
09:30 AM	0	**7**	0	**7**	3	1	8	12	0	0	0	0	1	0	0	1	20
Total Volume	0	17	0	17	14	5	53	72	0	0	0	0	6	0	0	6	95
% App. Total	0	100	0		19.4	6.9	73.6		0	0	0		100	0	0		
PHF	.000	.607	.000	.607	.700	.625	.697	.750	.000	.000	.000	.000	.500	.000	.000	.500	.819

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Groups Printed- Peds and Bicycles

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	2	0	1	2	0	3	0	0	0	0	0	0	0	0	1	9
07:15 AM	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	11	19
07:30 AM	0	0	0	7	0	1	2	0	0	0	0	0	0	0	0	13	23
07:45 AM	0	4	0	2	1	0	1	0	0	0	0	0	0	0	0	13	21
Total	0	7	0	17	3	1	6	0	0	0	0	0	0	0	0	38	72
08:00 AM	0	1	0	10	1	0	5	0	0	0	0	0	0	0	0	17	34
08:15 AM	0	3	0	1	3	0	2	0	0	0	0	0	2	0	0	15	26
08:30 AM	0	4	0	2	1	0	4	0	0	0	0	0	0	0	0	21	32
08:45 AM	0	1	0	0	3	1	5	0	0	0	0	0	1	0	0	18	29
Total	0	9	0	13	8	1	16	0	0	0	0	0	3	0	0	71	121
09:00 AM	0	5	0	6	2	1	5	0	0	0	0	0	0	0	0	16	35
09:15 AM	0	1	0	2	5	0	3	0	0	0	0	0	1	0	0	19	31
09:30 AM	1	3	0	7	0	1	3	0	0	0	0	0	0	0	0	14	29
09:45 AM	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	9	12
Total	1	10	0	16	7	3	11	0	0	0	0	0	1	0	0	58	107
Grand Total	1	26	0	46	18	5	33	0	0	0	0	0	4	0	0	167	300
Apprch %	1.4	35.6	0	63	32.1	8.9	58.9	0	0	0	0	0	2.3	0	0	97.7	
Total %	0.3	8.7	0	15.3	6	1.7	11	0	0	0	0	0	1.3	0	0	55.7	

	College Avenue From North					Rotary From East					Rotary From South					Powder House Boulevard From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	4	0	2	6	1	0	4	0	5	0	0	0	0	0	0	0	0	**21**	**21**	32
08:45 AM	0	1	0	0	1	3	**1**	**5**	**0**	**9**	0	0	0	0	0	**1**	**0**	**0**	**18**	**19**	**29**
09:00 AM	**0**	**5**	0	**6**	**11**	2	1	5	0	8	0	0	0	0	0	0	0	0	16	16	**35**
09:15 AM	0	1	0	2	3	**5**	0	3	0	8	0	0	0	0	0	1	0	0	19	20	31
Total Volume	0	11	0	10	21	11	2	17	0	30	0	0	0	0	0	2	0	0	74	76	127
% App. Total	0	52.4	0	47.6		36.7	6.7	56.7	0		0	0	0	0		2.6	0	0	97.4		
PHF	.000	.550	.000	.417	.477	.550	.500	.850	.000	.833	.000	.000	.000	.000	.000	.500	.000	.000	.881	.905	.907

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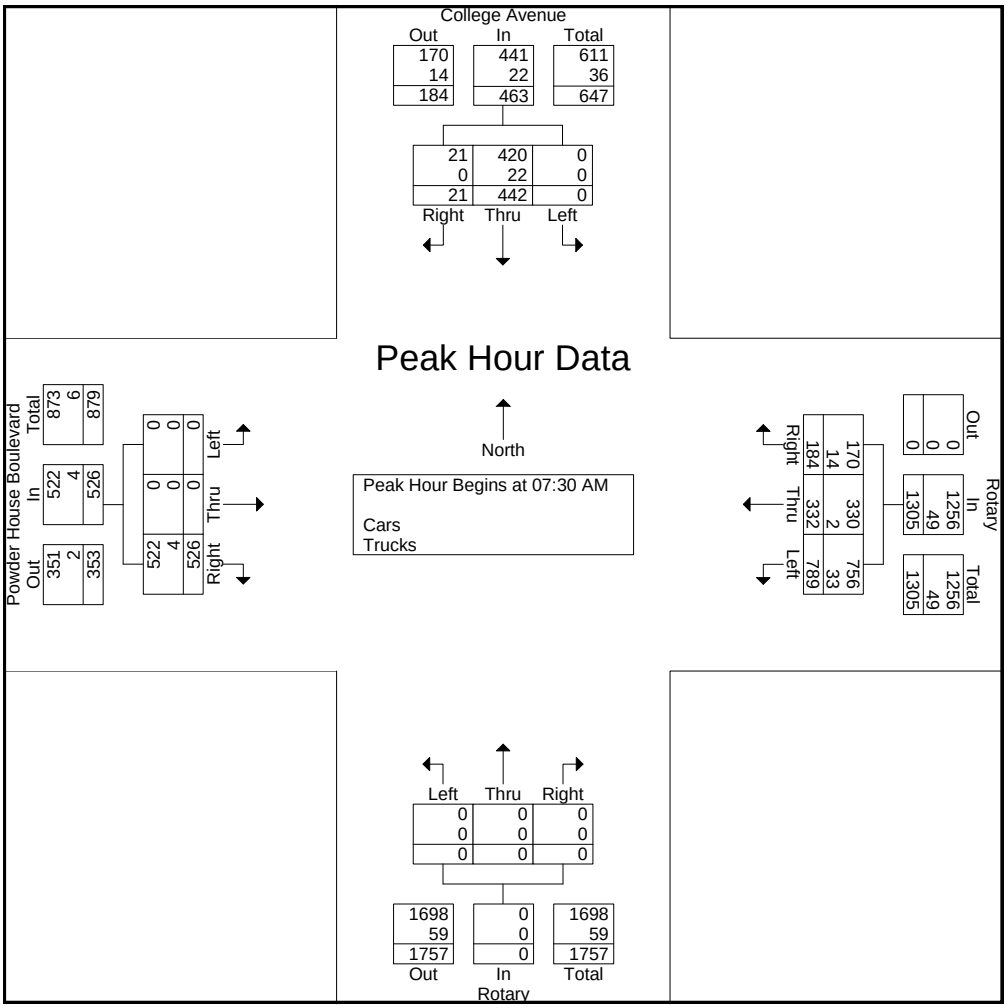
	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	110	0	114	39	**111**	187	**337**	0	0	0	0	**142**	0	0	**142**	593
07:45 AM	6	**132**	0	**138**	48	77	197	322	0	0	0	0	136	0	0	136	**596**
08:00 AM	**8**	112	0	120	44	77	190	311	0	0	0	0	119	0	0	119	550
08:15 AM	3	88	0	91	**53**	67	**215**	335	0	0	0	0	129	0	0	129	555
Total Volume	21	442	0	463	184	332	789	1305	0	0	0	0	526	0	0	526	2294
% App. Total	4.5	95.5	0		14.1	25.4	60.5		0	0	0		100	0	0		
PHF	.656	.837	.000	.839	.868	.748	.917	.968	.000	.000	.000	.000	.926	.000	.000	.926	.962
Cars	21	420	0	441	170	330	756	1256	0	0	0	0	522	0	0	522	2219
% Cars	100	95.0	0	95.2	92.4	99.4	95.8	96.2	0	0	0	0	99.2	0	0	99.2	96.7
Trucks	0	22	0	22	14	2	33	49	0	0	0	0	4	0	0	4	75
% Trucks	0	5.0	0	4.8	7.6	0.6	4.2	3.8	0	0	0	0	0.8	0	0	0.8	3.3



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N/S: College Avenue/Rotary
E/W: Rotary/Powdre House Boulevard
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360KK
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	College Avenue From North			Rotary From East			Rotary From South			Powder House Boulevard From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	12	51	0	52	75	178	0	0	0	84	0	0	452
03:15 PM	6	68	0	70	75	146	0	0	0	54	0	0	419
03:30 PM	5	55	0	80	65	147	0	0	0	81	0	0	433
03:45 PM	5	42	0	83	80	153	0	0	0	95	0	0	458
Total	28	216	0	285	295	624	0	0	0	314	0	0	1762
04:00 PM	10	45	0	94	80	133	0	0	0	70	1	0	433
04:15 PM	7	62	0	73	80	133	0	0	0	85	0	0	440
04:30 PM	7	63	0	100	90	125	0	0	0	90	0	0	475
04:45 PM	12	68	0	76	91	145	0	0	0	105	0	0	497
Total	36	238	0	343	341	536	0	0	0	350	1	0	1845
05:00 PM	14	70	0	89	98	139	0	0	0	113	0	0	523
05:15 PM	8	69	0	70	111	158	0	0	0	127	0	0	543
05:30 PM	5	79	0	82	122	146	0	0	0	87	0	0	521
05:45 PM	7	67	0	72	73	153	0	0	0	91	0	0	463
Total	34	285	0	313	404	596	0	0	0	418	0	0	2050
Grand Total	98	739	0	941	1040	1756	0	0	0	1082	1	0	5657
Apprch %	11.7	88.3	0	25.2	27.8	47	0	0	0	99.9	0.1	0	
Total %	1.7	13.1	0	16.6	18.4	31	0	0	0	19.1	0	0	
Cars	97	704	0	901	1031	1703	0	0	0	1075	1	0	5512
% Cars	99	95.3	0	95.7	99.1	97	0	0	0	99.4	100	0	97.4
Trucks	1	35	0	40	9	53	0	0	0	7	0	0	145
% Trucks	1	4.7	0	4.3	0.9	3	0	0	0	0.6	0	0	2.6

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	12	68	0	80	76	91	145	312	0	0	0	0	105	0	0	105	497
05:00 PM	**14**	70	0	**84**	**89**	98	139	326	0	0	0	0	113	0	0	113	523
05:15 PM	8	69	0	77	70	111	**158**	339	0	0	0	0	**127**	0	0	**127**	**543**
05:30 PM	5	**79**	0	84	82	**122**	146	**350**	0	0	0	0	87	0	0	87	521
Total Volume	39	286	0	325	317	422	588	1327	0	0	0	0	432	0	0	432	2084
% App. Total	12	88	0		23.9	31.8	44.3		0	0	0		100	0	0		
PHF	.696	.905	.000	.967	.890	.865	.930	.948	.000	.000	.000	.000	.850	.000	.000	.850	.959
Cars	39	274	0	313	309	421	573	1303	0	0	0	0	432	0	0	432	2048
% Cars	100	95.8	0	96.3	97.5	99.8	97.4	98.2	0	0	0	0	100	0	0	100	98.3
Trucks	0	12	0	12	8	1	15	24	0	0	0	0	0	0	0	0	36
% Trucks	0	4.2	0	3.7	2.5	0.2	2.6	1.8	0	0	0	0	0	0	0	0	1.7

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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360KK
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	College Avenue From North			Rotary From East			Rotary From South			Powder House Boulevard From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	11	48	0	48	72	168	0	0	0	81	0	0	428
03:15 PM	6	64	0	65	73	142	0	0	0	54	0	0	404
03:30 PM	5	53	0	78	64	140	0	0	0	80	0	0	420
03:45 PM	5	40	0	79	79	149	0	0	0	94	0	0	446
Total	27	205	0	270	288	599	0	0	0	309	0	0	1698
04:00 PM	10	42	0	90	80	130	0	0	0	70	1	0	423
04:15 PM	7	60	0	70	80	130	0	0	0	85	0	0	432
04:30 PM	7	59	0	96	90	121	0	0	0	88	0	0	461
04:45 PM	12	65	0	74	91	141	0	0	0	105	0	0	488
Total	36	226	0	330	341	522	0	0	0	348	1	0	1804
05:00 PM	14	66	0	86	98	135	0	0	0	113	0	0	512
05:15 PM	8	68	0	67	111	154	0	0	0	127	0	0	535
05:30 PM	5	75	0	82	121	143	0	0	0	87	0	0	513
05:45 PM	7	64	0	66	72	150	0	0	0	91	0	0	450
Total	34	273	0	301	402	582	0	0	0	418	0	0	2010
Grand Total	97	704	0	901	1031	1703	0	0	0	1075	1	0	5512
Apprch %	12.1	87.9	0	24.8	28.4	46.9	0	0	0	99.9	0.1	0	
Total %	1.8	12.8	0	16.3	18.7	30.9	0	0	0	19.5	0	0	

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	12	65	0	77	74	91	141	306	0	0	0	0	105	0	0	105	488
05:00 PM	**14**	66	0	**80**	**86**	98	135	319	0	0	0	0	113	0	0	113	512
05:15 PM	8	68	0	76	67	111	**154**	332	0	0	0	0	**127**	0	0	**127**	**535**
05:30 PM	5	**75**	0	80	82	**121**	143	**346**	0	0	0	0	87	0	0	87	513
Total Volume	39	274	0	313	309	421	573	1303	0	0	0	0	432	0	0	432	2048
% App. Total	12.5	87.5	0		23.7	32.3	44		0	0	0		100	0	0		
PHF	.696	.913	.000	.978	.898	.870	.930	.941	.000	.000	.000	.000	.850	.000	.000	.850	.957

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File Name : 71360KK
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Trucks

	College Avenue From North			Rotary From East			Rotary From South			Powder House Boulevard From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	3	0	4	3	10	0	0	0	3	0	0	24
03:15 PM	0	4	0	5	2	4	0	0	0	0	0	0	15
03:30 PM	0	2	0	2	1	7	0	0	0	1	0	0	13
03:45 PM	0	2	0	4	1	4	0	0	0	1	0	0	12
Total	1	11	0	15	7	25	0	0	0	5	0	0	64
04:00 PM	0	3	0	4	0	3	0	0	0	0	0	0	10
04:15 PM	0	2	0	3	0	3	0	0	0	0	0	0	8
04:30 PM	0	4	0	4	0	4	0	0	0	2	0	0	14
04:45 PM	0	3	0	2	0	4	0	0	0	0	0	0	9
Total	0	12	0	13	0	14	0	0	0	2	0	0	41
05:00 PM	0	4	0	3	0	4	0	0	0	0	0	0	11
05:15 PM	0	1	0	3	0	4	0	0	0	0	0	0	8
05:30 PM	0	4	0	0	1	3	0	0	0	0	0	0	8
05:45 PM	0	3	0	6	1	3	0	0	0	0	0	0	13
Total	0	12	0	12	2	14	0	0	0	0	0	0	40
Grand Total	1	35	0	40	9	53	0	0	0	7	0	0	145
Apprch %	2.8	97.2	0	39.2	8.8	52	0	0	0	100	0	0	
Total %	0.7	24.1	0	27.6	6.2	36.6	0	0	0	4.8	0	0	

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	**1**	3	0	**4**	4	**3**	**10**	**17**	0	0	0	0	**3**	0	0	**3**	**24**
03:15 PM	0	**4**	0	4	**5**	2	4	11	0	0	0	0	0	0	0	0	15
03:30 PM	0	2	0	2	2	1	7	10	0	0	0	0	1	0	0	1	13
03:45 PM	0	2	0	2	4	1	4	9	0	0	0	0	1	0	0	1	12
Total Volume	1	11	0	12	15	7	25	47	0	0	0	0	5	0	0	5	64
% App. Total	8.3	91.7	0		31.9	14.9	53.2		0	0	0		100	0	0		
PHF	.250	.688	.000	.750	.750	.583	.625	.691	.000	.000	.000	.000	.417	.000	.000	.417	.667

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File Name : 71360KK
Site Code : 10303
Start Date : 11/7/2007
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Groups Printed- Peds and Bicycles

	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	2	0	1	0	0	0	0	0	0	0	2	0	0	0	16	21
03:15 PM	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	8	12
03:30 PM	0	1	0	3	2	0	0	0	0	0	0	1	0	0	0	12	19
03:45 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	17	20
Total	0	4	0	9	2	1	0	0	0	0	0	3	0	0	0	53	72
04:00 PM	0	3	0	4	0	0	2	0	0	0	0	1	0	0	0	13	23
04:15 PM	0	3	0	6	7	0	0	0	0	0	0	0	2	0	0	37	55
04:30 PM	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	22	33
04:45 PM	0	0	0	2	1	0	1	0	0	0	0	3	0	0	0	13	20
Total	0	10	0	19	8	0	3	0	0	0	0	4	2	0	0	85	131
05:00 PM	0	2	0	5	1	0	1	0	0	0	0	0	0	0	0	22	31
05:15 PM	1	2	0	0	1	0	1	0	0	0	0	1	2	0	0	19	27
05:30 PM	0	2	0	2	5	0	0	0	0	0	0	0	1	0	0	14	24
05:45 PM	0	5	0	2	8	0	2	0	0	0	0	1	0	0	0	26	44
Total	1	11	0	9	15	0	4	0	0	0	0	2	3	0	0	81	126
Grand Total	1	25	0	37	25	1	7	0	0	0	0	9	5	0	0	219	329
Apprch %	1.6	39.7	0	58.7	75.8	3	21.2	0	0	0	0	100	2.2	0	0	97.8	
Total %	0.3	7.6	0	11.2	7.6	0.3	2.1	0	0	0	0	2.7	1.5	0	0	66.6	

	College Avenue From North					Rotary From East					Rotary From South					Powder House Boulevard From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	3	0	6	9	**7**	0	0	0	**7**	0	0	0	0	0	**2**	**0**	**0**	**37**	**39**	**55**
04:30 PM	0	**4**	0	**7**	**11**	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22	33
04:45 PM	0	0	0	2	2	1	0	**1**	**0**	**2**	**0**	**0**	**0**	**3**	**3**	0	0	0	13	13	20
05:00 PM	0	2	0	5	7	1	0	1	0	2	0	0	0	0	0	0	0	0	22	22	31
Total Volume	0	9	0	20	29	9	0	2	0	11	0	0	0	3	3	2	0	0	94	96	139
% App. Total	0	31	0	69		81.8	0	18.2	0		0	0	0	100		2.1	0	0	97.9		
PHF	.000	.563	.000	.714	.659	.321	.000	.500	.000	.393	.000	.000	.000	.250	.250	.250	.000	.000	.635	.615	.632

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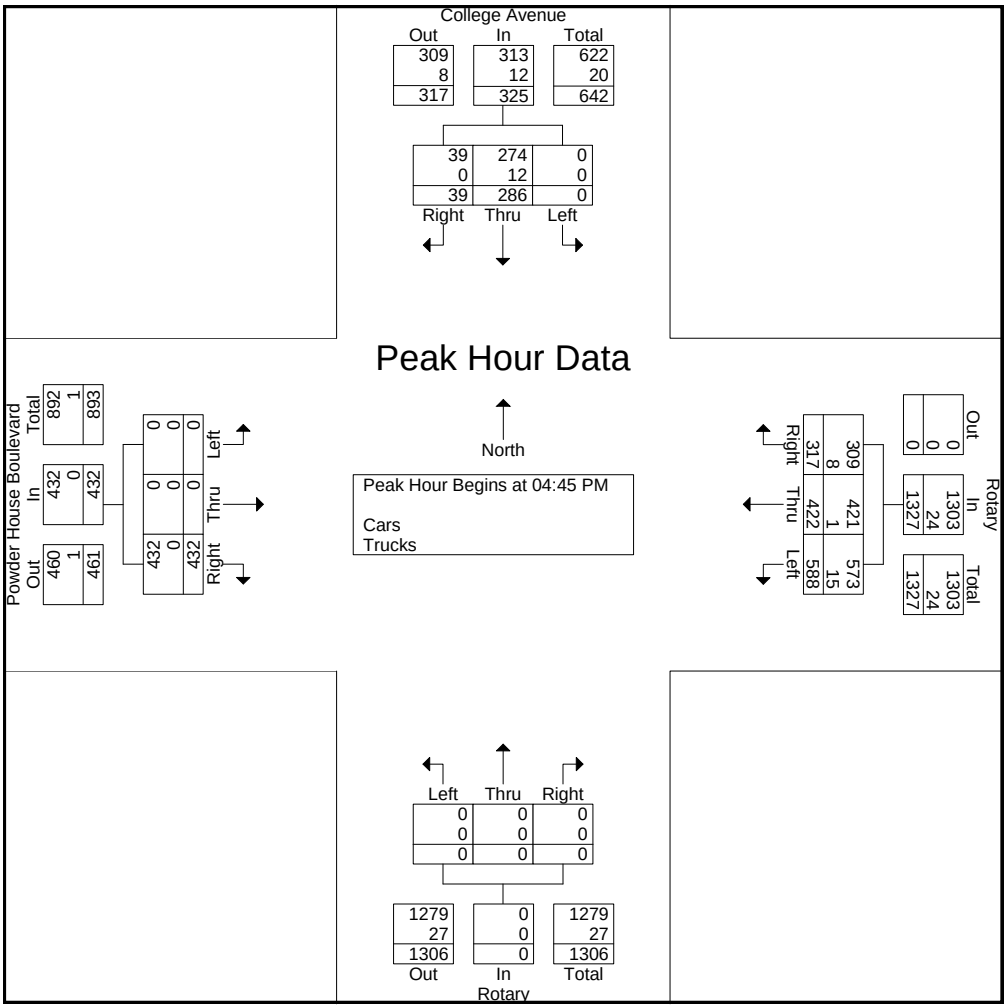
	College Avenue From North				Rotary From East				Rotary From South				Powder House Boulevard From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	12	68	0	80	76	91	145	312	0	0	0	0	105	0	0	105	497
05:00 PM	**14**	70	0	**84**	**89**	98	139	326	0	0	0	0	113	0	0	113	523
05:15 PM	8	69	0	77	70	111	**158**	339	0	0	0	0	**127**	0	0	**127**	**543**
05:30 PM	5	**79**	0	84	82	**122**	146	**350**	0	0	0	0	87	0	0	87	521
Total Volume	39	286	0	325	317	422	588	1327	0	0	0	0	432	0	0	432	2084
% App. Total	12	88	0		23.9	31.8	44.3		0	0	0		100	0	0		
PHF	.696	.905	.000	.967	.890	.865	.930	.948	.000	.000	.000	.000	.850	.000	.000	.850	.959
Cars	39	274	0	313	309	421	573	1303	0	0	0	0	432	0	0	432	2048
% Cars	100	95.8	0	96.3	97.5	99.8	97.4	98.2	0	0	0	0	100	0	0	100	98.3
Trucks	0	12	0	12	8	1	15	24	0	0	0	0	0	0	0	0	36
% Trucks	0	4.2	0	3.7	2.5	0.2	2.6	1.8	0	0	0	0	0	0	0	0	1.7



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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360L
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Rotary From North		Rotary From South		Broadway From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	142	200	0	0	99	0	441
07:15 AM	128	232	0	0	91	0	451
07:30 AM	172	252	0	0	104	0	528
07:45 AM	161	301	0	0	82	0	544
Total	603	985	0	0	376	0	1964
08:00 AM	160	255	0	0	86	0	501
08:15 AM	165	270	0	0	92	0	527
08:30 AM	143	249	0	0	76	0	468
08:45 AM	131	245	0	0	97	0	473
Total	599	1019	0	0	351	0	1969
09:00 AM	106	231	0	0	104	0	441
09:15 AM	84	206	0	0	124	0	414
09:30 AM	84	184	0	0	102	0	370
09:45 AM	97	140	0	0	83	0	320
Total	371	761	0	0	413	0	1545
Grand Total	1573	2765	0	0	1140	0	5478
Apprch %	36.3	63.7	0	0	100	0	
Total %	28.7	50.5	0	0	20.8	0	
Cars	1479	2674	0	0	1065	0	5218
% Cars	94	96.7	0	0	93.4	0	95.3
Trucks	94	91	0	0	75	0	260
% Trucks	6	3.3	0	0	6.6	0	4.7

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**172**	252	424	0	0	0	**104**	0	**104**	528
07:45 AM	161	**301**	**462**	0	0	0	82	0	82	**544**
08:00 AM	**160**	**255**	**415**	**0**	**0**	**0**	**86**	**0**	**86**	**501**
08:15 AM	**165**	**270**	**435**	**0**	**0**	**0**	**92**	**0**	**92**	**527**
Total Volume	**658**	**1078**	**1736**	**0**	**0**	**0**	**364**	**0**	**364**	**2100**
% App. Total	**37.9**	**62.1**		**0**	**0**		**100**	**0**		
PHF	**.956**	**.895**	**.939**	**.000**	**.000**	**.000**	**.875**	**.000**	**.875**	**.965**
Cars	**627**	**1053**	**1680**	**0**	**0**	**0**	**351**	**0**	**351**	**2031**
% Cars	**95.3**	**97.7**	**96.8**	**0**	**0**	**0**	**96.4**	**0**	**96.4**	**96.7**
Trucks	**31**	**25**	**56**	**0**	**0**	**0**	**13**	**0**	**13**	**69**
% Trucks	**4.7**	**2.3**	**3.2**	**0**	**0**	**0**	**3.6**	**0**	**3.6**	**3.3**

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Site Code : 10303
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Groups Printed- Cars

	Rotary From North		Rotary From South		Broadway From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	133	194	0	0	96	0	423
07:15 AM	119	225	0	0	89	0	433
07:30 AM	164	245	0	0	101	0	510
07:45 AM	150	296	0	0	79	0	525
Total	566	960	0	0	365	0	1891
08:00 AM	153	247	0	0	81	0	481
08:15 AM	160	265	0	0	90	0	515
08:30 AM	139	239	0	0	73	0	451
08:45 AM	118	235	0	0	82	0	435
Total	570	986	0	0	326	0	1882
09:00 AM	98	224	0	0	94	0	416
09:15 AM	76	197	0	0	110	0	383
09:30 AM	78	175	0	0	93	0	346
09:45 AM	91	132	0	0	77	0	300
Total	343	728	0	0	374	0	1445
Grand Total	1479	2674	0	0	1065	0	5218
Apprch %	35.6	64.4	0	0	100	0	
Total %	28.3	51.2	0	0	20.4	0	

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**164**	245	409	0	0	0	**101**	0	**101**	510
07:45 AM	150	**296**	**446**	0	0	0	79	0	79	**525**
08:00 AM	**153**	**247**	**400**	**0**	**0**	**0**	**81**	**0**	**81**	**481**
08:15 AM	**160**	**265**	**425**	**0**	**0**	**0**	**90**	**0**	**90**	**515**
Total Volume	**627**	**1053**	**1680**	**0**	**0**	**0**	**351**	**0**	**351**	**2031**
% App. Total	**37.3**	**62.7**		**0**	**0**		**100**	**0**		
PHF	**.956**	**.889**	**.942**	**.000**	**.000**	**.000**	**.869**	**.000**	**.869**	**.967**

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Site Code : 10303
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Groups Printed- Trucks

	Rotary From North		Rotary From South		Broadway From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
07:00 AM	9	6	0	0	3	0	18
07:15 AM	9	7	0	0	2	0	18
07:30 AM	8	7	0	0	3	0	18
07:45 AM	11	5	0	0	3	0	19
Total	37	25	0	0	11	0	73
08:00 AM	7	8	0	0	5	0	20
08:15 AM	5	5	0	0	2	0	12
08:30 AM	4	10	0	0	3	0	17
08:45 AM	13	10	0	0	15	0	38
Total	29	33	0	0	25	0	87
09:00 AM	8	7	0	0	10	0	25
09:15 AM	8	9	0	0	14	0	31
09:30 AM	6	9	0	0	9	0	24
09:45 AM	6	8	0	0	6	0	20
Total	28	33	0	0	39	0	100
Grand Total	94	91	0	0	75	0	260
Apprch %	50.8	49.2	0	0	100	0	
Total %	36.2	35	0	0	28.8	0	

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:45 AM										
08:45 AM	**13**	**10**	**23**	0	0	0	**15**	0	**15**	**38**
09:00 AM	**8**	**7**	**15**	**0**	**0**	**0**	**10**	**0**	**10**	**25**
09:15 AM	**8**	**9**	**17**	**0**	**0**	**0**	**14**	**0**	**14**	**31**
09:30 AM	**6**	**9**	**15**	**0**	**0**	**0**	**9**	**0**	**9**	**24**
Total Volume	**35**	**35**	**70**	**0**	**0**	**0**	**48**	**0**	**48**	**118**
% App. Total	**50**	**50**		**0**	**0**		**100**	**0**		
PHF	**.673**	**.875**	**.761**	**.000**	**.000**	**.000**	**.800**	**.000**	**.800**	**.776**

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Groups Printed- Peds and Bicycles

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
07:00 AM	0	1	0	0	0	0	1	0	5	7
07:15 AM	1	0	6	0	0	0	0	0	21	28
07:30 AM	1	1	4	0	0	0	1	0	13	20
07:45 AM	0	6	0	0	0	0	1	0	15	22
Total	2	8	10	0	0	0	3	0	54	77
08:00 AM	1	5	1	0	0	0	1	0	24	32
08:15 AM	0	5	0	0	0	0	1	0	19	25
08:30 AM	0	8	4	0	0	0	0	0	26	38
08:45 AM	0	7	3	0	0	0	1	0	25	36
Total	1	25	8	0	0	0	3	0	94	131
09:00 AM	2	7	3	0	0	0	1	0	21	34
09:15 AM	0	5	1	0	0	0	1	0	20	27
09:30 AM	0	7	2	0	0	0	0	0	8	17
09:45 AM	0	1	0	0	0	0	1	0	15	17
Total	2	20	6	0	0	0	3	0	64	95
Grand Total	5	53	24	0	0	0	9	0	212	303
Apprch %	6.1	64.6	29.3	0	0	0	4.1	0	95.9	
Total %	1.7	17.5	7.9	0	0	0	3	0	70	

	Rotary From North				Rotary From South				Broadway From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:30 AM													
08:30 AM	0	**8**	**4**	**12**	0	0	0	0	0	0	**26**	**26**	**38**
08:45 AM	0	7	3	10	0	0	0	0	**1**	0	25	26	36
09:00 AM	**2**	7	3	12	0	0	0	0	1	0	21	22	34
09:15 AM	0	5	1	6	0	0	0	0	1	0	20	21	27
Total Volume	2	27	11	40	0	0	0	0	3	0	92	95	135
% App. Total	5	67.5	27.5		0	0	0		3.2	0	96.8		
PHF	.250	.844	.688	.833	.000	.000	.000	.000	.750	.000	.885	.913	.888

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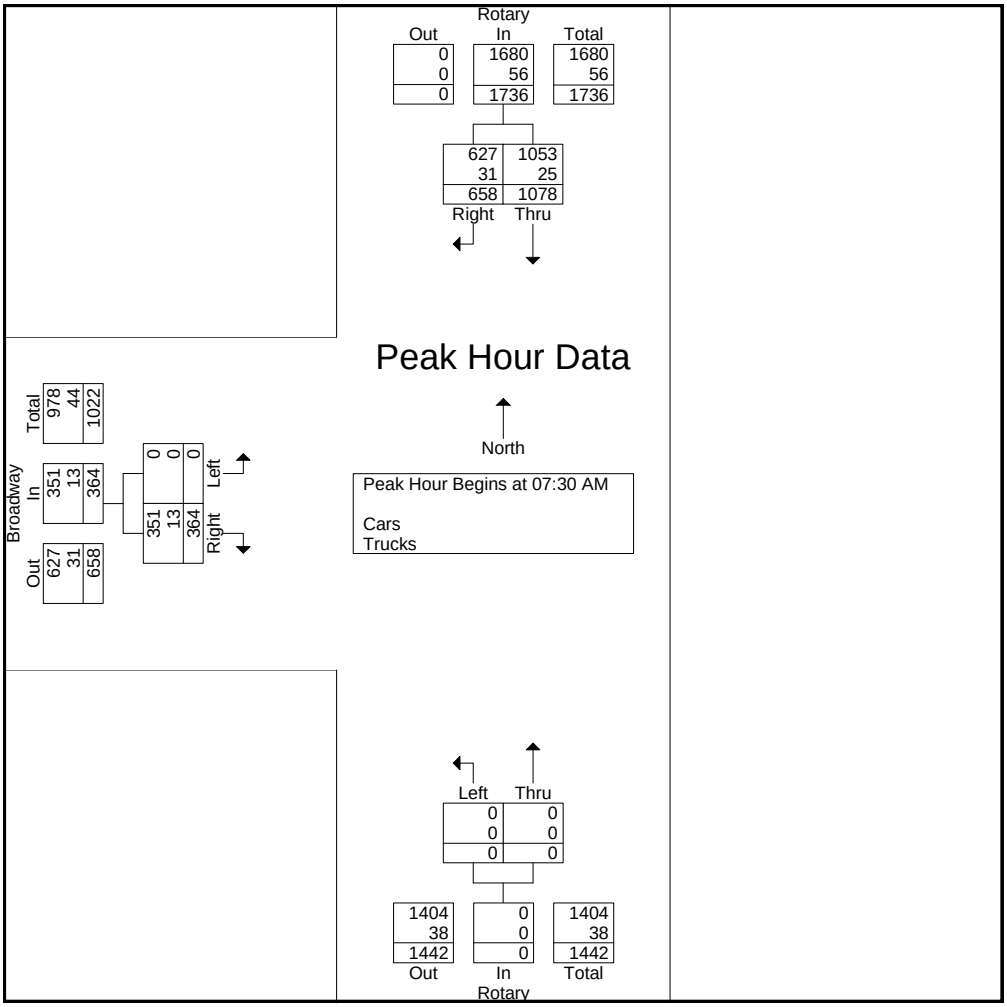
	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**172**	252	424	0	0	0	**104**	0	**104**	528
07:45 AM	161	**301**	**462**	0	0	0	82	0	82	**544**
08:00 AM	**160**	**255**	**415**	**0**	**0**	**0**	**86**	**0**	**86**	**501**
08:15 AM	**165**	**270**	**435**	**0**	**0**	**0**	**92**	**0**	**92**	**527**
Total Volume	**658**	**1078**	**1736**	**0**	**0**	**0**	**364**	**0**	**364**	**2100**
% App. Total	**37.9**	**62.1**		**0**	**0**		**100**	**0**		
PHF	**.956**	**.895**	**.939**	**.000**	**.000**	**.000**	**.875**	**.000**	**.875**	**.965**
Cars	**627**	**1053**	**1680**	**0**	**0**	**0**	**351**	**0**	**351**	**2031**
% Cars	**95.3**	**97.7**	**96.8**	**0**	**0**	**0**	**96.4**	**0**	**96.4**	**96.7**
Trucks	**31**	**25**	**56**	**0**	**0**	**0**	**13**	**0**	**13**	**69**
% Trucks	**4.7**	**2.3**	**3.2**	**0**	**0**	**0**	**3.6**	**0**	**3.6**	**3.3**



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Groups Printed- Cars - Trucks

	Rotary From North		Rotary From South		Broadway From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	127	190	0	0	113	0	430
03:15 PM	112	170	0	0	98	0	380
03:30 PM	95	176	0	0	113	0	384
03:45 PM	87	174	0	0	104	0	365
Total	421	710	0	0	428	0	1559
04:00 PM	88	157	0	0	100	0	345
04:15 PM	91	195	0	0	97	0	383
04:30 PM	89	204	0	0	100	0	393
04:45 PM	113	209	0	0	95	0	417
Total	381	765	0	0	392	0	1538
05:00 PM	93	213	0	0	104	0	410
05:15 PM	107	228	0	0	86	0	421
05:30 PM	110	201	0	0	92	0	403
05:45 PM	100	174	0	0	86	0	360
Total	410	816	0	0	368	0	1594
Grand Total	1212	2291	0	0	1188	0	4691
Apprch %	34.6	65.4	0	0	100	0	
Total %	25.8	48.8	0	0	25.3	0	
Cars	1178	2225	0	0	1130	0	4533
% Cars	97.2	97.1	0	0	95.1	0	96.6
Trucks	34	66	0	0	58	0	158
% Trucks	2.8	2.9	0	0	4.9	0	3.4

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**113**	209	322	0	0	0	95	0	95	417
05:00 PM	93	213	306	0	0	0	**104**	0	**104**	410
05:15 PM	107	**228**	**335**	0	0	0	86	0	86	**421**
05:30 PM	**110**	**201**	**311**	**0**	**0**	**0**	**92**	**0**	**92**	**403**
Total Volume	**423**	**851**	**1274**	**0**	**0**	**0**	**377**	**0**	**377**	**1651**
% App. Total	**33.2**	**66.8**		**0**	**0**		**100**	**0**		
PHF	**.936**	**.933**	**.951**	**.000**	**.000**	**.000**	**.906**	**.000**	**.906**	**.980**
Cars	**410**	**833**	**1243**	**0**	**0**	**0**	**361**	**0**	**361**	**1604**
% Cars	**96.9**	**97.9**	**97.6**	**0**	**0**	**0**	**95.8**	**0**	**95.8**	**97.2**
Trucks	**13**	**18**	**31**	**0**	**0**	**0**	**16**	**0**	**16**	**47**
% Trucks	**3.1**	**2.1**	**2.4**	**0**	**0**	**0**	**4.2**	**0**	**4.2**	**2.8**

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Groups Printed- Cars

	Rotary From North		Rotary From South		Broadway From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	123	180	0	0	106	0	409
03:15 PM	110	163	0	0	92	0	365
03:30 PM	93	170	0	0	108	0	371
03:45 PM	84	169	0	0	99	0	352
Total	410	682	0	0	405	0	1497
04:00 PM	85	154	0	0	94	0	333
04:15 PM	88	192	0	0	94	0	374
04:30 PM	85	196	0	0	92	0	373
04:45 PM	109	205	0	0	90	0	404
Total	367	747	0	0	370	0	1484
05:00 PM	90	208	0	0	97	0	395
05:15 PM	103	223	0	0	85	0	411
05:30 PM	108	197	0	0	89	0	394
05:45 PM	100	168	0	0	84	0	352
Total	401	796	0	0	355	0	1552
Grand Total	1178	2225	0	0	1130	0	4533
Apprch %	34.6	65.4	0	0	100	0	
Total %	26	49.1	0	0	24.9	0	

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**109**	205	314	0	0	0	90	0	90	404
05:00 PM	90	208	298	0	0	0	**97**	0	**97**	395
05:15 PM	103	**223**	**326**	0	0	0	85	0	85	**411**
05:30 PM	**108**	**197**	**305**	**0**	**0**	**0**	**89**	**0**	**89**	**394**
Total Volume	**410**	**833**	**1243**	**0**	**0**	**0**	**361**	**0**	**361**	**1604**
% App. Total	**33**	**67**		**0**	**0**		**100**	**0**		
PHF	**.940**	**.934**	**.953**	**.000**	**.000**	**.000**	**.930**	**.000**	**.930**	**.976**

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Groups Printed- Trucks

	Rotary From North		Rotary From South		Broadway From West		
Start Time	Right	Thru	Thru	Left	Right	Left	Int. Total
03:00 PM	4	10	0	0	7	0	21
03:15 PM	2	7	0	0	6	0	15
03:30 PM	2	6	0	0	5	0	13
03:45 PM	3	5	0	0	5	0	13
Total	11	28	0	0	23	0	62
04:00 PM	3	3	0	0	6	0	12
04:15 PM	3	3	0	0	3	0	9
04:30 PM	4	8	0	0	8	0	20
04:45 PM	4	4	0	0	5	0	13
Total	14	18	0	0	22	0	54
05:00 PM	3	5	0	0	7	0	15
05:15 PM	4	5	0	0	1	0	10
05:30 PM	2	4	0	0	3	0	9
05:45 PM	0	6	0	0	2	0	8
Total	9	20	0	0	13	0	42
Grand Total	34	66	0	0	58	0	158
Apprch %	34	66	0	0	100	0	
Total %	21.5	41.8	0	0	36.7	0	

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	**4**	**10**	**14**	0	0	0	**7**	0	**7**	**21**
03:15 PM	**2**	**7**	**9**	**0**	**0**	**0**	**6**	**0**	**6**	**15**
03:30 PM	**2**	**6**	**8**	**0**	**0**	**0**	**5**	**0**	**5**	**13**
03:45 PM	**3**	**5**	**8**	**0**	**0**	**0**	**5**	**0**	**5**	**13**
Total Volume	**11**	**28**	**39**	**0**	**0**	**0**	**23**	**0**	**23**	**62**
% App. Total	**28.2**	**71.8**		**0**	**0**		**100**	**0**		
PHF	**.688**	**.700**	**.696**	**.000**	**.000**	**.000**	**.821**	**.000**	**.821**	**.738**

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Groups Printed- Peds and Bicycles

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
03:00 PM	0	1	3	0	0	0	0	0	20	24
03:15 PM	0	1	0	0	0	0	3	0	10	14
03:30 PM	0	1	1	0	0	0	1	0	16	19
03:45 PM	0	0	0	0	0	0	0	0	1	1
Total	0	3	4	0	0	0	4	0	47	58
04:00 PM	0	3	6	0	0	0	0	0	14	23
04:15 PM	1	0	4	0	0	0	0	0	25	30
04:30 PM	0	2	3	0	0	0	0	0	18	23
04:45 PM	0	0	3	0	0	0	0	0	14	17
Total	1	5	16	0	0	0	0	0	71	93
05:00 PM	0	0	1	0	0	0	0	0	12	13
05:15 PM	1	0	4	0	0	0	0	0	11	16
05:30 PM	0	1	1	0	0	0	0	0	1	3
05:45 PM	0	0	2	0	0	0	0	0	23	25
Total	1	1	8	0	0	0	0	0	47	57
Grand Total	2	9	28	0	0	0	4	0	165	208
Apprch %	5.1	23.1	71.8	0	0	0	2.4	0	97.6	
Total %	1	4.3	13.5	0	0	0	1.9	0	79.3	

	Rotary From North				Rotary From South				Broadway From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	**3**	**6**	**9**	0	0	0	0	0	0	14	14	23
04:15 PM	**1**	0	4	5	0	0	0	0	0	0	**25**	**25**	**30**
04:30 PM	0	2	3	5	0	0	0	0	0	0	18	18	23
04:45 PM	0	0	3	3	0	0	0	0	0	0	14	14	17
Total Volume	1	5	16	22	0	0	0	0	0	0	71	71	93
% App. Total	4.5	22.7	72.7		0	0	0		0	0	100		
PHF	.250	.417	.667	.611	.000	.000	.000	.000	.000	.000	.710	.710	.775

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P.O.Box 301 Berlin, MA 01503
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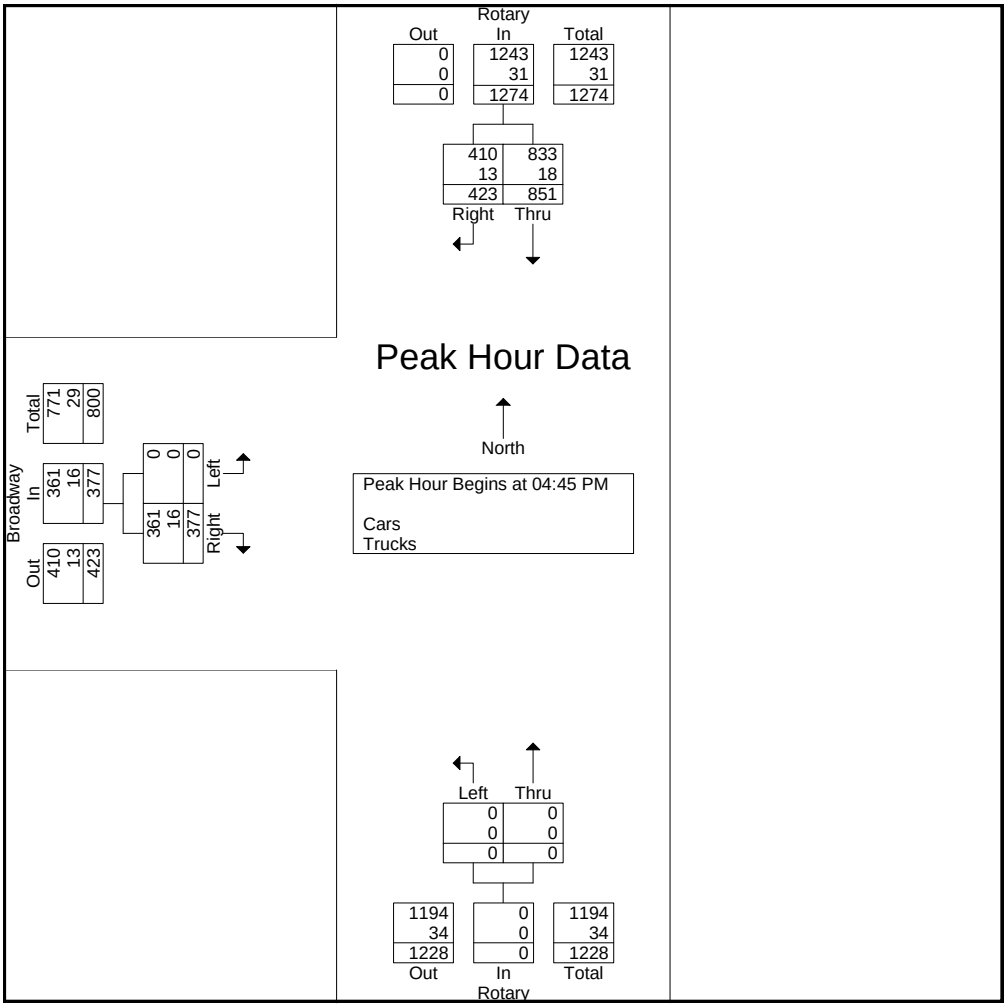
Email: datarequests@pdillc.com

N/S: Rotary
W: Rotary/Broadway
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360LL
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Rotary From North			Rotary From South			Broadway From West			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**113**	209	322	0	0	0	95	0	95	417
05:00 PM	93	213	306	0	0	0	**104**	0	**104**	410
05:15 PM	107	**228**	**335**	0	0	0	86	0	86	**421**
05:30 PM	**110**	**201**	**311**	**0**	**0**	**0**	**92**	**0**	**92**	**403**
Total Volume	**423**	**851**	**1274**	**0**	**0**	**0**	**377**	**0**	**377**	**1651**
% App. Total	**33.2**	**66.8**		**0**	**0**		**100**	**0**		
PHF	**.936**	**.933**	**.951**	**.000**	**.000**	**.000**	**.906**	**.000**	**.906**	**.980**
Cars	**410**	**833**	**1243**	**0**	**0**	**0**	**361**	**0**	**361**	**1604**
% Cars	**96.9**	**97.9**	**97.6**	**0**	**0**	**0**	**95.8**	**0**	**95.8**	**97.2**
Trucks	**13**	**18**	**31**	**0**	**0**	**0**	**16**	**0**	**16**	**47**
% Trucks	**3.1**	**2.1**	**2.4**	**0**	**0**	**0**	**4.2**	**0**	**4.2**	**2.8**



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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360M
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars - Trucks

	Rotary From North			Rotary From East			Broadway From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	114	150	30	0	0	0	0	0	0	16	42	0	352
07:15 AM	115	160	42	0	0	0	0	0	0	21	54	0	392
07:30 AM	120	181	41	0	0	0	0	0	0	16	74	0	432
07:45 AM	134	187	44	0	0	0	0	0	0	18	72	0	455
Total	483	678	157	0	0	0	0	0	0	71	242	0	1631
08:00 AM	129	170	40	0	0	0	0	0	0	21	67	0	427
08:15 AM	137	184	39	0	0	0	0	0	0	17	84	0	461
08:30 AM	122	164	40	0	0	0	0	0	0	14	76	0	416
08:45 AM	132	177	32	0	0	0	0	0	0	13	70	0	424
Total	520	695	151	0	0	0	0	0	0	65	297	0	1728
09:00 AM	160	148	48	0	0	0	0	0	0	10	55	0	421
09:15 AM	121	156	51	0	0	0	0	0	0	15	56	0	399
09:30 AM	122	110	55	0	0	0	0	0	0	16	39	0	342
09:45 AM	81	118	33	0	0	0	0	0	0	12	53	0	297
Total	484	532	187	0	0	0	0	0	0	53	203	0	1459
Grand Total	1487	1905	495	0	0	0	0	0	0	189	742	0	4818
Apprch %	38.3	49	12.7	0	0	0	0	0	0	20.3	79.7	0	
Total %	30.9	39.5	10.3	0	0	0	0	0	0	3.9	15.4	0	
Cars	1401	1858	475	0	0	0	0	0	0	180	715	0	4629
% Cars	94.2	97.5	96	0	0	0	0	0	0	95.2	96.4	0	96.1
Trucks	86	47	20	0	0	0	0	0	0	9	27	0	189
% Trucks	5.8	2.5	4	0	0	0	0	0	0	4.8	3.6	0	3.9

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	120	181	41	342	0	0	0	0	0	0	0	0	16	74	0	90	432
07:45 AM	134	**187**	**44**	**365**	0	0	0	0	0	0	0	0	18	72	0	90	455
08:00 AM	129	170	40	339	0	0	0	0	0	0	0	0	**21**	67	0	88	427
08:15 AM	**137**	184	39	360	0	0	0	0	0	0	0	0	17	**84**	0	**101**	**461**
Total Volume	520	722	164	1406	0	0	0	0	0	0	0	0	72	297	0	369	1775
% App. Total	37	51.4	11.7		0	0	0		0	0	0		19.5	80.5	0		
PHF	.949	.965	.932	.963	.000	.000	.000	.000	.000	.000	.000	.000	.857	.884	.000	.913	.963
Cars	497	717	160	1374	0	0	0	0	0	0	0	0	68	291	0	359	1733
% Cars	95.6	99.3	97.6	97.7	0	0	0	0	0	0	0	0	94.4	98.0	0	97.3	97.6
Trucks	23	5	4	32	0	0	0	0	0	0	0	0	4	6	0	10	42
% Trucks	4.4	0.7	2.4	2.3	0	0	0	0	0	0	0	0	5.6	2.0	0	2.7	2.4

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E/W: Rotary/College Avenue
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360M
Site Code : 10303
Start Date : 11/7/2007

Groups Printed- Cars

	Rotary From North			Rotary From East			Broadway From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	107	147	29	0	0	0	0	0	0	16	42	0	341
07:15 AM	110	158	40	0	0	0	0	0	0	20	53	0	381
07:30 AM	114	179	40	0	0	0	0	0	0	15	74	0	422
07:45 AM	127	186	43	0	0	0	0	0	0	17	72	0	445
Total	458	670	152	0	0	0	0	0	0	68	241	0	1589
08:00 AM	123	169	39	0	0	0	0	0	0	20	64	0	415
08:15 AM	133	183	38	0	0	0	0	0	0	16	81	0	451
08:30 AM	112	162	38	0	0	0	0	0	0	14	73	0	399
08:45 AM	121	171	31	0	0	0	0	0	0	12	66	0	401
Total	489	685	146	0	0	0	0	0	0	62	284	0	1666
09:00 AM	153	142	46	0	0	0	0	0	0	10	53	0	404
09:15 AM	110	146	49	0	0	0	0	0	0	14	52	0	371
09:30 AM	114	105	51	0	0	0	0	0	0	14	37	0	321
09:45 AM	77	110	31	0	0	0	0	0	0	12	48	0	278
Total	454	503	177	0	0	0	0	0	0	50	190	0	1374
Grand Total	1401	1858	475	0	0	0	0	0	0	180	715	0	4629
Apprch %	37.5	49.8	12.7	0	0	0	0	0	0	20.1	79.9	0	
Total %	30.3	40.1	10.3	0	0	0	0	0	0	3.9	15.4	0	

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	114	179	40	333	0	0	0	0	0	0	0	0	15	74	0	89	422
07:45 AM	127	**186**	**43**	**356**	0	0	0	0	0	0	0	0	17	72	0	89	445
08:00 AM	123	169	39	331	0	0	0	0	0	0	0	0	**20**	64	0	84	415
08:15 AM	**133**	183	38	354	0	0	0	0	0	0	0	0	16	**81**	0	**97**	**451**
Total Volume	497	717	160	1374	0	0	0	0	0	0	0	0	68	291	0	359	1733
% App. Total	36.2	52.2	11.6		0	0	0		0	0	0		18.9	81.1	0		
PHF	.934	.964	.930	.965	.000	.000	.000	.000	.000	.000	.000	.000	.850	.898	.000	.925	.961

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File Name : 71360M
Site Code : 10303
Start Date : 11/7/2007

Groups Printed- Trucks

	Rotary From North			Rotary From East			Broadway From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	7	3	1	0	0	0	0	0	0	0	0	0	11
07:15 AM	5	2	2	0	0	0	0	0	0	1	1	0	11
07:30 AM	6	2	1	0	0	0	0	0	0	1	0	0	10
07:45 AM	7	1	1	0	0	0	0	0	0	1	0	0	10
Total	25	8	5	0	0	0	0	0	0	3	1	0	42
08:00 AM	6	1	1	0	0	0	0	0	0	1	3	0	12
08:15 AM	4	1	1	0	0	0	0	0	0	1	3	0	10
08:30 AM	10	2	2	0	0	0	0	0	0	0	3	0	17
08:45 AM	11	6	1	0	0	0	0	0	0	1	4	0	23
Total	31	10	5	0	0	0	0	0	0	3	13	0	62
09:00 AM	7	6	2	0	0	0	0	0	0	0	2	0	17
09:15 AM	11	10	2	0	0	0	0	0	0	1	4	0	28
09:30 AM	8	5	4	0	0	0	0	0	0	2	2	0	21
09:45 AM	4	8	2	0	0	0	0	0	0	0	5	0	19
Total	30	29	10	0	0	0	0	0	0	3	13	0	85
Grand Total	86	47	20	0	0	0	0	0	0	9	27	0	189
Apprch %	56.2	30.7	13.1	0	0	0	0	0	0	25	75	0	
Total %	45.5	24.9	10.6	0	0	0	0	0	0	4.8	14.3	0	

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	**11**	6	1	18	0	0	0	0	0	0	0	0	1	**4**	0	**5**	23
09:00 AM	7	6	2	15	0	0	0	0	0	0	0	0	0	2	0	2	17
09:15 AM	11	**10**	2	**23**	0	0	0	0	0	0	0	0	1	4	0	5	**28**
09:30 AM	8	5	**4**	17	0	0	0	0	0	0	0	0	**2**	2	0	4	21
Total Volume	37	27	9	73	0	0	0	0	0	0	0	0	4	12	0	16	89
% App. Total	50.7	37	12.3		0	0	0		0	0	0		25	75	0		
PHF	.841	.675	.563	.793	.000	.000	.000	.000	.000	.000	.000	.000	.500	.750	.000	.800	.795

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File Name : 71360M
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	11	15
07:30 AM	1	1	0	0	0	0	0	0	0	0	0	0	1	2	0	19	24
07:45 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	3	0	9	14
Total	3	3	0	0	0	0	0	0	0	0	0	0	2	8	0	39	55
08:00 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	15
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
08:30 AM	6	0	0	0	0	0	0	0	0	0	0	0	1	1	0	6	14
08:45 AM	7	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	14
Total	15	0	0	0	0	0	0	0	0	0	0	0	1	3	0	35	54
09:00 AM	5	3	0	0	0	0	0	0	0	0	0	0	0	1	0	9	18
09:15 AM	4	1	0	0	0	0	0	0	0	0	0	0	0	2	0	6	13
09:30 AM	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	9
09:45 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	10
Total	16	5	1	0	0	0	0	0	0	0	0	0	0	4	0	24	50
Grand Total	34	8	1	0	0	0	0	0	0	0	0	0	3	15	0	98	159
Apprch %	79.1	18.6	2.3	0	0	0	0	0	0	0	0	0	2.6	12.9	0	84.5	
Total %	21.4	5	0.6	0	0	0	0	0	0	0	0	0	1.9	9.4	0	61.6	

	Rotary From North					Rotary From East					Broadway From South					College Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**	**2**	**0**	**11**	**14**	**15**
07:30 AM	**1**	**1**	**0**	**0**	**2**	0	0	0	0	0	0	0	0	0	0	1	2	0	**19**	**22**	**24**
07:45 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	**3**	0	9	12	14
08:00 AM	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**13**	**15**
Total Volume	4	3	0	0	7	0	0	0	0	0	0	0	0	0	0	2	7	0	52	61	68
% App. Total	57.1	42.9	0	0		0	0	0	0		0	0	0	0		3.3	11.5	0	85.2		
PHF	.500	.750	.000	.000	.875	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.583	.000	.684	.693	.708

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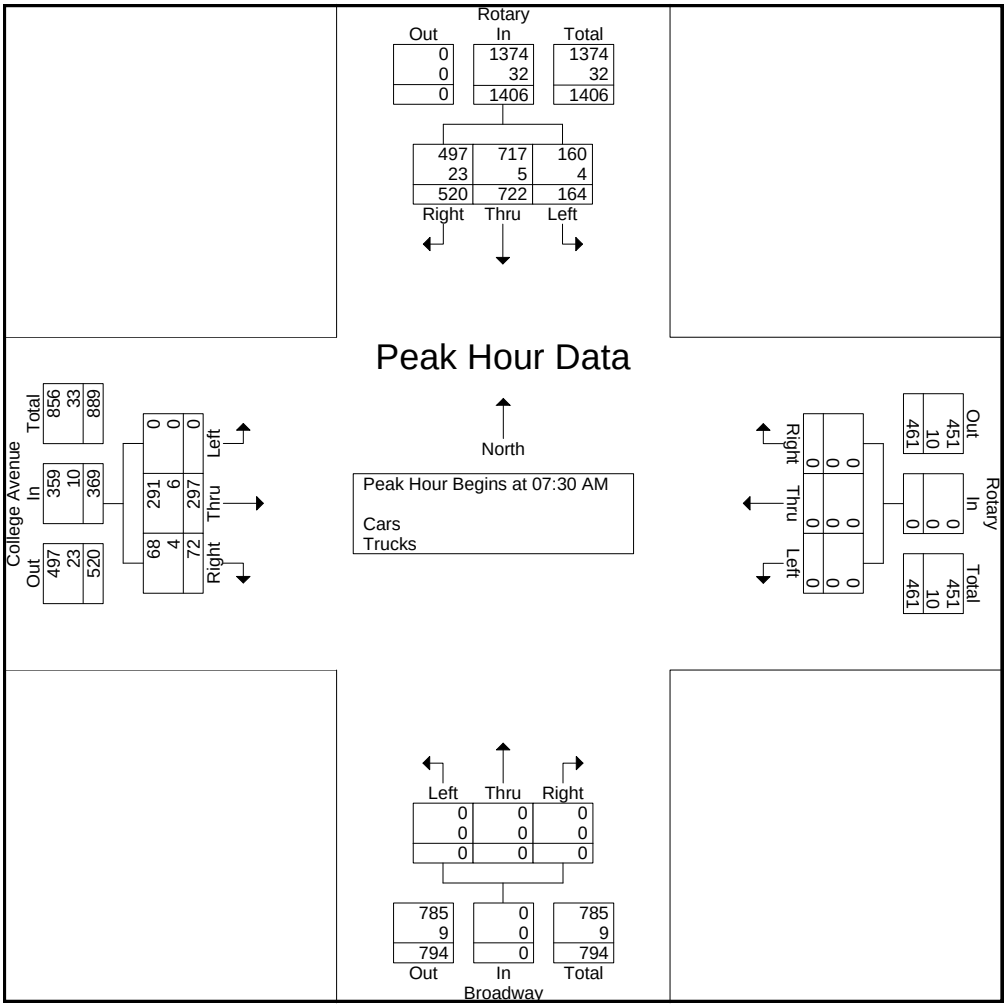
	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	120	181	41	342	0	0	0	0	0	0	0	0	16	74	0	90	432
07:45 AM	134	**187**	**44**	**365**	0	0	0	0	0	0	0	0	18	72	0	90	455
08:00 AM	129	170	40	339	0	0	0	0	0	0	0	0	**21**	67	0	88	427
08:15 AM	**137**	184	39	360	0	0	0	0	0	0	0	0	17	**84**	0	**101**	**461**
Total Volume	520	722	164	1406	0	0	0	0	0	0	0	0	72	297	0	369	1775
% App. Total	37	51.4	11.7		0	0	0		0	0	0		19.5	80.5	0		
PHF	.949	.965	.932	.963	.000	.000	.000	.000	.000	.000	.000	.000	.857	.884	.000	.913	.963
Cars	497	717	160	1374	0	0	0	0	0	0	0	0	68	291	0	359	1733
% Cars	95.6	99.3	97.6	97.7	0	0	0	0	0	0	0	0	94.4	98.0	0	97.3	97.6
Trucks	23	5	4	32	0	0	0	0	0	0	0	0	4	6	0	10	42
% Trucks	4.4	0.7	2.4	2.3	0	0	0	0	0	0	0	0	5.6	2.0	0	2.7	2.4



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Groups Printed- Cars - Trucks

	Rotary From North			Rotary From East			Broadway From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	83	135	42	0	0	0	0	0	0	14	85	0	359
03:15 PM	119	87	58	0	0	0	0	0	0	6	97	0	367
03:30 PM	122	99	62	0	0	0	0	0	0	13	90	0	386
03:45 PM	98	115	82	0	0	0	0	0	0	13	92	0	400
Total	422	436	244	0	0	0	0	0	0	46	364	0	1512
04:00 PM	90	108	76	0	0	0	0	0	0	9	89	0	372
04:15 PM	107	119	64	0	0	0	0	0	0	11	94	0	395
04:30 PM	118	116	57	0	0	0	0	0	0	6	119	0	416
04:45 PM	115	124	71	0	0	0	0	0	0	17	94	0	421
Total	430	467	268	0	0	0	0	0	0	43	396	0	1604
05:00 PM	114	124	79	0	0	0	0	0	0	15	124	0	456
05:15 PM	116	152	58	0	0	0	0	0	0	13	97	0	436
05:30 PM	127	111	71	0	0	0	0	0	0	11	114	0	434
05:45 PM	102	112	60	0	0	0	0	0	0	11	109	0	394
Total	459	499	268	0	0	0	0	0	0	50	444	0	1720
Grand Total	1311	1402	780	0	0	0	0	0	0	139	1204	0	4836
Apprch %	37.5	40.1	22.3	0	0	0	0	0	0	10.3	89.7	0	
Total %	27.1	29	16.1	0	0	0	0	0	0	2.9	24.9	0	
Cars	1267	1352	753	0	0	0	0	0	0	123	1157	0	4652
% Cars	96.6	96.4	96.5	0	0	0	0	0	0	88.5	96.1	0	96.2
Trucks	44	50	27	0	0	0	0	0	0	16	47	0	184
% Trucks	3.4	3.6	3.5	0	0	0	0	0	0	11.5	3.9	0	3.8

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	115	124	71	310	0	0	0	0	0	0	0	0	**17**	94	0	111	421
05:00 PM	114	124	**79**	317	0	0	0	0	0	0	0	0	15	**124**	0	**139**	**456**
05:15 PM	116	**152**	58	**326**	0	0	0	0	0	0	0	0	13	97	0	110	436
05:30 PM	**127**	111	71	309	0	0	0	0	0	0	0	0	11	114	0	125	434
Total Volume	472	511	279	1262	0	0	0	0	0	0	0	0	56	429	0	485	1747
% App. Total	37.4	40.5	22.1		0	0	0		0	0	0		11.5	88.5	0		
PHF	.929	.840	.883	.968	.000	.000	.000	.000	.000	.000	.000	.000	.824	.865	.000	.872	.958
Cars	457	497	272	1226	0	0	0	0	0	0	0	0	49	412	0	461	1687
% Cars	96.8	97.3	97.5	97.1	0	0	0	0	0	0	0	0	87.5	96.0	0	95.1	96.6
Trucks	15	14	7	36	0	0	0	0	0	0	0	0	7	17	0	24	60
% Trucks	3.2	2.7	2.5	2.9	0	0	0	0	0	0	0	0	12.5	4.0	0	4.9	3.4

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E/W: Rotary/College Avenue
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360MM
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

Groups Printed- Cars

	Rotary From North			Rotary From East			Broadway From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	80	124	41	0	0	0	0	0	0	11	81	0	337
03:15 PM	114	85	55	0	0	0	0	0	0	6	95	0	355
03:30 PM	118	95	61	0	0	0	0	0	0	12	84	0	370
03:45 PM	95	111	76	0	0	0	0	0	0	13	87	0	382
Total	407	415	233	0	0	0	0	0	0	42	347	0	1444
04:00 PM	88	103	73	0	0	0	0	0	0	7	89	0	360
04:15 PM	103	117	62	0	0	0	0	0	0	10	88	0	380
04:30 PM	114	110	54	0	0	0	0	0	0	5	117	0	400
04:45 PM	112	120	71	0	0	0	0	0	0	15	89	0	407
Total	417	450	260	0	0	0	0	0	0	37	383	0	1547
05:00 PM	109	120	75	0	0	0	0	0	0	14	117	0	435
05:15 PM	112	150	57	0	0	0	0	0	0	12	95	0	426
05:30 PM	124	107	69	0	0	0	0	0	0	8	111	0	419
05:45 PM	98	110	59	0	0	0	0	0	0	10	104	0	381
Total	443	487	260	0	0	0	0	0	0	44	427	0	1661
Grand Total	1267	1352	753	0	0	0	0	0	0	123	1157	0	4652
Apprch %	37.6	40.1	22.3	0	0	0	0	0	0	9.6	90.4	0	
Total %	27.2	29.1	16.2	0	0	0	0	0	0	2.6	24.9	0	

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	112	120	71	303	0	0	0	0	0	0	0	0	**15**	89	0	104	407
05:00 PM	109	120	**75**	304	0	0	0	0	0	0	0	0	14	**117**	0	**131**	**435**
05:15 PM	112	**150**	57	**319**	0	0	0	0	0	0	0	0	12	95	0	107	426
05:30 PM	**124**	107	69	300	0	0	0	0	0	0	0	0	8	111	0	119	419
Total Volume	457	497	272	1226	0	0	0	0	0	0	0	0	49	412	0	461	1687
% App. Total	37.3	40.5	22.2		0	0	0		0	0	0		10.6	89.4	0		
PHF	.921	.828	.907	.961	.000	.000	.000	.000	.000	.000	.000	.000	.817	.880	.000	.880	.970

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File Name : 71360MM
Site Code : 10303
Start Date : 11/7/2007

Groups Printed- Trucks

	Rotary From North			Rotary From East			Broadway From South			College Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	3	11	1	0	0	0	0	0	0	3	4	0	22
03:15 PM	5	2	3	0	0	0	0	0	0	0	2	0	12
03:30 PM	4	4	1	0	0	0	0	0	0	1	6	0	16
03:45 PM	3	4	6	0	0	0	0	0	0	0	5	0	18
Total	15	21	11	0	0	0	0	0	0	4	17	0	68
04:00 PM	2	5	3	0	0	0	0	0	0	2	0	0	12
04:15 PM	4	2	2	0	0	0	0	0	0	1	6	0	15
04:30 PM	4	6	3	0	0	0	0	0	0	1	2	0	16
04:45 PM	3	4	0	0	0	0	0	0	0	2	5	0	14
Total	13	17	8	0	0	0	0	0	0	6	13	0	57
05:00 PM	5	4	4	0	0	0	0	0	0	1	7	0	21
05:15 PM	4	2	1	0	0	0	0	0	0	1	2	0	10
05:30 PM	3	4	2	0	0	0	0	0	0	3	3	0	15
05:45 PM	4	2	1	0	0	0	0	0	0	1	5	0	13
Total	16	12	8	0	0	0	0	0	0	6	17	0	59
Grand Total	44	50	27	0	0	0	0	0	0	16	47	0	184
Apprch %	36.4	41.3	22.3	0	0	0	0	0	0	25.4	74.6	0	
Total %	23.9	27.2	14.7	0	0	0	0	0	0	8.7	25.5	0	

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	3	**11**	1	**15**	0	0	0	0	0	0	0	0	**3**	4	0	**7**	**22**
03:15 PM	**5**	2	3	10	0	0	0	0	0	0	0	0	0	2	0	2	12
03:30 PM	4	4	1	9	0	0	0	0	0	0	0	0	1	**6**	0	7	16
03:45 PM	3	4	**6**	13	0	0	0	0	0	0	0	0	0	5	0	5	18
Total Volume	15	21	11	47	0	0	0	0	0	0	0	0	4	17	0	21	68
% App. Total	31.9	44.7	23.4		0	0	0		0	0	0		19	81	0		
PHF	.750	.477	.458	.783	.000	.000	.000	.000	.000	.000	.000	.000	.333	.708	.000	.750	.773

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Groups Printed- Peds and Bicycles

	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	12
03:15 PM	0	2	1	0	0	0	0	0	0	0	0	0	1	1	0	5	10
03:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	7	11
03:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	7
Total	4	3	1	0	0	0	0	0	0	0	0	0	1	4	0	27	40
04:00 PM	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	10
04:15 PM	2	0	0	0	0	0	0	0	0	0	0	0	2	1	0	15	20
04:30 PM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	9
04:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7
Total	8	0	0	0	0	0	0	0	0	0	0	0	3	1	0	34	46
05:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	8	11
05:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	9	12
05:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	7	0	8	16
05:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	8	0	3	13
Total	5	1	0	0	0	0	0	0	0	0	0	0	0	18	0	28	52
Grand Total	17	4	1	0	0	0	0	0	0	0	0	0	4	23	0	89	138
Apprch %	77.3	18.2	4.5	0	0	0	0	0	0	0	0	0	3.4	19.8	0	76.7	
Total %	12.3	2.9	0.7	0	0	0	0	0	0	0	0	0	2.9	16.7	0	64.5	

	Rotary From North					Rotary From East					Broadway From South					College Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	8	10	11
05:15 PM	1	**1**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	1	0	**9**	**10**	**12**
05:30 PM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**8**	**15**	**16**
05:45 PM	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	0	3	11	13
Total Volume	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	18	0	28	46	52
% App. Total	83.3	16.7	0	0		0	0	0	0		0	0	0	0		0	39.1	0	60.9		
PHF	.625	.250	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.563	.000	.778	.767	.813

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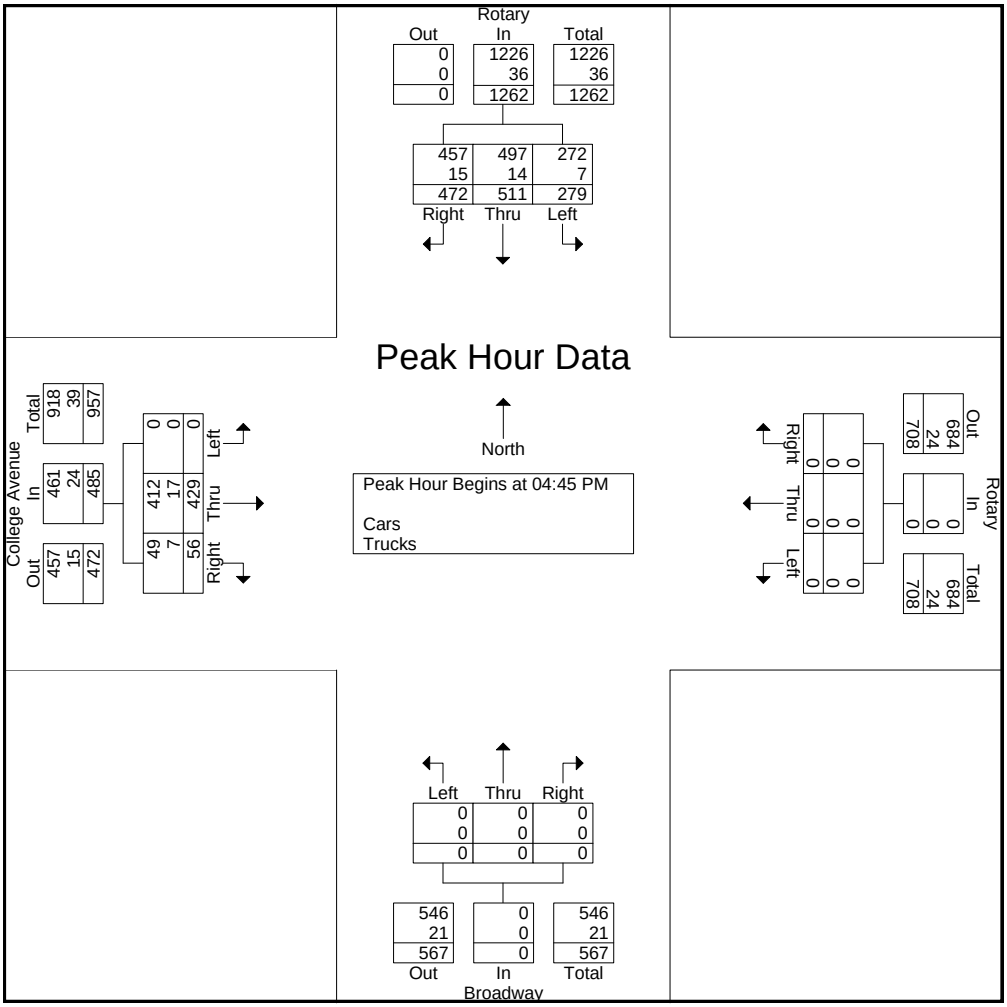
	Rotary From North				Rotary From East				Broadway From South				College Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	115	124	71	310	0	0	0	0	0	0	0	0	**17**	94	0	111	421
05:00 PM	114	124	**79**	317	0	0	0	0	0	0	0	0	15	**124**	0	**139**	**456**
05:15 PM	116	**152**	58	**326**	0	0	0	0	0	0	0	0	13	97	0	110	436
05:30 PM	**127**	111	71	309	0	0	0	0	0	0	0	0	11	114	0	125	434
Total Volume	472	511	279	1262	0	0	0	0	0	0	0	0	56	429	0	485	1747
% App. Total	37.4	40.5	22.1		0	0	0		0	0	0		11.5	88.5	0		
PHF	.929	.840	.883	.968	.000	.000	.000	.000	.000	.000	.000	.000	.824	.865	.000	.872	.958
Cars	457	497	272	1226	0	0	0	0	0	0	0	0	49	412	0	461	1687
% Cars	96.8	97.3	97.5	97.1	0	0	0	0	0	0	0	0	87.5	96.0	0	95.1	96.6
Trucks	15	14	7	36	0	0	0	0	0	0	0	0	7	17	0	24	60
% Trucks	3.2	2.7	2.5	2.9	0	0	0	0	0	0	0	0	12.5	4.0	0	4.9	3.4



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City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360N
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Groups Printed- Cars - Trucks

	Rotary From North			Warner Street From East			Broadway From South			Rotary From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	98	0	0	10	128	0	127	87	32	482
07:15 AM	0	0	0	108	0	0	6	130	0	150	82	37	513
07:30 AM	0	0	0	106	0	0	21	191	0	192	91	35	636
07:45 AM	0	0	0	135	0	0	13	123	0	190	70	45	576
Total	0	0	0	447	0	0	50	572	0	659	330	149	2207
08:00 AM	0	0	0	138	0	0	17	138	0	198	64	39	594
08:15 AM	0	0	0	100	0	0	14	147	0	170	85	51	567
08:30 AM	0	0	0	92	0	0	10	140	0	158	81	42	523
08:45 AM	0	0	0	97	0	0	6	116	0	160	73	41	493
Total	0	0	0	427	0	0	47	541	0	686	303	173	2177
09:00 AM	0	0	0	91	0	0	13	95	0	142	68	41	450
09:15 AM	0	0	0	86	0	0	12	87	0	141	77	50	453
09:30 AM	0	0	0	94	0	0	9	80	0	118	68	34	403
09:45 AM	0	0	0	61	0	0	13	87	0	109	59	41	370
Total	0	0	0	332	0	0	47	349	0	510	272	166	1676
Grand Total	0	0	0	1206	0	0	144	1462	0	1855	905	488	6060
Apprch %	0	0	0	100	0	0	9	91	0	57.1	27.9	15	
Total %	0	0	0	19.9	0	0	2.4	24.1	0	30.6	14.9	8.1	
Cars	0	0	0	1206	0	0	144	1462	0	1855	905	488	6060
% Cars	0	0	0	100	0	0	100	100	0	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	106	0	0	106	**21**	**191**	0	**212**	192	**91**	35	**318**	**636**
07:45 AM	0	0	0	0	135	0	0	135	13	123	0	136	190	70	45	305	576
08:00 AM	0	0	0	0	**138**	0	0	**138**	17	138	0	155	**198**	64	39	301	594
08:15 AM	0	0	0	0	100	0	0	100	14	147	0	161	170	85	**51**	306	567
Total Volume	0	0	0	0	479	0	0	479	65	599	0	664	750	310	170	1230	2373
% App. Total	0	0	0		100	0	0		9.8	90.2	0		61	25.2	13.8		
PHF	.000	.000	.000	.000	.868	.000	.000	.868	.774	.784	.000	.783	.947	.852	.833	.967	.933
Cars	0	0	0	0	479	0	0	479	65	599	0	664	750	310	170	1230	2373
% Cars	0	0	0	0	100	0	0	100	100	100	0	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Groups Printed- Cars

	Rotary From North			Warner Street From East			Broadway From South			Rotary From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	98	0	0	10	128	0	127	87	32	482
07:15 AM	0	0	0	108	0	0	6	130	0	150	82	37	513
07:30 AM	0	0	0	106	0	0	21	191	0	192	91	35	636
07:45 AM	0	0	0	135	0	0	13	123	0	190	70	45	576
Total	0	0	0	447	0	0	50	572	0	659	330	149	2207
08:00 AM	0	0	0	138	0	0	17	138	0	198	64	39	594
08:15 AM	0	0	0	100	0	0	14	147	0	170	85	51	567
08:30 AM	0	0	0	92	0	0	10	140	0	158	81	42	523
08:45 AM	0	0	0	97	0	0	6	116	0	160	73	41	493
Total	0	0	0	427	0	0	47	541	0	686	303	173	2177
09:00 AM	0	0	0	91	0	0	13	95	0	142	68	41	450
09:15 AM	0	0	0	86	0	0	12	87	0	141	77	50	453
09:30 AM	0	0	0	94	0	0	9	80	0	118	68	34	403
09:45 AM	0	0	0	61	0	0	13	87	0	109	59	41	370
Total	0	0	0	332	0	0	47	349	0	510	272	166	1676
Grand Total	0	0	0	1206	0	0	144	1462	0	1855	905	488	6060
Apprch %	0	0	0	100	0	0	9	91	0	57.1	27.9	15	
Total %	0	0	0	19.9	0	0	2.4	24.1	0	30.6	14.9	8.1	

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	106	0	0	106	**21**	**191**	0	**212**	192	**91**	35	**318**	**636**
07:45 AM	0	0	0	0	135	0	0	135	13	123	0	136	190	70	45	305	576
08:00 AM	0	0	0	0	**138**	0	0	**138**	17	138	0	155	**198**	64	39	301	594
08:15 AM	0	0	0	0	100	0	0	100	14	147	0	161	170	85	**51**	306	567
Total Volume	0	0	0	0	479	0	0	479	65	599	0	664	750	310	170	1230	2373
% App. Total	0	0	0		100	0	0		9.8	90.2	0		61	25.2	13.8		
PHF	.000	.000	.000	.000	.868	.000	.000	.868	.774	.784	.000	.783	.947	.852	.833	.967	.933

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E/W: Warner Street/Rotary
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360N
Site Code : 10303
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Groups Printed- Trucks

	Rotary From North			Warner Street From East			Broadway From South			Rotary From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	
Total %													

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Peds and Bicycles

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	1	0	0	6	0	2	0	14	0	0	0	0	23
07:15 AM	0	0	0	5	0	0	0	10	2	1	0	35	0	0	0	0	53
07:30 AM	0	0	0	3	0	0	0	15	0	2	0	50	1	0	1	0	72
07:45 AM	0	0	0	2	1	0	0	6	1	4	0	30	1	2	0	0	47
Total	0	0	0	10	2	0	0	37	3	9	0	129	2	2	1	0	195
08:00 AM	0	0	0	4	1	0	0	11	0	2	0	29	0	0	1	0	48
08:15 AM	0	0	0	5	0	0	0	11	1	3	0	29	0	0	1	0	50
08:30 AM	0	0	0	5	1	0	0	5	0	4	0	28	1	1	1	0	46
08:45 AM	0	0	0	3	1	0	0	14	0	5	0	25	2	0	0	0	50
Total	0	0	0	17	3	0	0	41	1	14	0	111	3	1	3	0	194
09:00 AM	0	0	0	4	1	0	0	10	1	4	0	12	2	1	1	0	36
09:15 AM	0	0	0	0	1	0	0	10	0	1	0	19	0	1	0	0	32
09:30 AM	0	0	0	3	1	0	0	10	1	3	0	24	1	0	0	0	43
09:45 AM	0	0	0	0	0	0	0	7	0	2	0	16	0	1	0	0	26
Total	0	0	0	7	3	0	0	37	2	10	0	71	3	3	1	0	137
Grand Total	0	0	0	34	8	0	0	115	6	33	0	311	8	6	5	0	526
Apprch %	0	0	0	100	6.5	0	0	93.5	1.7	9.4	0	88.9	42.1	31.6	26.3	0	
Total %	0	0	0	6.5	1.5	0	0	21.9	1.1	6.3	0	59.1	1.5	1.1	1	0	

	Rotary From North					Warner Street From East					Broadway From South					Rotary From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	**5**	**5**	0	0	0	10	10	**2**	**1**	**0**	**35**	**38**	**0**	**0**	**0**	**0**	**0**	**53**
07:30 AM	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**15**	**15**	0	2	0	**50**	**52**	**1**	**0**	**1**	**0**	**2**	**72**
07:45 AM	0	0	0	2	2	**1**	0	0	6	7	1	**4**	**0**	**30**	**35**	**1**	**2**	0	0	**3**	47
08:00 AM	0	0	0	4	4	1	0	0	11	12	0	2	0	29	31	0	0	1	0	1	48
Total Volume	0	0	0	14	14	2	0	0	42	44	3	9	0	144	156	2	2	2	0	6	220
% App. Total	0	0	0	100		4.5	0	0	95.5		1.9	5.8	0	92.3		33.3	33.3	33.3	0		
PHF	.000	.000	.000	.700	.700	.500	.000	.000	.700	.733	.375	.563	.000	.720	.750	.500	.250	.500	.000	.500	.764

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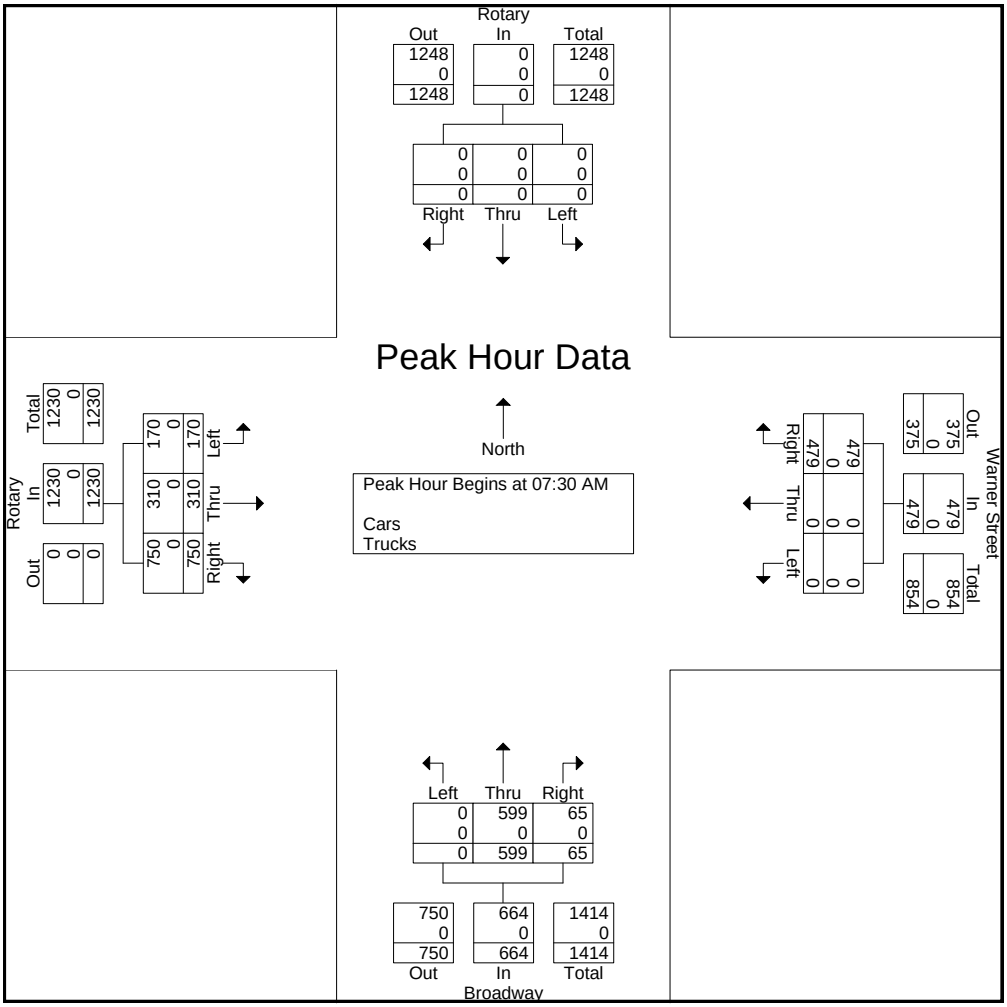
	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	106	0	0	106	**21**	**191**	0	**212**	192	**91**	35	**318**	**636**
07:45 AM	0	0	0	0	135	0	0	135	13	123	0	136	190	70	45	305	576
08:00 AM	0	0	0	0	**138**	0	0	**138**	17	138	0	155	**198**	64	39	301	594
08:15 AM	0	0	0	0	100	0	0	100	14	147	0	161	170	85	**51**	306	567
Total Volume	0	0	0	0	479	0	0	479	65	599	0	664	750	310	170	1230	2373
% App. Total	0	0	0		100	0	0		9.8	90.2	0		61	25.2	13.8		
PHF	.000	.000	.000	.000	.868	.000	.000	.868	.774	.784	.000	.783	.947	.852	.833	.967	.933
Cars	0	0	0	0	479	0	0	479	65	599	0	664	750	310	170	1230	2373
% Cars	0	0	0	0	100	0	0	100	100	100	0	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Groups Printed- Cars - Trucks

	Rotary From North			Warner Street From East			Broadway From South			Rotary From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	101	0	0	17	136	0	172	75	54	555
03:15 PM	0	0	0	96	0	0	14	131	0	101	87	61	490
03:30 PM	0	0	0	89	0	0	12	123	0	108	97	66	495
03:45 PM	0	0	0	93	0	0	12	152	0	132	115	68	572
Total	0	0	0	379	0	0	55	542	0	513	374	249	2112
04:00 PM	0	0	0	93	0	0	19	135	0	126	99	66	538
04:15 PM	0	0	0	97	0	0	16	119	0	127	104	65	528
04:30 PM	0	0	0	92	0	0	17	137	0	131	99	90	566
04:45 PM	0	0	0	93	0	0	13	143	0	141	96	64	550
Total	0	0	0	375	0	0	65	534	0	525	398	285	2182
05:00 PM	0	0	0	89	0	0	12	126	0	155	135	76	593
05:15 PM	0	0	0	110	0	0	13	153	0	162	102	63	603
05:30 PM	0	0	0	107	0	0	17	170	0	120	105	82	601
05:45 PM	0	0	0	94	0	0	10	120	0	126	97	76	523
Total	0	0	0	400	0	0	52	569	0	563	439	297	2320
Grand Total	0	0	0	1154	0	0	172	1645	0	1601	1211	831	6614
Apprch %	0	0	0	100	0	0	9.5	90.5	0	43.9	33.2	22.8	
Total %	0	0	0	17.4	0	0	2.6	24.9	0	24.2	18.3	12.6	
Cars	0	0	0	1135	0	0	168	1599	0	1540	1177	793	6412
% Cars	0	0	0	98.4	0	0	97.7	97.2	0	96.2	97.2	95.4	96.9
Trucks	0	0	0	19	0	0	4	46	0	61	34	38	202
% Trucks	0	0	0	1.6	0	0	2.3	2.8	0	3.8	2.8	4.6	3.1

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	93	0	0	93	13	143	0	156	141	96	64	301	550
05:00 PM	0	0	0	0	89	0	0	89	12	126	0	138	155	**135**	76	**366**	593
05:15 PM	0	0	0	0	**110**	0	0	**110**	13	153	0	166	**162**	102	63	327	**603**
05:30 PM	0	0	0	0	107	0	0	107	**17**	**170**	0	**187**	120	105	**82**	307	601
Total Volume	0	0	0	0	399	0	0	399	55	592	0	647	578	438	285	1301	2347
% App. Total	0	0	0		100	0	0		8.5	91.5	0		44.4	33.7	21.9		
PHF	.000	.000	.000	.000	.907	.000	.000	.907	.809	.871	.000	.865	.892	.811	.869	.889	.973
Cars	0	0	0	0	394	0	0	394	54	581	0	635	560	429	275	1264	2293
% Cars	0	0	0	0	98.7	0	0	98.7	98.2	98.1	0	98.1	96.9	97.9	96.5	97.2	97.7
Trucks	0	0	0	0	5	0	0	5	1	11	0	12	18	9	10	37	54
% Trucks	0	0	0	0	1.3	0	0	1.3	1.8	1.9	0	1.9	3.1	2.1	3.5	2.8	2.3

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Groups Printed- Cars

	Rotary From North			Warner Street From East			Broadway From South			Rotary From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	98	0	0	14	132	0	162	71	49	526
03:15 PM	0	0	0	94	0	0	14	123	0	96	84	58	469
03:30 PM	0	0	0	85	0	0	12	120	0	104	93	64	478
03:45 PM	0	0	0	91	0	0	12	151	0	127	107	64	552
Total	0	0	0	368	0	0	52	526	0	489	355	235	2025
04:00 PM	0	0	0	93	0	0	19	130	0	120	98	64	524
04:15 PM	0	0	0	97	0	0	16	115	0	125	101	62	516
04:30 PM	0	0	0	90	0	0	17	133	0	123	98	85	546
04:45 PM	0	0	0	92	0	0	13	140	0	135	95	61	536
Total	0	0	0	372	0	0	65	518	0	503	392	272	2122
05:00 PM	0	0	0	87	0	0	12	123	0	151	129	74	576
05:15 PM	0	0	0	109	0	0	12	150	0	160	102	59	592
05:30 PM	0	0	0	106	0	0	17	168	0	114	103	81	589
05:45 PM	0	0	0	93	0	0	10	114	0	123	96	72	508
Total	0	0	0	395	0	0	51	555	0	548	430	286	2265
Grand Total	0	0	0	1135	0	0	168	1599	0	1540	1177	793	6412
Apprch %	0	0	0	100	0	0	9.5	90.5	0	43.9	33.5	22.6	
Total %	0	0	0	17.7	0	0	2.6	24.9	0	24	18.4	12.4	

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	92	0	0	92	13	140	0	153	135	95	61	291	536
05:00 PM	0	0	0	0	87	0	0	87	12	123	0	135	151	**129**	74	**354**	576
05:15 PM	0	0	0	0	**109**	0	0	**109**	12	150	0	162	**160**	102	59	321	**592**
05:30 PM	0	0	0	0	106	0	0	106	**17**	**168**	0	**185**	114	103	**81**	298	589
Total Volume	0	0	0	0	394	0	0	394	54	581	0	635	560	429	275	1264	2293
% App. Total	0	0	0		100	0	0		8.5	91.5	0		44.3	33.9	21.8		
PHF	.000	.000	.000	.000	.904	.000	.000	.904	.794	.865	.000	.858	.875	.831	.849	.893	.968

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Groups Printed- Trucks

	Rotary From North			Warner Street From East			Broadway From South			Rotary From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	3	0	0	3	4	0	10	4	5	29
03:15 PM	0	0	0	2	0	0	0	8	0	5	3	3	21
03:30 PM	0	0	0	4	0	0	0	3	0	4	4	2	17
03:45 PM	0	0	0	2	0	0	0	1	0	5	8	4	20
Total	0	0	0	11	0	0	3	16	0	24	19	14	87
04:00 PM	0	0	0	0	0	0	0	5	0	6	1	2	14
04:15 PM	0	0	0	0	0	0	0	4	0	2	3	3	12
04:30 PM	0	0	0	2	0	0	0	4	0	8	1	5	20
04:45 PM	0	0	0	1	0	0	0	3	0	6	1	3	14
Total	0	0	0	3	0	0	0	16	0	22	6	13	60
05:00 PM	0	0	0	2	0	0	0	3	0	4	6	2	17
05:15 PM	0	0	0	1	0	0	1	3	0	2	0	4	11
05:30 PM	0	0	0	1	0	0	0	2	0	6	2	1	12
05:45 PM	0	0	0	1	0	0	0	6	0	3	1	4	15
Total	0	0	0	5	0	0	1	14	0	15	9	11	55
Grand Total	0	0	0	19	0	0	4	46	0	61	34	38	202
Apprch %	0	0	0	100	0	0	8	92	0	45.9	25.6	28.6	
Total %	0	0	0	9.4	0	0	2	22.8	0	30.2	16.8	18.8	

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	3	0	0	3	**3**	4	0	7	**10**	4	**5**	**19**	**29**
03:15 PM	0	0	0	0	2	0	0	2	0	**8**	0	**8**	5	3	3	11	21
03:30 PM	0	0	0	0	**4**	0	0	**4**	0	3	0	3	4	4	2	10	17
03:45 PM	0	0	0	0	2	0	0	2	0	1	0	1	5	**8**	4	17	20
Total Volume	0	0	0	0	11	0	0	11	3	16	0	19	24	19	14	57	87
% App. Total	0	0	0		100	0	0		15.8	84.2	0		42.1	33.3	24.6		
PHF	.000	.000	.000	.000	.688	.000	.000	.688	.250	.500	.000	.594	.600	.594	.700	.750	.750

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Groups Printed- Peds and Bicycles

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	7	0	0	0	11	0	0	0	16	0	0	0	0	34
03:15 PM	0	0	0	0	0	0	0	3	0	0	0	8	3	0	1	0	15
03:30 PM	0	0	0	2	0	0	0	4	0	0	0	4	1	0	2	0	13
03:45 PM	0	0	0	0	0	0	0	10	0	0	0	9	0	1	0	0	20
Total	0	0	0	9	0	0	0	28	0	0	0	37	4	1	3	0	82
04:00 PM	0	0	0	3	1	0	0	7	0	0	0	11	1	0	0	0	23
04:15 PM	0	0	0	0	0	0	0	10	0	2	0	10	1	1	4	0	28
04:30 PM	0	0	0	2	0	0	0	4	0	0	0	8	0	0	0	0	14
04:45 PM	0	0	0	4	0	0	0	4	0	0	0	11	1	1	1	0	22
Total	0	0	0	9	1	0	0	25	0	2	0	40	3	2	5	0	87
05:00 PM	0	0	0	0	0	0	0	6	1	1	0	28	0	1	1	0	38
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	12	0	1	2	0	16
05:30 PM	0	0	0	0	1	0	0	3	0	0	0	7	0	3	4	0	18
05:45 PM	0	0	0	3	1	0	0	11	0	2	0	26	0	5	6	0	54
Total	0	0	0	3	2	0	0	20	1	4	0	73	0	10	13	0	126
Grand Total	0	0	0	21	3	0	0	73	1	6	0	150	7	13	21	0	295
Apprch %	0	0	0	100	3.9	0	0	96.1	0.6	3.8	0	95.5	17.1	31.7	51.2	0	
Total %	0	0	0	7.1	1	0	0	24.7	0.3	2	0	50.8	2.4	4.4	7.1	0	

	Rotary From North					Warner Street From East					Broadway From South					Rotary From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	6	6	**1**	**1**	**0**	**28**	**30**	0	1	1	0	2	38
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	12	13	0	1	2	0	3	16
05:30 PM	0	0	0	0	0	**1**	0	0	3	4	0	0	0	7	7	0	3	4	0	7	18
05:45 PM	0	0	0	**3**	**3**	1	0	0	**11**	**12**	0	**2**	**0**	**26**	**28**	**0**	**5**	**6**	**0**	**11**	**54**
Total Volume	0	0	0	3	3	2	0	0	20	22	1	4	0	73	78	0	10	13	0	23	126
% App. Total	0	0	0	100		9.1	0	0	90.9		1.3	5.1	0	93.6		0	43.5	56.5	0		
PHF	.000	.000	.000	.250	.250	.500	.000	.000	.455	.458	.250	.500	.000	.652	.650	.000	.500	.542	.000	.523	.583

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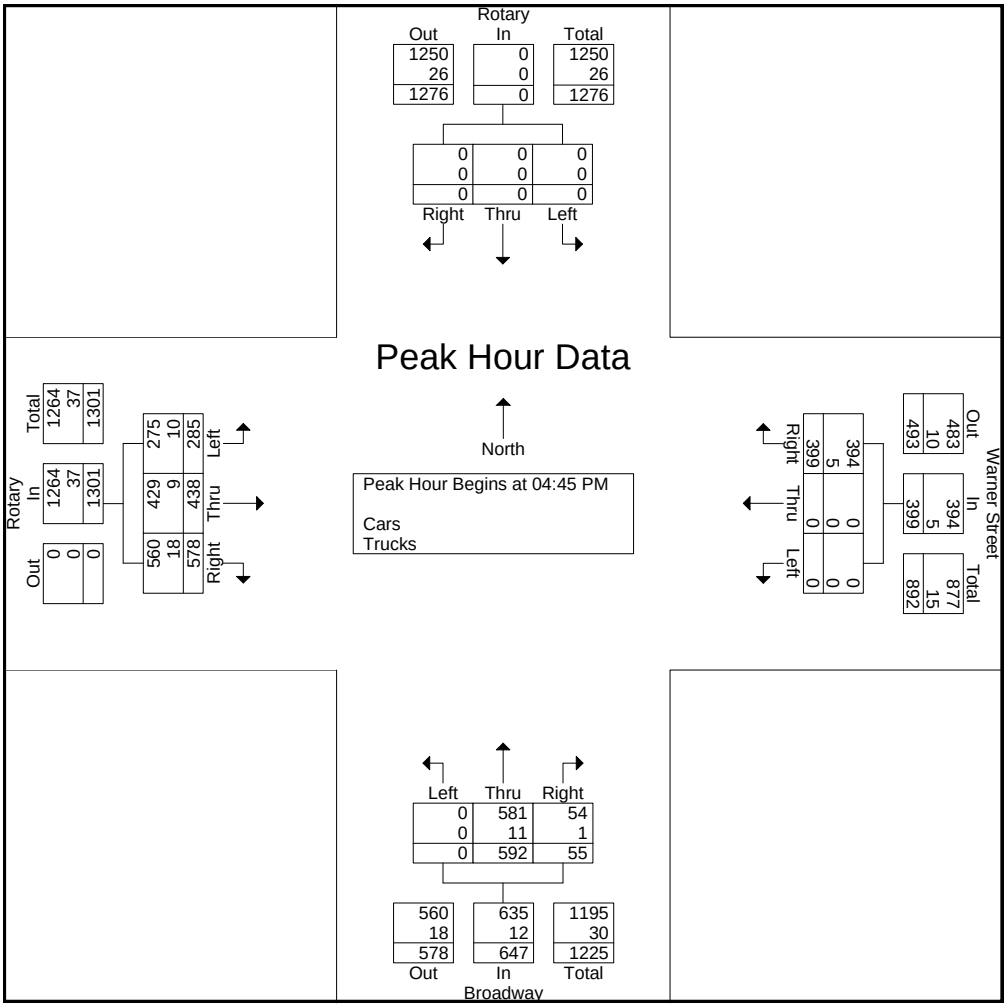
N/S: Rotary/Broadway
E/W: Warner Street/Rotary
City, State: Medford, MA
Client: VHB/A. Ng

File Name : 71360NN
Site Code : 10303
Start Date : 11/7/2007
Page No : 1

	Rotary From North				Warner Street From East				Broadway From South				Rotary From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	93	0	0	93	13	143	0	156	141	96	64	301	550
05:00 PM	0	0	0	0	89	0	0	89	12	126	0	138	155	**135**	76	**366**	593
05:15 PM	0	0	0	0	**110**	0	0	**110**	13	153	0	166	**162**	102	63	327	**603**
05:30 PM	0	0	0	0	107	0	0	107	**17**	**170**	0	**187**	120	105	**82**	307	601
Total Volume	0	0	0	0	399	0	0	399	55	592	0	647	578	438	285	1301	2347
% App. Total	0	0	0		100	0	0		8.5	91.5	0		44.4	33.7	21.9		
PHF	.000	.000	.000	.000	.907	.000	.000	.907	.809	.871	.000	.865	.892	.811	.869	.889	.973
Cars	0	0	0	0	394	0	0	394	54	581	0	635	560	429	275	1264	2293
% Cars	0	0	0	0	98.7	0	0	98.7	98.2	98.1	0	98.1	96.9	97.9	96.5	97.2	97.7
Trucks	0	0	0	0	5	0	0	5	1	11	0	12	18	9	10	37	54
% Trucks	0	0	0	0	1.3	0	0	1.3	1.8	1.9	0	1.9	3.1	2.1	3.5	2.8	2.3



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N/S: Prospect Street
E/W: Cambridge Street
City, State: Cambridge,MA
Client: VHB/A. Ng

File Name : 71360Camb-A
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Prospect Street From North			Cambridge Street From East			Prospect Street From South			Cambridge Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	11	83	4	3	47	9	13	52	3	2	38	7	272
07:15 AM	17	76	4	1	53	16	18	44	4	2	47	8	290
07:30 AM	3	79	4	2	66	23	12	55	4	5	68	12	333
07:45 AM	12	62	6	2	83	17	17	50	10	2	63	15	339
Total	43	300	18	8	249	65	60	201	21	11	216	42	1234
08:00 AM	15	76	7	5	75	17	13	64	5	1	75	12	365
08:15 AM	6	71	5	3	80	20	25	65	11	4	65	8	363
08:30 AM	10	55	14	4	47	13	12	56	7	6	63	7	294
08:45 AM	7	63	7	10	65	16	30	67	6	4	70	10	355
Total	38	265	33	22	267	66	80	252	29	15	273	37	1377
09:00 AM	9	46	3	2	59	12	18	51	3	3	78	19	303
09:15 AM	13	53	4	4	57	19	22	56	8	6	72	9	323
09:30 AM	10	60	5	2	58	21	20	55	9	4	54	12	310
09:45 AM	13	57	8	5	56	21	25	56	8	4	57	8	318
Total	45	216	20	13	230	73	85	218	28	17	261	48	1254
Grand Total	126	781	71	43	746	204	225	671	78	43	750	127	3865
Apprch %	12.9	79.9	7.3	4.3	75.1	20.5	23.1	68.9	8	4.7	81.5	13.8	
Total %	3.3	20.2	1.8	1.1	19.3	5.3	5.8	17.4	2	1.1	19.4	3.3	
Cars	120	754	65	42	679	194	214	646	74	42	703	125	3658
% Cars	95.2	96.5	91.5	97.7	91	95.1	95.1	96.3	94.9	97.7	93.7	98.4	94.6
Trucks	6	27	6	1	67	10	11	25	4	1	47	2	207
% Trucks	4.8	3.5	8.5	2.3	9	4.9	4.9	3.7	5.1	2.3	6.3	1.6	5.4

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	3	**79**	4	86	2	66	**23**	91	12	55	4	71	**5**	68	12	85	333
07:45 AM	12	62	6	80	2	**83**	17	102	17	50	10	77	2	63	**15**	80	339
08:00 AM	**15**	76	**7**	**98**	**5**	75	17	97	13	64	5	82	1	**75**	12	**88**	**365**
08:15 AM	6	71	5	82	3	80	20	**103**	**25**	**65**	**11**	**101**	4	65	8	77	363
Total Volume	36	288	22	346	12	304	77	393	67	234	30	331	12	271	47	330	1400
% App. Total	10.4	83.2	6.4		3.1	77.4	19.6		20.2	70.7	9.1		3.6	82.1	14.2		
PHF	.600	.911	.786	.883	.600	.916	.837	.954	.670	.900	.682	.819	.600	.903	.783	.938	.959
Cars	35	280	20	335	12	274	73	359	62	227	29	318	11	255	46	312	1324
% Cars	97.2	97.2	90.9	96.8	100	90.1	94.8	91.3	92.5	97.0	96.7	96.1	91.7	94.1	97.9	94.5	94.6
Trucks	1	8	2	11	0	30	4	34	5	7	1	13	1	16	1	18	76
% Trucks	2.8	2.8	9.1	3.2	0	9.9	5.2	8.7	7.5	3.0	3.3	3.9	8.3	5.9	2.1	5.5	5.4

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City, State: Cambridge,MA
Client: VHB/A. Ng

File Name : 71360Camb-A
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Prospect Street From North			Cambridge Street From East			Prospect Street From South			Cambridge Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	9	79	3	3	43	9	13	50	3	2	34	7	255
07:15 AM	17	74	3	1	47	15	17	41	3	2	43	8	271
07:30 AM	3	75	4	2	61	23	11	54	4	5	66	11	319
07:45 AM	12	61	6	2	75	16	15	49	10	2	58	15	321
Total	41	289	16	8	226	63	56	194	20	11	201	41	1166
08:00 AM	14	75	5	5	69	14	13	60	5	0	70	12	342
08:15 AM	6	69	5	3	69	20	23	64	10	4	61	8	342
08:30 AM	10	54	14	4	46	13	12	54	7	6	62	7	289
08:45 AM	6	62	7	10	60	14	28	67	6	4	67	10	341
Total	36	260	31	22	244	61	76	245	28	14	260	37	1314
09:00 AM	8	43	3	2	52	12	18	48	3	3	76	19	287
09:15 AM	12	51	3	4	52	19	22	53	8	6	65	8	303
09:30 AM	10	58	5	2	57	19	20	53	8	4	49	12	297
09:45 AM	13	53	7	4	48	20	22	53	7	4	52	8	291
Total	43	205	18	12	209	70	82	207	26	17	242	47	1178
Grand Total	120	754	65	42	679	194	214	646	74	42	703	125	3658
Apprch %	12.8	80.3	6.9	4.6	74.2	21.2	22.9	69.2	7.9	4.8	80.8	14.4	
Total %	3.3	20.6	1.8	1.1	18.6	5.3	5.9	17.7	2	1.1	19.2	3.4	

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	3	**75**	4	82	2	61	**23**	86	11	54	4	69	**5**	66	11	**82**	319
07:45 AM	12	61	**6**	79	2	**75**	16	**93**	15	49	**10**	74	2	58	**15**	75	321
08:00 AM	**14**	75	5	**94**	**5**	69	14	88	13	60	5	78	0	**70**	12	82	**342**
08:15 AM	6	69	5	80	3	69	20	92	**23**	**64**	10	**97**	4	61	8	73	342
Total Volume	35	280	20	335	12	274	73	359	62	227	29	318	11	255	46	312	1324
% App. Total	10.4	83.6	6		3.3	76.3	20.3		19.5	71.4	9.1		3.5	81.7	14.7		
PHF	.625	.933	.833	.891	.600	.913	.793	.965	.674	.887	.725	.820	.550	.911	.767	.951	.968

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File Name : 71360Camb-A
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Prospect Street From North			Cambridge Street From East			Prospect Street From South			Cambridge Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	4	1	0	4	0	0	2	0	0	4	0	17
07:15 AM	0	2	1	0	6	1	1	3	1	0	4	0	19
07:30 AM	0	4	0	0	5	0	1	1	0	0	2	1	14
07:45 AM	0	1	0	0	8	1	2	1	0	0	5	0	18
Total	2	11	2	0	23	2	4	7	1	0	15	1	68
08:00 AM	1	1	2	0	6	3	0	4	0	1	5	0	23
08:15 AM	0	2	0	0	11	0	2	1	1	0	4	0	21
08:30 AM	0	1	0	0	1	0	0	2	0	0	1	0	5
08:45 AM	1	1	0	0	5	2	2	0	0	0	3	0	14
Total	2	5	2	0	23	5	4	7	1	1	13	0	63
09:00 AM	1	3	0	0	7	0	0	3	0	0	2	0	16
09:15 AM	1	2	1	0	5	0	0	3	0	0	7	1	20
09:30 AM	0	2	0	0	1	2	0	2	1	0	5	0	13
09:45 AM	0	4	1	1	8	1	3	3	1	0	5	0	27
Total	2	11	2	1	21	3	3	11	2	0	19	1	76
Grand Total	6	27	6	1	67	10	11	25	4	1	47	2	207
Apprch %	15.4	69.2	15.4	1.3	85.9	12.8	27.5	62.5	10	2	94	4	
Total %	2.9	13	2.9	0.5	32.4	4.8	5.3	12.1	1.9	0.5	22.7	1	

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**4**	0	**4**	0	5	0	5	1	1	0	2	0	2	**1**	3	14
07:45 AM	0	1	0	1	0	8	1	9	**2**	1	0	3	0	**5**	0	5	18
08:00 AM	**1**	1	**2**	4	0	6	**3**	9	0	**4**	0	**4**	**1**	5	0	**6**	**23**
08:15 AM	0	2	0	2	0	**11**	0	**11**	2	1	**1**	4	0	4	0	4	21
Total Volume	1	8	2	11	0	30	4	34	5	7	1	13	1	16	1	18	76
% App. Total	9.1	72.7	18.2		0	88.2	11.8		38.5	53.8	7.7		5.6	88.9	5.6		
PHF	.250	.500	.250	.688	.000	.682	.333	.773	.625	.438	.250	.813	.250	.800	.250	.750	.826

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Client: VHB/A. Ng

File Name : 71360Camb-A
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	1	0	1	0	1	1	10	0	0	0	1	1	1	0	3	21
07:15 AM	0	0	0	3	0	1	0	5	0	1	0	4	0	2	0	4	20
07:30 AM	0	3	0	3	0	3	1	5	0	0	0	3	0	6	0	5	29
07:45 AM	0	1	1	12	0	1	0	8	0	1	0	3	0	3	0	13	43
Total	1	5	1	19	0	6	2	28	0	2	0	11	1	12	0	25	113
08:00 AM	1	3	0	7	0	2	0	6	2	1	0	9	0	3	0	15	49
08:15 AM	0	2	0	12	0	12	0	13	0	0	0	4	0	5	0	12	60
08:30 AM	1	5	2	14	0	7	0	9	0	0	0	9	1	10	0	9	67
08:45 AM	1	6	1	10	0	5	0	7	0	0	1	9	0	3	0	17	60
Total	3	16	3	43	0	26	0	35	2	1	1	31	1	21	0	53	236
09:00 AM	1	0	0	18	2	7	0	8	2	1	0	3	0	9	0	10	61
09:15 AM	1	2	0	22	0	4	0	4	0	3	0	10	0	10	0	5	61
09:30 AM	1	1	1	15	0	4	1	9	0	1	0	3	2	2	0	8	48
09:45 AM	0	5	0	8	0	5	0	1	0	1	0	9	1	1	0	7	38
Total	3	8	1	63	2	20	1	22	2	6	0	25	3	22	0	30	208
Grand Total	7	29	5	125	2	52	3	85	4	9	1	67	5	55	0	108	557
Apprch %	4.2	17.5	3	75.3	1.4	36.6	2.1	59.9	4.9	11.1	1.2	82.7	3	32.7	0	64.3	
Total %	1.3	5.2	0.9	22.4	0.4	9.3	0.5	15.3	0.7	1.6	0.2	12	0.9	9.9	0	19.4	

	Prospect Street From North					Cambridge Street From East					Prospect Street From South					Cambridge Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	**1**	**5**	**2**	**14**	**22**	**0**	**7**	**0**	**9**	16	0	0	0	9	9	**1**	**10**	0	9	**20**	**67**
08:45 AM	1	**6**	1	10	18	0	5	0	7	12	0	0	**1**	9	10	0	3	0	**17**	**20**	**60**
09:00 AM	**1**	**0**	**0**	**18**	**19**	**2**	7	0	8	**17**	**2**	**1**	**0**	**3**	**6**	**0**	**9**	**0**	**10**	**19**	**61**
09:15 AM	**1**	**2**	**0**	**22**	**25**	0	4	0	4	8	0	**3**	**0**	**10**	**13**	0	10	0	5	15	61
Total Volume	4	13	3	64	84	2	23	0	28	53	2	4	1	31	38	1	32	0	41	74	249
% App. Total	4.8	15.5	3.6	76.2		3.8	43.4	0	52.8		5.3	10.5	2.6	81.6		1.4	43.2	0	55.4		
PHF	1.000	.542	.375	.727	.840	.250	.821	.000	.778	.779	.250	.333	.250	.775	.731	.250	.800	.000	.603	.925	.929

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File Name : 71360Camb-A
Site Code : 10303
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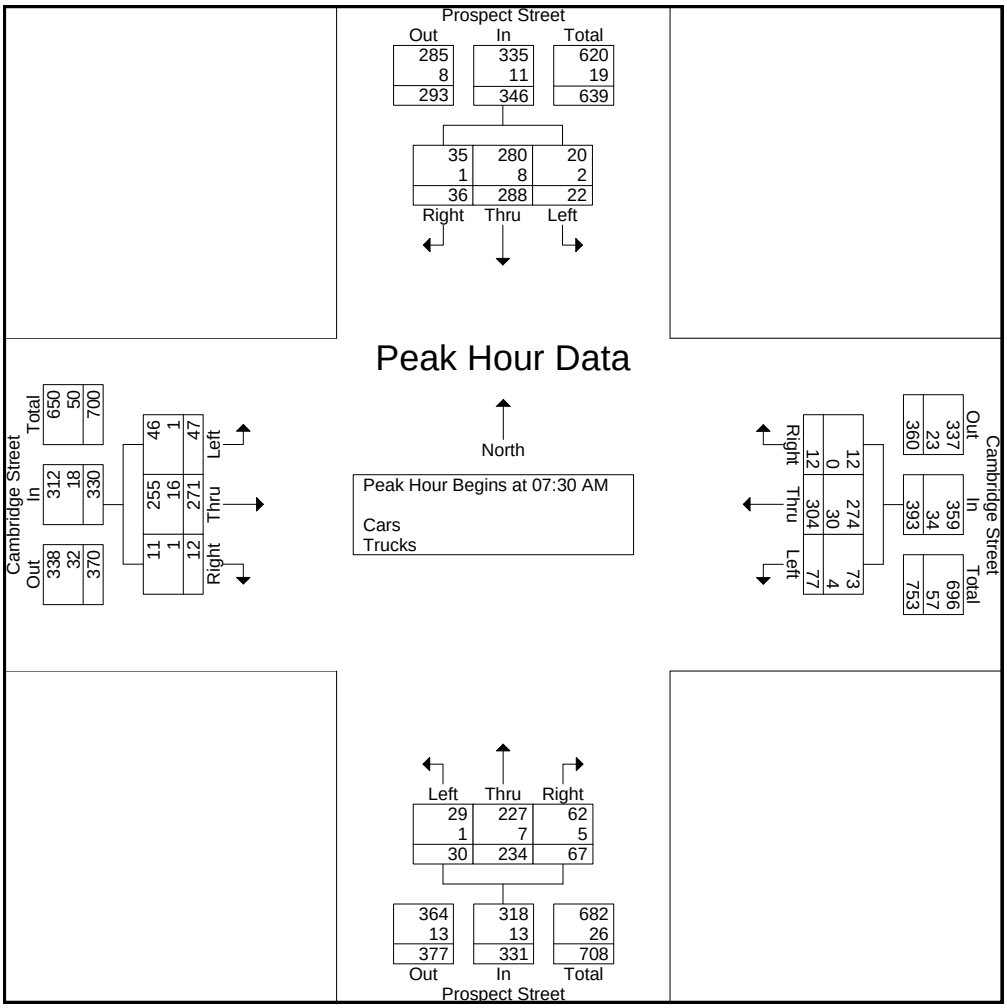
	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	3	**79**	4	86	2	66	**23**	91	12	55	4	71	**5**	68	12	85	333
07:45 AM	12	62	6	80	2	**83**	17	102	17	50	10	77	2	63	**15**	80	339
08:00 AM	**15**	76	**7**	**98**	**5**	75	17	97	13	64	5	82	1	**75**	12	**88**	**365**
08:15 AM	6	71	5	82	3	80	20	**103**	**25**	**65**	**11**	**101**	4	65	8	77	363
Total Volume	36	288	22	346	12	304	77	393	67	234	30	331	12	271	47	330	1400
% App. Total	10.4	83.2	6.4		3.1	77.4	19.6		20.2	70.7	9.1		3.6	82.1	14.2		
PHF	.600	.911	.786	.883	.600	.916	.837	.954	.670	.900	.682	.819	.600	.903	.783	.938	.959
Cars	35	280	20	335	12	274	73	359	62	227	29	318	11	255	46	312	1324
% Cars	97.2	97.2	90.9	96.8	100	90.1	94.8	91.3	92.5	97.0	96.7	96.1	91.7	94.1	97.9	94.5	94.6
Trucks	1	8	2	11	0	30	4	34	5	7	1	13	1	16	1	18	76
% Trucks	2.8	2.8	9.1	3.2	0	9.9	5.2	8.7	7.5	3.0	3.3	3.9	8.3	5.9	2.1	5.5	5.4



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Client: VHB/A. Ng

File Name : 71360Camb-AA
Site Code : 10303
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Groups Printed- Cars - Trucks

	Prospect Street From North			Cambridge Street From East			Prospect Street From South			Cambridge Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	10	53	9	3	59	10	28	101	13	6	79	8	379
03:15 PM	12	49	2	7	67	12	18	97	5	4	73	22	368
03:30 PM	16	45	2	5	66	17	19	89	17	6	69	22	373
03:45 PM	13	45	5	4	76	12	17	93	11	2	62	19	359
Total	51	192	18	19	268	51	82	380	46	18	283	71	1479
04:00 PM	16	52	5	8	70	10	29	106	10	9	59	24	398
04:15 PM	9	33	9	3	66	16	26	97	16	2	81	18	376
04:30 PM	9	42	6	2	79	20	25	98	10	3	75	17	386
04:45 PM	11	46	5	7	77	10	20	97	16	5	74	26	394
Total	45	173	25	20	292	56	100	398	52	19	289	85	1554
05:00 PM	11	50	5	6	85	15	20	111	20	8	62	20	413
05:15 PM	10	53	6	7	76	10	15	105	16	4	58	24	384
05:30 PM	7	43	5	5	81	11	19	96	14	7	53	21	362
05:45 PM	9	51	6	5	65	15	14	91	19	7	59	15	356
Total	37	197	22	23	307	51	68	403	69	26	232	80	1515
Grand Total	133	562	65	62	867	158	250	1181	167	63	804	236	4548
Apprch %	17.5	73.9	8.6	5.7	79.8	14.5	15.6	73.9	10.5	5.7	72.9	21.4	
Total %	2.9	12.4	1.4	1.4	19.1	3.5	5.5	26	3.7	1.4	17.7	5.2	
Cars	133	550	64	58	844	157	245	1164	166	63	771	234	4449
% Cars	100	97.9	98.5	93.5	97.3	99.4	98	98.6	99.4	100	95.9	99.2	97.8
Trucks	0	12	1	4	23	1	5	17	1	0	33	2	99
% Trucks	0	2.1	1.5	6.5	2.7	0.6	2	1.4	0.6	0	4.1	0.8	2.2

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	9	33	**9**	51	3	66	16	85	**26**	97	16	139	2	**81**	18	101	376
04:30 PM	9	42	6	57	2	79	**20**	101	25	98	10	133	3	75	17	95	386
04:45 PM	**11**	46	5	62	**7**	77	10	94	20	97	16	133	5	74	**26**	**105**	394
05:00 PM	11	**50**	5	**66**	6	**85**	15	**106**	20	**111**	**20**	**151**	**8**	62	20	90	**413**
Total Volume	40	171	25	236	18	307	61	386	91	403	62	556	18	292	81	391	1569
% App. Total	16.9	72.5	10.6		4.7	79.5	15.8		16.4	72.5	11.2		4.6	74.7	20.7		
PHF	.909	.855	.694	.894	.643	.903	.763	.910	.875	.908	.775	.921	.563	.901	.779	.931	.950
Cars	40	165	24	229	17	300	60	377	89	399	61	549	18	281	81	380	1535
% Cars	100	96.5	96.0	97.0	94.4	97.7	98.4	97.7	97.8	99.0	98.4	98.7	100	96.2	100	97.2	97.8
Trucks	0	6	1	7	1	7	1	9	2	4	1	7	0	11	0	11	34
% Trucks	0	3.5	4.0	3.0	5.6	2.3	1.6	2.3	2.2	1.0	1.6	1.3	0	3.8	0	2.8	2.2

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File Name : 71360Camb-AA
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Cars

	Prospect Street From North			Cambridge Street From East			Prospect Street From South			Cambridge Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	10	52	9	3	57	10	27	96	13	6	74	7	364
03:15 PM	12	46	2	6	64	12	18	96	5	4	71	22	358
03:30 PM	16	44	2	4	64	17	19	87	17	6	67	21	364
03:45 PM	13	44	5	4	72	12	17	91	11	2	60	19	350
Total	51	186	18	17	257	51	81	370	46	18	272	69	1436
04:00 PM	16	52	5	7	69	10	28	104	10	9	53	24	387
04:15 PM	9	30	9	2	66	16	26	95	15	2	75	18	363
04:30 PM	9	41	6	2	76	20	23	97	10	3	72	17	376
04:45 PM	11	45	5	7	76	10	20	97	16	5	74	26	392
Total	45	168	25	18	287	56	97	393	51	19	274	85	1518
05:00 PM	11	49	4	6	82	14	20	110	20	8	60	20	404
05:15 PM	10	53	6	7	75	10	15	104	16	4	56	24	380
05:30 PM	7	43	5	5	79	11	18	96	14	7	51	21	357
05:45 PM	9	51	6	5	64	15	14	91	19	7	58	15	354
Total	37	196	21	23	300	50	67	401	69	26	225	80	1495
Grand Total	133	550	64	58	844	157	245	1164	166	63	771	234	4449
Apprch %	17.8	73.6	8.6	5.5	79.7	14.8	15.6	73.9	10.5	5.9	72.2	21.9	
Total %	3	12.4	1.4	1.3	19	3.5	5.5	26.2	3.7	1.4	17.3	5.3	

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	9	30	**9**	48	2	66	16	84	**26**	95	15	136	2	**75**	18	95	363
04:30 PM	9	41	6	56	2	76	**20**	98	23	97	10	130	3	72	17	92	376
04:45 PM	**11**	45	5	61	**7**	76	10	93	20	97	16	133	5	74	**26**	**105**	392
05:00 PM	11	**49**	4	**64**	6	**82**	14	**102**	20	**110**	**20**	**150**	**8**	60	20	88	**404**
Total Volume	40	165	24	229	17	300	60	377	89	399	61	549	18	281	81	380	1535
% App. Total	17.5	72.1	10.5		4.5	79.6	15.9		16.2	72.7	11.1		4.7	73.9	21.3		
PHF	.909	.842	.667	.895	.607	.915	.750	.924	.856	.907	.763	.915	.563	.937	.779	.905	.950

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File Name : 71360Camb-AA
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Trucks

	Prospect Street From North			Cambridge Street From East			Prospect Street From South			Cambridge Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	1	0	0	2	0	1	5	0	0	5	1	15
03:15 PM	0	3	0	1	3	0	0	1	0	0	2	0	10
03:30 PM	0	1	0	1	2	0	0	2	0	0	2	1	9
03:45 PM	0	1	0	0	4	0	0	2	0	0	2	0	9
Total	0	6	0	2	11	0	1	10	0	0	11	2	43
04:00 PM	0	0	0	1	1	0	1	2	0	0	6	0	11
04:15 PM	0	3	0	1	0	0	0	2	1	0	6	0	13
04:30 PM	0	1	0	0	3	0	2	1	0	0	3	0	10
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
Total	0	5	0	2	5	0	3	5	1	0	15	0	36
05:00 PM	0	1	1	0	3	1	0	1	0	0	2	0	9
05:15 PM	0	0	0	0	1	0	0	1	0	0	2	0	4
05:30 PM	0	0	0	0	2	0	1	0	0	0	2	0	5
05:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	1	1	0	7	1	1	2	0	0	7	0	20
Grand Total	0	12	1	4	23	1	5	17	1	0	33	2	99
Apprch %	0	92.3	7.7	14.3	82.1	3.6	21.7	73.9	4.3	0	94.3	5.7	
Total %	0	12.1	1	4	23.2	1	5.1	17.2	1	0	33.3	2	

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	1	0	1	0	2	0	2	**1**	**5**	0	**6**	0	**5**	**1**	**6**	**15**
03:15 PM	0	**3**	0	**3**	**1**	3	0	**4**	0	1	0	1	0	2	0	2	10
03:30 PM	0	1	0	1	1	2	0	3	0	2	0	2	0	2	1	3	9
03:45 PM	0	1	0	1	0	**4**	0	4	0	2	0	2	0	2	0	2	9
Total Volume	0	6	0	6	2	11	0	13	1	10	0	11	0	11	2	13	43
% App. Total	0	100	0		15.4	84.6	0		9.1	90.9	0		0	84.6	15.4		
PHF	.000	.500	.000	.500	.500	.688	.000	.813	.250	.500	.000	.458	.000	.550	.500	.542	.717

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Site Code : 10303
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Groups Printed- Peds and Bicycles

	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	1	1	0	11	0	0	0	5	0	0	1	16	0	1	0	12	48
03:15 PM	0	1	0	15	0	3	0	21	1	1	0	10	1	3	1	16	73
03:30 PM	0	0	0	19	1	1	0	13	0	2	0	10	0	1	0	14	61
03:45 PM	0	3	0	13	0	4	0	10	0	0	1	15	0	3	0	17	66
Total	1	5	0	58	1	8	0	49	1	3	2	51	1	8	1	59	248
04:00 PM	0	2	0	8	0	5	0	9	0	1	1	6	0	1	0	3	36
04:15 PM	0	2	0	10	0	0	0	9	0	3	2	13	0	4	0	10	53
04:30 PM	0	2	0	12	1	2	0	11	0	5	1	17	0	1	0	12	64
04:45 PM	0	4	0	15	0	2	0	10	0	0	6	12	0	5	0	9	63
Total	0	10	0	45	1	9	0	39	0	9	10	48	0	11	0	34	216
05:00 PM	0	2	0	18	0	2	0	12	0	4	0	4	0	9	0	10	61
05:15 PM	0	1	0	10	0	2	0	15	0	2	0	12	0	4	0	7	53
05:30 PM	0	1	0	14	0	3	0	7	0	2	0	10	0	2	0	5	44
05:45 PM	0	0	0	9	1	1	0	11	0	0	0	10	0	3	0	11	46
Total	0	4	0	51	1	8	0	45	0	8	0	36	0	18	0	33	204
Grand Total	1	19	0	154	3	25	0	133	1	20	12	135	1	37	1	126	668
Apprch %	0.6	10.9	0	88.5	1.9	15.5	0	82.6	0.6	11.9	7.1	80.4	0.6	22.4	0.6	76.4	
Total %	0.1	2.8	0	23.1	0.4	3.7	0	19.9	0.1	3	1.8	20.2	0.1	5.5	0.1	18.9	

	Prospect Street From North					Cambridge Street From East					Prospect Street From South					Cambridge Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	**1**	**1**	**0**	**11**	**13**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**1**	**16**	**17**	0	1	0	12	13	48
03:15 PM	0	1	0	15	16	0	3	0	**21**	**24**	**1**	**1**	**0**	**10**	**12**	**1**	**3**	**1**	**16**	**21**	**73**
03:30 PM	0	0	0	**19**	**19**	**1**	1	0	13	15	0	**2**	**0**	**10**	**12**	**0**	**1**	**0**	**14**	**15**	**61**
03:45 PM	**0**	**3**	0	13	16	0	**4**	**0**	**10**	**14**	**0**	**0**	**1**	**15**	**16**	**0**	**3**	**0**	**17**	**20**	**66**
Total Volume	1	5	0	58	64	1	8	0	49	58	1	3	2	51	57	1	8	1	59	69	248
% App. Total	1.6	7.8	0	90.6		1.7	13.8	0	84.5		1.8	5.3	3.5	89.5		1.4	11.6	1.4	85.5		
PHF	.250	.417	.000	.763	.842	.250	.500	.000	.583	.604	.250	.375	.500	.797	.838	.250	.667	.250	.868	.821	.849

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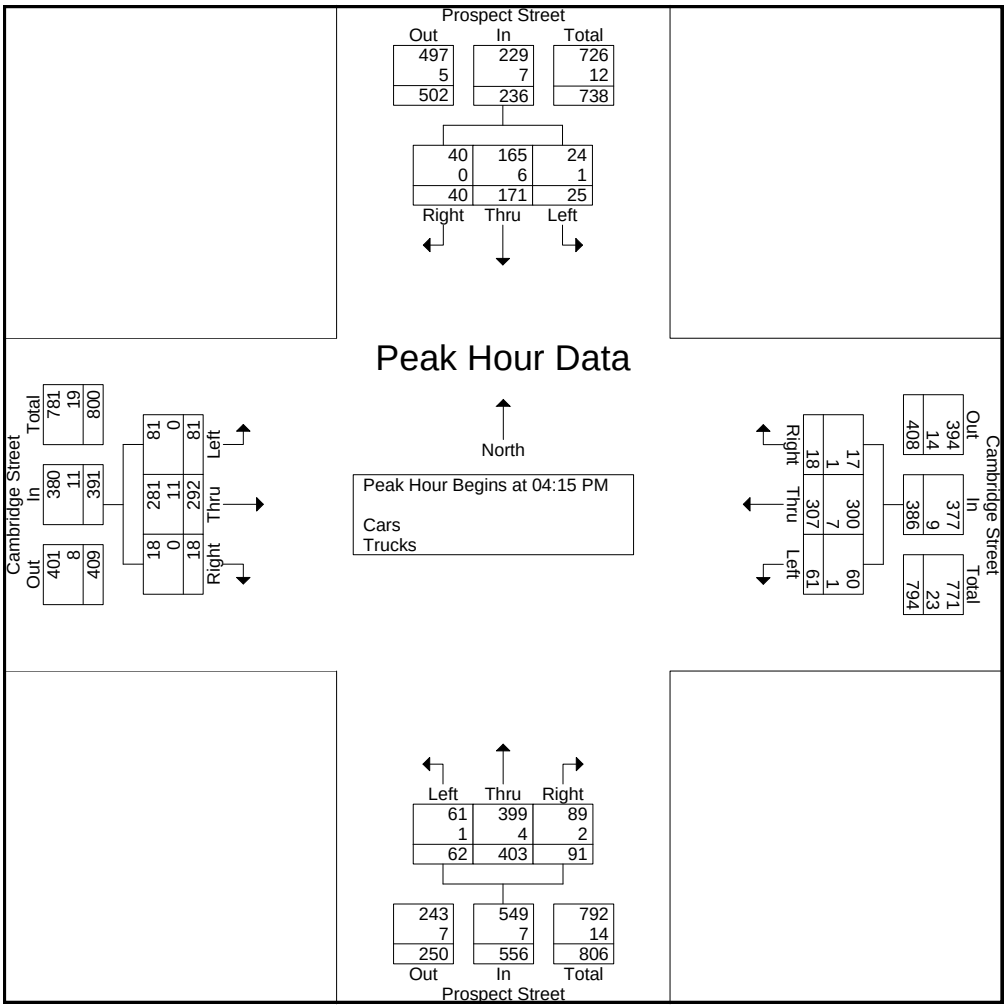
	Prospect Street From North				Cambridge Street From East				Prospect Street From South				Cambridge Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	9	33	**9**	51	3	66	16	85	**26**	97	16	139	2	**81**	18	101	376
04:30 PM	9	42	6	57	2	79	**20**	101	25	98	10	133	3	75	17	95	386
04:45 PM	**11**	46	5	62	**7**	77	10	94	20	97	16	133	5	74	**26**	**105**	394
05:00 PM	11	**50**	5	**66**	6	**85**	15	**106**	20	**111**	**20**	**151**	**8**	62	20	90	**413**
Total Volume	40	171	25	236	18	307	61	386	91	403	62	556	18	292	81	391	1569
% App. Total	16.9	72.5	10.6		4.7	79.5	15.8		16.4	72.5	11.2		4.6	74.7	20.7		
PHF	.909	.855	.694	.894	.643	.903	.763	.910	.875	.908	.775	.921	.563	.901	.779	.931	.950
Cars	40	165	24	229	17	300	60	377	89	399	61	549	18	281	81	380	1535
% Cars	100	96.5	96.0	97.0	94.4	97.7	98.4	97.7	97.8	99.0	98.4	98.7	100	96.2	100	97.2	97.8
Trucks	0	6	1	7	1	7	1	9	2	4	1	7	0	11	0	11	34
% Trucks	0	3.5	4.0	3.0	5.6	2.3	1.6	2.3	2.2	1.0	1.6	1.3	0	3.8	0	2.8	2.2



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Site Code : 10303
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Groups Printed- Cars - Trucks

	Prospect Street From North			Hampshire Street From East			Prospect Street From South			Hampshire Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	3	77	1	4	40	13	3	54	12	25	53	3	288
07:15 AM	4	58	2	3	37	5	7	47	23	42	90	2	320
07:30 AM	2	87	4	1	54	8	3	57	18	17	98	2	351
07:45 AM	2	74	4	5	58	13	4	61	22	19	101	4	367
Total	11	296	11	13	189	39	17	219	75	103	342	11	1326
08:00 AM	2	75	3	7	64	10	12	68	28	17	106	4	396
08:15 AM	2	81	3	3	55	4	9	80	25	19	110	5	396
08:30 AM	3	63	1	4	49	12	9	66	23	20	109	4	363
08:45 AM	4	70	2	1	54	1	4	88	33	20	115	6	398
Total	11	289	9	15	222	27	34	302	109	76	440	19	1553
09:00 AM	0	62	3	3	44	4	7	55	18	24	86	8	314
09:15 AM	2	69	5	6	37	6	3	62	24	23	100	2	339
09:30 AM	2	75	4	3	30	6	3	81	24	25	74	6	333
09:45 AM	3	70	4	4	31	9	5	87	23	21	72	5	334
Total	7	276	16	16	142	25	18	285	89	93	332	21	1320
Grand Total	29	861	36	44	553	91	69	806	273	272	1114	51	4199
Apprch %	3.1	93	3.9	6.4	80.4	13.2	6	70.2	23.8	18.9	77.5	3.5	
Total %	0.7	20.5	0.9	1	13.2	2.2	1.6	19.2	6.5	6.5	26.5	1.2	
Cars	27	837	34	39	521	90	66	787	245	257	1094	47	4044
% Cars	93.1	97.2	94.4	88.6	94.2	98.9	95.7	97.6	89.7	94.5	98.2	92.2	96.3
Trucks	2	24	2	5	32	1	3	19	28	15	20	4	155
% Trucks	6.9	2.8	5.6	11.4	5.8	1.1	4.3	2.4	10.3	5.5	1.8	7.8	3.7

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	75	**3**	80	**7**	**64**	10	**81**	**12**	68	28	108	17	106	4	127	396
08:15 AM	2	**81**	3	**86**	3	55	4	62	9	80	25	114	19	110	5	134	396
08:30 AM	3	63	1	67	4	49	**12**	65	9	66	23	98	**20**	109	4	133	363
08:45 AM	**4**	70	2	76	1	54	1	56	4	**88**	**33**	**125**	20	**115**	**6**	**141**	**398**
Total Volume	11	289	9	309	15	222	27	264	34	302	109	445	76	440	19	535	1553
% App. Total	3.6	93.5	2.9		5.7	84.1	10.2		7.6	67.9	24.5		14.2	82.2	3.6		
PHF	.688	.892	.750	.898	.536	.867	.563	.815	.708	.858	.826	.890	.950	.957	.792	.949	.976
Cars	9	281	8	298	13	214	27	254	33	296	96	425	70	432	18	520	1497
% Cars	81.8	97.2	88.9	96.4	86.7	96.4	100	96.2	97.1	98.0	88.1	95.5	92.1	98.2	94.7	97.2	96.4
Trucks	2	8	1	11	2	8	0	10	1	6	13	20	6	8	1	15	56
% Trucks	18.2	2.8	11.1	3.6	13.3	3.6	0	3.8	2.9	2.0	11.9	4.5	7.9	1.8	5.3	2.8	3.6

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Groups Printed- Cars

	Prospect Street From North			Hampshire Street From East			Prospect Street From South			Hampshire Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	3	77	1	4	35	13	3	53	10	24	53	3	279
07:15 AM	4	57	2	3	33	5	6	47	23	42	88	2	312
07:30 AM	2	83	4	1	52	7	3	57	15	16	97	2	339
07:45 AM	2	73	4	4	55	13	4	60	20	18	101	3	357
Total	11	290	11	12	175	38	16	217	68	100	339	10	1287
08:00 AM	0	74	2	6	62	10	11	67	22	15	103	4	376
08:15 AM	2	80	3	3	53	4	9	77	24	18	110	4	387
08:30 AM	3	62	1	3	48	12	9	65	19	18	106	4	350
08:45 AM	4	65	2	1	51	1	4	87	31	19	113	6	384
Total	9	281	8	13	214	27	33	296	96	70	432	18	1497
09:00 AM	0	59	3	3	40	4	7	51	13	23	84	8	295
09:15 AM	2	66	5	6	36	6	2	61	24	21	99	2	330
09:30 AM	2	75	4	3	28	6	3	78	22	23	71	5	320
09:45 AM	3	66	3	2	28	9	5	84	22	20	69	4	315
Total	7	266	15	14	132	25	17	274	81	87	323	19	1260
Grand Total	27	837	34	39	521	90	66	787	245	257	1094	47	4044
Apprch %	3	93.2	3.8	6	80.2	13.8	6	71.7	22.3	18.4	78.3	3.4	
Total %	0.7	20.7	0.8	1	12.9	2.2	1.6	19.5	6.1	6.4	27.1	1.2	

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	74	2	76	**6**	**62**	10	**78**	**11**	67	22	100	15	103	4	122	376
08:15 AM	2	**80**	**3**	**85**	3	53	4	60	9	77	24	110	18	110	4	132	**387**
08:30 AM	3	62	1	66	3	48	**12**	63	9	65	19	93	18	106	4	128	350
08:45 AM	**4**	65	2	71	1	51	1	53	4	**87**	**31**	**122**	**19**	**113**	**6**	**138**	384
Total Volume	9	281	8	298	13	214	27	254	33	296	96	425	70	432	18	520	1497
% App. Total	3	94.3	2.7		5.1	84.3	10.6		7.8	69.6	22.6		13.5	83.1	3.5		
PHF	.563	.878	.667	.876	.542	.863	.563	.814	.750	.851	.774	.871	.921	.956	.750	.942	.967

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Groups Printed- Trucks

	Prospect Street From North			Hampshire Street From East			Prospect Street From South			Hampshire Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	5	0	0	1	2	1	0	0	9
07:15 AM	0	1	0	0	4	0	1	0	0	0	2	0	8
07:30 AM	0	4	0	0	2	1	0	0	3	1	1	0	12
07:45 AM	0	1	0	1	3	0	0	1	2	1	0	1	10
Total	0	6	0	1	14	1	1	2	7	3	3	1	39
08:00 AM	2	1	1	1	2	0	1	1	6	2	3	0	20
08:15 AM	0	1	0	0	2	0	0	3	1	1	0	1	9
08:30 AM	0	1	0	1	1	0	0	1	4	2	3	0	13
08:45 AM	0	5	0	0	3	0	0	1	2	1	2	0	14
Total	2	8	1	2	8	0	1	6	13	6	8	1	56
09:00 AM	0	3	0	0	4	0	0	4	5	1	2	0	19
09:15 AM	0	3	0	0	1	0	1	1	0	2	1	0	9
09:30 AM	0	0	0	0	2	0	0	3	2	2	3	1	13
09:45 AM	0	4	1	2	3	0	0	3	1	1	3	1	19
Total	0	10	1	2	10	0	1	11	8	6	9	2	60
Grand Total	2	24	2	5	32	1	3	19	28	15	20	4	155
Apprch %	7.1	85.7	7.1	13.2	84.2	2.6	6	38	56	38.5	51.3	10.3	
Total %	1.3	15.5	1.3	3.2	20.6	0.6	1.9	12.3	18.1	9.7	12.9	2.6	

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:00 AM																	
09:00 AM	0	3	0	3	0	**4**	0	4	0	**4**	**5**	**9**	1	2	0	3	**19**
09:15 AM	0	3	0	3	0	1	0	1	**1**	1	0	2	**2**	1	0	3	9
09:30 AM	0	0	0	0	0	2	0	2	0	3	2	5	2	**3**	**1**	**6**	13
09:45 AM	0	**4**	**1**	**5**	**2**	3	0	**5**	0	3	1	4	1	3	1	5	19
Total Volume	0	10	1	11	2	10	0	12	1	11	8	20	6	9	2	17	60
% App. Total	0	90.9	9.1		16.7	83.3	0		5	55	40		35.3	52.9	11.8		
PHF	.000	.625	.250	.550	.250	.625	.000	.600	.250	.688	.400	.556	.750	.750	.500	.708	.789

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Groups Printed- Peds and Bicycles

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	1	0	2	0	1	0	1	0	0	0	3	1	2	0	0	11
07:15 AM	0	0	0	1	0	0	0	2	0	0	0	2	0	6	0	1	12
07:30 AM	1	1	0	4	1	1	1	0	1	0	0	10	0	1	0	3	24
07:45 AM	0	2	0	10	0	2	0	5	2	0	0	7	0	4	0	1	33
Total	1	4	0	17	1	4	1	8	3	0	0	22	1	13	0	5	80
08:00 AM	1	1	0	7	0	0	1	9	0	1	1	1	1	5	1	2	31
08:15 AM	1	0	2	5	1	0	0	4	3	0	0	1	0	3	0	8	28
08:30 AM	0	1	1	3	0	3	0	3	1	1	0	9	0	2	0	0	24
08:45 AM	1	4	2	9	0	1	1	3	2	0	0	5	1	2	1	2	34
Total	3	6	5	24	1	4	2	19	6	2	1	16	2	12	2	12	117
09:00 AM	2	1	1	1	1	0	0	9	0	0	0	8	0	4	0	6	33
09:15 AM	0	0	1	2	0	1	0	11	2	1	1	2	0	1	1	7	30
09:30 AM	0	2	0	5	0	0	0	4	0	1	0	3	0	0	0	8	23
09:45 AM	0	1	0	4	0	0	0	3	0	1	0	6	0	2	0	8	25
Total	2	4	2	12	1	1	0	27	2	3	1	19	0	7	1	29	111
Grand Total	6	14	7	53	3	9	3	54	11	5	2	57	3	32	3	46	308
Apprch %	7.5	17.5	8.8	66.2	4.3	13	4.3	78.3	14.7	6.7	2.7	76	3.6	38.1	3.6	54.8	
Total %	1.9	4.5	2.3	17.2	1	2.9	1	17.5	3.6	1.6	0.6	18.5	1	10.4	1	14.9	

	Prospect Street From North					Hampshire Street From East					Prospect Street From South					Hampshire Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	1	1	3	5	0	**3**	**0**	**3**	**6**	**1**	**1**	**0**	**9**	**11**	0	2	0	0	2	24
08:45 AM	1	**4**	**2**	**9**	**16**	0	1	**1**	**3**	**5**	**2**	**0**	**0**	**5**	**7**	**1**	**2**	**1**	**2**	**6**	**34**
09:00 AM	**2**	**1**	**1**	**1**	**5**	**1**	0	0	9	10	0	0	0	8	8	0	**4**	0	6	**10**	33
09:15 AM	0	0	1	2	3	0	1	0	**11**	**12**	2	1	**1**	2	6	0	1	1	**7**	**9**	**30**
Total Volume	3	6	5	15	29	1	5	1	26	33	5	2	1	24	32	1	9	2	15	27	121
% App. Total	10.3	20.7	17.2	51.7		3	15.2	3	78.8		15.6	6.2	3.1	75		3.7	33.3	7.4	55.6		
PHF	.375	.375	.625	.417	.453	.250	.417	.250	.591	.688	.625	.500	.250	.667	.727	.250	.563	.500	.536	.675	.890

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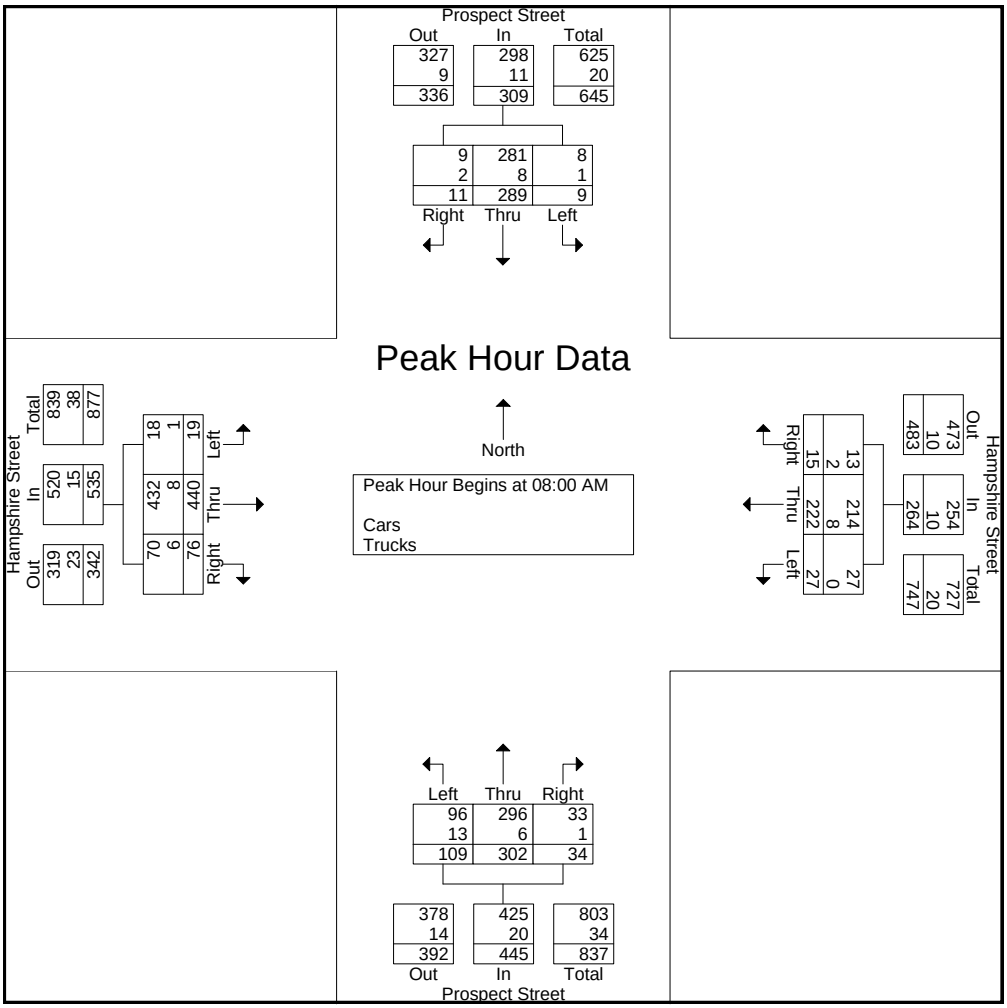
	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	75	**3**	80	**7**	**64**	10	**81**	**12**	68	28	108	17	106	4	127	396
08:15 AM	2	**81**	3	**86**	3	55	4	62	9	80	25	114	19	110	5	134	396
08:30 AM	3	63	1	67	4	49	**12**	65	9	66	23	98	**20**	109	4	133	363
08:45 AM	**4**	70	2	76	1	54	1	56	4	**88**	**33**	**125**	20	**115**	**6**	**141**	**398**
Total Volume	11	289	9	309	15	222	27	264	34	302	109	445	76	440	19	535	1553
% App. Total	3.6	93.5	2.9		5.7	84.1	10.2		7.6	67.9	24.5		14.2	82.2	3.6		
PHF	.688	.892	.750	.898	.536	.867	.563	.815	.708	.858	.826	.890	.950	.957	.792	.949	.976
Cars	9	281	8	298	13	214	27	254	33	296	96	425	70	432	18	520	1497
% Cars	81.8	97.2	88.9	96.4	86.7	96.4	100	96.2	97.1	98.0	88.1	95.5	92.1	98.2	94.7	97.2	96.4
Trucks	2	8	1	11	2	8	0	10	1	6	13	20	6	8	1	15	56
% Trucks	18.2	2.8	11.1	3.6	13.3	3.6	0	3.8	2.9	2.0	11.9	4.5	7.9	1.8	5.3	2.8	3.6



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Groups Printed- Cars - Trucks

	Prospect Street From North			Hampshire Street From East			Prospect Street From South			Hampshire Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	46	4	14	54	5	10	101	28	23	52	9	346
03:15 PM	1	51	7	11	61	8	4	90	34	29	64	4	364
03:30 PM	2	50	6	12	78	4	6	100	39	15	76	5	393
03:45 PM	2	58	3	7	59	7	12	108	31	17	61	6	371
Total	5	205	20	44	252	24	32	399	132	84	253	24	1474
04:00 PM	0	53	3	8	81	10	11	127	34	14	63	4	408
04:15 PM	3	55	6	7	81	3	9	106	32	18	56	5	381
04:30 PM	1	50	3	4	85	4	6	103	30	18	56	7	367
04:45 PM	3	57	3	3	80	5	10	114	28	16	70	4	393
Total	7	215	15	22	327	22	36	450	124	66	245	20	1549
05:00 PM	2	62	6	9	77	7	8	122	32	12	58	4	399
05:15 PM	3	51	4	3	66	3	11	117	40	16	63	3	380
05:30 PM	2	58	5	4	77	3	8	114	21	16	50	8	366
05:45 PM	1	53	7	23	47	4	7	106	34	16	55	6	359
Total	8	224	22	39	267	17	34	459	127	60	226	21	1504
Grand Total	20	644	57	105	846	63	102	1308	383	210	724	65	4527
Apprch %	2.8	89.3	7.9	10.4	83.4	6.2	5.7	73	21.4	21	72.5	6.5	
Total %	0.4	14.2	1.3	2.3	18.7	1.4	2.3	28.9	8.5	4.6	16	1.4	
Cars	20	636	56	103	841	61	101	1294	366	198	719	65	4460
% Cars	100	98.8	98.2	98.1	99.4	96.8	99	98.9	95.6	94.3	99.3	100	98.5
Trucks	0	8	1	2	5	2	1	14	17	12	5	0	67
% Trucks	0	1.2	1.8	1.9	0.6	3.2	1	1.1	4.4	5.7	0.7	0	1.5

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	2	50	**6**	58	**12**	78	4	94	6	100	**39**	145	15	**76**	5	**96**	393
03:45 PM	2	**58**	3	63	7	59	7	73	**12**	108	31	151	17	61	**6**	84	371
04:00 PM	0	53	3	56	8	**81**	**10**	**99**	11	**127**	34	**172**	14	63	4	81	**408**
04:15 PM	**3**	55	6	**64**	7	81	3	91	9	106	32	147	**18**	56	5	79	381
Total Volume	7	216	18	241	34	299	24	357	38	441	136	615	64	256	20	340	1553
% App. Total	2.9	89.6	7.5		9.5	83.8	6.7		6.2	71.7	22.1		18.8	75.3	5.9		
PHF	.583	.931	.750	.941	.708	.923	.600	.902	.792	.868	.872	.894	.889	.842	.833	.885	.952
Cars	7	214	18	239	34	297	24	355	38	435	127	600	58	256	20	334	1528
% Cars	100	99.1	100	99.2	100	99.3	100	99.4	100	98.6	93.4	97.6	90.6	100	100	98.2	98.4
Trucks	0	2	0	2	0	2	0	2	0	6	9	15	6	0	0	6	25
% Trucks	0	0.9	0	0.8	0	0.7	0	0.6	0	1.4	6.6	2.4	9.4	0	0	1.8	1.6

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Groups Printed- Cars

	Prospect Street From North			Hampshire Street From East			Prospect Street From South			Hampshire Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	46	4	13	54	4	10	98	27	23	48	9	336
03:15 PM	1	49	7	11	61	7	4	89	33	27	63	4	356
03:30 PM	2	48	6	12	77	4	6	99	36	14	76	5	385
03:45 PM	2	58	3	7	58	7	12	107	29	15	61	6	365
Total	5	201	20	43	250	22	32	393	125	79	248	24	1442
04:00 PM	0	53	3	8	81	10	11	125	31	13	63	4	402
04:15 PM	3	55	6	7	81	3	9	104	31	16	56	5	376
04:30 PM	1	50	3	4	83	4	6	102	30	17	56	7	363
04:45 PM	3	57	3	3	80	5	10	114	28	15	70	4	392
Total	7	215	15	22	325	22	36	445	120	61	245	20	1533
05:00 PM	2	60	5	9	77	7	8	121	30	12	58	4	393
05:15 PM	3	51	4	2	65	3	11	116	39	16	63	3	376
05:30 PM	2	58	5	4	77	3	8	113	19	15	50	8	362
05:45 PM	1	51	7	23	47	4	6	106	33	15	55	6	354
Total	8	220	21	38	266	17	33	456	121	58	226	21	1485
Grand Total	20	636	56	103	841	61	101	1294	366	198	719	65	4460
Apprch %	2.8	89.3	7.9	10.2	83.7	6.1	5.7	73.5	20.8	20.2	73.2	6.6	
Total %	0.4	14.3	1.3	2.3	18.9	1.4	2.3	29	8.2	4.4	16.1	1.5	

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	53	3	56	**8**	81	**10**	**99**	**11**	**125**	**31**	**167**	13	63	4	80	**402**
04:15 PM	**3**	55	**6**	**64**	7	81	3	91	9	104	31	144	16	56	5	77	376
04:30 PM	1	50	3	54	4	**83**	4	91	6	102	30	138	**17**	56	**7**	80	363
04:45 PM	3	**57**	3	63	3	80	5	88	10	114	28	152	15	**70**	4	**89**	392
Total Volume	7	215	15	237	22	325	22	369	36	445	120	601	61	245	20	326	1533
% App. Total	3	90.7	6.3		6	88.1	6		6	74	20		18.7	75.2	6.1		
PHF	.583	.943	.625	.926	.688	.979	.550	.932	.818	.890	.968	.900	.897	.875	.714	.916	.953

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E/W: Hampshire Street
City, State: Cambridge, MA
Client: VHB/A. Ng

File Name : 71360Camb-BB
Site Code : 10303
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Groups Printed- Trucks

	Prospect Street From North			Hampshire Street From East			Prospect Street From South			Hampshire Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	1	0	1	0	3	1	0	4	0	10
03:15 PM	0	2	0	0	0	1	0	1	1	2	1	0	8
03:30 PM	0	2	0	0	1	0	0	1	3	1	0	0	8
03:45 PM	0	0	0	0	1	0	0	1	2	2	0	0	6
Total	0	4	0	1	2	2	0	6	7	5	5	0	32
04:00 PM	0	0	0	0	0	0	0	2	3	1	0	0	6
04:15 PM	0	0	0	0	0	0	0	2	1	2	0	0	5
04:30 PM	0	0	0	0	2	0	0	1	0	1	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	2	0	0	5	4	5	0	0	16
05:00 PM	0	2	1	0	0	0	0	1	2	0	0	0	6
05:15 PM	0	0	0	1	1	0	0	1	1	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	1	2	1	0	0	4
05:45 PM	0	2	0	0	0	0	1	0	1	1	0	0	5
Total	0	4	1	1	1	0	1	3	6	2	0	0	19
Grand Total	0	8	1	2	5	2	1	14	17	12	5	0	67
Apprch %	0	88.9	11.1	22.2	55.6	22.2	3.1	43.8	53.1	70.6	29.4	0	
Total %	0	11.9	1.5	3	7.5	3	1.5	20.9	25.4	17.9	7.5	0	

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	**1**	0	**1**	**2**	0	**3**	1	**4**	0	**4**	0	**4**	**10**
03:15 PM	0	**2**	0	**2**	0	0	1	1	0	1	1	2	**2**	1	0	3	8
03:30 PM	0	2	0	2	0	**1**	0	1	0	1	**3**	4	1	0	0	1	8
03:45 PM	0	0	0	0	0	1	0	1	0	1	2	3	2	0	0	2	6
Total Volume	0	4	0	4	1	2	2	5	0	6	7	13	5	5	0	10	32
% App. Total	0	100	0		20	40	40		0	46.2	53.8		50	50	0		
PHF	.000	.500	.000	.500	.250	.500	.500	.625	.000	.500	.583	.813	.625	.313	.000	.625	.800

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Site Code : 10303
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Groups Printed- Peds and Bicycles

	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	1	1	2	0	8	0	0	0	4	0	2	0	10	29
03:15 PM	0	1	0	5	0	6	0	8	0	0	0	4	0	1	0	12	37
03:30 PM	0	1	0	2	0	5	0	13	0	0	0	5	0	4	0	3	33
03:45 PM	0	1	0	2	0	4	0	17	0	0	0	0	0	0	0	9	33
Total	0	4	0	10	1	17	0	46	0	0	0	13	0	7	0	34	132
04:00 PM	0	0	0	5	0	5	0	6	0	0	0	5	0	3	0	7	31
04:15 PM	0	1	0	2	0	8	0	16	0	3	1	4	0	2	0	4	41
04:30 PM	0	1	0	1	1	6	0	8	0	2	0	9	0	1	0	0	29
04:45 PM	0	2	0	1	0	9	0	8	0	0	0	1	0	0	0	6	27
Total	0	4	0	9	1	28	0	38	0	5	1	19	0	6	0	17	128
05:00 PM	0	0	0	0	0	4	0	6	1	2	0	1	1	2	0	1	18
05:15 PM	0	5	0	1	0	3	0	18	0	3	0	4	0	0	0	5	39
05:30 PM	0	0	0	0	0	8	0	2	0	4	0	5	0	1	0	4	24
05:45 PM	0	0	0	0	0	7	0	18	1	2	0	1	0	0	0	9	38
Total	0	5	0	1	0	22	0	44	2	11	0	11	1	3	0	19	119
Grand Total	0	13	0	20	2	67	0	128	2	16	1	43	1	16	0	70	379
Apprch %	0	39.4	0	60.6	1	34	0	65	3.2	25.8	1.6	69.4	1.1	18.4	0	80.5	
Total %	0	3.4	0	5.3	0.5	17.7	0	33.8	0.5	4.2	0.3	11.3	0.3	4.2	0	18.5	

	Prospect Street From North					Hampshire Street From East					Prospect Street From South					Hampshire Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	**1**	0	2	3	0	5	0	13	18	0	0	0	**5**	**5**	**0**	**4**	0	3	7	33
03:45 PM	0	1	0	2	3	0	4	0	**17**	21	0	0	0	0	0	0	0	0	**9**	**9**	**33**
04:00 PM	**0**	**0**	**0**	**5**	**5**	0	5	0	6	11	0	0	0	5	5	0	3	0	7	**10**	31
04:15 PM	0	1	0	2	3	0	**8**	**0**	**16**	**24**	0	**3**	**1**	4	**8**	0	2	0	4	6	**41**
Total Volume	0	3	0	11	14	0	22	0	52	74	0	3	1	14	18	0	9	0	23	32	138
% App. Total	0	21.4	0	78.6		0	29.7	0	70.3		0	16.7	5.6	77.8		0	28.1	0	71.9		
PHF	.000	.750	.000	.550	.700	.000	.688	.000	.765	.771	.000	.250	.250	.700	.563	.000	.563	.000	.639	.800	.841

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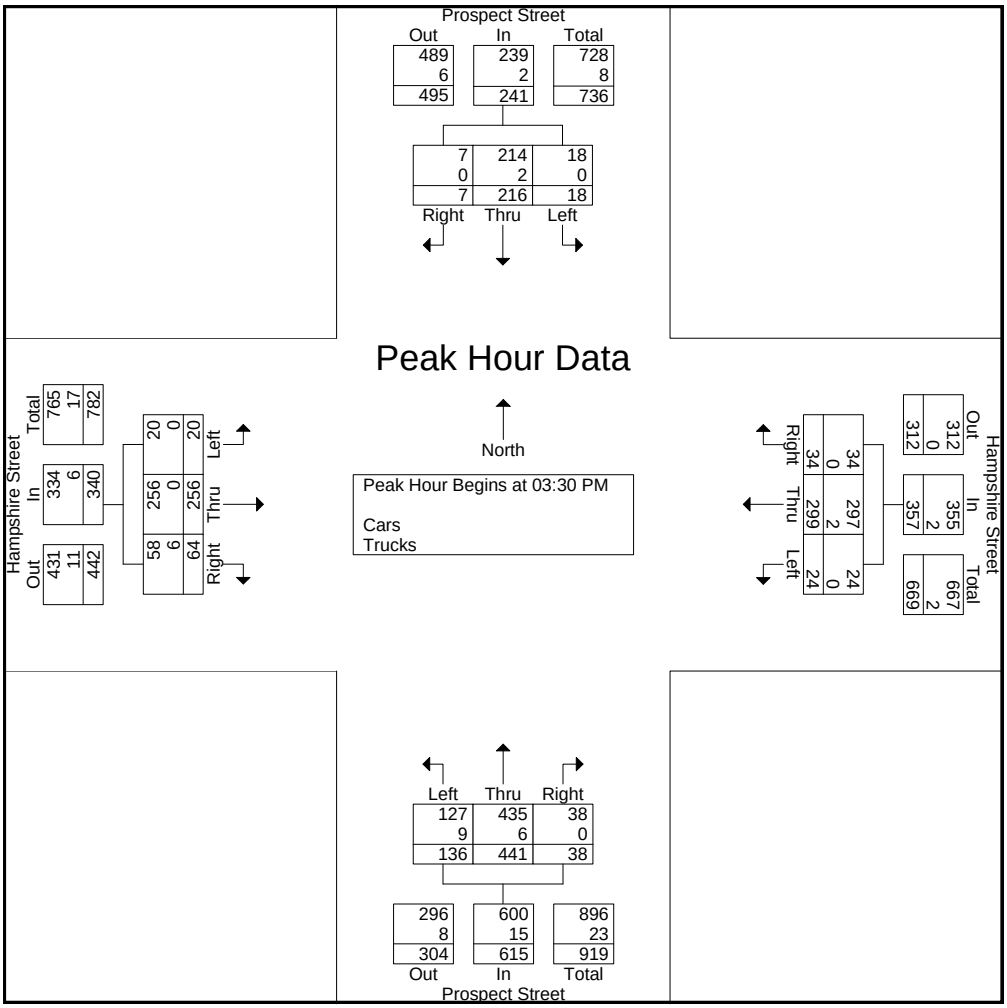
	Prospect Street From North				Hampshire Street From East				Prospect Street From South				Hampshire Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	2	50	**6**	58	**12**	78	4	94	6	100	**39**	145	15	**76**	5	**96**	393
03:45 PM	2	**58**	3	63	7	59	7	73	**12**	108	31	151	17	61	**6**	84	371
04:00 PM	0	53	3	56	8	**81**	**10**	**99**	11	**127**	34	**172**	14	63	4	81	**408**
04:15 PM	**3**	55	6	**64**	7	81	3	91	9	106	32	147	**18**	56	5	79	381
Total Volume	7	216	18	241	34	299	24	357	38	441	136	615	64	256	20	340	1553
% App. Total	2.9	89.6	7.5		9.5	83.8	6.7		6.2	71.7	22.1		18.8	75.3	5.9		
PHF	.583	.931	.750	.941	.708	.923	.600	.902	.792	.868	.872	.894	.889	.842	.833	.885	.952
Cars	7	214	18	239	34	297	24	355	38	435	127	600	58	256	20	334	1528
% Cars	100	99.1	100	99.2	100	99.3	100	99.4	100	98.6	93.4	97.6	90.6	100	100	98.2	98.4
Trucks	0	2	0	2	0	2	0	2	0	6	9	15	6	0	0	6	25
% Trucks	0	0.9	0	0.8	0	0.7	0	0.6	0	1.4	6.6	2.4	9.4	0	0	1.8	1.6



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N/S: McGrath Highway
E/W: McGrath Highway/Somerville Avenue
City, State: Somerville. MA
Client: VHB/ A. Ng

File Name : 71360Som-A
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			McGrath Highway From East			Medford Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	39	205	39	0	0	0	6	37	12	13	35	7	393
07:15 AM	18	240	48	0	0	0	4	27	6	23	62	10	438
07:30 AM	29	241	30	0	0	0	9	48	8	13	80	22	480
07:45 AM	32	269	53	0	0	0	5	45	7	31	65	20	527
Total	118	955	170	0	0	0	24	157	33	80	242	59	1838
08:00 AM	27	296	37	0	0	0	4	44	10	18	73	22	531
08:15 AM	31	251	51	0	0	0	6	38	14	34	75	17	517
08:30 AM	35	221	39	0	0	0	3	27	14	33	70	18	460
08:45 AM	41	266	39	0	0	0	7	37	7	33	68	18	516
Total	134	1034	166	0	0	0	20	146	45	118	286	75	2024
09:00 AM	55	247	37	0	0	0	11	32	9	24	53	25	493
09:15 AM	31	228	43	0	0	0	4	26	7	16	61	27	443
09:30 AM	38	175	45	0	0	0	2	42	14	26	53	12	407
09:45 AM	20	180	41	0	0	0	7	33	9	31	54	32	407
Total	144	830	166	0	0	0	24	133	39	97	221	96	1750
Grand Total	396	2819	502	0	0	0	68	436	117	295	749	230	5612
Apprch %	10.7	75.8	13.5	0	0	0	11	70.2	18.8	23.2	58.8	18.1	
Total %	7.1	50.2	8.9	0	0	0	1.2	7.8	2.1	5.3	13.3	4.1	
Cars	360	2736	429	0	0	0	58	420	112	289	703	212	5319
% Cars	90.9	97.1	85.5	0	0	0	85.3	96.3	95.7	98	93.9	92.2	94.8
Trucks	36	83	73	0	0	0	10	16	5	6	46	18	293
% Trucks	9.1	2.9	14.5	0	0	0	14.7	3.7	4.3	2	6.1	7.8	5.2

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	29	241	30	300	0	0	0	0	**9**	**48**	8	**65**	13	**80**	**22**	115	480
07:45 AM	**32**	269	**53**	354	0	0	0	0	5	45	7	57	31	65	20	116	527
08:00 AM	27	**296**	37	**360**	0	0	0	0	4	44	10	58	18	73	22	113	**531**
08:15 AM	31	251	51	333	0	0	0	0	6	38	**14**	58	**34**	75	17	**126**	517
Total Volume	119	1057	171	1347	0	0	0	0	24	175	39	238	96	293	81	470	2055
% App. Total	8.8	78.5	12.7		0	0	0		10.1	73.5	16.4		20.4	62.3	17.2		
PHF	.930	.893	.807	.935	.000	.000	.000	.000	.667	.911	.696	.915	.706	.916	.920	.933	.968
Cars	109	1036	150	1295	0	0	0	0	21	172	38	231	93	280	76	449	1975
% Cars	91.6	98.0	87.7	96.1	0	0	0	0	87.5	98.3	97.4	97.1	96.9	95.6	93.8	95.5	96.1
Trucks	10	21	21	52	0	0	0	0	3	3	1	7	3	13	5	21	80
% Trucks	8.4	2.0	12.3	3.9	0	0	0	0	12.5	1.7	2.6	2.9	3.1	4.4	6.2	4.5	3.9

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Groups Printed- Cars

	McGrath Highway From North			McGrath Highway From East			Medford Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	33	195	36	0	0	0	5	36	12	13	33	7	370
07:15 AM	16	237	41	0	0	0	4	27	6	23	58	10	422
07:30 AM	26	239	25	0	0	0	9	47	7	13	77	20	463
07:45 AM	30	262	48	0	0	0	5	45	7	29	64	17	507
Total	105	933	150	0	0	0	23	155	32	78	232	54	1762
08:00 AM	24	288	30	0	0	0	3	44	10	18	68	22	507
08:15 AM	29	247	47	0	0	0	4	36	14	33	71	17	498
08:30 AM	29	219	34	0	0	0	3	25	11	31	63	17	432
08:45 AM	39	248	32	0	0	0	4	33	7	32	62	17	474
Total	121	1002	143	0	0	0	14	138	42	114	264	73	1911
09:00 AM	51	235	30	0	0	0	10	31	9	24	49	20	459
09:15 AM	28	221	33	0	0	0	4	23	7	16	59	24	415
09:30 AM	35	169	39	0	0	0	2	41	13	26	50	11	386
09:45 AM	20	176	34	0	0	0	5	32	9	31	49	30	386
Total	134	801	136	0	0	0	21	127	38	97	207	85	1646
Grand Total	360	2736	429	0	0	0	58	420	112	289	703	212	5319
Apprch %	10.2	77.6	12.2	0	0	0	9.8	71.2	19	24	58.4	17.6	
Total %	6.8	51.4	8.1	0	0	0	1.1	7.9	2.1	5.4	13.2	4	

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	26	239	25	290	0	0	0	0	**9**	**47**	7	**63**	13	**77**	20	110	463
07:45 AM	**30**	262	**48**	340	0	0	0	0	5	45	7	57	29	64	17	110	**507**
08:00 AM	24	**288**	30	**342**	0	0	0	0	3	44	10	57	18	68	**22**	108	507
08:15 AM	29	247	47	323	0	0	0	0	4	36	**14**	54	**33**	71	17	**121**	498
Total Volume	109	1036	150	1295	0	0	0	0	21	172	38	231	93	280	76	449	1975
% App. Total	8.4	80	11.6		0	0	0		9.1	74.5	16.5		20.7	62.4	16.9		
PHF	.908	.899	.781	.947	.000	.000	.000	.000	.583	.915	.679	.917	.705	.909	.864	.928	.974

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Groups Printed- Trucks

	McGrath Highway From North			McGrath Highway From East			Medford Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	6	10	3	0	0	0	1	1	0	0	2	0	23
07:15 AM	2	3	7	0	0	0	0	0	0	0	4	0	16
07:30 AM	3	2	5	0	0	0	0	1	1	0	3	2	17
07:45 AM	2	7	5	0	0	0	0	0	0	2	1	3	20
Total	13	22	20	0	0	0	1	2	1	2	10	5	76
08:00 AM	3	8	7	0	0	0	1	0	0	0	5	0	24
08:15 AM	2	4	4	0	0	0	2	2	0	1	4	0	19
08:30 AM	6	2	5	0	0	0	0	2	3	2	7	1	28
08:45 AM	2	18	7	0	0	0	3	4	0	1	6	1	42
Total	13	32	23	0	0	0	6	8	3	4	22	2	113
09:00 AM	4	12	7	0	0	0	1	1	0	0	4	5	34
09:15 AM	3	7	10	0	0	0	0	3	0	0	2	3	28
09:30 AM	3	6	6	0	0	0	0	1	1	0	3	1	21
09:45 AM	0	4	7	0	0	0	2	1	0	0	5	2	21
Total	10	29	30	0	0	0	3	6	1	0	14	11	104
Grand Total	36	83	73	0	0	0	10	16	5	6	46	18	293
Apprch %	18.8	43.2	38	0	0	0	32.3	51.6	16.1	8.6	65.7	25.7	
Total %	12.3	28.3	24.9	0	0	0	3.4	5.5	1.7	2	15.7	6.1	

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	**6**	2	5	13	0	0	0	0	0	2	**3**	5	**2**	**7**	1	**10**	28
08:45 AM	2	**18**	7	**27**	0	0	0	0	**3**	**4**	0	**7**	1	6	1	8	**42**
09:00 AM	4	12	7	23	0	0	0	0	1	1	0	2	0	4	**5**	9	34
09:15 AM	3	7	**10**	20	0	0	0	0	0	3	0	3	0	2	3	5	28
Total Volume	15	39	29	83	0	0	0	0	4	10	3	17	3	19	10	32	132
% App. Total	18.1	47	34.9		0	0	0		23.5	58.8	17.6		9.4	59.4	31.2		
PHF	.625	.542	.725	.769	.000	.000	.000	.000	.333	.625	.250	.607	.375	.679	.500	.800	.786

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E/W: McGrath Highway/Somerville Avenue
City, State: Somerville. MA
Client: VHB/ A. Ng

File Name : 71360Som-A
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	2	2	3	0	0	0	0	0	0	0	0	7	0	1	0	6	21
07:15 AM	0	3	0	0	0	0	0	0	0	0	0	5	2	0	0	3	13
07:30 AM	0	3	0	1	0	0	0	0	0	1	0	8	0	2	0	10	25
07:45 AM	0	1	0	0	0	0	0	4	0	3	0	6	0	0	0	7	21
Total	2	9	3	1	0	0	0	4	0	4	0	26	2	3	0	26	80
08:00 AM	0	5	1	0	0	0	0	0	0	0	0	5	0	0	1	6	18
08:15 AM	1	13	0	0	0	0	0	0	0	1	0	6	1	2	0	7	31
08:30 AM	0	9	0	1	0	0	0	1	0	0	0	2	0	2	0	4	19
08:45 AM	0	2	1	0	0	0	0	1	0	1	0	5	2	1	0	6	19
Total	1	29	2	1	0	0	0	2	0	2	0	18	3	5	1	23	87
09:00 AM	0	3	1	0	0	0	0	0	0	0	0	3	0	1	0	7	15
09:15 AM	0	1	0	1	0	0	0	1	0	1	0	4	1	1	0	5	15
09:30 AM	0	4	1	0	0	0	0	0	0	0	0	1	0	1	0	1	8
09:45 AM	0	3	0	0	0	0	0	0	0	0	0	1	1	0	0	1	6
Total	0	11	2	1	0	0	0	1	0	1	0	9	2	3	0	14	44
Grand Total	3	49	7	3	0	0	0	7	0	7	0	53	7	11	1	63	211
Apprch %	4.8	79	11.3	4.8	0	0	0	100	0	11.7	0	88.3	8.5	13.4	1.2	76.8	
Total %	1.4	23.2	3.3	1.4	0	0	0	3.3	0	3.3	0	25.1	3.3	5.2	0.5	29.9	

	McGrath Highway From North					McGrath Highway From East					Medford Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	3	0	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	**9**	0	**2**	0	**10**	**12**	25
07:45 AM	0	1	0	0	1	0	0	0	**4**	**4**	0	**3**	**0**	**6**	**9**	**0**	**0**	**0**	**7**	**7**	**21**
08:00 AM	**0**	**5**	**1**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**1**	**6**	**7**	**18**
08:15 AM	**1**	**13**	0	0	**14**	0	0	0	0	0	0	1	0	6	7	**1**	**2**	**0**	**7**	**10**	**31**
Total Volume	1	22	1	1	25	0	0	0	4	4	0	5	0	25	30	1	4	1	30	36	95
% App. Total	4	88	4	4		0	0	0	100		0	16.7	0	83.3		2.8	11.1	2.8	83.3		
PHF	.250	.423	.250	.250	.446	.000	.000	.000	.250	.250	.000	.417	.000	.781	.833	.250	.500	.250	.750	.750	.766

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City, State: Somerville. MA
Client: VHB/ A. Ng

File Name : 71360Som-A
Site Code : 10303
Start Date : 11/8/2007
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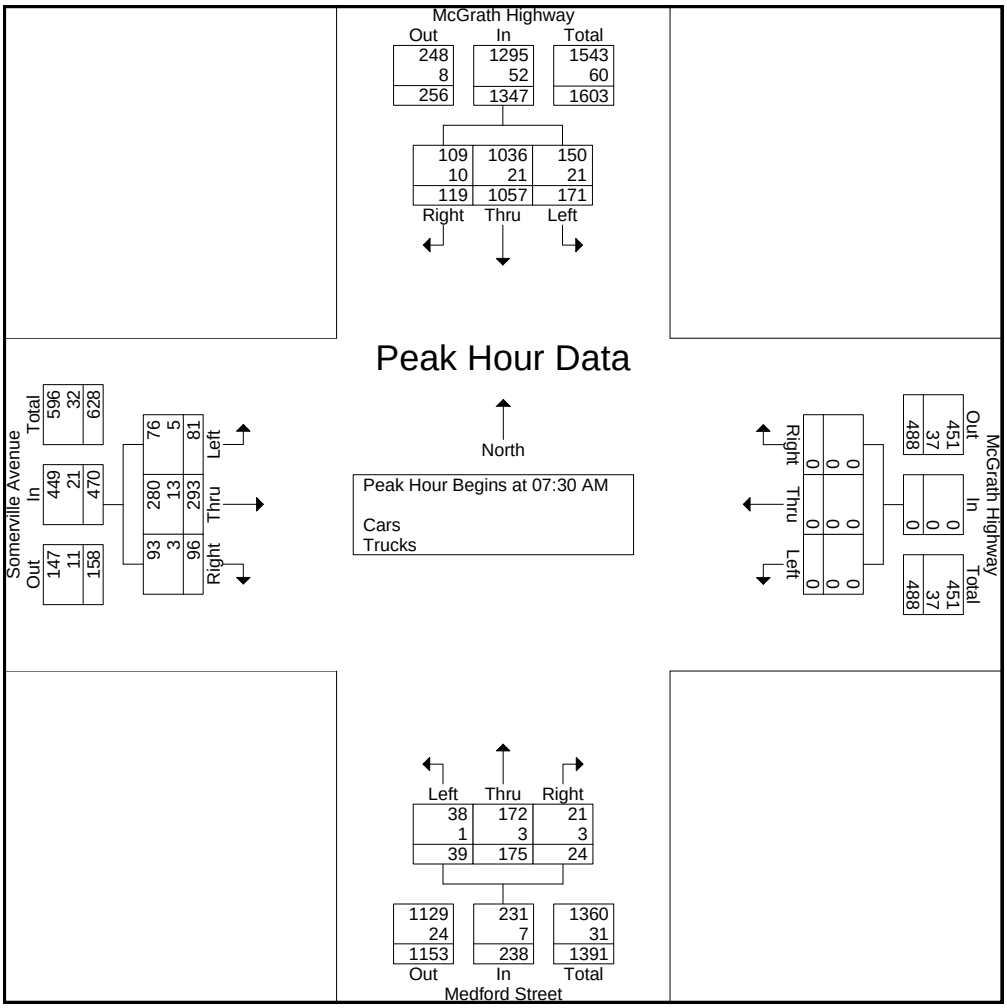
	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	29	241	30	300	0	0	0	0	**9**	**48**	8	**65**	13	**80**	**22**	115	480
07:45 AM	**32**	269	**53**	354	0	0	0	0	5	45	7	57	31	65	20	116	527
08:00 AM	27	**296**	37	**360**	0	0	0	0	4	44	10	58	18	73	22	113	**531**
08:15 AM	31	251	51	333	0	0	0	0	6	38	**14**	58	**34**	75	17	**126**	517
Total Volume	119	1057	171	1347	0	0	0	0	24	175	39	238	96	293	81	470	2055
% App. Total	8.8	78.5	12.7		0	0	0		10.1	73.5	16.4		20.4	62.3	17.2		
PHF	.930	.893	.807	.935	.000	.000	.000	.000	.667	.911	.696	.915	.706	.916	.920	.933	.968
Cars	109	1036	150	1295	0	0	0	0	21	172	38	231	93	280	76	449	1975
% Cars	91.6	98.0	87.7	96.1	0	0	0	0	87.5	98.3	97.4	97.1	96.9	95.6	93.8	95.5	96.1
Trucks	10	21	21	52	0	0	0	0	3	3	1	7	3	13	5	21	80
% Trucks	8.4	2.0	12.3	3.9	0	0	0	0	12.5	1.7	2.6	2.9	3.1	4.4	6.2	4.5	3.9



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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-AA
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			McGrath Highway From East			Medford Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	34	141	41	0	0	0	18	77	16	24	47	36	434
03:15 PM	57	135	56	0	0	0	14	100	13	14	68	44	501
03:30 PM	46	158	43	0	0	0	17	108	19	28	50	34	503
03:45 PM	55	135	39	0	0	0	14	89	11	16	55	36	450
Total	192	569	179	0	0	0	63	374	59	82	220	150	1888
04:00 PM	51	118	43	0	0	0	9	104	15	21	63	35	459
04:15 PM	57	150	39	0	0	0	16	114	24	22	42	41	505
04:30 PM	46	153	41	0	0	0	13	101	15	26	61	40	496
04:45 PM	50	158	39	0	0	0	15	113	21	24	56	47	523
Total	204	579	162	0	0	0	53	432	75	93	222	163	1983
05:00 PM	53	146	49	0	0	0	11	92	18	18	52	45	484
05:15 PM	55	156	57	0	0	0	14	109	25	20	39	39	514
05:30 PM	64	136	31	0	0	0	11	107	23	23	48	37	480
05:45 PM	39	128	34	0	0	0	7	120	12	15	61	30	446
Total	211	566	171	0	0	0	43	428	78	76	200	151	1924
Grand Total	607	1714	512	0	0	0	159	1234	212	251	642	464	5795
Apprch %	21.4	60.5	18.1	0	0	0	9.9	76.9	13.2	18.5	47.3	34.2	
Total %	10.5	29.6	8.8	0	0	0	2.7	21.3	3.7	4.3	11.1	8	
Cars	590	1687	468	0	0	0	151	1222	212	248	619	459	5656
% Cars	97.2	98.4	91.4	0	0	0	95	99	100	98.8	96.4	98.9	97.6
Trucks	17	27	44	0	0	0	8	12	0	3	23	5	139
% Trucks	2.8	1.6	8.6	0	0	0	5	1	0	1.2	3.6	1.1	2.4

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	46	153	41	240	0	0	0	0	13	101	15	129	**26**	**61**	40	**127**	496
04:45 PM	50	**158**	39	247	0	0	0	0	**15**	**113**	21	**149**	24	56	**47**	127	**523**
05:00 PM	53	146	49	248	0	0	0	0	11	92	18	121	18	52	45	115	484
05:15 PM	**55**	156	**57**	**268**	0	0	0	0	14	109	**25**	148	20	39	39	98	514
Total Volume	204	613	186	1003	0	0	0	0	53	415	79	547	88	208	171	467	2017
% App. Total	20.3	61.1	18.5		0	0	0		9.7	75.9	14.4		18.8	44.5	36.6		
PHF	.927	.970	.816	.936	.000	.000	.000	.000	.883	.918	.790	.918	.846	.852	.910	.919	.964
Cars	198	608	173	979	0	0	0	0	52	408	79	539	87	203	170	460	1978
% Cars	97.1	99.2	93.0	97.6	0	0	0	0	98.1	98.3	100	98.5	98.9	97.6	99.4	98.5	98.1
Trucks	6	5	13	24	0	0	0	0	1	7	0	8	1	5	1	7	39
% Trucks	2.9	0.8	7.0	2.4	0	0	0	0	1.9	1.7	0	1.5	1.1	2.4	0.6	1.5	1.9

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E/W: McGrath Highway/ Somerville Avenue
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-AA
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	McGrath Highway From North			McGrath Highway From East			Medford Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	34	134	37	0	0	0	14	77	16	24	45	35	416
03:15 PM	54	132	49	0	0	0	14	97	13	14	64	43	480
03:30 PM	45	154	38	0	0	0	15	107	19	28	48	34	488
03:45 PM	54	129	36	0	0	0	14	89	11	16	54	36	439
Total	187	549	160	0	0	0	57	370	59	82	211	148	1823
04:00 PM	48	118	39	0	0	0	9	103	15	21	58	35	446
04:15 PM	55	150	36	0	0	0	15	114	24	20	41	40	495
04:30 PM	45	151	36	0	0	0	13	98	15	25	58	39	480
04:45 PM	49	157	36	0	0	0	15	111	21	24	55	47	515
Total	197	576	147	0	0	0	52	426	75	90	212	161	1936
05:00 PM	50	145	46	0	0	0	11	91	18	18	51	45	475
05:15 PM	54	155	55	0	0	0	13	108	25	20	39	39	508
05:30 PM	64	135	28	0	0	0	11	107	23	23	46	36	473
05:45 PM	38	127	32	0	0	0	7	120	12	15	60	30	441
Total	206	562	161	0	0	0	42	426	78	76	196	150	1897
Grand Total	590	1687	468	0	0	0	151	1222	212	248	619	459	5656
Apprch %	21.5	61.5	17	0	0	0	9.5	77.1	13.4	18.7	46.7	34.6	
Total %	10.4	29.8	8.3	0	0	0	2.7	21.6	3.7	4.4	10.9	8.1	

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	45	151	36	232	0	0	0	0	13	98	15	126	**25**	**58**	39	122	480
04:45 PM	49	**157**	36	242	0	0	0	0	**15**	**111**	21	**147**	24	55	**47**	**126**	**515**
05:00 PM	50	145	46	241	0	0	0	0	11	91	18	120	18	51	45	114	475
05:15 PM	**54**	155	**55**	**264**	0	0	0	0	13	108	**25**	146	20	39	39	98	508
Total Volume	198	608	173	979	0	0	0	0	52	408	79	539	87	203	170	460	1978
% App. Total	20.2	62.1	17.7		0	0	0		9.6	75.7	14.7		18.9	44.1	37		
PHF	.917	.968	.786	.927	.000	.000	.000	.000	.867	.919	.790	.917	.870	.875	.904	.913	.960

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Groups Printed- Trucks

	McGrath Highway From North			McGrath Highway From East			Medford Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	7	4	0	0	0	4	0	0	0	2	1	18
03:15 PM	3	3	7	0	0	0	0	3	0	0	4	1	21
03:30 PM	1	4	5	0	0	0	2	1	0	0	2	0	15
03:45 PM	1	6	3	0	0	0	0	0	0	0	1	0	11
Total	5	20	19	0	0	0	6	4	0	0	9	2	65
04:00 PM	3	0	4	0	0	0	0	1	0	0	5	0	13
04:15 PM	2	0	3	0	0	0	1	0	0	2	1	1	10
04:30 PM	1	2	5	0	0	0	0	3	0	1	3	1	16
04:45 PM	1	1	3	0	0	0	0	2	0	0	1	0	8
Total	7	3	15	0	0	0	1	6	0	3	10	2	47
05:00 PM	3	1	3	0	0	0	0	1	0	0	1	0	9
05:15 PM	1	1	2	0	0	0	1	1	0	0	0	0	6
05:30 PM	0	1	3	0	0	0	0	0	0	0	2	1	7
05:45 PM	1	1	2	0	0	0	0	0	0	0	1	0	5
Total	5	4	10	0	0	0	1	2	0	0	4	1	27
Grand Total	17	27	44	0	0	0	8	12	0	3	23	5	139
Apprch %	19.3	30.7	50	0	0	0	40	60	0	9.7	74.2	16.1	
Total %	12.2	19.4	31.7	0	0	0	5.8	8.6	0	2.2	16.5	3.6	

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	**7**	4	11	0	0	0	0	**4**	0	0	**4**	0	2	**1**	3	18
03:15 PM	**3**	3	**7**	**13**	0	0	0	0	0	**3**	0	3	0	**4**	1	**5**	**21**
03:30 PM	1	4	5	10	0	0	0	0	2	1	0	3	0	2	0	2	15
03:45 PM	1	6	3	10	0	0	0	0	0	0	0	0	0	1	0	1	11
Total Volume	5	20	19	44	0	0	0	0	6	4	0	10	0	9	2	11	65
% App. Total	11.4	45.5	43.2		0	0	0		60	40	0		0	81.8	18.2		
PHF	.417	.714	.679	.846	.000	.000	.000	.000	.375	.333	.000	.625	.000	.563	.500	.550	.774

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Groups Printed- Peds and Bicycles

	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	6	1	1	0	0	0	3	0	1	0	7	0	0	0	7	26
03:15 PM	0	2	0	0	0	0	0	2	0	0	1	6	0	0	0	12	23
03:30 PM	0	2	1	0	0	0	0	0	0	1	0	0	0	0	1	18	23
03:45 PM	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	8	14
Total	0	10	2	5	0	0	0	5	0	2	1	15	0	0	1	45	86
04:00 PM	0	0	0	0	0	0	0	0	0	2	0	7	1	0	1	5	16
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	3	2	0	0	2	8
04:30 PM	0	1	0	0	1	0	0	3	0	1	0	3	0	0	0	5	14
04:45 PM	0	0	0	1	1	0	0	2	0	3	1	1	0	0	1	15	25
Total	0	1	0	1	2	0	0	5	0	7	1	14	3	0	2	27	63
05:00 PM	1	2	0	0	0	1	0	0	0	1	0	6	1	0	0	6	18
05:15 PM	0	0	0	2	0	2	0	2	0	5	1	4	0	1	1	11	29
05:30 PM	0	2	0	0	0	1	0	0	1	1	1	3	0	0	0	7	16
05:45 PM	0	4	0	0	0	0	0	0	0	1	0	4	0	0	0	7	16
Total	1	8	0	2	0	4	0	2	1	8	2	17	1	1	1	31	79
Grand Total	1	19	2	8	2	4	0	12	1	17	4	46	4	1	4	103	228
Apprch %	3.3	63.3	6.7	26.7	11.1	22.2	0	66.7	1.5	25	5.9	67.6	3.6	0.9	3.6	92	
Total %	0.4	8.3	0.9	3.5	0.9	1.8	0	5.3	0.4	7.5	1.8	20.2	1.8	0.4	1.8	45.2	

	McGrath Highway From North					McGrath Highway From East					Medford Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	1	1	**1**	0	0	**2**	3	0	3	**1**	1	5	0	0	**1**	**15**	**16**	25
05:00 PM	**1**	**2**	0	0	**3**	0	1	0	0	1	0	1	0	**6**	**7**	**1**	**0**	**0**	**6**	**7**	**18**
05:15 PM	**0**	**0**	**0**	**2**	**2**	**0**	**2**	**0**	**2**	**4**	0	**5**	**1**	**4**	**10**	0	**1**	1	11	13	**29**
05:30 PM	0	2	0	0	2	0	1	0	0	1	**1**	**1**	**1**	**3**	**6**	**0**	**0**	**0**	**7**	**7**	**16**
Total Volume	1	4	0	3	8	1	4	0	4	9	1	10	3	14	28	1	1	2	39	43	88
% App. Total	12.5	50	0	37.5		11.1	44.4	0	44.4		3.6	35.7	10.7	50		2.3	2.3	4.7	90.7		
PHF	.250	.500	.000	.375	.667	.250	.500	.000	.500	.563	.250	.500	.750	.583	.700	.250	.250	.500	.650	.672	.759

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-AA
Site Code : 10303
Start Date : 11/8/2007
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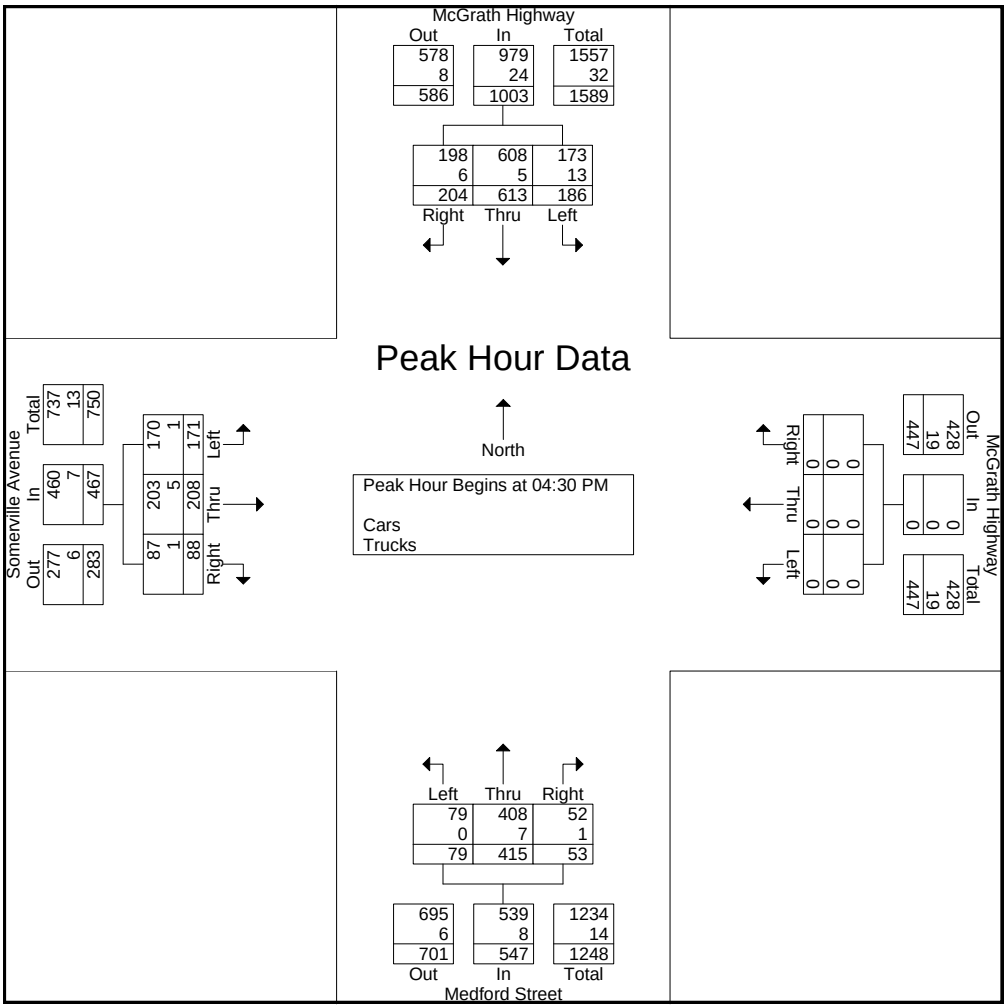
	McGrath Highway From North				McGrath Highway From East				Medford Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	46	153	41	240	0	0	0	0	13	101	15	129	**26**	**61**	40	**127**	496
04:45 PM	50	**158**	39	247	0	0	0	0	**15**	**113**	21	**149**	24	56	**47**	127	**523**
05:00 PM	53	146	49	248	0	0	0	0	11	92	18	121	18	52	45	115	484
05:15 PM	**55**	156	**57**	**268**	0	0	0	0	14	109	**25**	148	20	39	39	98	514
Total Volume	204	613	186	1003	0	0	0	0	53	415	79	547	88	208	171	467	2017
% App. Total	20.3	61.1	18.5		0	0	0		9.7	75.9	14.4		18.8	44.5	36.6		
PHF	.927	.970	.816	.936	.000	.000	.000	.000	.883	.918	.790	.918	.846	.852	.910	.919	.964
Cars	198	608	173	979	0	0	0	0	52	408	79	539	87	203	170	460	1978
% Cars	97.1	99.2	93.0	97.6	0	0	0	0	98.1	98.3	100	98.5	98.9	97.6	99.4	98.5	98.1
Trucks	6	5	13	24	0	0	0	0	1	7	0	8	1	5	1	7	39
% Trucks	2.9	0.8	7.0	2.4	0	0	0	0	1.9	1.7	0	1.5	1.1	2.4	0.6	1.5	1.9



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E/W: Highland Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-B
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Lowell Street From North			Highland Avenue From East			Lowell Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	27	0	27	2	83	0	8	15	7	0	86	3	258
07:15 AM	19	0	28	4	94	0	10	8	0	0	96	10	269
07:30 AM	31	0	37	8	83	0	12	10	3	0	101	3	288
07:45 AM	38	0	39	9	139	0	10	16	8	0	77	5	341
Total	115	0	131	23	399	0	40	49	18	0	360	21	1156
08:00 AM	44	0	37	6	118	0	7	14	4	0	86	8	324
08:15 AM	27	0	55	2	87	0	10	27	9	0	103	12	332
08:30 AM	34	0	29	7	80	0	6	7	7	0	84	12	266
08:45 AM	18	0	31	6	88	0	3	11	8	0	103	5	273
Total	123	0	152	21	373	0	26	59	28	0	376	37	1195
09:00 AM	21	0	22	5	79	0	6	5	4	0	98	8	248
09:15 AM	18	0	15	7	103	0	8	7	5	0	71	5	239
09:30 AM	14	0	13	8	72	0	6	13	6	0	91	5	228
09:45 AM	17	0	21	5	78	0	11	6	8	0	63	4	213
Total	70	0	71	25	332	0	31	31	23	0	323	22	928
Grand Total	308	0	354	69	1104	0	97	139	69	0	1059	80	3279
Apprch %	46.5	0	53.5	5.9	94.1	0	31.8	45.6	22.6	0	93	7	
Total %	9.4	0	10.8	2.1	33.7	0	3	4.2	2.1	0	32.3	2.4	
Cars	303	0	350	69	1058	0	96	134	67	0	1016	73	3166
% Cars	98.4	0	98.9	100	95.8	0	99	96.4	97.1	0	95.9	91.2	96.6
Trucks	5	0	4	0	46	0	1	5	2	0	43	7	113
% Trucks	1.6	0	1.1	0	4.2	0	1	3.6	2.9	0	4.1	8.8	3.4

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	31	0	37	68	8	83	0	91	**12**	10	3	25	0	101	3	104	288
07:45 AM	38	0	39	77	**9**	**139**	0	**148**	10	16	8	34	0	77	5	82	**341**
08:00 AM	**44**	0	37	81	6	118	0	124	7	14	4	25	0	86	8	94	324
08:15 AM	27	0	**55**	**82**	2	87	0	89	10	**27**	**9**	**46**	0	**103**	**12**	**115**	332
Total Volume	140	0	168	308	25	427	0	452	39	67	24	130	0	367	28	395	1285
% App. Total	45.5	0	54.5		5.5	94.5	0		30	51.5	18.5		0	92.9	7.1		
PHF	.795	.000	.764	.939	.694	.768	.000	.764	.813	.620	.667	.707	.000	.891	.583	.859	.942
Cars	136	0	166	302	25	410	0	435	39	64	24	127	0	353	27	380	1244
% Cars	97.1	0	98.8	98.1	100	96.0	0	96.2	100	95.5	100	97.7	0	96.2	96.4	96.2	96.8
Trucks	4	0	2	6	0	17	0	17	0	3	0	3	0	14	1	15	41
% Trucks	2.9	0	1.2	1.9	0	4.0	0	3.8	0	4.5	0	2.3	0	3.8	3.6	3.8	3.2

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File Name : 71360Som-B
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Lowell Street From North			Highland Avenue From East			Lowell Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	27	0	26	2	77	0	8	15	7	0	81	3	246
07:15 AM	19	0	28	4	92	0	10	6	0	0	93	7	259
07:30 AM	30	0	37	8	79	0	12	9	3	0	97	3	278
07:45 AM	36	0	39	9	134	0	10	14	8	0	74	5	329
Total	112	0	130	23	382	0	40	44	18	0	345	18	1112
08:00 AM	43	0	36	6	116	0	7	14	4	0	82	8	316
08:15 AM	27	0	54	2	81	0	10	27	9	0	100	11	321
08:30 AM	34	0	29	7	77	0	6	7	7	0	79	11	257
08:45 AM	18	0	31	6	82	0	3	11	8	0	100	5	264
Total	122	0	150	21	356	0	26	59	28	0	361	35	1158
09:00 AM	20	0	22	5	77	0	6	5	4	0	96	7	242
09:15 AM	18	0	15	7	100	0	8	7	5	0	65	4	229
09:30 AM	14	0	13	8	67	0	5	13	6	0	88	5	219
09:45 AM	17	0	20	5	76	0	11	6	6	0	61	4	206
Total	69	0	70	25	320	0	30	31	21	0	310	20	896
Grand Total	303	0	350	69	1058	0	96	134	67	0	1016	73	3166
Apprch %	46.4	0	53.6	6.1	93.9	0	32.3	45.1	22.6	0	93.3	6.7	
Total %	9.6	0	11.1	2.2	33.4	0	3	4.2	2.1	0	32.1	2.3	

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	30	0	37	67	8	79	0	87	**12**	9	3	24	0	97	3	100	278
07:45 AM	36	0	39	75	**9**	**134**	0	**143**	10	14	8	32	0	74	5	79	**329**
08:00 AM	**43**	0	36	79	6	116	0	122	7	14	4	25	0	82	8	90	316
08:15 AM	27	0	**54**	**81**	2	81	0	83	10	**27**	**9**	**46**	0	**100**	**11**	**111**	321
Total Volume	136	0	166	302	25	410	0	435	39	64	24	127	0	353	27	380	1244
% App. Total	45	0	55		5.7	94.3	0		30.7	50.4	18.9		0	92.9	7.1		
PHF	.791	.000	.769	.932	.694	.765	.000	.760	.813	.593	.667	.690	.000	.883	.614	.856	.945

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Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Lowell Street From North			Highland Avenue From East			Lowell Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	1	0	6	0	0	0	0	0	5	0	12
07:15 AM	0	0	0	0	2	0	0	2	0	0	3	3	10
07:30 AM	1	0	0	0	4	0	0	1	0	0	4	0	10
07:45 AM	2	0	0	0	5	0	0	2	0	0	3	0	12
Total	3	0	1	0	17	0	0	5	0	0	15	3	44
08:00 AM	1	0	1	0	2	0	0	0	0	0	4	0	8
08:15 AM	0	0	1	0	6	0	0	0	0	0	3	1	11
08:30 AM	0	0	0	0	3	0	0	0	0	0	5	1	9
08:45 AM	0	0	0	0	6	0	0	0	0	0	3	0	9
Total	1	0	2	0	17	0	0	0	0	0	15	2	37
09:00 AM	1	0	0	0	2	0	0	0	0	0	2	1	6
09:15 AM	0	0	0	0	3	0	0	0	0	0	6	1	10
09:30 AM	0	0	0	0	5	0	1	0	0	0	3	0	9
09:45 AM	0	0	1	0	2	0	0	0	2	0	2	0	7
Total	1	0	1	0	12	0	1	0	2	0	13	2	32
Grand Total	5	0	4	0	46	0	1	5	2	0	43	7	113
Apprch %	55.6	0	44.4	0	100	0	12.5	62.5	25	0	86	14	
Total %	4.4	0	3.5	0	40.7	0	0.9	4.4	1.8	0	38.1	6.2	

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**1**	1	0	**6**	0	**6**	0	0	0	0	0	**5**	0	5	**12**
07:15 AM	0	0	0	0	0	2	0	2	0	**2**	0	**2**	0	3	**3**	**6**	10
07:30 AM	1	0	0	1	0	4	0	4	0	1	0	1	0	4	0	4	10
07:45 AM	**2**	0	0	**2**	0	5	0	5	0	2	0	2	0	3	0	3	12
Total Volume	3	0	1	4	0	17	0	17	0	5	0	5	0	15	3	18	44
% App. Total	75	0	25		0	100	0		0	100	0		0	83.3	16.7		
PHF	.375	.000	.250	.500	.000	.708	.000	.708	.000	.625	.000	.625	.000	.750	.250	.750	.917

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Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	13	0	1	0	3	0	0	0	4	0	0	0	2	23
07:15 AM	0	0	0	4	0	2	0	8	0	0	0	10	0	0	0	1	25
07:30 AM	1	0	0	14	0	0	0	7	0	0	0	16	0	0	0	1	39
07:45 AM	0	0	0	7	0	1	0	4	0	0	0	2	0	1	0	1	16
Total	1	0	0	38	0	4	0	22	0	0	0	32	0	1	0	5	103
08:00 AM	0	0	0	9	0	1	0	2	0	0	0	10	0	3	1	4	30
08:15 AM	0	0	0	5	0	1	0	1	2	0	0	12	0	3	0	4	28
08:30 AM	1	0	0	5	0	2	0	8	0	0	0	7	0	2	0	1	26
08:45 AM	0	0	0	5	0	4	0	5	0	0	1	12	0	2	0	1	30
Total	1	0	0	24	0	8	0	16	2	0	1	41	0	10	1	10	114
09:00 AM	0	0	0	6	0	5	0	8	0	0	0	7	0	1	0	3	30
09:15 AM	0	0	0	9	0	2	0	4	0	0	0	10	0	0	1	2	28
09:30 AM	1	0	0	5	0	2	0	5	0	0	0	4	0	1	0	0	18
09:45 AM	0	0	0	4	0	1	0	2	0	0	1	4	0	1	0	4	17
Total	1	0	0	24	0	10	0	19	0	0	1	25	0	3	1	9	93
Grand Total	3	0	0	86	0	22	0	57	2	0	2	98	0	14	2	24	310
Apprch %	3.4	0	0	96.6	0	27.8	0	72.2	2	0	2	96.1	0	35	5	60	
Total %	1	0	0	27.7	0	7.1	0	18.4	0.6	0	0.6	31.6	0	4.5	0.6	7.7	

	Lowell Street From North					Highland Avenue From East					Lowell Street From South					Highland Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	**9**	**9**	0	1	0	2	3	0	0	0	10	10	0	**3**	**1**	**4**	**8**	**30**
08:15 AM	0	0	0	5	5	0	1	0	1	2	**2**	**0**	**0**	**12**	**14**	0	3	0	4	7	28
08:30 AM	**1**	**0**	**0**	**5**	**6**	**0**	**2**	**0**	**8**	**10**	0	0	0	7	7	0	2	0	1	3	26
08:45 AM	0	0	0	5	5	0	**4**	**0**	**5**	**9**	**0**	**0**	**1**	12	13	0	2	0	1	3	30
Total Volume	1	0	0	24	25	0	8	0	16	24	2	0	1	41	44	0	10	1	10	21	114
% App. Total	4	0	0	96		0	33.3	0	66.7		4.5	0	2.3	93.2		0	47.6	4.8	47.6		
PHF	.250	.000	.000	.667	.694	.000	.500	.000	.500	.600	.250	.000	.250	.854	.786	.000	.833	.250	.625	.656	.950

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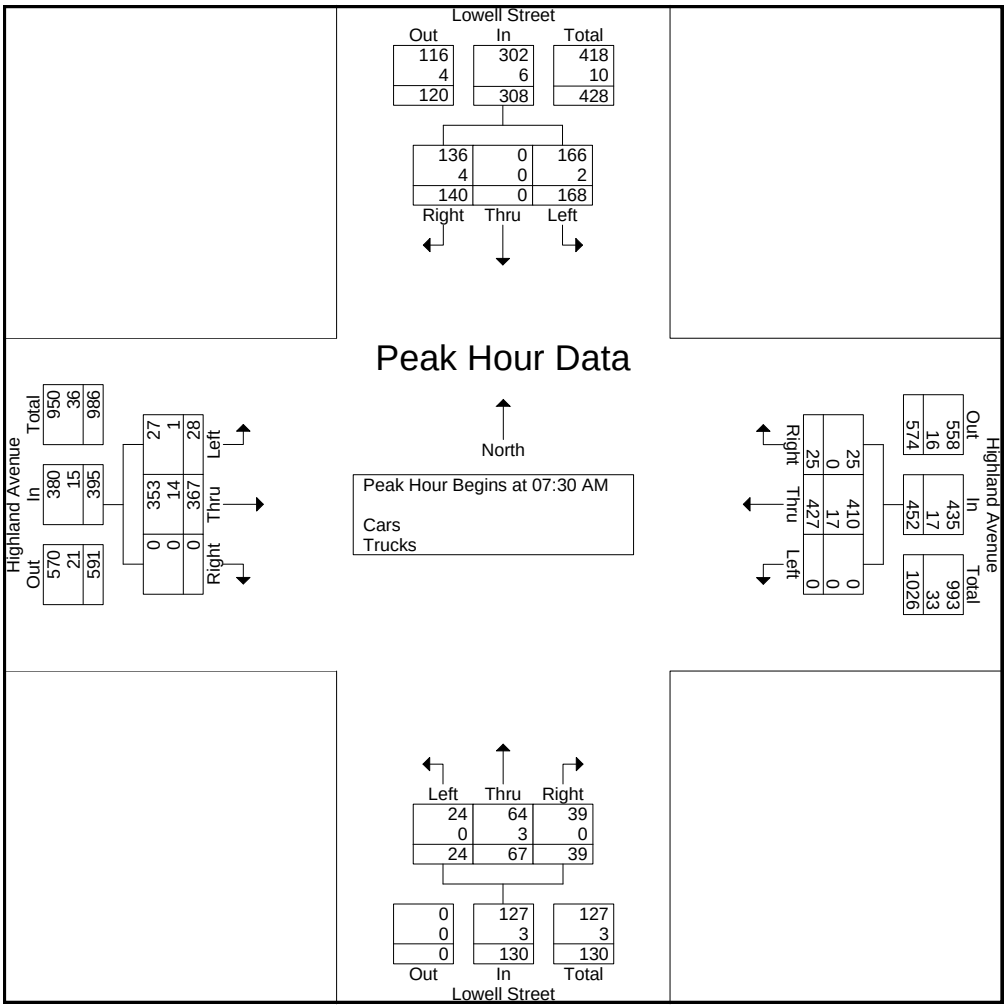
	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	31	0	37	68	8	83	0	91	**12**	10	3	25	0	101	3	104	288
07:45 AM	38	0	39	77	**9**	**139**	0	**148**	10	16	8	34	0	77	5	82	**341**
08:00 AM	**44**	0	37	81	6	118	0	124	7	14	4	25	0	86	8	94	324
08:15 AM	27	0	**55**	**82**	2	87	0	89	10	**27**	**9**	**46**	0	**103**	**12**	**115**	332
Total Volume	140	0	168	308	25	427	0	452	39	67	24	130	0	367	28	395	1285
% App. Total	45.5	0	54.5		5.5	94.5	0		30	51.5	18.5		0	92.9	7.1		
PHF	.795	.000	.764	.939	.694	.768	.000	.764	.813	.620	.667	.707	.000	.891	.583	.859	.942
Cars	136	0	166	302	25	410	0	435	39	64	24	127	0	353	27	380	1244
% Cars	97.1	0	98.8	98.1	100	96.0	0	96.2	100	95.5	100	97.7	0	96.2	96.4	96.2	96.8
Trucks	4	0	2	6	0	17	0	17	0	3	0	3	0	14	1	15	41
% Trucks	2.9	0	1.2	1.9	0	4.0	0	3.8	0	4.5	0	2.3	0	3.8	3.6	3.8	3.2



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E/W: Highland Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-BB
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Lowell Street From North			Highland Avenue From East			Lowell Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	19	0	17	10	86	0	6	19	9	0	94	9	269
03:15 PM	12	0	7	13	113	0	5	11	9	0	75	12	257
03:30 PM	13	0	12	18	121	0	8	26	9	0	88	9	304
03:45 PM	10	0	15	9	101	0	7	23	5	0	85	9	264
Total	54	0	51	50	421	0	26	79	32	0	342	39	1094
04:00 PM	12	0	9	10	115	0	12	19	9	0	88	8	282
04:15 PM	10	0	15	10	120	0	9	25	3	0	76	8	276
04:30 PM	15	0	15	7	101	2	8	17	9	0	78	13	265
04:45 PM	25	0	10	11	126	0	11	22	10	0	80	11	306
Total	62	0	49	38	462	2	40	83	31	0	322	40	1129
05:00 PM	19	1	17	11	117	0	10	30	13	2	103	9	332
05:15 PM	16	0	7	10	122	0	8	21	16	0	102	13	315
05:30 PM	15	0	14	13	122	0	9	19	10	0	98	7	307
05:45 PM	23	0	8	12	112	0	9	21	12	0	111	16	324
Total	73	1	46	46	473	0	36	91	51	2	414	45	1278
Grand Total	189	1	146	134	1356	2	102	253	114	2	1078	124	3501
Apprch %	56.2	0.3	43.5	9	90.9	0.1	21.7	53.9	24.3	0.2	89.5	10.3	
Total %	5.4	0	4.2	3.8	38.7	0.1	2.9	7.2	3.3	0.1	30.8	3.5	
Cars	189	1	144	134	1326	2	101	251	114	2	1051	121	3436
% Cars	100	100	98.6	100	97.8	100	99	99.2	100	100	97.5	97.6	98.1
Trucks	0	0	2	0	30	0	1	2	0	0	27	3	65
% Trucks	0	0	1.4	0	2.2	0	1	0.8	0	0	2.5	2.4	1.9

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**1**	**17**	**37**	11	117	0	128	**10**	**30**	13	**53**	**2**	103	9	114	**332**
05:15 PM	16	0	7	23	10	**122**	0	132	8	21	**16**	45	0	102	13	115	315
05:30 PM	15	0	14	29	**13**	122	0	**135**	9	19	10	38	0	98	7	105	307
05:45 PM	**23**	0	8	31	12	112	0	124	9	21	12	42	0	**111**	**16**	**127**	324
Total Volume	73	1	46	120	46	473	0	519	36	91	51	178	2	414	45	461	1278
% App. Total	60.8	0.8	38.3		8.9	91.1	0		20.2	51.1	28.7		0.4	89.8	9.8		
PHF	.793	.250	.676	.811	.885	.969	.000	.961	.900	.758	.797	.840	.250	.932	.703	.907	.962
Cars	73	1	46	120	46	466	0	512	36	90	51	177	2	404	45	451	1260
% Cars	100	100	100	100	100	98.5	0	98.7	100	98.9	100	99.4	100	97.6	100	97.8	98.6
Trucks	0	0	0	0	0	7	0	7	0	1	0	1	0	10	0	10	18
% Trucks	0	0	0	0	0	1.5	0	1.3	0	1.1	0	0.6	0	2.4	0	2.2	1.4

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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-BB
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Lowell Street From North			Highland Avenue From East			Lowell Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	19	0	16	10	83	0	5	18	9	0	91	8	259
03:15 PM	12	0	7	13	111	0	5	11	9	0	70	11	249
03:30 PM	13	0	11	18	118	0	8	26	9	0	86	9	298
03:45 PM	10	0	15	9	96	0	7	23	5	0	84	9	258
Total	54	0	49	50	408	0	25	78	32	0	331	37	1064
04:00 PM	12	0	9	10	113	0	12	19	9	0	87	8	279
04:15 PM	10	0	15	10	117	0	9	25	3	0	74	8	271
04:30 PM	15	0	15	7	100	2	8	17	9	0	76	13	262
04:45 PM	25	0	10	11	122	0	11	22	10	0	79	10	300
Total	62	0	49	38	452	2	40	83	31	0	316	39	1112
05:00 PM	19	1	17	11	114	0	10	30	13	2	101	9	327
05:15 PM	16	0	7	10	122	0	8	21	16	0	99	13	312
05:30 PM	15	0	14	13	120	0	9	18	10	0	96	7	302
05:45 PM	23	0	8	12	110	0	9	21	12	0	108	16	319
Total	73	1	46	46	466	0	36	90	51	2	404	45	1260
Grand Total	189	1	144	134	1326	2	101	251	114	2	1051	121	3436
Apprch %	56.6	0.3	43.1	9.2	90.7	0.1	21.7	53.9	24.5	0.2	89.5	10.3	
Total %	5.5	0	4.2	3.9	38.6	0.1	2.9	7.3	3.3	0.1	30.6	3.5	

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**1**	**17**	**37**	11	114	0	125	**10**	**30**	13	**53**	**2**	101	9	112	**327**
05:15 PM	16	0	7	23	10	**122**	0	132	8	21	**16**	45	0	99	13	112	312
05:30 PM	15	0	14	29	**13**	120	0	**133**	9	18	10	37	0	96	7	103	302
05:45 PM	**23**	0	8	31	12	110	0	122	9	21	12	42	0	**108**	**16**	**124**	319
Total Volume	73	1	46	120	46	466	0	512	36	90	51	177	2	404	45	451	1260
% App. Total	60.8	0.8	38.3		9	91	0		20.3	50.8	28.8		0.4	89.6	10		
PHF	.793	.250	.676	.811	.885	.955	.000	.962	.900	.750	.797	.835	.250	.935	.703	.909	.963

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Client: VHB/A. Ng

File Name : 71360Som-BB
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Trucks

	Lowell Street From North			Highland Avenue From East			Lowell Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	1	0	3	0	1	1	0	0	3	1	10
03:15 PM	0	0	0	0	2	0	0	0	0	0	5	1	8
03:30 PM	0	0	1	0	3	0	0	0	0	0	2	0	6
03:45 PM	0	0	0	0	5	0	0	0	0	0	1	0	6
Total	0	0	2	0	13	0	1	1	0	0	11	2	30
04:00 PM	0	0	0	0	2	0	0	0	0	0	1	0	3
04:15 PM	0	0	0	0	3	0	0	0	0	0	2	0	5
04:30 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
04:45 PM	0	0	0	0	4	0	0	0	0	0	1	1	6
Total	0	0	0	0	10	0	0	0	0	0	6	1	17
05:00 PM	0	0	0	0	3	0	0	0	0	0	2	0	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	3
05:30 PM	0	0	0	0	2	0	0	1	0	0	2	0	5
05:45 PM	0	0	0	0	2	0	0	0	0	0	3	0	5
Total	0	0	0	0	7	0	0	1	0	0	10	0	18
Grand Total	0	0	2	0	30	0	1	2	0	0	27	3	65
Apprch %	0	0	100	0	100	0	33.3	66.7	0	0	90	10	
Total %	0	0	3.1	0	46.2	0	1.5	3.1	0	0	41.5	4.6	

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	**1**	**1**	0	3	0	3	**1**	**1**	0	**2**	0	3	**1**	4	**10**
03:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**5**	1	**6**	8
03:30 PM	0	0	1	1	0	3	0	3	0	0	0	0	0	2	0	2	6
03:45 PM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	1	0	1	6
Total Volume	0	0	2	2	0	13	0	13	1	1	0	2	0	11	2	13	30
% App. Total	0	0	100		0	100	0		50	50	0		0	84.6	15.4		
PHF	.000	.000	.500	.500	.000	.650	.000	.650	.250	.250	.000	.250	.000	.550	.500	.542	.750

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Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	14	0	0	0	4	0	0	0	7	0	0	0	4	30
03:15 PM	0	0	0	6	0	2	0	15	0	0	1	10	0	1	0	2	37
03:30 PM	0	0	0	7	1	1	0	2	0	0	0	9	0	2	0	2	24
03:45 PM	0	0	0	14	0	0	0	10	0	0	0	8	0	1	0	3	36
Total	0	1	0	41	1	3	0	31	0	0	1	34	0	4	0	11	127
04:00 PM	0	0	0	6	0	0	0	3	0	0	0	4	0	0	0	2	15
04:15 PM	0	0	0	17	0	1	0	7	0	0	1	9	0	1	0	4	40
04:30 PM	0	0	0	10	0	0	0	2	1	0	0	3	0	2	0	5	23
04:45 PM	0	0	0	6	0	1	0	1	0	0	0	8	0	4	0	1	21
Total	0	0	0	39	0	2	0	13	1	0	1	24	0	7	0	12	99
05:00 PM	0	0	0	9	0	1	0	7	0	0	0	10	0	0	0	2	29
05:15 PM	0	0	0	12	0	0	0	2	0	1	0	5	0	0	0	2	22
05:30 PM	0	0	0	20	0	3	0	5	0	0	0	2	0	0	0	6	36
05:45 PM	0	0	0	12	0	1	0	5	0	0	0	10	0	1	0	3	32
Total	0	0	0	53	0	5	0	19	0	1	0	27	0	1	0	13	119
Grand Total	0	1	0	133	1	10	0	63	1	1	2	85	0	12	0	36	345
Apprch %	0	0.7	0	99.3	1.4	13.5	0	85.1	1.1	1.1	2.2	95.5	0	25	0	75	
Total %	0	0.3	0	38.6	0.3	2.9	0	18.3	0.3	0.3	0.6	24.6	0	3.5	0	10.4	

	Lowell Street From North					Highland Avenue From East					Lowell Street From South					Highland Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	**1**	0	**14**	**15**	0	0	0	4	4	0	0	0	7	7	0	0	0	**4**	**4**	30
03:15 PM	0	0	0	6	6	0	**2**	**0**	**15**	**17**	0	0	**1**	**10**	**11**	0	1	0	2	3	**37**
03:30 PM	0	0	0	7	7	**1**	1	0	2	4	0	0	0	9	9	0	**2**	0	2	4	24
03:45 PM	0	0	0	14	14	0	0	0	10	10	0	0	0	8	8	0	1	0	3	4	36
Total Volume	0	1	0	41	42	1	3	0	31	35	0	0	1	34	35	0	4	0	11	15	127
% App. Total	0	2.4	0	97.6		2.9	8.6	0	88.6		0	0	2.9	97.1		0	26.7	0	73.3		
PHF	.000	.250	.000	.732	.700	.250	.375	.000	.517	.515	.000	.000	.250	.850	.795	.000	.500	.000	.688	.938	.858

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File Name : 71360Som-BB
Site Code : 10303
Start Date : 11/8/2007
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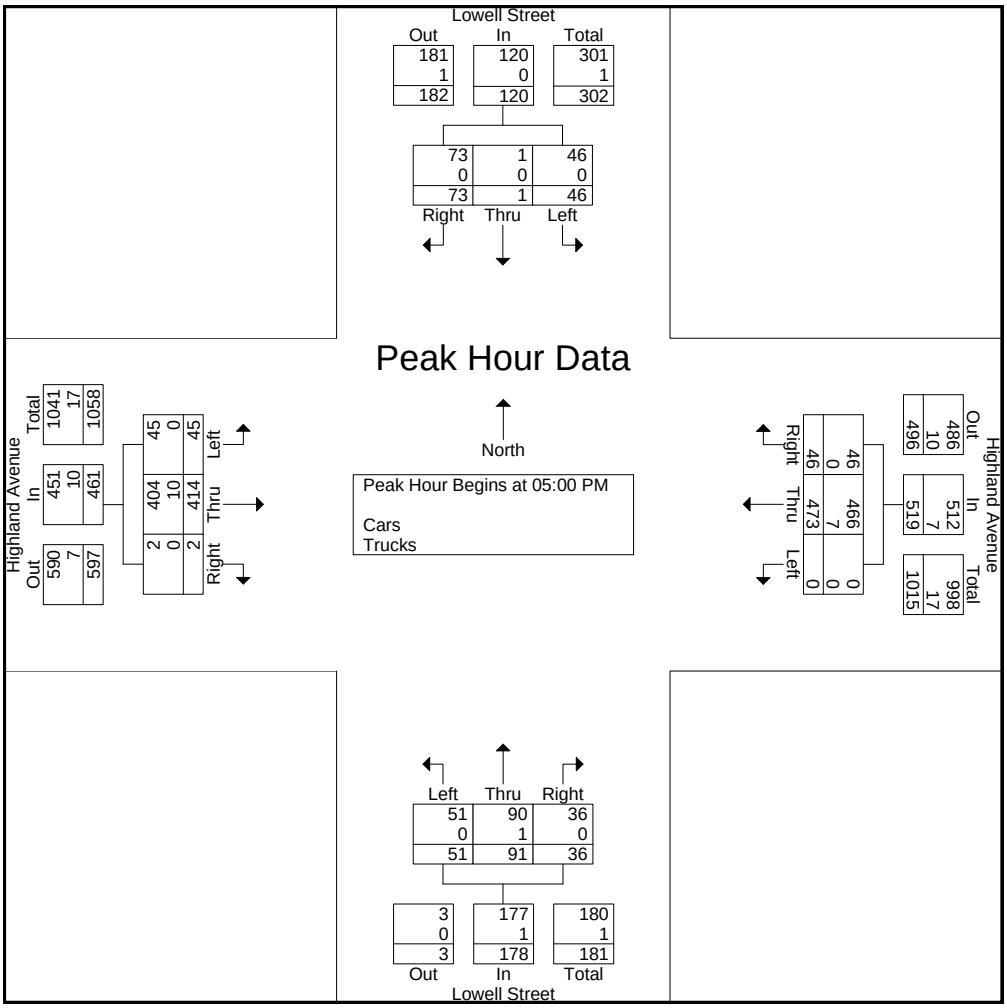
	Lowell Street From North				Highland Avenue From East				Lowell Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**1**	**17**	**37**	11	117	0	128	**10**	**30**	13	**53**	**2**	103	9	114	**332**
05:15 PM	16	0	7	23	10	**122**	0	132	8	21	**16**	45	0	102	13	115	315
05:30 PM	15	0	14	29	**13**	122	0	**135**	9	19	10	38	0	98	7	105	307
05:45 PM	**23**	0	8	31	12	112	0	124	9	21	12	42	0	**111**	**16**	**127**	324
Total Volume	73	1	46	120	46	473	0	519	36	91	51	178	2	414	45	461	1278
% App. Total	60.8	0.8	38.3		8.9	91.1	0		20.2	51.1	28.7		0.4	89.8	9.8		
PHF	.793	.250	.676	.811	.885	.969	.000	.961	.900	.758	.797	.840	.250	.932	.703	.907	.962
Cars	73	1	46	120	46	466	0	512	36	90	51	177	2	404	45	451	1260
% Cars	100	100	100	100	100	98.5	0	98.7	100	98.9	100	99.4	100	97.6	100	97.8	98.6
Trucks	0	0	0	0	0	7	0	7	0	1	0	1	0	10	0	10	18
% Trucks	0	0	0	0	0	1.5	0	1.3	0	1.1	0	0.6	0	2.4	0	2.2	1.4



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N/S: Central Street
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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-C
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Central Street From North			Highland Avenue From East			Central Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	23	51	5	4	49	1	5	29	8	10	91	3	279
07:15 AM	17	52	4	4	65	4	24	43	12	8	96	5	334
07:30 AM	15	73	8	7	66	7	6	55	5	7	106	5	360
07:45 AM	12	54	6	10	90	12	12	43	12	8	109	8	376
Total	67	230	23	25	270	24	47	170	37	33	402	21	1349
08:00 AM	12	43	4	2	67	2	11	45	3	9	83	7	288
08:15 AM	8	49	8	3	59	5	13	47	16	9	81	5	303
08:30 AM	10	44	4	3	61	4	7	37	3	7	79	3	262
08:45 AM	16	43	15	3	61	5	12	33	12	8	75	5	288
Total	46	179	31	11	248	16	43	162	34	33	318	20	1141
09:00 AM	13	34	10	4	76	3	12	35	4	6	104	3	304
09:15 AM	10	49	6	7	76	2	8	52	7	7	82	4	310
09:30 AM	5	19	3	3	49	2	14	28	12	12	67	1	215
09:45 AM	8	29	2	7	60	4	13	42	8	7	61	3	244
Total	36	131	21	21	261	11	47	157	31	32	314	11	1073
Grand Total	149	540	75	57	779	51	137	489	102	98	1034	52	3563
Apprch %	19.5	70.7	9.8	6.4	87.8	5.7	18.8	67.2	14	8.3	87.3	4.4	
Total %	4.2	15.2	2.1	1.6	21.9	1.4	3.8	13.7	2.9	2.8	29	1.5	
Cars	145	535	73	56	735	50	133	482	95	98	996	51	3449
% Cars	97.3	99.1	97.3	98.2	94.4	98	97.1	98.6	93.1	100	96.3	98.1	96.8
Trucks	4	5	2	1	44	1	4	7	7	0	38	1	114
% Trucks	2.7	0.9	2.7	1.8	5.6	2	2.9	1.4	6.9	0	3.7	1.9	3.2

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**17**	52	4	73	4	65	4	73	**24**	43	**12**	**79**	8	96	5	109	334
07:30 AM	15	**73**	**8**	**96**	7	66	7	80	6	**55**	5	66	7	106	5	118	360
07:45 AM	12	54	6	72	**10**	**90**	**12**	**112**	12	43	12	67	8	**109**	**8**	**125**	**376**
08:00 AM	12	43	4	59	2	67	2	71	11	45	3	59	**9**	83	7	99	288
Total Volume	56	222	22	300	23	288	25	336	53	186	32	271	32	394	25	451	1358
% App. Total	18.7	74	7.3		6.8	85.7	7.4		19.6	68.6	11.8		7.1	87.4	5.5		
PHF	.824	.760	.688	.781	.575	.800	.521	.750	.552	.845	.667	.858	.889	.904	.781	.902	.903
Cars	54	221	21	296	22	275	24	321	51	182	32	265	32	379	25	436	1318
% Cars	96.4	99.5	95.5	98.7	95.7	95.5	96.0	95.5	96.2	97.8	100	97.8	100	96.2	100	96.7	97.1
Trucks	2	1	1	4	1	13	1	15	2	4	0	6	0	15	0	15	40
% Trucks	3.6	0.5	4.5	1.3	4.3	4.5	4.0	4.5	3.8	2.2	0	2.2	0	3.8	0	3.3	2.9

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E/W: Highland Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-C
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Cars

	Central Street From North			Highland Avenue From East			Central Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	23	51	5	4	44	1	5	29	8	10	87	3	270
07:15 AM	17	52	4	4	62	4	24	42	12	8	92	5	326
07:30 AM	15	72	8	6	66	7	5	54	5	7	105	5	355
07:45 AM	11	54	6	10	84	11	12	43	12	8	103	8	362
Total	66	229	23	24	256	23	46	168	37	33	387	21	1313
08:00 AM	11	43	3	2	63	2	10	43	3	9	79	7	275
08:15 AM	7	49	8	3	57	5	13	47	13	9	79	4	294
08:30 AM	10	44	4	3	57	4	7	37	3	7	76	3	255
08:45 AM	16	42	14	3	53	5	12	33	11	8	70	5	272
Total	44	178	29	11	230	16	42	160	30	33	304	19	1096
09:00 AM	12	34	10	4	72	3	12	35	4	6	101	3	296
09:15 AM	10	49	6	7	76	2	8	52	6	7	79	4	306
09:30 AM	5	17	3	3	43	2	12	27	12	12	66	1	203
09:45 AM	8	28	2	7	58	4	13	40	6	7	59	3	235
Total	35	128	21	21	249	11	45	154	28	32	305	11	1040
Grand Total	145	535	73	56	735	50	133	482	95	98	996	51	3449
Apprch %	19.3	71	9.7	6.7	87.4	5.9	18.7	67.9	13.4	8.6	87	4.5	
Total %	4.2	15.5	2.1	1.6	21.3	1.4	3.9	14	2.8	2.8	28.9	1.5	

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**17**	52	4	73	4	62	4	70	**24**	42	**12**	**78**	8	92	5	105	326
07:30 AM	15	**72**	**8**	**95**	6	66	7	79	5	**54**	5	64	7	**105**	5	117	355
07:45 AM	11	54	6	71	**10**	**84**	**11**	**105**	12	43	12	67	8	103	**8**	**119**	**362**
08:00 AM	11	43	3	57	2	63	2	67	10	43	3	56	**9**	79	7	95	275
Total Volume	54	221	21	296	22	275	24	321	51	182	32	265	32	379	25	436	1318
% App. Total	18.2	74.7	7.1		6.9	85.7	7.5		19.2	68.7	12.1		7.3	86.9	5.7		
PHF	.794	.767	.656	.779	.550	.818	.545	.764	.531	.843	.667	.849	.889	.902	.781	.916	.910

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Site Code : 10303
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Groups Printed- Trucks

	Central Street From North			Highland Avenue From East			Central Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	5	0	0	0	0	0	4	0	9
07:15 AM	0	0	0	0	3	0	0	1	0	0	4	0	8
07:30 AM	0	1	0	1	0	0	1	1	0	0	1	0	5
07:45 AM	1	0	0	0	6	1	0	0	0	0	6	0	14
Total	1	1	0	1	14	1	1	2	0	0	15	0	36
08:00 AM	1	0	1	0	4	0	1	2	0	0	4	0	13
08:15 AM	1	0	0	0	2	0	0	0	3	0	2	1	9
08:30 AM	0	0	0	0	4	0	0	0	0	0	3	0	7
08:45 AM	0	1	1	0	8	0	0	0	1	0	5	0	16
Total	2	1	2	0	18	0	1	2	4	0	14	1	45
09:00 AM	1	0	0	0	4	0	0	0	0	0	3	0	8
09:15 AM	0	0	0	0	0	0	0	0	1	0	3	0	4
09:30 AM	0	2	0	0	6	0	2	1	0	0	1	0	12
09:45 AM	0	1	0	0	2	0	0	2	2	0	2	0	9
Total	1	3	0	0	12	0	2	3	3	0	9	0	33
Grand Total	4	5	2	1	44	1	4	7	7	0	38	1	114
Apprch %	36.4	45.5	18.2	2.2	95.7	2.2	22.2	38.9	38.9	0	97.4	2.6	
Total %	3.5	4.4	1.8	0.9	38.6	0.9	3.5	6.1	6.1	0	33.3	0.9	

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**1**	0	**1**	**2**	0	4	0	4	**1**	**2**	0	**3**	0	4	0	4	13
08:15 AM	1	0	0	1	0	2	0	2	0	0	**3**	3	0	2	**1**	3	9
08:30 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
08:45 AM	0	**1**	1	2	0	**8**	0	**8**	0	0	1	1	0	**5**	0	**5**	**16**
Total Volume	2	1	2	5	0	18	0	18	1	2	4	7	0	14	1	15	45
% App. Total	40	20	40		0	100	0		14.3	28.6	57.1		0	93.3	6.7		
PHF	.500	.250	.500	.625	.000	.563	.000	.563	.250	.250	.333	.583	.000	.700	.250	.750	.703

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Groups Printed- Peds and Bicycles

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	4	0	0	0	0	0	2	0	1	0	0	0	0	0	5	12
07:15 AM	0	0	0	7	0	2	0	3	0	0	0	3	0	0	0	10	25
07:30 AM	0	1	0	7	0	2	0	3	0	0	0	3	0	0	0	10	26
07:45 AM	0	0	0	2	0	2	0	6	0	0	0	6	0	2	0	15	33
Total	0	5	0	16	0	6	0	14	0	1	0	12	0	2	0	40	96
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	6	10
08:15 AM	0	3	1	0	0	1	0	3	0	0	0	6	1	0	0	20	35
08:30 AM	0	3	0	4	0	3	0	3	0	0	0	5	0	0	0	11	29
08:45 AM	0	2	0	1	0	1	0	4	0	0	1	4	0	1	0	15	29
Total	0	9	1	6	0	5	0	10	0	0	1	16	1	2	0	52	103
09:00 AM	1	1	0	9	0	3	0	4	0	2	0	2	1	1	0	12	36
09:15 AM	0	0	1	7	0	2	0	2	0	0	1	4	1	2	0	7	27
09:30 AM	0	0	0	5	0	1	0	3	0	1	0	2	0	0	0	10	22
09:45 AM	0	2	0	2	0	1	0	2	0	0	0	3	1	0	0	21	32
Total	1	3	1	23	0	7	0	11	0	3	1	11	3	3	0	50	117
Grand Total	1	17	2	45	0	18	0	35	0	4	2	39	4	7	0	142	316
Apprch %	1.5	26.2	3.1	69.2	0	34	0	66	0	8.9	4.4	86.7	2.6	4.6	0	92.8	
Total %	0.3	5.4	0.6	14.2	0	5.7	0	11.1	0	1.3	0.6	12.3	1.3	2.2	0	44.9	

	Central Street From North					Highland Avenue From East					Central Street From South					Highland Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	0	**3**	**1**	**0**	**4**	**0**	**1**	**0**	**3**	**4**	**0**	**0**	**0**	**6**	**6**	**1**	**0**	**0**	**20**	**21**	35
08:30 AM	0	3	0	4	7	0	**3**	**0**	**3**	**6**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**11**	**11**	**29**
08:45 AM	**0**	**2**	**0**	**1**	**3**	**0**	**1**	**0**	**4**	5	0	0	**1**	4	5	0	**1**	0	15	16	29
09:00 AM	**1**	**1**	**0**	**9**	**11**	0	3	0	4	**7**	0	**2**	**0**	**2**	**4**	**1**	**1**	**0**	**12**	**14**	**36**
Total Volume	1	9	1	14	25	0	8	0	14	22	0	2	1	17	20	2	2	0	58	62	129
% App. Total	4	36	4	56		0	36.4	0	63.6		0	10	5	85		3.2	3.2	0	93.5		
PHF	.250	.750	.250	.389	.568	.000	.667	.000	.875	.786	.000	.250	.250	.708	.833	.500	.500	.000	.725	.738	.896

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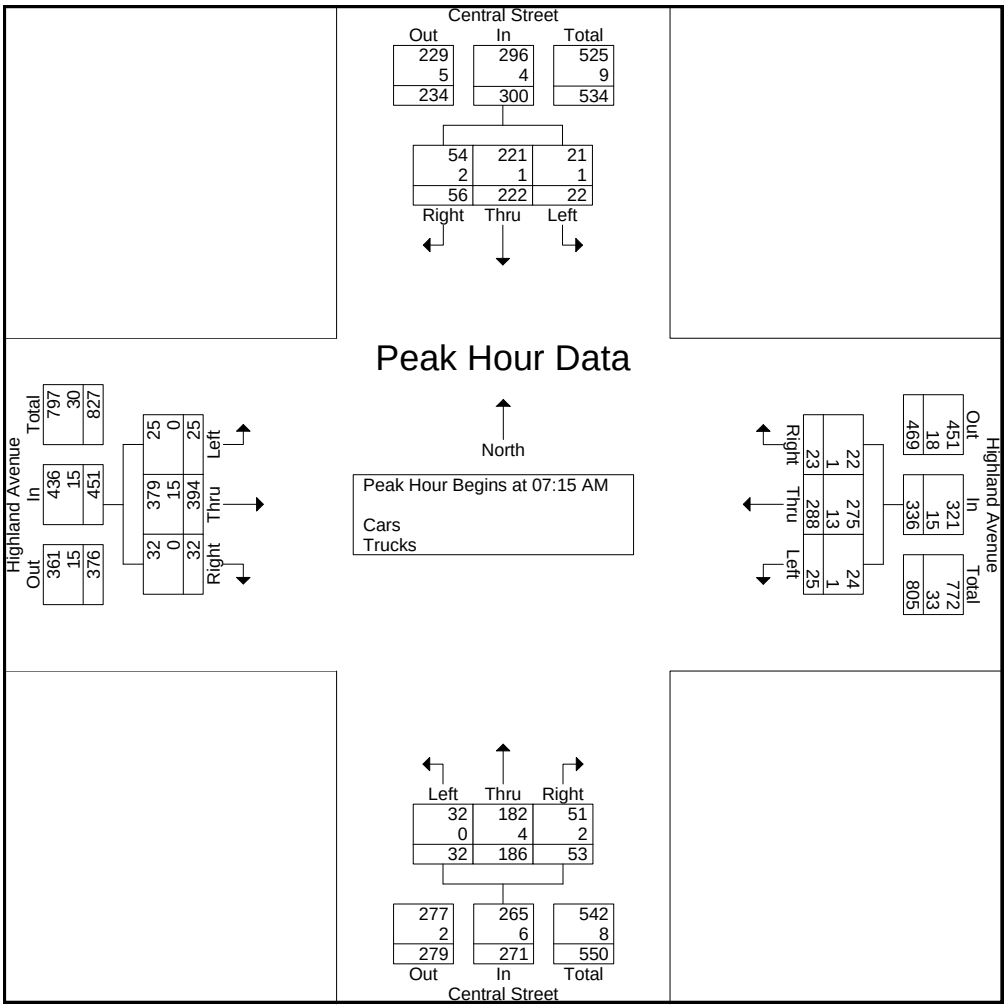
	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**17**	52	4	73	4	65	4	73	**24**	43	**12**	**79**	8	96	5	109	334
07:30 AM	15	**73**	**8**	**96**	7	66	7	80	6	**55**	5	66	7	106	5	118	360
07:45 AM	12	54	6	72	**10**	**90**	**12**	**112**	12	43	12	67	8	**109**	**8**	**125**	**376**
08:00 AM	12	43	4	59	2	67	2	71	11	45	3	59	**9**	83	7	99	288
Total Volume	56	222	22	300	23	288	25	336	53	186	32	271	32	394	25	451	1358
% App. Total	18.7	74	7.3		6.8	85.7	7.4		19.6	68.6	11.8		7.1	87.4	5.5		
PHF	.824	.760	.688	.781	.575	.800	.521	.750	.552	.845	.667	.858	.889	.904	.781	.902	.903
Cars	54	221	21	296	22	275	24	321	51	182	32	265	32	379	25	436	1318
% Cars	96.4	99.5	95.5	98.7	95.7	95.5	96.0	95.5	96.2	97.8	100	97.8	100	96.2	100	96.7	97.1
Trucks	2	1	1	4	1	13	1	15	2	4	0	6	0	15	0	15	40
% Trucks	3.6	0.5	4.5	1.3	4.3	4.5	4.0	4.5	3.8	2.2	0	2.2	0	3.8	0	3.3	2.9



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Groups Printed- Cars - Trucks

	Central Street From North			Highland Avenue From East			Central Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	16	29	6	8	81	8	22	67	6	2	87	8	340
03:15 PM	19	26	8	7	100	5	19	73	11	4	80	7	359
03:30 PM	11	20	8	5	90	7	23	91	15	8	94	9	381
03:45 PM	18	30	2	5	79	4	19	62	14	6	73	4	316
Total	64	105	24	25	350	24	83	293	46	20	334	28	1396
04:00 PM	9	28	5	11	92	3	14	93	9	7	83	8	362
04:15 PM	12	23	6	14	95	6	16	86	11	4	70	8	351
04:30 PM	12	24	4	8	64	8	16	92	5	4	66	12	315
04:45 PM	12	23	7	11	110	7	25	88	9	4	78	8	382
Total	45	98	22	44	361	24	71	359	34	19	297	36	1410
05:00 PM	13	13	1	6	95	9	22	82	11	6	84	8	350
05:15 PM	8	30	5	9	95	5	25	72	15	3	94	9	370
05:30 PM	11	24	3	12	99	5	15	66	13	9	74	13	344
05:45 PM	10	40	2	6	91	10	22	100	18	5	75	9	388
Total	42	107	11	33	380	29	84	320	57	23	327	39	1452
Grand Total	151	310	57	102	1091	77	238	972	137	62	958	103	4258
Apprch %	29.2	59.8	11	8	85.9	6.1	17.7	72.2	10.2	5.5	85.3	9.2	
Total %	3.5	7.3	1.3	2.4	25.6	1.8	5.6	22.8	3.2	1.5	22.5	2.4	
Cars	151	310	57	101	1052	77	233	960	134	61	921	100	4157
% Cars	100	100	100	99	96.4	100	97.9	98.8	97.8	98.4	96.1	97.1	97.6
Trucks	0	0	0	1	39	0	5	12	3	1	37	3	101
% Trucks	0	0	0	1	3.6	0	2.1	1.2	2.2	1.6	3.9	2.9	2.4

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**13**	13	1	27	6	95	9	110	22	82	11	115	6	84	8	98	350
05:15 PM	8	30	**5**	43	9	95	5	109	**25**	72	15	112	3	**94**	9	**106**	370
05:30 PM	11	24	3	38	**12**	**99**	5	**116**	15	66	13	94	**9**	74	**13**	96	344
05:45 PM	10	**40**	2	**52**	6	91	**10**	107	22	**100**	**18**	**140**	5	75	9	89	**388**
Total Volume	42	107	11	160	33	380	29	442	84	320	57	461	23	327	39	389	1452
% App. Total	26.2	66.9	6.9		7.5	86	6.6		18.2	69.4	12.4		5.9	84.1	10		
PHF	.808	.669	.550	.769	.688	.960	.725	.953	.840	.800	.792	.823	.639	.870	.750	.917	.936
Cars	42	107	11	160	33	373	29	435	84	317	56	457	23	319	38	380	1432
% Cars	100	100	100	100	100	98.2	100	98.4	100	99.1	98.2	99.1	100	97.6	97.4	97.7	98.6
Trucks	0	0	0	0	0	7	0	7	0	3	1	4	0	8	1	9	20
% Trucks	0	0	0	0	0	1.8	0	1.6	0	0.9	1.8	0.9	0	2.4	2.6	2.3	1.4

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Groups Printed- Cars

	Central Street From North			Highland Avenue From East			Central Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	16	29	6	8	78	8	21	66	6	2	81	8	329
03:15 PM	19	26	8	7	96	5	18	71	10	4	74	6	344
03:30 PM	11	20	8	5	84	7	22	88	15	7	89	8	364
03:45 PM	18	30	2	5	73	4	19	61	14	6	70	4	306
Total	64	105	24	25	331	24	80	286	45	19	314	26	1343
04:00 PM	9	28	5	11	90	3	14	93	9	7	80	8	357
04:15 PM	12	23	6	14	92	6	16	86	11	4	69	8	347
04:30 PM	12	24	4	7	62	8	15	91	4	4	63	12	306
04:45 PM	12	23	7	11	104	7	24	87	9	4	76	8	372
Total	45	98	22	43	348	24	69	357	33	19	288	36	1382
05:00 PM	13	13	1	6	91	9	22	81	10	6	82	8	342
05:15 PM	8	30	5	9	95	5	25	72	15	3	91	9	367
05:30 PM	11	24	3	12	98	5	15	66	13	9	72	12	340
05:45 PM	10	40	2	6	89	10	22	98	18	5	74	9	383
Total	42	107	11	33	373	29	84	317	56	23	319	38	1432
Grand Total	151	310	57	101	1052	77	233	960	134	61	921	100	4157
Apprch %	29.2	59.8	11	8.2	85.5	6.3	17.6	72.3	10.1	5.6	85.1	9.2	
Total %	3.6	7.5	1.4	2.4	25.3	1.9	5.6	23.1	3.2	1.5	22.2	2.4	

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**13**	13	1	27	6	91	9	106	22	81	10	113	6	82	8	96	342
05:15 PM	8	30	**5**	43	9	95	5	109	**25**	72	15	112	3	**91**	9	**103**	367
05:30 PM	11	24	3	38	**12**	**98**	5	**115**	15	66	13	94	**9**	72	**12**	93	340
05:45 PM	10	**40**	2	**52**	6	89	**10**	105	22	**98**	**18**	**138**	5	74	9	88	**383**
Total Volume	42	107	11	160	33	373	29	435	84	317	56	457	23	319	38	380	1432
% App. Total	26.2	66.9	6.9		7.6	85.7	6.7		18.4	69.4	12.3		6.1	83.9	10		
PHF	.808	.669	.550	.769	.688	.952	.725	.946	.840	.809	.778	.828	.639	.876	.792	.922	.935

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Client: VHB/A. Ng

File Name : 71360Som-CC
Site Code : 10303
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Groups Printed- Trucks

	Central Street From North			Highland Avenue From East			Central Street From South			Highland Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	3	0	1	1	0	0	6	0	11
03:15 PM	0	0	0	0	4	0	1	2	1	0	6	1	15
03:30 PM	0	0	0	0	6	0	1	3	0	1	5	1	17
03:45 PM	0	0	0	0	6	0	0	1	0	0	3	0	10
Total	0	0	0	0	19	0	3	7	1	1	20	2	53
04:00 PM	0	0	0	0	2	0	0	0	0	0	3	0	5
04:15 PM	0	0	0	0	3	0	0	0	0	0	1	0	4
04:30 PM	0	0	0	1	2	0	1	1	1	0	3	0	9
04:45 PM	0	0	0	0	6	0	1	1	0	0	2	0	10
Total	0	0	0	1	13	0	2	2	1	0	9	0	28
05:00 PM	0	0	0	0	4	0	0	1	1	0	2	0	8
05:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	3
05:30 PM	0	0	0	0	1	0	0	0	0	0	2	1	4
05:45 PM	0	0	0	0	2	0	0	2	0	0	1	0	5
Total	0	0	0	0	7	0	0	3	1	0	8	1	20
Grand Total	0	0	0	1	39	0	5	12	3	1	37	3	101
Apprch %	0	0	0	2.5	97.5	0	25	60	15	2.4	90.2	7.3	
Total %	0	0	0	1	38.6	0	5	11.9	3	1	36.6	3	

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	3	0	3	**1**	1	0	2	0	**6**	0	6	11
03:15 PM	0	0	0	0	0	4	0	4	1	2	**1**	**4**	0	6	**1**	**7**	15
03:30 PM	0	0	0	0	0	**6**	0	**6**	1	**3**	0	4	**1**	5	1	7	**17**
03:45 PM	0	0	0	0	0	6	0	6	0	1	0	1	0	3	0	3	10
Total Volume	0	0	0	0	0	19	0	19	3	7	1	11	1	20	2	23	53
% App. Total	0	0	0		0	100	0		27.3	63.6	9.1		4.3	87	8.7		
PHF	.000	.000	.000	.000	.000	.792	.000	.792	.750	.583	.250	.688	.250	.833	.500	.821	.779

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Groups Printed- Peds and Bicycles

	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	5	0	0	0	4	0	0	0	7	0	0	0	20	37
03:15 PM	0	0	0	4	1	0	0	2	0	0	0	14	0	0	0	17	38
03:30 PM	0	0	0	5	0	1	0	1	0	2	0	8	1	0	0	1	19
03:45 PM	0	0	0	4	0	0	0	2	0	1	0	2	0	1	0	19	29
Total	0	1	0	18	1	1	0	9	0	3	0	31	1	1	0	57	123
04:00 PM	0	0	0	1	0	0	0	3	0	1	0	1	0	0	0	9	15
04:15 PM	0	0	0	6	0	1	0	3	1	2	0	0	0	0	0	5	18
04:30 PM	0	2	0	0	0	0	0	0	0	0	0	11	0	1	0	1	15
04:45 PM	0	1	0	3	0	0	0	4	0	1	0	1	0	1	0	3	14
Total	0	3	0	10	0	1	0	10	1	4	0	13	0	2	0	18	62
05:00 PM	1	1	0	0	1	0	0	0	0	1	0	1	0	0	0	4	9
05:15 PM	0	0	0	0	0	1	0	9	0	1	0	5	0	0	0	7	23
05:30 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	5
05:45 PM	0	1	0	5	0	2	0	0	0	2	0	3	0	0	0	10	23
Total	1	2	0	6	1	3	0	9	0	6	0	9	0	0	0	23	60
Grand Total	1	6	0	34	2	5	0	28	1	13	0	53	1	3	0	98	245
Apprch %	2.4	14.6	0	82.9	5.7	14.3	0	80	1.5	19.4	0	79.1	1	2.9	0	96.1	
Total %	0.4	2.4	0	13.9	0.8	2	0	11.4	0.4	5.3	0	21.6	0.4	1.2	0	40	

	Central Street From North					Highland Avenue From East					Central Street From South					Highland Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	**1**	0	**5**	**6**	0	0	0	**4**	**4**	0	0	0	7	7	0	0	0	**20**	**20**	37
03:15 PM	0	0	0	4	4	**1**	0	0	2	3	0	0	0	**14**	**14**	0	0	0	17	17	**38**
03:30 PM	0	0	0	5	5	0	**1**	**0**	**1**	**2**	**0**	**2**	**0**	**8**	**10**	**1**	**0**	**0**	**1**	**2**	**19**
03:45 PM	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**2**	**3**	**0**	**1**	0	19	20	29
Total Volume	0	1	0	18	19	1	1	0	9	11	0	3	0	31	34	1	1	0	57	59	123
% App. Total	0	5.3	0	94.7		9.1	9.1	0	81.8		0	8.8	0	91.2		1.7	1.7	0	96.6		
PHF	.000	.250	.000	.900	.792	.250	.250	.000	.563	.688	.000	.375	.000	.554	.607	.250	.250	.000	.713	.738	.809

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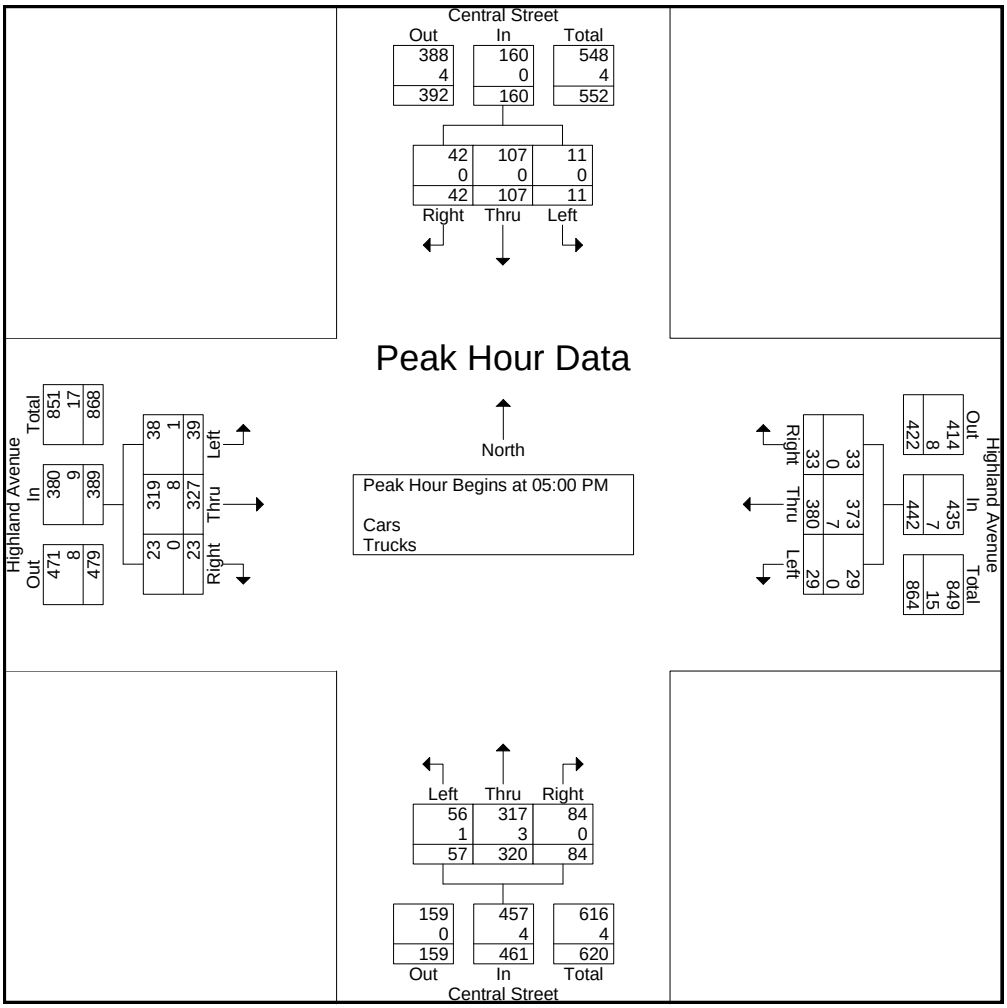
	Central Street From North				Highland Avenue From East				Central Street From South				Highland Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**13**	13	1	27	6	95	9	110	22	82	11	115	6	84	8	98	350
05:15 PM	8	30	**5**	43	9	95	5	109	**25**	72	15	112	3	**94**	9	**106**	370
05:30 PM	11	24	3	38	**12**	**99**	5	**116**	15	66	13	94	**9**	74	**13**	96	344
05:45 PM	10	**40**	2	**52**	6	91	**10**	107	22	**100**	**18**	**140**	5	75	9	89	**388**
Total Volume	42	107	11	160	33	380	29	442	84	320	57	461	23	327	39	389	1452
% App. Total	26.2	66.9	6.9		7.5	86	6.6		18.2	69.4	12.4		5.9	84.1	10		
PHF	.808	.669	.550	.769	.688	.960	.725	.953	.840	.800	.792	.823	.639	.870	.750	.917	.936
Cars	42	107	11	160	33	373	29	435	84	317	56	457	23	319	38	380	1432
% Cars	100	100	100	100	100	98.2	100	98.4	100	99.1	98.2	99.1	100	97.6	97.4	97.7	98.6
Trucks	0	0	0	0	0	7	0	7	0	3	1	4	0	8	1	9	20
% Trucks	0	0	0	0	0	1.8	0	1.6	0	0.9	1.8	0.9	0	2.4	2.6	2.3	1.4



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Client: VHB/ A. Ng

File Name : 71360Som-D
Site Code : 10303
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Groups Printed- Cars - Trucks

	School Street From North			Highland Street From East			School Street From South			Highland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	14	54	31	0	67	8	0	0	0	5	93	0	272
07:15 AM	20	63	47	0	73	8	0	0	0	4	118	0	333
07:30 AM	29	54	59	0	88	9	0	0	0	0	115	0	354
07:45 AM	27	58	56	0	103	11	0	0	0	2	120	0	377
Total	90	229	193	0	331	36	0	0	0	11	446	0	1336
08:00 AM	18	78	46	0	97	7	0	0	0	5	110	0	361
08:15 AM	15	59	32	0	69	11	0	0	0	8	136	0	330
08:30 AM	12	57	23	0	59	4	0	0	0	13	112	0	280
08:45 AM	28	68	35	0	76	11	0	0	0	7	114	0	339
Total	73	262	136	0	301	33	0	0	0	33	472	0	1310
09:00 AM	22	56	27	6	58	6	0	0	0	6	130	0	311
09:15 AM	18	49	38	0	68	7	0	0	0	8	90	0	278
09:30 AM	13	41	10	0	51	8	0	0	0	4	105	0	232
09:45 AM	12	41	28	0	77	8	0	0	0	7	68	0	241
Total	65	187	103	6	254	29	0	0	0	25	393	0	1062
Grand Total	228	678	432	6	886	98	0	0	0	69	1311	0	3708
Apprch %	17	50.7	32.3	0.6	89.5	9.9	0	0	0	5	95	0	
Total %	6.1	18.3	11.7	0.2	23.9	2.6	0	0	0	1.9	35.4	0	
Cars	224	664	418	6	841	93	0	0	0	69	1268	0	3583
% Cars	98.2	97.9	96.8	100	94.9	94.9	0	0	0	100	96.7	0	96.6
Trucks	4	14	14	0	45	5	0	0	0	0	43	0	125
% Trucks	1.8	2.1	3.2	0	5.1	5.1	0	0	0	0	3.3	0	3.4

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	20	63	47	130	0	73	8	81	0	0	0	0	4	118	0	**122**	333
07:30 AM	**29**	54	**59**	**142**	0	88	9	97	0	0	0	0	0	115	0	115	354
07:45 AM	27	58	56	141	0	**103**	**11**	**114**	0	0	0	0	2	**120**	0	122	**377**
08:00 AM	18	**78**	46	142	0	97	7	104	0	0	0	0	**5**	110	0	115	361
Total Volume	94	253	208	555	0	361	35	396	0	0	0	0	11	463	0	474	1425
% App. Total	16.9	45.6	37.5		0	91.2	8.8		0	0	0		2.3	97.7	0		
PHF	.810	.811	.881	.977	.000	.876	.795	.868	.000	.000	.000	.000	.550	.965	.000	.971	.945
Cars	93	248	206	547	0	344	34	378	0	0	0	0	11	448	0	459	1384
% Cars	98.9	98.0	99.0	98.6	0	95.3	97.1	95.5	0	0	0	0	100	96.8	0	96.8	97.1
Trucks	1	5	2	8	0	17	1	18	0	0	0	0	0	15	0	15	41
% Trucks	1.1	2.0	1.0	1.4	0	4.7	2.9	4.5	0	0	0	0	0	3.2	0	3.2	2.9

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File Name : 71360Som-D
Site Code : 10303
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Groups Printed- Cars

	School Street From North			Highland Street From East			School Street From South			Highland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	13	51	29	0	63	7	0	0	0	5	88	0	256
07:15 AM	20	60	46	0	69	8	0	0	0	4	114	0	321
07:30 AM	28	52	59	0	85	9	0	0	0	0	112	0	345
07:45 AM	27	58	56	0	98	11	0	0	0	2	119	0	371
Total	88	221	190	0	315	35	0	0	0	11	433	0	1293
08:00 AM	18	78	45	0	92	6	0	0	0	5	103	0	347
08:15 AM	14	59	32	0	67	10	0	0	0	8	132	0	322
08:30 AM	12	57	23	0	53	4	0	0	0	13	108	0	270
08:45 AM	27	67	34	0	71	10	0	0	0	7	110	0	326
Total	71	261	134	0	283	30	0	0	0	33	453	0	1265
09:00 AM	22	56	26	6	56	5	0	0	0	6	128	0	305
09:15 AM	18	48	33	0	68	7	0	0	0	8	86	0	268
09:30 AM	13	39	9	0	45	8	0	0	0	4	102	0	220
09:45 AM	12	39	26	0	74	8	0	0	0	7	66	0	232
Total	65	182	94	6	243	28	0	0	0	25	382	0	1025
Grand Total	224	664	418	6	841	93	0	0	0	69	1268	0	3583
Apprch %	17.2	50.8	32	0.6	89.5	9.9	0	0	0	5.2	94.8	0	
Total %	6.3	18.5	11.7	0.2	23.5	2.6	0	0	0	1.9	35.4	0	

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**28**	52	**59**	139	0	85	9	94	0	0	0	0	0	112	0	112	345
07:45 AM	27	58	56	**141**	0	**98**	**11**	**109**	0	0	0	0	2	119	0	121	**371**
08:00 AM	18	**78**	45	141	0	92	6	98	0	0	0	0	5	103	0	108	347
08:15 AM	14	59	32	105	0	67	10	77	0	0	0	0	**8**	**132**	0	**140**	322
Total Volume	87	247	192	526	0	342	36	378	0	0	0	0	15	466	0	481	1385
% App. Total	16.5	47	36.5		0	90.5	9.5		0	0	0		3.1	96.9	0		
PHF	.777	.792	.814	.933	.000	.872	.818	.867	.000	.000	.000	.000	.469	.883	.000	.859	.933

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File Name : 71360Som-D
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	School Street From North			Highland Street From East			School Street From South			Highland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	3	2	0	4	1	0	0	0	0	5	0	16
07:15 AM	0	3	1	0	4	0	0	0	0	0	4	0	12
07:30 AM	1	2	0	0	3	0	0	0	0	0	3	0	9
07:45 AM	0	0	0	0	5	0	0	0	0	0	1	0	6
Total	2	8	3	0	16	1	0	0	0	0	13	0	43
08:00 AM	0	0	1	0	5	1	0	0	0	0	7	0	14
08:15 AM	1	0	0	0	2	1	0	0	0	0	4	0	8
08:30 AM	0	0	0	0	6	0	0	0	0	0	4	0	10
08:45 AM	1	1	1	0	5	1	0	0	0	0	4	0	13
Total	2	1	2	0	18	3	0	0	0	0	19	0	45
09:00 AM	0	0	1	0	2	1	0	0	0	0	2	0	6
09:15 AM	0	1	5	0	0	0	0	0	0	0	4	0	10
09:30 AM	0	2	1	0	6	0	0	0	0	0	3	0	12
09:45 AM	0	2	2	0	3	0	0	0	0	0	2	0	9
Total	0	5	9	0	11	1	0	0	0	0	11	0	37
Grand Total	4	14	14	0	45	5	0	0	0	0	43	0	125
Apprch %	12.5	43.8	43.8	0	90	10	0	0	0	0	100	0	
Total %	3.2	11.2	11.2	0	36	4	0	0	0	0	34.4	0	

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	**1**	1	0	5	**1**	**6**	0	0	0	0	0	**7**	0	**7**	**14**
08:15 AM	**1**	0	0	1	0	2	1	3	0	0	0	0	0	4	0	4	8
08:30 AM	0	0	0	0	0	**6**	0	6	0	0	0	0	0	4	0	4	10
08:45 AM	1	**1**	1	**3**	0	5	1	6	0	0	0	0	0	4	0	4	13
Total Volume	2	1	2	5	0	18	3	21	0	0	0	0	0	19	0	19	45
% App. Total	40	20	40		0	85.7	14.3		0	0	0		0	100	0		
PHF	.500	.250	.500	.417	.000	.750	.750	.875	.000	.000	.000	.000	.000	.679	.000	.679	.804

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E/W: Highland Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-D
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	22	0	0	0	9	0	0	0	15	0	2	0	24	72
07:15 AM	0	0	0	24	0	0	0	17	0	0	0	17	0	1	0	13	72
07:30 AM	0	1	0	38	0	0	0	28	0	0	0	29	0	0	0	6	102
07:45 AM	0	2	1	31	0	1	0	17	0	0	0	13	0	2	0	16	83
Total	0	3	1	115	0	1	0	71	0	0	0	74	0	5	0	59	329
08:00 AM	0	0	0	10	0	1	0	8	0	0	0	10	1	1	0	17	48
08:15 AM	0	4	0	17	0	1	0	6	0	0	0	6	0	3	0	18	55
08:30 AM	0	2	0	9	0	1	0	2	0	0	0	9	0	1	0	8	32
08:45 AM	0	2	0	2	0	1	0	2	0	0	0	6	0	3	0	5	21
Total	0	8	0	38	0	4	0	18	0	0	0	31	1	8	0	48	156
09:00 AM	0	1	0	4	0	4	0	4	0	0	0	7	1	0	0	0	21
09:15 AM	0	3	0	3	0	0	0	3	0	0	0	12	0	3	0	4	28
09:30 AM	0	0	0	7	0	2	0	2	0	0	0	7	2	0	0	4	24
09:45 AM	0	3	0	7	0	1	0	1	0	0	0	6	0	0	0	3	21
Total	0	7	0	21	0	7	0	10	0	0	0	32	3	3	0	11	94
Grand Total	0	18	1	174	0	12	0	99	0	0	0	137	4	16	0	118	579
Apprch %	0	9.3	0.5	90.2	0	10.8	0	89.2	0	0	0	100	2.9	11.6	0	85.5	
Total %	0	3.1	0.2	30.1	0	2.1	0	17.1	0	0	0	23.7	0.7	2.8	0	20.4	

	School Street From North					Highland Street From East					School Street From South					Highland Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	22	22	0	0	0	9	9	0	0	0	15	15	0	**2**	0	**24**	**26**	72
07:15 AM	0	0	0	24	24	0	0	0	17	17	0	0	0	17	17	0	1	0	13	14	72
07:30 AM	0	1	0	**38**	**39**	0	0	0	**28**	**28**	0	0	0	**29**	**29**	0	0	0	6	6	**102**
07:45 AM	0	**2**	**1**	**31**	**34**	**0**	**1**	**0**	**17**	**18**	**0**	**0**	**0**	**13**	**13**	**0**	**2**	**0**	**16**	**18**	**83**
Total Volume	0	3	1	115	119	0	1	0	71	72	0	0	0	74	74	0	5	0	59	64	329
% App. Total	0	2.5	0.8	96.6		0	1.4	0	98.6		0	0	0	100		0	7.8	0	92.2		
PHF	.000	.375	.250	.757	.763	.000	.250	.000	.634	.643	.000	.000	.000	.638	.638	.000	.625	.000	.615	.615	.806

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File Name : 71360Som-D
Site Code : 10303
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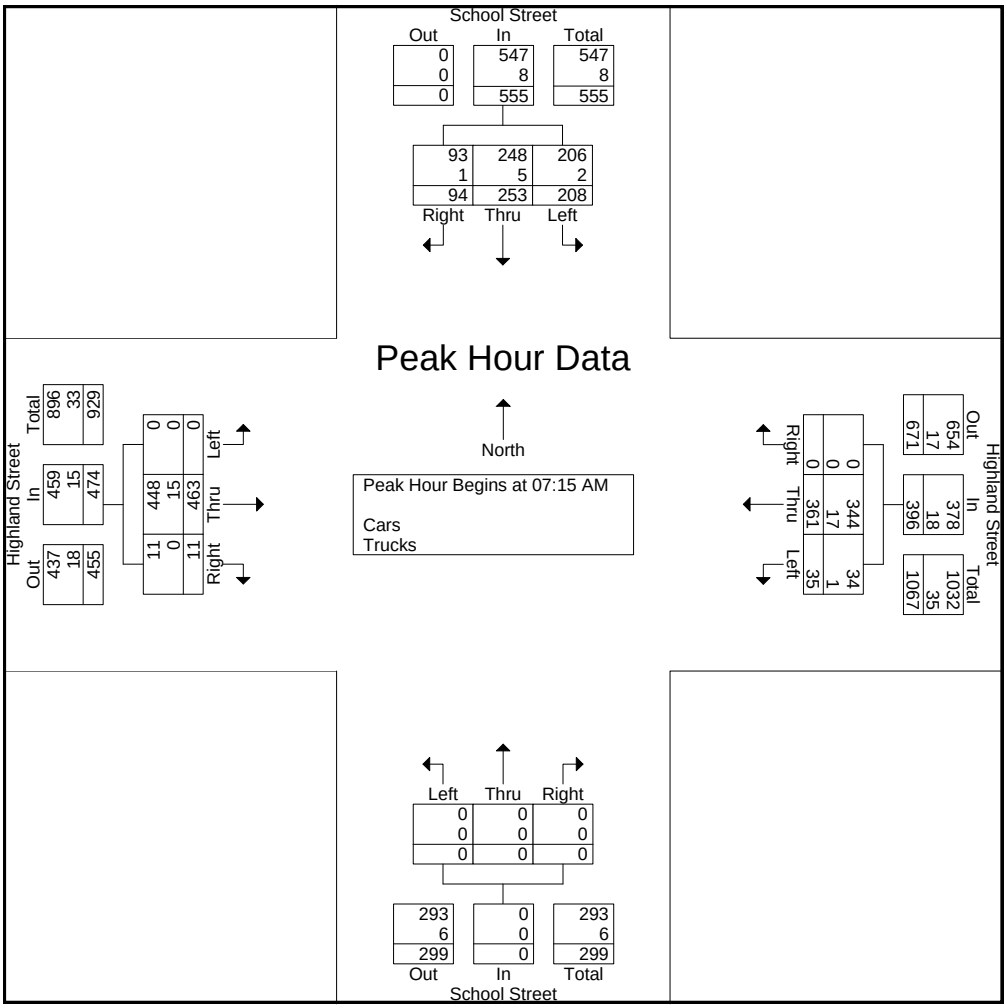
	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	20	63	47	130	0	73	8	81	0	0	0	0	4	118	0	**122**	333
07:30 AM	**29**	54	**59**	**142**	0	88	9	97	0	0	0	0	0	115	0	115	354
07:45 AM	27	58	56	141	0	**103**	**11**	**114**	0	0	0	0	2	**120**	0	122	**377**
08:00 AM	18	**78**	46	142	0	97	7	104	0	0	0	0	**5**	110	0	115	361
Total Volume	94	253	208	555	0	361	35	396	0	0	0	0	11	463	0	474	1425
% App. Total	16.9	45.6	37.5		0	91.2	8.8		0	0	0		2.3	97.7	0		
PHF	.810	.811	.881	.977	.000	.876	.795	.868	.000	.000	.000	.000	.550	.965	.000	.971	.945
Cars	93	248	206	547	0	344	34	378	0	0	0	0	11	448	0	459	1384
% Cars	98.9	98.0	99.0	98.6	0	95.3	97.1	95.5	0	0	0	0	100	96.8	0	96.8	97.1
Trucks	1	5	2	8	0	17	1	18	0	0	0	0	0	15	0	15	41
% Trucks	1.1	2.0	1.0	1.4	0	4.7	2.9	4.5	0	0	0	0	0	3.2	0	3.2	2.9



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E/W: Washington Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-DD
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	School Street From North			Highland Street From East			School Street From South			Highland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	24	40	18	0	104	11	0	0	0	6	99	0	302
03:15 PM	16	36	24	0	105	9	0	0	0	7	102	0	299
03:30 PM	22	38	29	0	98	11	0	0	0	10	116	0	324
03:45 PM	19	54	18	0	90	13	0	0	0	8	102	0	304
Total	81	168	89	0	397	44	0	0	0	31	419	0	1229
04:00 PM	21	51	16	0	115	13	0	0	0	8	109	0	333
04:15 PM	32	49	18	0	95	17	0	0	0	9	87	0	307
04:30 PM	17	52	15	0	96	13	0	0	0	11	93	0	297
04:45 PM	27	56	23	0	121	17	0	0	0	4	108	0	356
Total	97	208	72	0	427	60	0	0	0	32	397	0	1293
05:00 PM	29	54	22	0	106	13	0	0	0	3	114	0	341
05:15 PM	29	47	26	0	121	9	0	0	0	7	118	0	357
05:30 PM	21	57	27	0	119	14	0	0	0	1	88	0	327
05:45 PM	17	60	24	0	115	17	0	0	0	7	109	0	349
Total	96	218	99	0	461	53	0	0	0	18	429	0	1374
Grand Total	274	594	260	0	1285	157	0	0	0	81	1245	0	3896
Apprch %	24.3	52.7	23	0	89.1	10.9	0	0	0	6.1	93.9	0	
Total %	7	15.2	6.7	0	33	4	0	0	0	2.1	32	0	
Cars	269	580	253	0	1251	156	0	0	0	80	1211	0	3800
% Cars	98.2	97.6	97.3	0	97.4	99.4	0	0	0	98.8	97.3	0	97.5
Trucks	5	14	7	0	34	1	0	0	0	1	34	0	96
% Trucks	1.8	2.4	2.7	0	2.6	0.6	0	0	0	1.2	2.7	0	2.5

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	17	52	15	84	0	96	13	109	0	0	0	0	**11**	93	0	104	297
04:45 PM	27	**56**	23	**106**	0	**121**	**17**	**138**	0	0	0	0	4	108	0	112	356
05:00 PM	**29**	54	22	105	0	106	13	119	0	0	0	0	3	114	0	117	341
05:15 PM	29	47	**26**	102	0	121	9	130	0	0	0	0	7	**118**	0	**125**	**357**
Total Volume	102	209	86	397	0	444	52	496	0	0	0	0	25	433	0	458	1351
% App. Total	25.7	52.6	21.7		0	89.5	10.5		0	0	0		5.5	94.5	0		
PHF	.879	.933	.827	.936	.000	.917	.765	.899	.000	.000	.000	.000	.568	.917	.000	.916	.946
Cars	98	206	80	384	0	436	51	487	0	0	0	0	25	420	0	445	1316
% Cars	96.1	98.6	93.0	96.7	0	98.2	98.1	98.2	0	0	0	0	100	97.0	0	97.2	97.4
Trucks	4	3	6	13	0	8	1	9	0	0	0	0	0	13	0	13	35
% Trucks	3.9	1.4	7.0	3.3	0	1.8	1.9	1.8	0	0	0	0	0	3.0	0	2.8	2.6

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Client: VHB/ A. Ng

File Name : 71360Som-DD
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	School Street From North			Highland Street From East			School Street From South			Highland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	24	37	17	0	101	11	0	0	0	6	96	0	292
03:15 PM	16	35	24	0	103	9	0	0	0	7	101	0	295
03:30 PM	21	36	29	0	92	11	0	0	0	9	114	0	312
03:45 PM	19	54	18	0	85	13	0	0	0	8	98	0	295
Total	80	162	88	0	381	44	0	0	0	30	409	0	1194
04:00 PM	21	49	16	0	113	13	0	0	0	8	105	0	325
04:15 PM	32	48	18	0	92	17	0	0	0	9	84	0	300
04:30 PM	17	52	15	0	95	13	0	0	0	11	90	0	293
04:45 PM	27	56	20	0	117	16	0	0	0	4	103	0	343
Total	97	205	69	0	417	59	0	0	0	32	382	0	1261
05:00 PM	28	53	22	0	103	13	0	0	0	3	113	0	335
05:15 PM	26	45	23	0	121	9	0	0	0	7	114	0	345
05:30 PM	21	56	27	0	115	14	0	0	0	1	87	0	321
05:45 PM	17	59	24	0	114	17	0	0	0	7	106	0	344
Total	92	213	96	0	453	53	0	0	0	18	420	0	1345
Grand Total	269	580	253	0	1251	156	0	0	0	80	1211	0	3800
Apprch %	24.4	52.6	23	0	88.9	11.1	0	0	0	6.2	93.8	0	
Total %	7.1	15.3	6.7	0	32.9	4.1	0	0	0	2.1	31.9	0	

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	17	52	15	84	0	95	13	108	0	0	0	0	**11**	90	0	101	293
04:45 PM	27	**56**	20	**103**	0	117	**16**	**133**	0	0	0	0	4	103	0	107	343
05:00 PM	**28**	53	22	103	0	103	13	116	0	0	0	0	3	113	0	116	335
05:15 PM	26	45	**23**	94	0	**121**	9	130	0	0	0	0	7	**114**	0	**121**	**345**
Total Volume	98	206	80	384	0	436	51	487	0	0	0	0	25	420	0	445	1316
% App. Total	25.5	53.6	20.8		0	89.5	10.5		0	0	0		5.6	94.4	0		
PHF	.875	.920	.870	.932	.000	.901	.797	.915	.000	.000	.000	.000	.568	.921	.000	.919	.954

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File Name : 71360Som-DD
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Groups Printed- Trucks

	School Street From North			Highland Street From East			School Street From South			Highland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	3	1	0	3	0	0	0	0	0	3	0	10
03:15 PM	0	1	0	0	2	0	0	0	0	0	1	0	4
03:30 PM	1	2	0	0	6	0	0	0	0	1	2	0	12
03:45 PM	0	0	0	0	5	0	0	0	0	0	4	0	9
Total	1	6	1	0	16	0	0	0	0	1	10	0	35
04:00 PM	0	2	0	0	2	0	0	0	0	0	4	0	8
04:15 PM	0	1	0	0	3	0	0	0	0	0	3	0	7
04:30 PM	0	0	0	0	1	0	0	0	0	0	3	0	4
04:45 PM	0	0	3	0	4	1	0	0	0	0	5	0	13
Total	0	3	3	0	10	1	0	0	0	0	15	0	32
05:00 PM	1	1	0	0	3	0	0	0	0	0	1	0	6
05:15 PM	3	2	3	0	0	0	0	0	0	0	4	0	12
05:30 PM	0	1	0	0	4	0	0	0	0	0	1	0	6
05:45 PM	0	1	0	0	1	0	0	0	0	0	3	0	5
Total	4	5	3	0	8	0	0	0	0	0	9	0	29
Grand Total	5	14	7	0	34	1	0	0	0	1	34	0	96
Apprch %	19.2	53.8	26.9	0	97.1	2.9	0	0	0	2.9	97.1	0	
Total %	5.2	14.6	7.3	0	35.4	1	0	0	0	1	35.4	0	

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:30 PM																	
03:30 PM	**1**	**2**	0	**3**	0	**6**	0	**6**	0	0	0	0	**1**	2	0	3	**12**
03:45 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	**4**	0	**4**	9
04:00 PM	0	2	0	2	0	2	0	2	0	0	0	0	0	4	0	4	8
04:15 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	3	0	3	7
Total Volume	1	5	0	6	0	16	0	16	0	0	0	0	1	13	0	14	36
% App. Total	16.7	83.3	0		0	100	0		0	0	0		7.1	92.9	0		
PHF	.250	.625	.000	.500	.000	.667	.000	.667	.000	.000	.000	.000	.250	.813	.000	.875	.750

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Groups Printed- Peds and Bicycles

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	8	2	0	0	4	0	1	0	14	0	1	0	12	42
03:15 PM	0	0	0	5	0	0	0	6	0	0	0	10	0	0	0	5	26
03:30 PM	0	0	0	9	0	0	0	8	0	0	0	8	0	0	0	4	29
03:45 PM	0	1	0	13	0	0	0	2	0	0	0	5	0	1	0	9	31
Total	0	1	0	35	2	0	0	20	0	1	0	37	0	2	0	30	128
04:00 PM	0	1	0	6	0	0	0	3	0	0	0	15	0	0	0	12	37
04:15 PM	0	0	0	15	0	1	0	1	0	0	0	6	0	0	0	5	28
04:30 PM	0	0	0	7	1	0	0	4	0	0	0	8	0	1	0	8	29
04:45 PM	0	0	0	2	0	0	0	7	0	0	0	9	0	1	0	1	20
Total	0	1	0	30	1	1	0	15	0	0	0	38	0	2	0	26	114
05:00 PM	0	0	0	12	0	0	0	5	0	0	0	12	0	0	0	1	30
05:15 PM	0	1	0	9	0	0	0	7	0	0	0	17	0	0	0	7	41
05:30 PM	0	0	0	4	0	2	0	11	0	0	0	13	0	0	0	5	35
05:45 PM	0	0	0	11	0	1	0	8	0	0	0	14	0	0	0	1	35
Total	0	1	0	36	0	3	0	31	0	0	0	56	0	0	0	14	141
Grand Total	0	3	0	101	3	4	0	66	0	1	0	131	0	4	0	70	383
Apprch %	0	2.9	0	97.1	4.1	5.5	0	90.4	0	0.8	0	99.2	0	5.4	0	94.6	
Total %	0	0.8	0	26.4	0.8	1	0	17.2	0	0.3	0	34.2	0	1	0	18.3	

	School Street From North					Highland Street From East					School Street From South					Highland Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	8	8	**2**	0	0	4	6	0	**1**	**0**	**14**	**15**	0	**1**	0	**12**	**13**	**42**
03:15 PM	0	0	0	5	5	0	0	0	6	6	0	0	0	10	10	0	0	0	5	5	26
03:30 PM	0	0	0	9	9	0	0	0	**8**	**8**	0	0	0	8	8	0	0	0	4	4	29
03:45 PM	0	**1**	0	**13**	**14**	0	0	0	2	2	0	0	0	5	5	0	1	0	9	10	31
Total Volume	0	1	0	35	36	2	0	0	20	22	0	1	0	37	38	0	2	0	30	32	128
% App. Total	0	2.8	0	97.2		9.1	0	0	90.9		0	2.6	0	97.4		0	6.2	0	93.8		
PHF	.000	.250	.000	.673	.643	.250	.000	.000	.625	.688	.000	.250	.000	.661	.633	.000	.500	.000	.625	.615	.762

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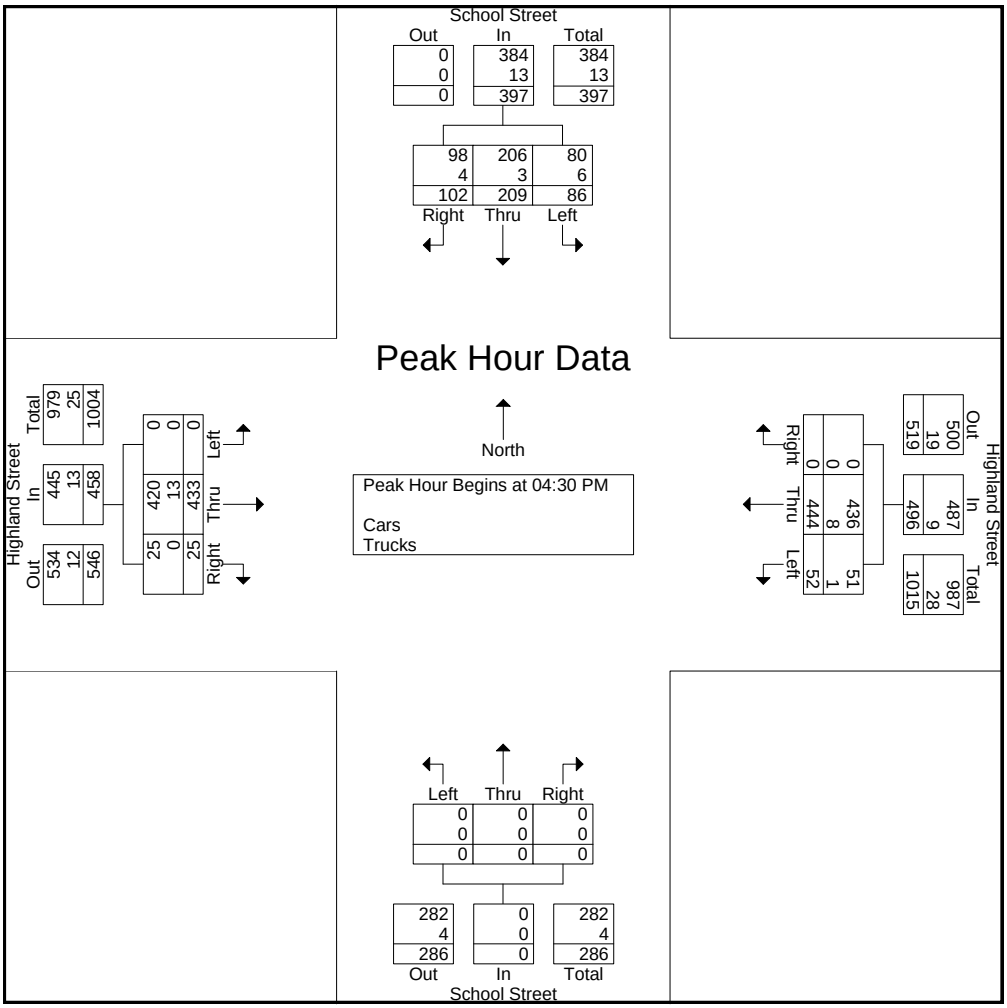
N/S: School Street
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-DD
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

	School Street From North				Highland Street From East				School Street From South				Highland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	17	52	15	84	0	96	13	109	0	0	0	0	**11**	93	0	104	297
04:45 PM	27	**56**	23	**106**	0	**121**	**17**	**138**	0	0	0	0	4	108	0	112	356
05:00 PM	**29**	54	22	105	0	106	13	119	0	0	0	0	3	114	0	117	341
05:15 PM	29	47	**26**	102	0	121	9	130	0	0	0	0	7	**118**	0	**125**	**357**
Total Volume	102	209	86	397	0	444	52	496	0	0	0	0	25	433	0	458	1351
% App. Total	25.7	52.6	21.7		0	89.5	10.5		0	0	0		5.5	94.5	0		
PHF	.879	.933	.827	.936	.000	.917	.765	.899	.000	.000	.000	.000	.568	.917	.000	.916	.946
Cars	98	206	80	384	0	436	51	487	0	0	0	0	25	420	0	445	1316
% Cars	96.1	98.6	93.0	96.7	0	98.2	98.1	98.2	0	0	0	0	100	97.0	0	97.2	97.4
Trucks	4	3	6	13	0	8	1	9	0	0	0	0	0	13	0	13	35
% Trucks	3.9	1.4	7.0	3.3	0	1.8	1.9	1.8	0	0	0	0	0	3.0	0	2.8	2.6



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N/S: Mount Vernon Street/Innerbelt Road
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-E
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Mount Vernon Street From North			Washington Street From East			Innerbelt Road From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	3	0	0	0	145	60	11	0	4	9	60	0	292
07:15 AM	1	0	1	0	235	72	17	0	7	15	73	0	421
07:30 AM	3	0	2	0	207	52	20	0	12	12	64	0	372
07:45 AM	3	0	1	0	213	68	19	0	19	15	82	0	420
Total	10	0	4	0	800	252	67	0	42	51	279	0	1505
08:00 AM	7	0	2	0	226	53	31	0	14	28	79	0	440
08:15 AM	6	1	4	0	144	72	15	0	14	26	92	0	374
08:30 AM	3	0	3	0	196	53	24	0	19	12	93	0	403
08:45 AM	4	0	1	0	139	27	46	0	38	26	67	0	348
Total	20	1	10	0	705	205	116	0	85	92	331	0	1565
09:00 AM	1	0	2	0	136	51	22	0	29	25	77	0	343
09:15 AM	3	0	1	0	159	59	26	0	21	15	90	1	375
09:30 AM	3	1	2	0	161	57	32	0	16	14	78	0	364
09:45 AM	2	1	1	0	135	42	17	0	12	7	60	0	277
Total	9	2	6	0	591	209	97	0	78	61	305	1	1359
Grand Total	39	3	20	0	2096	666	280	0	205	204	915	1	4429
Apprch %	62.9	4.8	32.3	0	75.9	24.1	57.7	0	42.3	18.2	81.7	0.1	
Total %	0.9	0.1	0.5	0	47.3	15	6.3	0	4.6	4.6	20.7	0	
Cars	38	2	19	0	1959	604	202	0	153	197	804	0	3978
% Cars	97.4	66.7	95	0	93.5	90.7	72.1	0	74.6	96.6	87.9	0	89.8
Trucks	1	1	1	0	137	62	78	0	52	7	111	1	451
% Trucks	2.6	33.3	5	0	6.5	9.3	27.9	0	25.4	3.4	12.1	100	10.2

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	1	2	0	**235**	**72**	**307**	17	0	7	24	15	73	0	88	421
07:30 AM	3	0	**2**	5	0	207	52	259	20	0	12	32	12	64	0	76	372
07:45 AM	3	0	1	4	0	213	68	281	19	0	**19**	38	15	**82**	0	97	420
08:00 AM	**7**	0	2	**9**	0	226	53	279	**31**	0	14	**45**	**28**	79	0	**107**	**440**
Total Volume	14	0	6	20	0	881	245	1126	87	0	52	139	70	298	0	368	1653
% App. Total	70	0	30		0	78.2	21.8		62.6	0	37.4		19	81	0		
PHF	.500	.000	.750	.556	.000	.937	.851	.917	.702	.000	.684	.772	.625	.909	.000	.860	.939
Cars	14	0	6	20	0	831	224	1055	66	0	38	104	68	267	0	335	1514
% Cars	100	0	100	100	0	94.3	91.4	93.7	75.9	0	73.1	74.8	97.1	89.6	0	91.0	91.6
Trucks	0	0	0	0	0	50	21	71	21	0	14	35	2	31	0	33	139
% Trucks	0	0	0	0	0	5.7	8.6	6.3	24.1	0	26.9	25.2	2.9	10.4	0	9.0	8.4

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E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-E
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Mount Vernon Street From North			Washington Street From East			Innerbelt Road From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	3	0	0	0	138	59	8	0	4	9	55	0	276
07:15 AM	1	0	1	0	220	66	13	0	6	14	67	0	388
07:30 AM	3	0	2	0	197	45	15	0	11	12	59	0	344
07:45 AM	3	0	1	0	200	60	16	0	15	15	70	0	380
Total	10	0	4	0	755	230	52	0	36	50	251	0	1388
08:00 AM	7	0	2	0	214	53	22	0	6	27	71	0	402
08:15 AM	6	1	4	0	137	69	13	0	12	26	82	0	350
08:30 AM	3	0	3	0	188	48	19	0	18	12	86	0	377
08:45 AM	4	0	1	0	124	22	22	0	14	25	59	0	271
Total	20	1	10	0	663	192	76	0	50	90	298	0	1400
09:00 AM	1	0	2	0	129	46	14	0	21	25	66	0	304
09:15 AM	2	0	1	0	145	49	20	0	20	13	77	0	327
09:30 AM	3	1	2	0	149	52	28	0	15	12	66	0	328
09:45 AM	2	0	0	0	118	35	12	0	11	7	46	0	231
Total	8	1	5	0	541	182	74	0	67	57	255	0	1190
Grand Total	38	2	19	0	1959	604	202	0	153	197	804	0	3978
Apprch %	64.4	3.4	32.2	0	76.4	23.6	56.9	0	43.1	19.7	80.3	0	
Total %	1	0.1	0.5	0	49.2	15.2	5.1	0	3.8	5	20.2	0	

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	1	2	0	**220**	**66**	**286**	13	0	6	19	14	67	0	81	388
07:30 AM	3	0	**2**	5	0	197	45	242	15	0	11	26	12	59	0	71	344
07:45 AM	3	0	1	4	0	200	60	260	16	0	**15**	**31**	15	70	0	85	380
08:00 AM	**7**	0	2	**9**	0	214	53	267	**22**	0	6	28	**27**	**71**	0	**98**	**402**
Total Volume	14	0	6	20	0	831	224	1055	66	0	38	104	68	267	0	335	1514
% App. Total	70	0	30		0	78.8	21.2		63.5	0	36.5		20.3	79.7	0		
PHF	.500	.000	.750	.556	.000	.944	.848	.922	.750	.000	.633	.839	.630	.940	.000	.855	.942

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Client: VHB/A. Ng

File Name : 71360Som-E
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Trucks

	Mount Vernon Street From North			Washington Street From East			Innerbelt Road From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	7	1	3	0	0	0	5	0	16
07:15 AM	0	0	0	0	15	6	4	0	1	1	6	0	33
07:30 AM	0	0	0	0	10	7	5	0	1	0	5	0	28
07:45 AM	0	0	0	0	13	8	3	0	4	0	12	0	40
Total	0	0	0	0	45	22	15	0	6	1	28	0	117
08:00 AM	0	0	0	0	12	0	9	0	8	1	8	0	38
08:15 AM	0	0	0	0	7	3	2	0	2	0	10	0	24
08:30 AM	0	0	0	0	8	5	5	0	1	0	7	0	26
08:45 AM	0	0	0	0	15	5	24	0	24	1	8	0	77
Total	0	0	0	0	42	13	40	0	35	2	33	0	165
09:00 AM	0	0	0	0	7	5	8	0	8	0	11	0	39
09:15 AM	1	0	0	0	14	10	6	0	1	2	13	1	48
09:30 AM	0	0	0	0	12	5	4	0	1	2	12	0	36
09:45 AM	0	1	1	0	17	7	5	0	1	0	14	0	46
Total	1	1	1	0	50	27	23	0	11	4	50	1	169
Grand Total	1	1	1	0	137	62	78	0	52	7	111	1	451
Apprch %	33.3	33.3	33.3	0	68.8	31.2	60	0	40	5.9	93.3	0.8	
Total %	0.2	0.2	0.2	0	30.4	13.7	17.3	0	11.5	1.6	24.6	0.2	

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	0	0	0	0	0	**15**	5	20	**24**	0	**24**	**48**	1	8	0	9	**77**
09:00 AM	0	0	0	0	0	7	5	12	8	0	8	16	0	11	0	11	39
09:15 AM	**1**	0	0	**1**	0	14	**10**	**24**	6	0	1	7	**2**	**13**	**1**	**16**	48
09:30 AM	0	0	0	0	0	12	5	17	4	0	1	5	2	12	0	14	36
Total Volume	1	0	0	1	0	48	25	73	42	0	34	76	5	44	1	50	200
% App. Total	100	0	0		0	65.8	34.2		55.3	0	44.7		10	88	2		
PHF	.250	.000	.000	.250	.000	.800	.625	.760	.438	.000	.354	.396	.625	.846	.250	.781	.649

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File Name : 71360Som-E
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	6
07:15 AM	0	0	0	9	0	2	0	0	0	0	0	4	0	1	0	4	20
07:30 AM	0	0	0	6	0	5	0	0	0	0	0	4	0	0	0	0	15
07:45 AM	0	0	0	13	0	2	0	2	0	0	0	1	1	1	0	1	21
Total	0	0	0	32	0	9	0	2	0	0	0	10	1	2	0	6	62
08:00 AM	0	0	0	10	0	0	0	2	0	0	0	3	1	2	0	4	22
08:15 AM	0	0	0	6	0	2	0	0	0	0	0	0	0	3	0	8	19
08:30 AM	0	0	0	11	0	3	0	1	0	0	0	4	0	3	0	6	28
08:45 AM	0	0	0	17	0	1	0	0	0	0	0	12	0	0	0	6	36
Total	0	0	0	44	0	6	0	3	0	0	0	19	1	8	0	24	105
09:00 AM	0	0	0	3	0	0	0	1	0	0	0	5	0	1	0	8	18
09:15 AM	0	0	0	7	0	2	0	0	0	0	0	5	0	1	0	3	18
09:30 AM	0	0	0	2	0	1	0	0	0	0	0	2	0	2	0	0	7
09:45 AM	0	0	0	2	0	0	0	0	0	0	0	1	0	2	0	4	9
Total	0	0	0	14	0	3	0	1	0	0	0	13	0	6	0	15	52
Grand Total	0	0	0	90	0	18	0	6	0	0	0	42	2	16	0	45	219
Apprch %	0	0	0	100	0	75	0	25	0	0	0	100	3.2	25.4	0	71.4	
Total %	0	0	0	41.1	0	8.2	0	2.7	0	0	0	19.2	0.9	7.3	0	20.5	

	Mount Vernon Street From North					Washington Street From East					Innerbelt Road From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	10	10	0	0	0	**2**	2	0	0	0	3	3	**1**	**2**	**0**	**4**	**7**	**22**
08:15 AM	**0**	**0**	**0**	**6**	**6**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0	**8**	**11**	19
08:30 AM	0	0	0	11	11	0	**3**	**0**	**1**	**4**	0	0	0	4	4	0	3	0	6	9	28
08:45 AM	0	0	0	**17**	**17**	0	1	0	0	1	0	0	0	**12**	**12**	0	0	0	6	6	**36**
Total Volume	0	0	0	44	44	0	6	0	3	9	0	0	0	19	19	1	8	0	24	33	105
% App. Total	0	0	0	100		0	66.7	0	33.3		0	0	0	100		3	24.2	0	72.7		
PHF	.000	.000	.000	.647	.647	.000	.500	.000	.375	.563	.000	.000	.000	.396	.396	.250	.667	.000	.750	.750	.729

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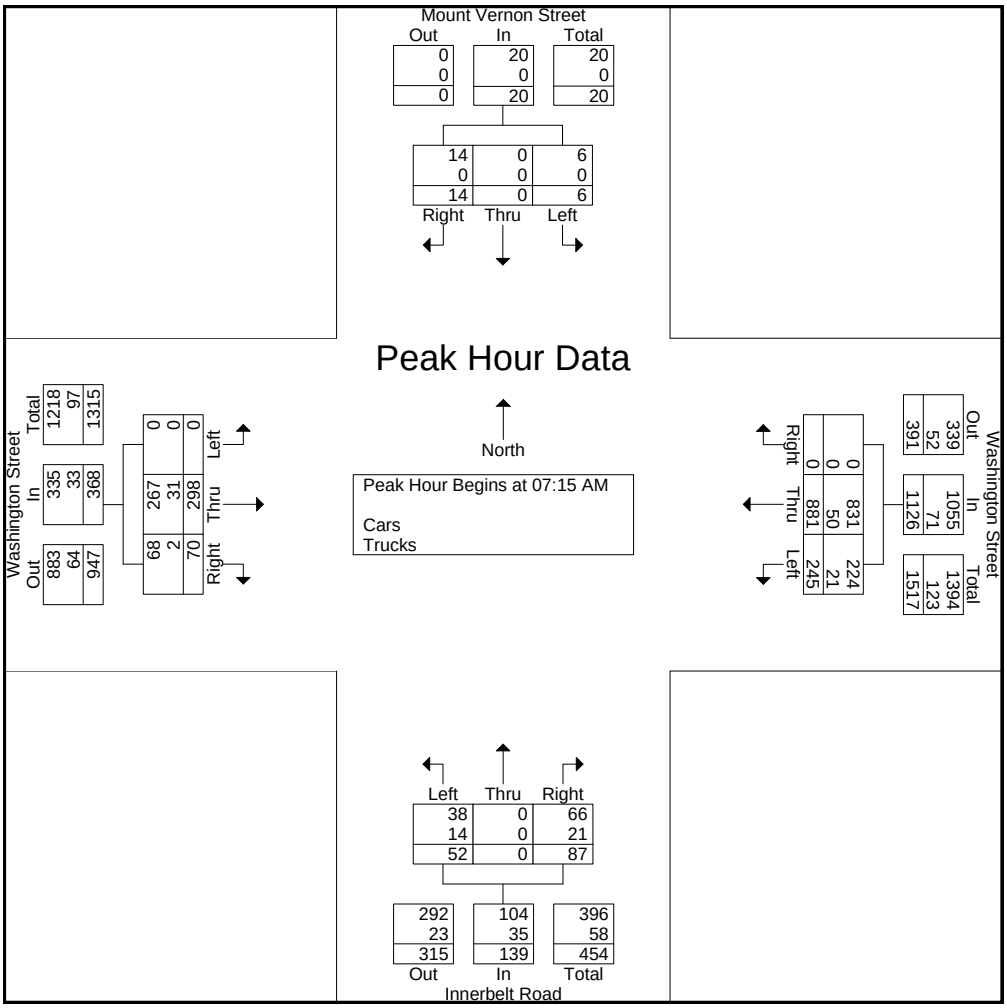
	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	1	2	0	**235**	**72**	**307**	17	0	7	24	15	73	0	88	421
07:30 AM	3	0	**2**	5	0	207	52	259	20	0	12	32	12	64	0	76	372
07:45 AM	3	0	1	4	0	213	68	281	19	0	**19**	38	15	**82**	0	97	420
08:00 AM	**7**	0	2	**9**	0	226	53	279	**31**	0	14	**45**	**28**	79	0	**107**	**440**
Total Volume	14	0	6	20	0	881	245	1126	87	0	52	139	70	298	0	368	1653
% App. Total	70	0	30		0	78.2	21.8		62.6	0	37.4		19	81	0		
PHF	.500	.000	.750	.556	.000	.937	.851	.917	.702	.000	.684	.772	.625	.909	.000	.860	.939
Cars	14	0	6	20	0	831	224	1055	66	0	38	104	68	267	0	335	1514
% Cars	100	0	100	100	0	94.3	91.4	93.7	75.9	0	73.1	74.8	97.1	89.6	0	91.0	91.6
Trucks	0	0	0	0	0	50	21	71	21	0	14	35	2	31	0	33	139
% Trucks	0	0	0	0	0	5.7	8.6	6.3	24.1	0	26.9	25.2	2.9	10.4	0	9.0	8.4



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File Name : 71360Som-EE
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Mount Vernon Street From North			Washington Street From East			Innerbelt Road From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	0	0	0	133	34	67	0	35	11	116	0	397
03:15 PM	1	0	1	0	159	42	43	0	48	6	124	0	424
03:30 PM	0	0	1	0	163	38	38	0	28	9	110	0	387
03:45 PM	0	0	0	0	189	40	24	0	20	6	111	0	390
Total	2	0	2	0	644	154	172	0	131	32	461	0	1598
04:00 PM	2	0	0	0	171	27	18	0	24	6	105	0	353
04:15 PM	2	1	0	0	170	27	16	0	19	17	117	0	369
04:30 PM	0	1	1	0	183	28	31	0	34	4	116	0	398
04:45 PM	0	0	0	0	192	18	26	0	40	5	104	0	385
Total	4	2	1	0	716	100	91	0	117	32	442	0	1505
05:00 PM	0	0	1	0	141	24	54	0	67	8	120	0	415
05:15 PM	0	0	0	0	179	22	38	2	37	9	161	0	448
05:30 PM	1	0	0	0	185	17	30	0	35	9	185	0	462
05:45 PM	2	0	0	0	240	26	17	0	26	10	147	0	468
Total	3	0	1	0	745	89	139	2	165	36	613	0	1793
Grand Total	9	2	4	0	2105	343	402	2	413	100	1516	0	4896
Apprch %	60	13.3	26.7	0	86	14	49.2	0.2	50.6	6.2	93.8	0	
Total %	0.2	0	0.1	0	43	7	8.2	0	8.4	2	31	0	
Cars	9	2	4	0	2023	305	376	2	403	97	1456	0	4677
% Cars	100	100	100	0	96.1	88.9	93.5	100	97.6	97	96	0	95.5
Trucks	0	0	0	0	82	38	26	0	10	3	60	0	219
% Trucks	0	0	0	0	3.9	11.1	6.5	0	2.4	3	4	0	4.5

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	**1**	1	0	141	24	165	**54**	0	**67**	**121**	8	120	0	128	415
05:15 PM	0	0	0	0	0	179	22	201	38	**2**	37	77	9	161	0	170	448
05:30 PM	1	0	0	1	0	185	17	202	30	0	35	65	9	**185**	0	**194**	462
05:45 PM	**2**	0	0	**2**	0	**240**	**26**	**266**	17	0	26	43	**10**	147	0	157	**468**
Total Volume	3	0	1	4	0	745	89	834	139	2	165	306	36	613	0	649	1793
% App. Total	75	0	25		0	89.3	10.7		45.4	0.7	53.9		5.5	94.5	0		
PHF	.375	.000	.250	.500	.000	.776	.856	.784	.644	.250	.616	.632	.900	.828	.000	.836	.958
Cars	3	0	1	4	0	729	80	809	133	2	162	297	35	601	0	636	1746
% Cars	100	0	100	100	0	97.9	89.9	97.0	95.7	100	98.2	97.1	97.2	98.0	0	98.0	97.4
Trucks	0	0	0	0	0	16	9	25	6	0	3	9	1	12	0	13	47
% Trucks	0	0	0	0	0	2.1	10.1	3.0	4.3	0	1.8	2.9	2.8	2.0	0	2.0	2.6

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N/S: Mount Vernon Street/Innerbelt Road
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-EE
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Cars

	Mount Vernon Street From North			Washington Street From East			Innerbelt Road From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	0	0	0	124	31	61	0	35	10	110	0	372
03:15 PM	1	0	1	0	155	36	43	0	47	6	117	0	406
03:30 PM	0	0	1	0	153	34	36	0	26	9	104	0	363
03:45 PM	0	0	0	0	178	34	23	0	20	5	103	0	363
Total	2	0	2	0	610	135	163	0	128	30	434	0	1504
04:00 PM	2	0	0	0	164	20	16	0	24	6	97	0	329
04:15 PM	2	1	0	0	161	26	14	0	19	17	112	0	352
04:30 PM	0	1	1	0	175	27	29	0	31	4	111	0	379
04:45 PM	0	0	0	0	184	17	21	0	39	5	101	0	367
Total	4	2	1	0	684	90	80	0	113	32	421	0	1427
05:00 PM	0	0	1	0	135	22	53	0	67	7	118	0	403
05:15 PM	0	0	0	0	178	21	36	2	36	9	159	0	441
05:30 PM	1	0	0	0	178	14	27	0	33	9	182	0	444
05:45 PM	2	0	0	0	238	23	17	0	26	10	142	0	458
Total	3	0	1	0	729	80	133	2	162	35	601	0	1746
Grand Total	9	2	4	0	2023	305	376	2	403	97	1456	0	4677
Apprch %	60	13.3	26.7	0	86.9	13.1	48.1	0.3	51.6	6.2	93.8	0	
Total %	0.2	0	0.1	0	43.3	6.5	8	0	8.6	2.1	31.1	0	

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	**1**	1	0	135	22	157	**53**	0	**67**	**120**	7	118	0	125	403
05:15 PM	0	0	0	0	0	178	21	199	36	**2**	36	74	9	159	0	168	441
05:30 PM	1	0	0	1	0	178	14	192	27	0	33	60	9	**182**	0	**191**	444
05:45 PM	**2**	0	0	**2**	0	**238**	**23**	**261**	17	0	26	43	**10**	142	0	152	**458**
Total Volume	3	0	1	4	0	729	80	809	133	2	162	297	35	601	0	636	1746
% App. Total	75	0	25		0	90.1	9.9		44.8	0.7	54.5		5.5	94.5	0		
PHF	.375	.000	.250	.500	.000	.766	.870	.775	.627	.250	.604	.619	.875	.826	.000	.832	.953

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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-EE
Site Code : 10303
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Groups Printed- Trucks

	Mount Vernon Street From North			Washington Street From East			Innerbelt Road From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	9	3	6	0	0	1	6	0	25
03:15 PM	0	0	0	0	4	6	0	0	1	0	7	0	18
03:30 PM	0	0	0	0	10	4	2	0	2	0	6	0	24
03:45 PM	0	0	0	0	11	6	1	0	0	1	8	0	27
Total	0	0	0	0	34	19	9	0	3	2	27	0	94
04:00 PM	0	0	0	0	7	7	2	0	0	0	8	0	24
04:15 PM	0	0	0	0	9	1	2	0	0	0	5	0	17
04:30 PM	0	0	0	0	8	1	2	0	3	0	5	0	19
04:45 PM	0	0	0	0	8	1	5	0	1	0	3	0	18
Total	0	0	0	0	32	10	11	0	4	0	21	0	78
05:00 PM	0	0	0	0	6	2	1	0	0	1	2	0	12
05:15 PM	0	0	0	0	1	1	2	0	1	0	2	0	7
05:30 PM	0	0	0	0	7	3	3	0	2	0	3	0	18
05:45 PM	0	0	0	0	2	3	0	0	0	0	5	0	10
Total	0	0	0	0	16	9	6	0	3	1	12	0	47
Grand Total	0	0	0	0	82	38	26	0	10	3	60	0	219
Apprch %	0	0	0	0	68.3	31.7	72.2	0	27.8	4.8	95.2	0	
Total %	0	0	0	0	37.4	17.4	11.9	0	4.6	1.4	27.4	0	

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	0	9	3	12	**6**	0	0	**6**	**1**	6	0	7	25
03:15 PM	0	0	0	0	0	4	**6**	10	0	0	1	1	0	7	0	7	18
03:30 PM	0	0	0	0	0	10	4	14	2	0	**2**	4	0	6	0	6	24
03:45 PM	0	0	0	0	0	**11**	6	**17**	1	0	0	1	1	**8**	0	**9**	**27**
Total Volume	0	0	0	0	0	34	19	53	9	0	3	12	2	27	0	29	94
% App. Total	0	0	0		0	64.2	35.8		75	0	25		6.9	93.1	0		
PHF	.000	.000	.000	.000	.000	.773	.792	.779	.375	.000	.375	.500	.500	.844	.000	.806	.870

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Client: VHB/A. Ng

File Name : 71360Som-EE
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	4	0	1	0	2	0	1	1	4	0	0	0	9	22
03:15 PM	0	0	0	2	0	0	0	1	0	0	1	3	0	0	0	2	9
03:30 PM	0	0	0	3	0	1	0	1	0	0	0	3	0	0	0	6	14
03:45 PM	0	0	0	3	0	1	0	0	0	0	0	1	0	1	0	0	6
Total	0	0	0	12	0	3	0	4	0	1	2	11	0	1	0	17	51
04:00 PM	0	0	0	1	0	0	0	0	0	0	0	8	0	2	0	2	13
04:15 PM	0	0	0	4	0	1	0	0	0	0	0	11	0	2	0	2	20
04:30 PM	0	0	0	5	0	1	0	0	0	0	0	0	0	2	0	2	10
04:45 PM	0	0	0	2	0	0	0	0	1	0	0	5	0	3	0	2	13
Total	0	0	0	12	0	2	0	0	1	0	0	24	0	9	0	8	56
05:00 PM	0	0	0	3	0	1	0	0	0	0	0	1	0	1	0	0	6
05:15 PM	0	0	0	6	0	3	0	0	0	0	0	1	0	1	0	8	19
05:30 PM	0	0	0	4	0	1	0	0	0	0	0	3	1	0	0	6	15
05:45 PM	0	0	0	2	0	3	0	0	0	0	0	4	0	3	0	1	13
Total	0	0	0	15	0	8	0	0	0	0	0	9	1	5	0	15	53
Grand Total	0	0	0	39	0	13	0	4	1	1	2	44	1	15	0	40	160
Apprch %	0	0	0	100	0	76.5	0	23.5	2.1	2.1	4.2	91.7	1.8	26.8	0	71.4	
Total %	0	0	0	24.4	0	8.1	0	2.5	0.6	0.6	1.2	27.5	0.6	9.4	0	25	

	Mount Vernon Street From North					Washington Street From East					Innerbelt Road From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	8	8	0	2	0	**2**	**4**	**13**
04:15 PM	**0**	**0**	**0**	**4**	**4**	**0**	**1**	**0**	**0**	**1**	0	0	0	**11**	**11**	0	2	0	2	4	**20**
04:30 PM	0	0	0	**5**	**5**	0	1	0	0	1	0	0	0	0	0	0	2	0	2	4	10
04:45 PM	0	0	0	2	2	0	0	0	0	0	**1**	**0**	**0**	**5**	**6**	**0**	**3**	0	2	**5**	13
Total Volume	0	0	0	12	12	0	2	0	0	2	1	0	0	24	25	0	9	0	8	17	56
% App. Total	0	0	0	100		0	100	0	0		4	0	0	96		0	52.9	0	47.1		
PHF	.000	.000	.000	.600	.600	.000	.500	.000	.000	.500	.250	.000	.000	.545	.568	.000	.750	.000	1.000	.850	.700

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N/S: Mount Vernon Street/Innerbelt Road
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-EE
Site Code : 10303
Start Date : 11/8/2007
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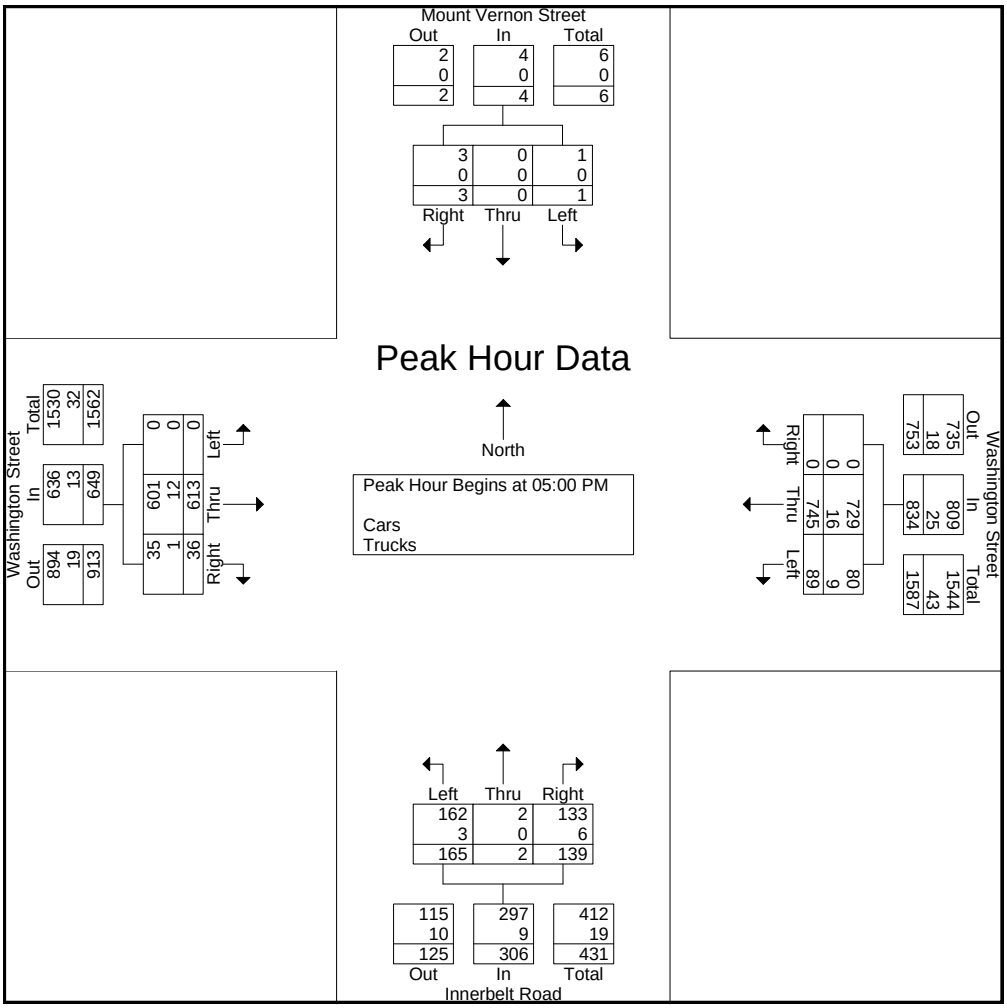
	Mount Vernon Street From North				Washington Street From East				Innerbelt Road From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	**1**	1	0	141	24	165	**54**	0	**67**	**121**	8	120	0	128	415
05:15 PM	0	0	0	0	0	179	22	201	38	**2**	37	77	9	161	0	170	448
05:30 PM	1	0	0	1	0	185	17	202	30	0	35	65	9	**185**	0	**194**	462
05:45 PM	**2**	0	0	**2**	0	**240**	**26**	**266**	17	0	26	43	**10**	147	0	157	**468**
Total Volume	3	0	1	4	0	745	89	834	139	2	165	306	36	613	0	649	1793
% App. Total	75	0	25		0	89.3	10.7		45.4	0.7	53.9		5.5	94.5	0		
PHF	.375	.000	.250	.500	.000	.776	.856	.784	.644	.250	.616	.632	.900	.828	.000	.836	.958
Cars	3	0	1	4	0	729	80	809	133	2	162	297	35	601	0	636	1746
% Cars	100	0	100	100	0	97.9	89.9	97.0	95.7	100	98.2	97.1	97.2	98.0	0	98.0	97.4
Trucks	0	0	0	0	0	16	9	25	6	0	3	9	1	12	0	13	47
% Trucks	0	0	0	0	0	2.1	10.1	3.0	4.3	0	1.8	2.9	2.8	2.0	0	2.0	2.6



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N/S: McGrath Highway
E/W: Washington Street (West Side North)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-F1
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	113	24	0	0	131	0	0	0	0	0	92	0	360
07:15 AM	117	29	0	0	173	0	0	0	0	0	101	0	420
07:30 AM	100	32	0	0	152	0	0	0	0	0	121	0	405
07:45 AM	101	24	0	0	134	0	0	0	0	0	112	0	371
Total	431	109	0	0	590	0	0	0	0	0	426	0	1556
08:00 AM	104	42	0	0	140	0	0	0	0	0	107	0	393
08:15 AM	88	25	0	0	106	0	0	0	0	0	105	0	324
08:30 AM	77	45	0	0	143	0	0	0	0	0	80	0	345
08:45 AM	98	38	0	0	118	0	0	0	0	0	111	0	365
Total	367	150	0	0	507	0	0	0	0	0	403	0	1427
09:00 AM	70	42	0	0	88	0	0	0	0	0	97	0	297
09:15 AM	90	38	0	0	103	0	0	0	0	0	68	0	299
09:30 AM	92	35	0	0	122	0	0	0	0	0	78	0	327
09:45 AM	86	41	0	0	98	0	0	0	0	0	82	0	307
Total	338	156	0	0	411	0	0	0	0	0	325	0	1230
Grand Total	1136	415	0	0	1508	0	0	0	0	0	1154	0	4213
Apprch %	73.2	26.8	0	0	100	0	0	0	0	0	100	0	
Total %	27	9.9	0	0	35.8	0	0	0	0	0	27.4	0	
Cars	1083	394	0	0	1414	0	0	0	0	0	1103	0	3994
% Cars	95.3	94.9	0	0	93.8	0	0	0	0	0	95.6	0	94.8
Trucks	53	21	0	0	94	0	0	0	0	0	51	0	219
% Trucks	4.7	5.1	0	0	6.2	0	0	0	0	0	4.4	0	5.2

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**117**	29	0	**146**	0	**173**	0	**173**	0	0	0	0	0	101	0	101	**420**
07:30 AM	100	32	0	132	0	152	0	152	0	0	0	0	0	**121**	0	**121**	405
07:45 AM	101	24	0	125	0	134	0	134	0	0	0	0	0	112	0	112	371
08:00 AM	104	**42**	0	146	0	140	0	140	0	0	0	0	0	107	0	107	393
Total Volume	422	127	0	549	0	599	0	599	0	0	0	0	0	441	0	441	1589
% App. Total	76.9	23.1	0		0	100	0		0	0	0		0	100	0		
PHF	.902	.756	.000	.940	.000	.866	.000	.866	.000	.000	.000	.000	.000	.911	.000	.911	.946
Cars	405	121	0	526	0	567	0	567	0	0	0	0	0	421	0	421	1514
% Cars	96.0	95.3	0	95.8	0	94.7	0	94.7	0	0	0	0	0	95.5	0	95.5	95.3
Trucks	17	6	0	23	0	32	0	32	0	0	0	0	0	20	0	20	75
% Trucks	4.0	4.7	0	4.2	0	5.3	0	5.3	0	0	0	0	0	4.5	0	4.5	4.7

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Groups Printed- Cars

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	109	23	0	0	122	0	0	0	0	0	87	0	341
07:15 AM	112	29	0	0	165	0	0	0	0	0	98	0	404
07:30 AM	97	31	0	0	142	0	0	0	0	0	117	0	387
07:45 AM	97	21	0	0	129	0	0	0	0	0	106	0	353
Total	415	104	0	0	558	0	0	0	0	0	408	0	1485
08:00 AM	99	40	0	0	131	0	0	0	0	0	100	0	370
08:15 AM	80	25	0	0	99	0	0	0	0	0	102	0	306
08:30 AM	74	44	0	0	134	0	0	0	0	0	76	0	328
08:45 AM	92	36	0	0	107	0	0	0	0	0	106	0	341
Total	345	145	0	0	471	0	0	0	0	0	384	0	1345
09:00 AM	64	37	0	0	83	0	0	0	0	0	92	0	276
09:15 AM	86	37	0	0	98	0	0	0	0	0	65	0	286
09:30 AM	90	32	0	0	116	0	0	0	0	0	77	0	315
09:45 AM	83	39	0	0	88	0	0	0	0	0	77	0	287
Total	323	145	0	0	385	0	0	0	0	0	311	0	1164
Grand Total	1083	394	0	0	1414	0	0	0	0	0	1103	0	3994
Apprch %	73.3	26.7	0	0	100	0	0	0	0	0	100	0	
Total %	27.1	9.9	0	0	35.4	0	0	0	0	0	27.6	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**112**	29	0	**141**	0	**165**	0	**165**	0	0	0	0	0	98	0	98	**404**
07:30 AM	97	31	0	128	0	142	0	142	0	0	0	0	0	**117**	0	**117**	387
07:45 AM	97	21	0	118	0	129	0	129	0	0	0	0	0	106	0	106	353
08:00 AM	99	**40**	0	139	0	131	0	131	0	0	0	0	0	100	0	100	370
Total Volume	405	121	0	526	0	567	0	567	0	0	0	0	0	421	0	421	1514
% App. Total	77	23	0		0	100	0		0	0	0		0	100	0		
PHF	.904	.756	.000	.933	.000	.859	.000	.859	.000	.000	.000	.000	.000	.900	.000	.900	.937

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E/W: Washington Street (West Side North)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-F1
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Groups Printed- Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	4	1	0	0	9	0	0	0	0	0	5	0	19
07:15 AM	5	0	0	0	8	0	0	0	0	0	3	0	16
07:30 AM	3	1	0	0	10	0	0	0	0	0	4	0	18
07:45 AM	4	3	0	0	5	0	0	0	0	0	6	0	18
Total	16	5	0	0	32	0	0	0	0	0	18	0	71
08:00 AM	5	2	0	0	9	0	0	0	0	0	7	0	23
08:15 AM	8	0	0	0	7	0	0	0	0	0	3	0	18
08:30 AM	3	1	0	0	9	0	0	0	0	0	4	0	17
08:45 AM	6	2	0	0	11	0	0	0	0	0	5	0	24
Total	22	5	0	0	36	0	0	0	0	0	19	0	82
09:00 AM	6	5	0	0	5	0	0	0	0	0	5	0	21
09:15 AM	4	1	0	0	5	0	0	0	0	0	3	0	13
09:30 AM	2	3	0	0	6	0	0	0	0	0	1	0	12
09:45 AM	3	2	0	0	10	0	0	0	0	0	5	0	20
Total	15	11	0	0	26	0	0	0	0	0	14	0	66
Grand Total	53	21	0	0	94	0	0	0	0	0	51	0	219
Apprch %	71.6	28.4	0	0	100	0	0	0	0	0	100	0	
Total %	24.2	9.6	0	0	42.9	0	0	0	0	0	23.3	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	5	**2**	0	7	0	9	0	9	0	0	0	0	0	**7**	0	**7**	23
08:15 AM	**8**	0	0	**8**	0	7	0	7	0	0	0	0	0	3	0	3	18
08:30 AM	3	1	0	4	0	9	0	9	0	0	0	0	0	4	0	4	17
08:45 AM	6	2	0	8	0	**11**	0	**11**	0	0	0	0	0	5	0	5	**24**
Total Volume	22	5	0	27	0	36	0	36	0	0	0	0	0	19	0	19	82
% App. Total	81.5	18.5	0		0	100	0		0	0	0		0	100	0		
PHF	.688	.625	.000	.844	.000	.818	.000	.818	.000	.000	.000	.000	.000	.679	.000	.679	.854

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Groups Printed- Peds and Bicycles

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	13	0	1	0	0	0	0	0	0	0	1	0	8	23
07:15 AM	0	1	0	9	0	4	0	0	0	0	0	0	0	0	0	6	20
07:30 AM	0	2	0	9	0	3	0	0	0	0	0	0	0	0	0	7	21
07:45 AM	3	3	0	22	0	3	0	0	0	0	0	0	0	1	0	9	41
Total	3	6	0	53	0	11	0	0	0	0	0	0	0	2	0	30	105
08:00 AM	2	7	0	11	0	4	0	0	0	0	0	0	0	1	0	8	33
08:15 AM	1	4	0	13	0	2	0	0	0	0	0	0	0	1	0	4	25
08:30 AM	1	5	0	8	0	3	0	0	0	0	0	0	0	0	0	5	22
08:45 AM	2	4	0	17	0	7	0	0	0	0	0	0	0	0	0	3	33
Total	6	20	0	49	0	16	0	0	0	0	0	0	0	2	0	20	113
09:00 AM	1	2	0	13	0	3	0	0	0	0	0	0	0	0	0	10	29
09:15 AM	0	2	0	11	0	3	0	0	0	0	0	0	0	0	0	5	21
09:30 AM	0	3	0	7	0	4	0	0	0	0	0	0	0	0	0	2	16
09:45 AM	0	4	0	7	0	6	0	0	0	0	0	0	0	0	0	1	18
Total	1	11	0	38	0	16	0	0	0	0	0	0	0	0	0	18	84
Grand Total	10	37	0	140	0	43	0	0	0	0	0	0	0	4	0	68	302
Apprch %	5.3	19.8	0	74.9	0	100	0	0	0	0	0	0	0	5.6	0	94.4	
Total %	3.3	12.3	0	46.4	0	14.2	0	0	0	0	0	0	0	1.3	0	22.5	

	McGrath Highway From North					Washington Street From East					McGrath Highway From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**3**	**3**	**0**	**22**	**28**	0	3	0	0	3	0	0	0	0	0	0	**1**	0	**9**	**10**	**41**
08:00 AM	2	**7**	0	11	20	0	**4**	**0**	**0**	**4**	0	0	0	0	0	0	1	0	8	9	33
08:15 AM	1	4	0	13	18	0	2	0	0	2	0	0	0	0	0	0	1	0	4	5	25
08:30 AM	1	5	0	8	14	0	3	0	0	3	0	0	0	0	0	0	0	0	5	5	22
Total Volume	7	19	0	54	80	0	12	0	0	12	0	0	0	0	0	0	3	0	26	29	121
% App. Total	8.8	23.8	0	67.5		0	100	0	0		0	0	0	0		0	10.3	0	89.7		
PHF	.583	.679	.000	.614	.714	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.750	.000	.722	.725	.738

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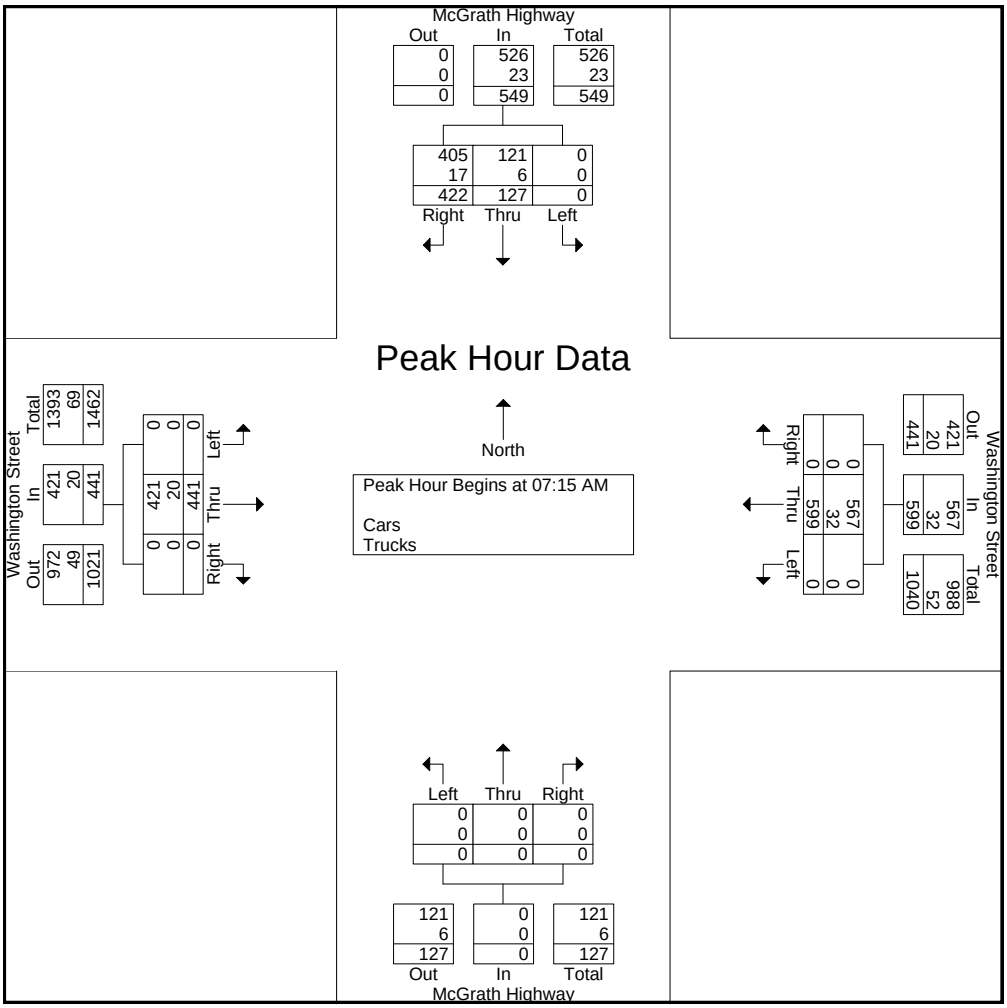
	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**117**	29	0	**146**	0	**173**	0	**173**	0	0	0	0	0	101	0	101	**420**
07:30 AM	100	32	0	132	0	152	0	152	0	0	0	0	0	**121**	0	**121**	405
07:45 AM	101	24	0	125	0	134	0	134	0	0	0	0	0	112	0	112	371
08:00 AM	104	**42**	0	146	0	140	0	140	0	0	0	0	0	107	0	107	393
Total Volume	422	127	0	549	0	599	0	599	0	0	0	0	0	441	0	441	1589
% App. Total	76.9	23.1	0		0	100	0		0	0	0		0	100	0		
PHF	.902	.756	.000	.940	.000	.866	.000	.866	.000	.000	.000	.000	.000	.911	.000	.911	.946
Cars	405	121	0	526	0	567	0	567	0	0	0	0	0	421	0	421	1514
% Cars	96.0	95.3	0	95.8	0	94.7	0	94.7	0	0	0	0	0	95.5	0	95.5	95.3
Trucks	17	6	0	23	0	32	0	32	0	0	0	0	0	20	0	20	75
% Trucks	4.0	4.7	0	4.2	0	5.3	0	5.3	0	0	0	0	0	4.5	0	4.5	4.7



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File Name : 71360Som-F2
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Groups Printed- Cars - Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	16	9	0	0	68	0	0	0	6	62	0	161
07:15 AM	0	24	5	0	0	99	0	0	0	7	65	0	200
07:30 AM	0	27	4	0	0	120	0	0	0	7	52	0	210
07:45 AM	0	12	11	0	0	119	0	0	0	2	71	0	215
Total	0	79	29	0	0	406	0	0	0	22	250	0	786
08:00 AM	0	32	10	0	0	103	0	0	0	10	68	0	223
08:15 AM	0	17	9	0	0	110	0	0	0	7	62	0	205
08:30 AM	0	32	11	0	0	97	0	0	0	5	57	0	202
08:45 AM	0	27	9	0	0	112	0	0	0	2	67	0	217
Total	0	108	39	0	0	422	0	0	0	24	254	0	847
09:00 AM	0	29	10	0	0	81	0	0	0	9	70	0	199
09:15 AM	0	22	18	0	0	96	0	0	0	4	59	0	199
09:30 AM	0	23	11	0	0	81	0	0	0	6	65	0	186
09:45 AM	0	31	8	0	0	83	0	0	0	9	49	0	180
Total	0	105	47	0	0	341	0	0	0	28	243	0	764
Grand Total	0	292	115	0	0	1169	0	0	0	74	747	0	2397
Apprch %	0	71.7	28.3	0	0	100	0	0	0	9	91	0	
Total %	0	12.2	4.8	0	0	48.8	0	0	0	3.1	31.2	0	
Cars	0	274	110	0	0	1071	0	0	0	68	652	0	2175
% Cars	0	93.8	95.7	0	0	91.6	0	0	0	91.9	87.3	0	90.7
Trucks	0	18	5	0	0	98	0	0	0	6	95	0	222
% Trucks	0	6.2	4.3	0	0	8.4	0	0	0	8.1	12.7	0	9.3

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	27	4	31	0	0	**120**	**120**	0	0	0	0	7	52	0	59	210
07:45 AM	0	12	**11**	23	0	0	119	119	0	0	0	0	2	**71**	0	73	215
08:00 AM	0	**32**	10	**42**	0	0	103	103	0	0	0	0	**10**	68	0	**78**	**223**
08:15 AM	0	17	9	26	0	0	110	110	0	0	0	0	7	62	0	69	205
Total Volume	0	88	34	122	0	0	452	452	0	0	0	0	26	253	0	279	853
% App. Total	0	72.1	27.9		0	0	100		0	0	0		9.3	90.7	0		
PHF	.000	.688	.773	.726	.000	.000	.942	.942	.000	.000	.000	.000	.650	.891	.000	.894	.956
Cars	0	82	33	115	0	0	429	429	0	0	0	0	25	227	0	252	796
% Cars	0	93.2	97.1	94.3	0	0	94.9	94.9	0	0	0	0	96.2	89.7	0	90.3	93.3
Trucks	0	6	1	7	0	0	23	23	0	0	0	0	1	26	0	27	57
% Trucks	0	6.8	2.9	5.7	0	0	5.1	5.1	0	0	0	0	3.8	10.3	0	9.7	6.7

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Groups Printed- Cars

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	15	9	0	0	63	0	0	0	5	58	0	150
07:15 AM	0	24	5	0	0	89	0	0	0	7	60	0	185
07:30 AM	0	26	4	0	0	114	0	0	0	6	48	0	198
07:45 AM	0	10	10	0	0	116	0	0	0	2	62	0	200
Total	0	75	28	0	0	382	0	0	0	20	228	0	733
08:00 AM	0	30	10	0	0	95	0	0	0	10	64	0	209
08:15 AM	0	16	9	0	0	104	0	0	0	7	53	0	189
08:30 AM	0	31	11	0	0	91	0	0	0	4	50	0	187
08:45 AM	0	25	9	0	0	94	0	0	0	2	58	0	188
Total	0	102	39	0	0	384	0	0	0	23	225	0	773
09:00 AM	0	25	9	0	0	69	0	0	0	9	62	0	174
09:15 AM	0	21	17	0	0	86	0	0	0	4	47	0	175
09:30 AM	0	22	9	0	0	72	0	0	0	4	52	0	159
09:45 AM	0	29	8	0	0	78	0	0	0	8	38	0	161
Total	0	97	43	0	0	305	0	0	0	25	199	0	669
Grand Total	0	274	110	0	0	1071	0	0	0	68	652	0	2175
Apprch %	0	71.4	28.6	0	0	100	0	0	0	9.4	90.6	0	
Total %	0	12.6	5.1	0	0	49.2	0	0	0	3.1	30	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	26	4	30	0	0	114	114	0	0	0	0	6	48	0	54	198
07:45 AM	0	10	**10**	20	0	0	**116**	**116**	0	0	0	0	2	62	0	64	200
08:00 AM	0	**30**	10	**40**	0	0	95	95	0	0	0	0	**10**	**64**	0	**74**	**209**
08:15 AM	0	16	9	25	0	0	104	104	0	0	0	0	7	53	0	60	189
Total Volume	0	82	33	115	0	0	429	429	0	0	0	0	25	227	0	252	796
% App. Total	0	71.3	28.7		0	0	100		0	0	0		9.9	90.1	0		
PHF	.000	.683	.825	.719	.000	.000	.925	.925	.000	.000	.000	.000	.625	.887	.000	.851	.952

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Groups Printed- Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	1	0	0	0	5	0	0	0	1	4	0	11
07:15 AM	0	0	0	0	0	10	0	0	0	0	5	0	15
07:30 AM	0	1	0	0	0	6	0	0	0	1	4	0	12
07:45 AM	0	2	1	0	0	3	0	0	0	0	9	0	15
Total	0	4	1	0	0	24	0	0	0	2	22	0	53
08:00 AM	0	2	0	0	0	8	0	0	0	0	4	0	14
08:15 AM	0	1	0	0	0	6	0	0	0	0	9	0	16
08:30 AM	0	1	0	0	0	6	0	0	0	1	7	0	15
08:45 AM	0	2	0	0	0	18	0	0	0	0	9	0	29
Total	0	6	0	0	0	38	0	0	0	1	29	0	74
09:00 AM	0	4	1	0	0	12	0	0	0	0	8	0	25
09:15 AM	0	1	1	0	0	10	0	0	0	0	12	0	24
09:30 AM	0	1	2	0	0	9	0	0	0	2	13	0	27
09:45 AM	0	2	0	0	0	5	0	0	0	1	11	0	19
Total	0	8	4	0	0	36	0	0	0	3	44	0	95
Grand Total	0	18	5	0	0	98	0	0	0	6	95	0	222
Apprch %	0	78.3	21.7	0	0	100	0	0	0	5.9	94.1	0	
Total %	0	8.1	2.3	0	0	44.1	0	0	0	2.7	42.8	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	0	2	0	2	0	0	**18**	**18**	0	0	0	0	0	9	0	9	**29**
09:00 AM	0	**4**	1	**5**	0	0	12	12	0	0	0	0	0	8	0	8	25
09:15 AM	0	1	1	2	0	0	10	10	0	0	0	0	0	12	0	12	24
09:30 AM	0	1	**2**	3	0	0	9	9	0	0	0	0	**2**	**13**	0	**15**	27
Total Volume	0	8	4	12	0	0	49	49	0	0	0	0	2	42	0	44	105
% App. Total	0	66.7	33.3		0	0	100		0	0	0		4.5	95.5	0		
PHF	.000	.500	.500	.600	.000	.000	.681	.681	.000	.000	.000	.000	.250	.808	.000	.733	.905

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N/S: McGrath Highway
E/W: Washington Street (West Side South)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-F2
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	11	15
07:15 AM	0	1	0	0	0	1	0	1	0	0	0	4	0	1	0	6	14
07:30 AM	0	2	0	0	0	4	1	4	0	1	0	6	0	1	0	6	25
07:45 AM	0	2	0	0	0	0	0	2	0	2	0	5	0	3	0	9	23
Total	0	5	0	0	0	5	3	8	0	3	0	16	0	5	0	32	77
08:00 AM	0	7	0	0	0	0	2	0	0	0	0	4	0	3	0	9	25
08:15 AM	0	7	0	0	0	0	2	1	0	0	0	1	2	2	0	3	18
08:30 AM	0	5	1	0	0	0	1	0	0	0	0	0	1	2	0	5	15
08:45 AM	0	4	0	0	0	0	0	3	0	0	0	6	0	1	0	4	18
Total	0	23	1	0	0	0	5	4	0	0	0	11	3	8	0	21	76
09:00 AM	0	2	0	0	0	0	1	0	0	0	0	2	0	1	0	16	22
09:15 AM	0	2	0	0	0	0	1	1	0	0	0	4	0	1	0	4	13
09:30 AM	0	3	0	0	0	1	0	1	0	0	0	1	0	3	0	2	11
09:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	1	2	0	0	6
Total	0	10	0	0	0	1	2	2	0	0	0	7	1	7	0	22	52
Grand Total	0	38	1	0	0	6	10	14	0	3	0	34	4	20	0	75	205
Apprch %	0	97.4	2.6	0	0	20	33.3	46.7	0	8.1	0	91.9	4	20.2	0	75.8	
Total %	0	18.5	0.5	0	0	2.9	4.9	6.8	0	1.5	0	16.6	2	9.8	0	36.6	

	McGrath Highway From North					Washington Street From East					McGrath Highway From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	2	0	0	2	0	**4**	**1**	**4**	**9**	0	1	0	**6**	**7**	0	1	0	6	7	**25**
07:45 AM	0	2	0	0	2	0	0	0	2	2	0	**2**	**0**	**5**	**7**	**0**	**3**	0	**9**	**12**	23
08:00 AM	0	**7**	0	0	**7**	0	0	**2**	**0**	**2**	**0**	**0**	**0**	**4**	**4**	**0**	**3**	**0**	**9**	**12**	**25**
08:15 AM	**0**	**7**	**0**	**0**	**7**	**0**	**0**	**2**	**1**	**3**	**0**	**0**	**0**	**1**	**1**	**2**	**2**	**0**	**3**	**7**	**18**
Total Volume	0	18	0	0	18	0	4	5	7	16	0	3	0	16	19	2	9	0	27	38	91
% App. Total	0	100	0	0		0	25	31.2	43.8		0	15.8	0	84.2		5.3	23.7	0	71.1		
PHF	.000	.643	.000	.000	.643	.000	.250	.625	.438	.444	.000	.375	.000	.667	.679	.250	.750	.000	.750	.792	.910

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N/S: McGrath Highway
E/W: Washington Street (West Side South)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-F2
Site Code : 10303
Start Date : 11/8/2007
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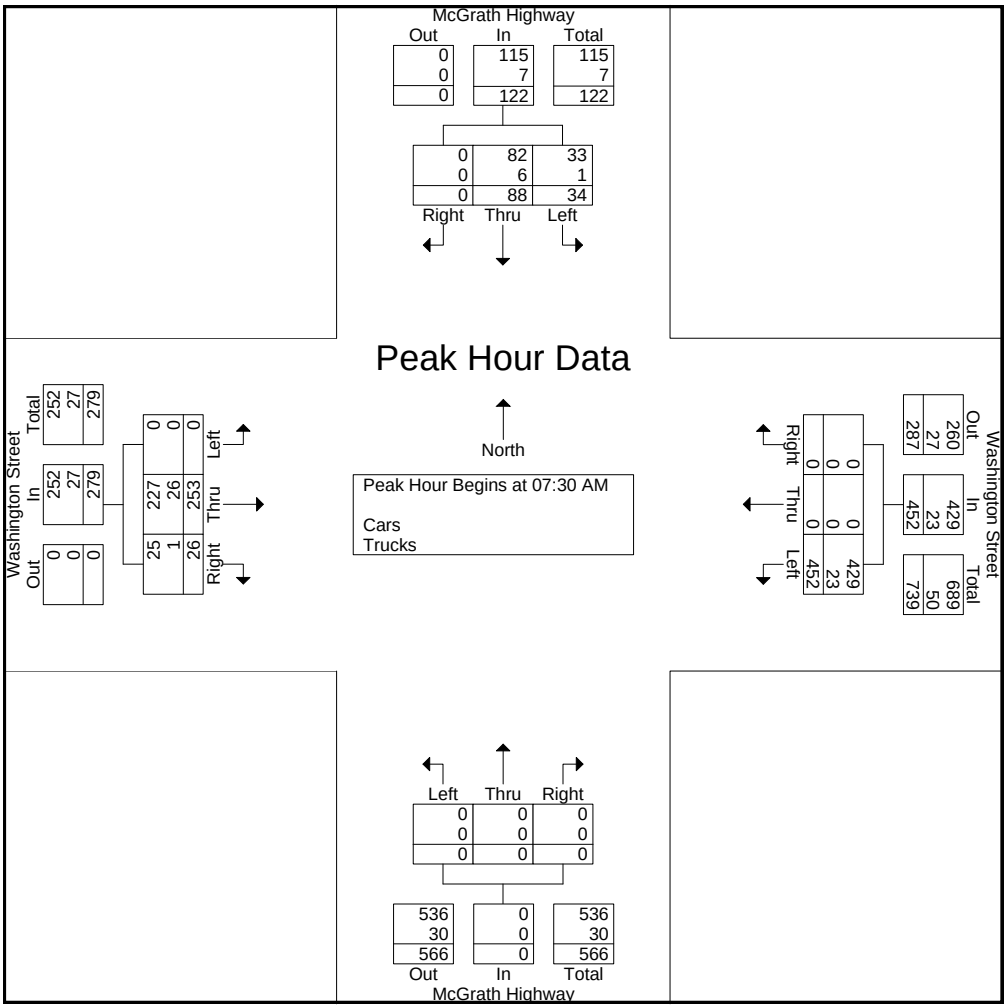
	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	27	4	31	0	0	**120**	**120**	0	0	0	0	7	52	0	59	210
07:45 AM	0	12	**11**	23	0	0	119	119	0	0	0	0	2	**71**	0	73	215
08:00 AM	0	**32**	10	**42**	0	0	103	103	0	0	0	0	**10**	68	0	**78**	**223**
08:15 AM	0	17	9	26	0	0	110	110	0	0	0	0	7	62	0	69	205
Total Volume	0	88	34	122	0	0	452	452	0	0	0	0	26	253	0	279	853
% App. Total	0	72.1	27.9		0	0	100		0	0	0		9.3	90.7	0		
PHF	.000	.688	.773	.726	.000	.000	.942	.942	.000	.000	.000	.000	.650	.891	.000	.894	.956
Cars	0	82	33	115	0	0	429	429	0	0	0	0	25	227	0	252	796
% Cars	0	93.2	97.1	94.3	0	0	94.9	94.9	0	0	0	0	96.2	89.7	0	90.3	93.3
Trucks	0	6	1	7	0	0	23	23	0	0	0	0	1	26	0	27	57
% Trucks	0	6.8	2.9	5.7	0	0	5.1	5.1	0	0	0	0	3.8	10.3	0	9.7	6.7



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N/S: McGrath Highway
E/W: Washington Street (East Side)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-F3
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			Washington Sreet From East			McGrath Highway From South			Washington Sreet From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	19	181	0	86	29	5	0	0	0	320
07:15 AM	0	0	0	19	268	0	102	25	3	0	0	0	417
07:30 AM	0	0	0	16	267	0	88	44	4	0	0	0	419
07:45 AM	0	0	0	32	257	0	127	47	3	0	0	0	466
Total	0	0	0	86	973	0	403	145	15	0	0	0	1622
08:00 AM	0	0	0	19	229	0	103	44	8	0	0	0	403
08:15 AM	0	0	0	13	213	0	99	43	5	0	0	0	373
08:30 AM	0	0	0	24	230	0	89	34	6	0	0	0	383
08:45 AM	0	0	0	21	212	0	99	34	12	0	0	0	378
Total	0	0	0	77	884	0	390	155	31	0	0	0	1537
09:00 AM	0	0	0	18	135	0	121	48	12	0	0	0	334
09:15 AM	0	0	0	27	186	0	100	40	7	0	0	0	360
09:30 AM	0	0	0	11	188	1	104	45	11	0	0	0	360
09:45 AM	0	0	0	24	168	0	88	53	11	0	0	0	344
Total	0	0	0	80	677	1	413	186	41	0	0	0	1398
Grand Total	0	0	0	243	2534	1	1206	486	87	0	0	0	4557
Apprch %	0	0	0	8.7	91.2	0	67.8	27.3	4.9	0	0	0	
Total %	0	0	0	5.3	55.6	0	26.5	10.7	1.9	0	0	0	
Cars	0	0	0	216	2372	1	1078	433	71	0	0	0	4171
% Cars	0	0	0	88.9	93.6	100	89.4	89.1	81.6	0	0	0	91.5
Trucks	0	0	0	27	162	0	128	53	16	0	0	0	386
% Trucks	0	0	0	11.1	6.4	0	10.6	10.9	18.4	0	0	0	8.5

	McGrath Highway From North				Washington Sreet From East				McGrath Highway From South				Washington Sreet From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	19	**268**	0	287	102	25	3	130	0	0	0	0	417
07:30 AM	0	0	0	0	16	267	0	283	88	44	4	136	0	0	0	0	419
07:45 AM	0	0	0	0	**32**	257	0	**289**	**127**	**47**	3	**177**	0	0	0	0	**466**
08:00 AM	0	0	0	0	19	229	0	248	103	44	**8**	155	0	0	0	0	403
Total Volume	0	0	0	0	86	1021	0	1107	420	160	18	598	0	0	0	0	1705
% App. Total	0	0	0		7.8	92.2	0		70.2	26.8	3		0	0	0		
PHF	.000	.000	.000	.000	.672	.952	.000	.958	.827	.851	.563	.845	.000	.000	.000	.000	.915
Cars	0	0	0	0	80	970	0	1050	389	144	16	549	0	0	0	0	1599
% Cars	0	0	0	0	93.0	95.0	0	94.9	92.6	90.0	88.9	91.8	0	0	0	0	93.8
Trucks	0	0	0	0	6	51	0	57	31	16	2	49	0	0	0	0	106
% Trucks	0	0	0	0	7.0	5.0	0	5.1	7.4	10.0	11.1	8.2	0	0	0	0	6.2

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E/W: Washington Street (East Side)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-F3
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	McGrath Highway From North			Washington Sreet From East			McGrath Highway From South			Washington Sreet From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	17	167	0	80	25	4	0	0	0	293
07:15 AM	0	0	0	19	254	0	97	22	3	0	0	0	395
07:30 AM	0	0	0	15	255	0	81	38	4	0	0	0	393
07:45 AM	0	0	0	29	249	0	115	43	3	0	0	0	439
Total	0	0	0	80	925	0	373	128	14	0	0	0	1520
08:00 AM	0	0	0	17	212	0	96	41	6	0	0	0	372
08:15 AM	0	0	0	11	202	0	91	38	2	0	0	0	344
08:30 AM	0	0	0	24	217	0	79	30	6	0	0	0	356
08:45 AM	0	0	0	16	191	0	88	28	10	0	0	0	333
Total	0	0	0	68	822	0	354	137	24	0	0	0	1405
09:00 AM	0	0	0	17	121	0	106	45	8	0	0	0	297
09:15 AM	0	0	0	19	173	0	80	34	6	0	0	0	312
09:30 AM	0	0	0	11	175	1	87	41	11	0	0	0	326
09:45 AM	0	0	0	21	156	0	78	48	8	0	0	0	311
Total	0	0	0	68	625	1	351	168	33	0	0	0	1246
Grand Total	0	0	0	216	2372	1	1078	433	71	0	0	0	4171
Apprch %	0	0	0	8.3	91.6	0	68.1	27.4	4.5	0	0	0	
Total %	0	0	0	5.2	56.9	0	25.8	10.4	1.7	0	0	0	

	McGrath Highway From North				Washington Sreet From East				McGrath Highway From South				Washington Sreet From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	19	254	0	273	97	22	3	122	0	0	0	0	395
07:30 AM	0	0	0	0	15	**255**	0	270	81	38	4	123	0	0	0	0	393
07:45 AM	0	0	0	0	**29**	249	0	**278**	**115**	**43**	3	**161**	0	0	0	0	**439**
08:00 AM	0	0	0	0	17	212	0	229	96	41	**6**	143	0	0	0	0	372
Total Volume	0	0	0	0	80	970	0	1050	389	144	16	549	0	0	0	0	1599
% App. Total	0	0	0		7.6	92.4	0		70.9	26.2	2.9		0	0	0		
PHF	.000	.000	.000	.000	.690	.951	.000	.944	.846	.837	.667	.852	.000	.000	.000	.000	.911

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Groups Printed- Trucks

	McGrath Highway From North			Washington Sreet From East			McGrath Highway From South			Washington Sreet From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	2	14	0	6	4	1	0	0	0	27
07:15 AM	0	0	0	0	14	0	5	3	0	0	0	0	22
07:30 AM	0	0	0	1	12	0	7	6	0	0	0	0	26
07:45 AM	0	0	0	3	8	0	12	4	0	0	0	0	27
Total	0	0	0	6	48	0	30	17	1	0	0	0	102
08:00 AM	0	0	0	2	17	0	7	3	2	0	0	0	31
08:15 AM	0	0	0	2	11	0	8	5	3	0	0	0	29
08:30 AM	0	0	0	0	13	0	10	4	0	0	0	0	27
08:45 AM	0	0	0	5	21	0	11	6	2	0	0	0	45
Total	0	0	0	9	62	0	36	18	7	0	0	0	132
09:00 AM	0	0	0	1	14	0	15	3	4	0	0	0	37
09:15 AM	0	0	0	8	13	0	20	6	1	0	0	0	48
09:30 AM	0	0	0	0	13	0	17	4	0	0	0	0	34
09:45 AM	0	0	0	3	12	0	10	5	3	0	0	0	33
Total	0	0	0	12	52	0	62	18	8	0	0	0	152
Grand Total	0	0	0	27	162	0	128	53	16	0	0	0	386
Apprch %	0	0	0	14.3	85.7	0	65	26.9	8.1	0	0	0	
Total %	0	0	0	7	42	0	33.2	13.7	4.1	0	0	0	

	McGrath Highway From North				Washington Sreet From East				McGrath Highway From South				Washington Sreet From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:45 AM																	
08:45 AM	0	0	0	0	5	**21**	0	**26**	11	**6**	2	19	0	0	0	0	45
09:00 AM	0	0	0	0	1	14	0	15	15	3	**4**	22	0	0	0	0	37
09:15 AM	0	0	0	0	**8**	13	0	21	**20**	6	1	**27**	0	0	0	0	**48**
09:30 AM	0	0	0	0	0	13	0	13	17	4	0	21	0	0	0	0	34
Total Volume	0	0	0	0	14	61	0	75	63	19	7	89	0	0	0	0	164
% App. Total	0	0	0		18.7	81.3	0		70.8	21.3	7.9		0	0	0		
PHF	.000	.000	.000	.000	.438	.726	.000	.721	.788	.792	.438	.824	.000	.000	.000	.000	.854

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Groups Printed- Peds and Bicycles

	McGrath Highway From North				Washington Sreet From East				McGrath Highway From South				Washington Sreet From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	4	0	1	0	0	0	0	0	0	0	1	0	0	6
07:15 AM	0	1	0	5	0	5	0	0	1	0	0	1	0	0	0	0	13
07:30 AM	0	0	0	6	0	5	0	2	0	0	0	2	0	1	0	0	16
07:45 AM	0	1	0	20	0	3	0	7	4	0	0	3	0	0	0	0	38
Total	0	2	0	35	0	14	0	9	5	0	0	6	0	2	0	0	73
08:00 AM	0	1	0	6	0	4	0	4	2	0	0	2	0	0	0	0	19
08:15 AM	0	0	0	15	0	4	0	0	2	1	0	0	0	0	0	0	22
08:30 AM	0	0	0	12	0	5	0	1	2	0	0	1	0	1	0	0	22
08:45 AM	0	0	0	14	0	5	0	2	2	0	0	3	0	1	0	0	27
Total	0	1	0	47	0	18	0	7	8	1	0	6	0	2	0	0	90
09:00 AM	0	0	0	9	0	3	0	1	1	0	0	1	0	0	0	0	15
09:15 AM	0	0	0	13	0	2	0	1	1	0	0	1	0	0	0	0	18
09:30 AM	0	0	0	4	0	5	0	0	2	0	0	0	0	0	0	0	11
09:45 AM	0	0	0	5	0	6	0	2	2	0	0	0	0	0	0	0	15
Total	0	0	0	31	0	16	0	4	6	0	0	2	0	0	0	0	59
Grand Total	0	3	0	113	0	48	0	20	19	1	0	14	0	4	0	0	222
Apprch %	0	2.6	0	97.4	0	70.6	0	29.4	55.9	2.9	0	41.2	0	100	0	0	
Total %	0	1.4	0	50.9	0	21.6	0	9	8.6	0.5	0	6.3	0	1.8	0	0	

	McGrath Highway From North					Washington Sreet From East					McGrath Highway From South					Washington Sreet From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**1**	0	**20**	**21**	0	3	0	**7**	**10**	**4**	**0**	**0**	**3**	**7**	0	0	0	0	0	**38**
08:00 AM	0	1	0	6	7	0	4	0	4	8	2	0	0	2	4	0	0	0	0	0	19
08:15 AM	0	0	0	15	15	0	4	0	0	4	2	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**22**
08:30 AM	**0**	**0**	**0**	**12**	**12**	**0**	**5**	**0**	**1**	**6**	**2**	**0**	**0**	**1**	**3**	**0**	**1**	0	0	**1**	22
Total Volume	0	2	0	53	55	0	16	0	12	28	10	1	0	6	17	0	1	0	0	1	101
% App. Total	0	3.6	0	96.4		0	57.1	0	42.9		58.8	5.9	0	35.3		0	100	0	0		
PHF	.000	.500	.000	.663	.655	.000	.800	.000	.429	.700	.625	.250	.000	.500	.607	.000	.250	.000	.000	.250	.664

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Start Date : 11/8/2007
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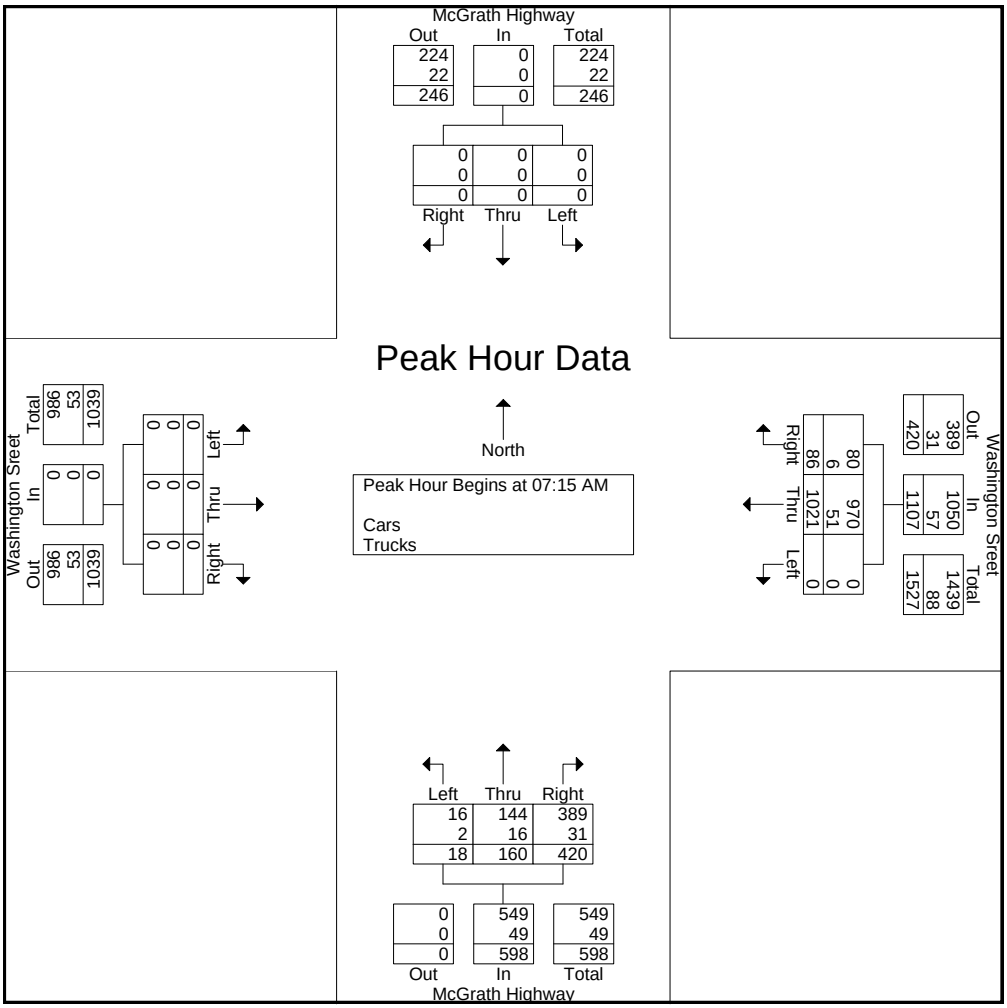
	McGrath Highway From North				Washington Sreet From East				McGrath Highway From South				Washington Sreet From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	19	**268**	0	287	102	25	3	130	0	0	0	0	417
07:30 AM	0	0	0	0	16	267	0	283	88	44	4	136	0	0	0	0	419
07:45 AM	0	0	0	0	**32**	257	0	**289**	**127**	**47**	3	**177**	0	0	0	0	**466**
08:00 AM	0	0	0	0	19	229	0	248	103	44	**8**	155	0	0	0	0	403
Total Volume	0	0	0	0	86	1021	0	1107	420	160	18	598	0	0	0	0	1705
% App. Total	0	0	0		7.8	92.2	0		70.2	26.8	3		0	0	0		
PHF	.000	.000	.000	.000	.672	.952	.000	.958	.827	.851	.563	.845	.000	.000	.000	.000	.915
Cars	0	0	0	0	80	970	0	1050	389	144	16	549	0	0	0	0	1599
% Cars	0	0	0	0	93.0	95.0	0	94.9	92.6	90.0	88.9	91.8	0	0	0	0	93.8
Trucks	0	0	0	0	6	51	0	57	31	16	2	49	0	0	0	0	106
% Trucks	0	0	0	0	7.0	5.0	0	5.1	7.4	10.0	11.1	8.2	0	0	0	0	6.2



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N/S: McGrath Highway
E/W: Washington Street (West Side North)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF1
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	39	31	0	0	112	0	0	0	0	0	158	0	340
03:15 PM	70	38	0	0	109	0	0	0	0	0	170	0	387
03:30 PM	66	30	0	0	124	0	0	0	0	0	145	0	365
03:45 PM	77	30	0	0	109	0	0	0	0	0	155	0	371
Total	252	129	0	0	454	0	0	0	0	0	628	0	1463
04:00 PM	52	28	0	0	118	0	0	0	0	0	150	0	348
04:15 PM	82	41	0	0	106	0	0	0	0	0	156	0	385
04:30 PM	62	29	0	0	117	0	0	0	0	0	191	0	399
04:45 PM	73	37	0	0	125	0	0	0	0	0	162	0	397
Total	269	135	0	0	466	0	0	0	0	0	659	0	1529
05:00 PM	84	28	0	0	145	0	0	0	0	0	168	0	425
05:15 PM	84	34	0	0	137	0	0	0	0	0	182	0	437
05:30 PM	70	23	0	0	117	0	0	0	0	0	184	0	394
05:45 PM	100	23	0	0	132	0	0	0	0	0	147	0	402
Total	338	108	0	0	531	0	0	0	0	0	681	0	1658
Grand Total	859	372	0	0	1451	0	0	0	0	0	1968	0	4650
Apprch %	69.8	30.2	0	0	100	0	0	0	0	0	100	0	
Total %	18.5	8	0	0	31.2	0	0	0	0	0	42.3	0	
Cars	857	361	0	0	1407	0	0	0	0	0	1937	0	4562
% Cars	99.8	97	0	0	97	0	0	0	0	0	98.4	0	98.1
Trucks	2	11	0	0	44	0	0	0	0	0	31	0	88
% Trucks	0.2	3	0	0	3	0	0	0	0	0	1.6	0	1.9

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	62	29	0	91	0	117	0	117	0	0	0	0	0	**191**	0	**191**	399
04:45 PM	73	**37**	0	110	0	125	0	125	0	0	0	0	0	162	0	162	397
05:00 PM	**84**	28	0	112	0	**145**	0	**145**	0	0	0	0	0	168	0	168	425
05:15 PM	84	34	0	**118**	0	137	0	137	0	0	0	0	0	182	0	182	**437**
Total Volume	303	128	0	431	0	524	0	524	0	0	0	0	0	703	0	703	1658
% App. Total	70.3	29.7	0		0	100	0		0	0	0		0	100	0		
PHF	.902	.865	.000	.913	.000	.903	.000	.903	.000	.000	.000	.000	.000	.920	.000	.920	.949
Cars	303	127	0	430	0	510	0	510	0	0	0	0	0	694	0	694	1634
% Cars	100	99.2	0	99.8	0	97.3	0	97.3	0	0	0	0	0	98.7	0	98.7	98.6
Trucks	0	1	0	1	0	14	0	14	0	0	0	0	0	9	0	9	24
% Trucks	0	0.8	0	0.2	0	2.7	0	2.7	0	0	0	0	0	1.3	0	1.3	1.4

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E/W: Washington Street (West Side North)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF1
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	39	30	0	0	107	0	0	0	0	0	151	0	327
03:15 PM	70	36	0	0	107	0	0	0	0	0	166	0	379
03:30 PM	65	27	0	0	121	0	0	0	0	0	142	0	355
03:45 PM	77	29	0	0	103	0	0	0	0	0	152	0	361
Total	251	122	0	0	438	0	0	0	0	0	611	0	1422
04:00 PM	52	27	0	0	114	0	0	0	0	0	148	0	341
04:15 PM	81	41	0	0	101	0	0	0	0	0	155	0	378
04:30 PM	62	28	0	0	113	0	0	0	0	0	187	0	390
04:45 PM	73	37	0	0	120	0	0	0	0	0	161	0	391
Total	268	133	0	0	448	0	0	0	0	0	651	0	1500
05:00 PM	84	28	0	0	142	0	0	0	0	0	165	0	419
05:15 PM	84	34	0	0	135	0	0	0	0	0	181	0	434
05:30 PM	70	22	0	0	115	0	0	0	0	0	182	0	389
05:45 PM	100	22	0	0	129	0	0	0	0	0	147	0	398
Total	338	106	0	0	521	0	0	0	0	0	675	0	1640
Grand Total	857	361	0	0	1407	0	0	0	0	0	1937	0	4562
Apprch %	70.4	29.6	0	0	100	0	0	0	0	0	100	0	
Total %	18.8	7.9	0	0	30.8	0	0	0	0	0	42.5	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	84	28	0	112	0	**142**	0	**142**	0	0	0	0	0	165	0	165	419
05:15 PM	84	**34**	0	118	0	135	0	135	0	0	0	0	0	181	0	181	**434**
05:30 PM	70	22	0	92	0	115	0	115	0	0	0	0	0	**182**	0	**182**	389
05:45 PM	**100**	22	0	**122**	0	129	0	129	0	0	0	0	0	147	0	147	398
Total Volume	338	106	0	444	0	521	0	521	0	0	0	0	0	675	0	675	1640
% App. Total	76.1	23.9	0		0	100	0		0	0	0		0	100	0		
PHF	.845	.779	.000	.910	.000	.917	.000	.917	.000	.000	.000	.000	.000	.927	.000	.927	.945

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF1
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	1	0	0	5	0	0	0	0	0	7	0	13
03:15 PM	0	2	0	0	2	0	0	0	0	0	4	0	8
03:30 PM	1	3	0	0	3	0	0	0	0	0	3	0	10
03:45 PM	0	1	0	0	6	0	0	0	0	0	3	0	10
Total	1	7	0	0	16	0	0	0	0	0	17	0	41
04:00 PM	0	1	0	0	4	0	0	0	0	0	2	0	7
04:15 PM	1	0	0	0	5	0	0	0	0	0	1	0	7
04:30 PM	0	1	0	0	4	0	0	0	0	0	4	0	9
04:45 PM	0	0	0	0	5	0	0	0	0	0	1	0	6
Total	1	2	0	0	18	0	0	0	0	0	8	0	29
05:00 PM	0	0	0	0	3	0	0	0	0	0	3	0	6
05:15 PM	0	0	0	0	2	0	0	0	0	0	1	0	3
05:30 PM	0	1	0	0	2	0	0	0	0	0	2	0	5
05:45 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
Total	0	2	0	0	10	0	0	0	0	0	6	0	18
Grand Total	2	11	0	0	44	0	0	0	0	0	31	0	88
Apprch %	15.4	84.6	0	0	100	0	0	0	0	0	100	0	
Total %	2.3	12.5	0	0	50	0	0	0	0	0	35.2	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	1	0	1	0	5	0	5	0	0	0	0	0	**7**	0	**7**	**13**
03:15 PM	0	2	0	2	0	2	0	2	0	0	0	0	0	4	0	4	8
03:30 PM	**1**	**3**	0	**4**	0	3	0	3	0	0	0	0	0	3	0	3	10
03:45 PM	0	1	0	1	0	**6**	0	**6**	0	0	0	0	0	3	0	3	10
Total Volume	1	7	0	8	0	16	0	16	0	0	0	0	0	17	0	17	41
% App. Total	12.5	87.5	0		0	100	0		0	0	0		0	100	0		
PHF	.250	.583	.000	.500	.000	.667	.000	.667	.000	.000	.000	.000	.000	.607	.000	.607	.788

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF1
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	28	0	1	0	0	0	0	0	0	0	3	0	12	45
03:15 PM	0	2	0	30	0	3	0	0	0	0	0	0	0	4	0	13	52
03:30 PM	0	1	0	23	0	4	0	0	0	0	0	0	0	2	0	19	49
03:45 PM	0	0	0	16	0	3	0	0	0	0	0	0	0	2	0	10	31
Total	0	4	0	97	0	11	0	0	0	0	0	0	0	11	0	54	177
04:00 PM	1	0	0	18	0	2	0	0	0	0	0	0	0	0	0	11	32
04:15 PM	0	1	0	21	0	7	0	0	0	0	0	0	0	4	0	4	37
04:30 PM	0	0	0	21	0	7	0	0	0	0	0	0	0	3	0	14	45
04:45 PM	0	0	0	17	0	4	0	0	0	0	0	0	0	3	0	13	37
Total	1	1	0	77	0	20	0	0	0	0	0	0	0	10	0	42	151
05:00 PM	0	2	0	16	0	4	0	0	0	0	0	0	0	2	0	25	49
05:15 PM	0	0	0	16	0	6	0	0	0	0	0	0	0	4	0	9	35
05:30 PM	0	3	0	19	0	4	0	0	0	0	0	0	0	4	0	7	37
05:45 PM	0	1	0	31	0	3	0	0	0	0	0	0	0	4	0	18	57
Total	0	6	0	82	0	17	0	0	0	0	0	0	0	14	0	59	178
Grand Total	1	11	0	256	0	48	0	0	0	0	0	0	0	35	0	155	506
Apprch %	0.4	4.1	0	95.5	0	100	0	0	0	0	0	0	0	18.4	0	81.6	
Total %	0.2	2.2	0	50.6	0	9.5	0	0	0	0	0	0	0	6.9	0	30.6	

	McGrath Highway From North					Washington Street From East					McGrath Highway From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	2	0	16	18	0	4	0	0	4	0	0	0	0	0	0	2	0	**25**	**27**	49
05:15 PM	0	0	0	16	16	0	**6**	**0**	**0**	**6**	0	0	0	0	0	0	**4**	0	9	13	35
05:30 PM	0	**3**	0	19	22	0	4	0	0	4	0	0	0	0	0	0	4	0	7	11	37
05:45 PM	0	1	0	**31**	**32**	0	3	0	0	3	0	0	0	0	0	0	4	0	18	22	**57**
Total Volume	0	6	0	82	88	0	17	0	0	17	0	0	0	0	0	0	14	0	59	73	178
% App. Total	0	6.8	0	93.2		0	100	0	0		0	0	0	0		0	19.2	0	80.8		
PHF	.000	.500	.000	.661	.688	.000	.708	.000	.000	.708	.000	.000	.000	.000	.000	.000	.875	.000	.590	.676	.781

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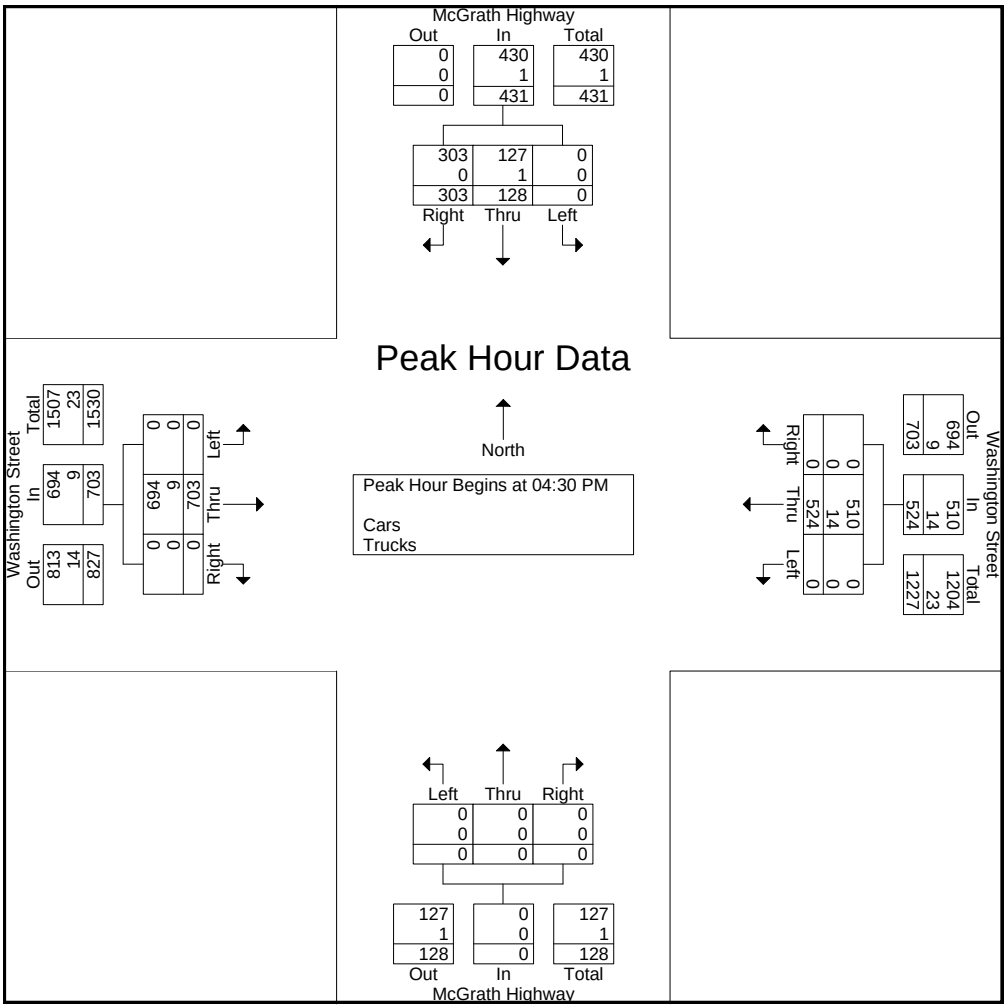
	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	62	29	0	91	0	117	0	117	0	0	0	0	0	**191**	0	**191**	399
04:45 PM	73	**37**	0	110	0	125	0	125	0	0	0	0	0	162	0	162	397
05:00 PM	**84**	28	0	112	0	**145**	0	**145**	0	0	0	0	0	168	0	168	425
05:15 PM	84	34	0	**118**	0	137	0	137	0	0	0	0	0	182	0	182	**437**
Total Volume	303	128	0	431	0	524	0	524	0	0	0	0	0	703	0	703	1658
% App. Total	70.3	29.7	0		0	100	0		0	0	0		0	100	0		
PHF	.902	.865	.000	.913	.000	.903	.000	.903	.000	.000	.000	.000	.000	.920	.000	.920	.949
Cars	303	127	0	430	0	510	0	510	0	0	0	0	0	694	0	694	1634
% Cars	100	99.2	0	99.8	0	97.3	0	97.3	0	0	0	0	0	98.7	0	98.7	98.6
Trucks	0	1	0	1	0	14	0	14	0	0	0	0	0	9	0	9	24
% Trucks	0	0.8	0	0.2	0	2.7	0	2.7	0	0	0	0	0	1.3	0	1.3	1.4



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N/S: McGrath Highway
E/W: Washington Street (West Side South)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF2
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	28	3	0	0	80	0	0	0	11	94	0	216
03:15 PM	0	32	8	0	0	76	0	0	0	14	90	0	220
03:30 PM	0	27	5	0	0	83	0	0	0	11	77	0	203
03:45 PM	0	18	13	0	0	105	0	0	0	7	95	0	238
Total	0	105	29	0	0	344	0	0	0	43	356	0	877
04:00 PM	0	17	12	0	0	88	0	0	0	5	108	0	230
04:15 PM	0	31	8	0	0	83	0	0	0	12	115	0	249
04:30 PM	0	24	4	0	0	75	0	0	0	5	116	0	224
04:45 PM	0	30	3	0	0	86	0	0	0	8	91	0	218
Total	0	102	27	0	0	332	0	0	0	30	430	0	921
05:00 PM	0	25	3	0	0	94	0	0	0	11	82	0	215
05:15 PM	0	21	13	0	0	78	0	0	0	8	89	0	209
05:30 PM	0	12	8	0	0	80	0	0	0	7	87	0	194
05:45 PM	0	21	5	0	0	71	0	0	0	7	73	0	177
Total	0	79	29	0	0	323	0	0	0	33	331	0	795
Grand Total	0	286	85	0	0	999	0	0	0	106	1117	0	2593
Apprch %	0	77.1	22.9	0	0	100	0	0	0	8.7	91.3	0	
Total %	0	11	3.3	0	0	38.5	0	0	0	4.1	43.1	0	
Cars	0	279	77	0	0	957	0	0	0	103	1061	0	2477
% Cars	0	97.6	90.6	0	0	95.8	0	0	0	97.2	95	0	95.5
Trucks	0	7	8	0	0	42	0	0	0	3	56	0	116
% Trucks	0	2.4	9.4	0	0	4.2	0	0	0	2.8	5	0	4.5

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	18	**13**	31	0	0	**105**	**105**	0	0	0	0	7	95	0	102	238
04:00 PM	0	17	12	29	0	0	88	88	0	0	0	0	5	108	0	113	230
04:15 PM	0	**31**	8	**39**	0	0	83	83	0	0	0	0	**12**	115	0	**127**	**249**
04:30 PM	0	24	4	28	0	0	75	75	0	0	0	0	5	**116**	0	121	224
Total Volume	0	90	37	127	0	0	351	351	0	0	0	0	29	434	0	463	941
% App. Total	0	70.9	29.1		0	0	100		0	0	0		6.3	93.7	0		
PHF	.000	.726	.712	.814	.000	.000	.836	.836	.000	.000	.000	.000	.604	.935	.000	.911	.945
Cars	0	89	34	123	0	0	335	335	0	0	0	0	29	410	0	439	897
% Cars	0	98.9	91.9	96.9	0	0	95.4	95.4	0	0	0	0	100	94.5	0	94.8	95.3
Trucks	0	1	3	4	0	0	16	16	0	0	0	0	0	24	0	24	44
% Trucks	0	1.1	8.1	3.1	0	0	4.6	4.6	0	0	0	0	0	5.5	0	5.2	4.7

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N/S: McGrath Highway
E/W: Washington Street (West Side South)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF2
Site Code : 10303
Start Date : 11/8/2007

Groups Printed- Cars

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	27	3	0	0	75	0	0	0	10	90	0	205
03:15 PM	0	30	8	0	0	75	0	0	0	13	86	0	212
03:30 PM	0	25	3	0	0	80	0	0	0	11	72	0	191
03:45 PM	0	18	12	0	0	98	0	0	0	7	90	0	225
Total	0	100	26	0	0	328	0	0	0	41	338	0	833
04:00 PM	0	16	11	0	0	85	0	0	0	5	100	0	217
04:15 PM	0	31	8	0	0	82	0	0	0	12	110	0	243
04:30 PM	0	24	3	0	0	70	0	0	0	5	110	0	212
04:45 PM	0	30	2	0	0	85	0	0	0	7	87	0	211
Total	0	101	24	0	0	322	0	0	0	29	407	0	883
05:00 PM	0	25	3	0	0	89	0	0	0	11	79	0	207
05:15 PM	0	21	13	0	0	74	0	0	0	8	86	0	202
05:30 PM	0	12	6	0	0	77	0	0	0	7	83	0	185
05:45 PM	0	20	5	0	0	67	0	0	0	7	68	0	167
Total	0	78	27	0	0	307	0	0	0	33	316	0	761
Grand Total	0	279	77	0	0	957	0	0	0	103	1061	0	2477
Apprch %	0	78.4	21.6	0	0	100	0	0	0	8.8	91.2	0	
Total %	0	11.3	3.1	0	0	38.6	0	0	0	4.2	42.8	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	18	**12**	30	0	0	**98**	**98**	0	0	0	0	7	90	0	97	225
04:00 PM	0	16	11	27	0	0	85	85	0	0	0	0	5	100	0	105	217
04:15 PM	0	**31**	8	**39**	0	0	82	82	0	0	0	0	**12**	**110**	0	**122**	**243**
04:30 PM	0	24	3	27	0	0	70	70	0	0	0	0	5	110	0	115	212
Total Volume	0	89	34	123	0	0	335	335	0	0	0	0	29	410	0	439	897
% App. Total	0	72.4	27.6		0	0	100		0	0	0		6.6	93.4	0		
PHF	.000	.718	.708	.788	.000	.000	.855	.855	.000	.000	.000	.000	.604	.932	.000	.900	.923

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E/W: Washington Street (West Side South)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF2
Site Code : 10303
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Groups Printed- Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	1	0	0	0	5	0	0	0	1	4	0	11
03:15 PM	0	2	0	0	0	1	0	0	0	1	4	0	8
03:30 PM	0	2	2	0	0	3	0	0	0	0	5	0	12
03:45 PM	0	0	1	0	0	7	0	0	0	0	5	0	13
Total	0	5	3	0	0	16	0	0	0	2	18	0	44
04:00 PM	0	1	1	0	0	3	0	0	0	0	8	0	13
04:15 PM	0	0	0	0	0	1	0	0	0	0	5	0	6
04:30 PM	0	0	1	0	0	5	0	0	0	0	6	0	12
04:45 PM	0	0	1	0	0	1	0	0	0	1	4	0	7
Total	0	1	3	0	0	10	0	0	0	1	23	0	38
05:00 PM	0	0	0	0	0	5	0	0	0	0	3	0	8
05:15 PM	0	0	0	0	0	4	0	0	0	0	3	0	7
05:30 PM	0	0	2	0	0	3	0	0	0	0	4	0	9
05:45 PM	0	1	0	0	0	4	0	0	0	0	5	0	10
Total	0	1	2	0	0	16	0	0	0	0	15	0	34
Grand Total	0	7	8	0	0	42	0	0	0	3	56	0	116
Apprch %	0	46.7	53.3	0	0	100	0	0	0	5.1	94.9	0	
Total %	0	6	6.9	0	0	36.2	0	0	0	2.6	48.3	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	0	**2**	0	2	0	0	1	1	0	0	0	0	**1**	4	0	5	8
03:30 PM	0	2	**2**	**4**	0	0	3	3	0	0	0	0	0	5	0	5	12
03:45 PM	0	0	1	1	0	0	**7**	**7**	0	0	0	0	0	5	0	5	**13**
04:00 PM	0	1	1	2	0	0	3	3	0	0	0	0	0	**8**	0	**8**	13
Total Volume	0	5	4	9	0	0	14	14	0	0	0	0	1	22	0	23	46
% App. Total	0	55.6	44.4		0	0	100		0	0	0		4.3	95.7	0		
PHF	.000	.625	.500	.563	.000	.000	.500	.500	.000	.000	.000	.000	.250	.688	.000	.719	.885

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF2
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	10	17
03:15 PM	0	2	0	1	0	0	0	0	0	0	0	7	0	2	0	11	23
03:30 PM	0	1	0	0	0	1	2	0	0	1	0	0	0	2	0	18	25
03:45 PM	0	0	0	0	0	1	0	0	0	2	0	4	0	1	0	7	15
Total	0	3	0	1	0	2	2	0	0	3	0	18	0	5	0	46	80
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	8	0	0	0	9	18
04:15 PM	0	1	0	0	0	1	0	0	0	1	0	5	0	2	0	1	11
04:30 PM	0	0	0	0	0	0	2	0	0	1	0	5	0	4	0	12	24
04:45 PM	0	1	0	0	0	0	0	0	0	1	0	3	0	4	0	11	20
Total	0	2	0	0	0	1	2	0	0	4	0	21	0	10	0	33	73
05:00 PM	0	2	0	0	0	0	0	0	0	2	0	1	0	2	0	17	24
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	7	13
05:30 PM	0	3	0	0	0	0	0	0	0	0	0	9	0	3	0	6	21
05:45 PM	0	1	0	0	0	0	1	0	0	0	0	4	0	1	0	14	21
Total	0	6	0	0	0	0	1	0	0	4	0	16	0	8	0	44	79
Grand Total	0	11	0	1	0	3	5	0	0	11	0	55	0	23	0	123	232
Apprch %	0	91.7	0	8.3	0	37.5	62.5	0	0	16.7	0	83.3	0	15.8	0	84.2	
Total %	0	4.7	0	0.4	0	1.3	2.2	0	0	4.7	0	23.7	0	9.9	0	53	

	McGrath Highway From North					Washington Street From East					McGrath Highway From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	0	**2**	0	**1**	**3**	0	0	0	0	0	0	0	0	7	7	0	**2**	0	11	13	23
03:30 PM	0	1	0	0	1	0	**1**	**2**	**0**	**3**	0	1	0	0	1	0	2	0	**18**	**20**	**25**
03:45 PM	0	0	0	0	0	0	1	0	0	1	0	**2**	**0**	**4**	**6**	**0**	**1**	**0**	**7**	**8**	**15**
04:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**8**	**9**	0	0	0	9	9	18
Total Volume	0	3	0	1	4	0	2	2	0	4	0	4	0	19	23	0	5	0	45	50	81
% App. Total	0	75	0	25		0	50	50	0		0	17.4	0	82.6		0	10	0	90		
PHF	.000	.375	.000	.250	.333	.000	.500	.250	.000	.333	.000	.500	.000	.594	.639	.000	.625	.000	.625	.625	.810

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E/W: Washington Street (West Side South)
City, State: Somerville, MA
Client: VHB/ A. Ng

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Site Code : 10303
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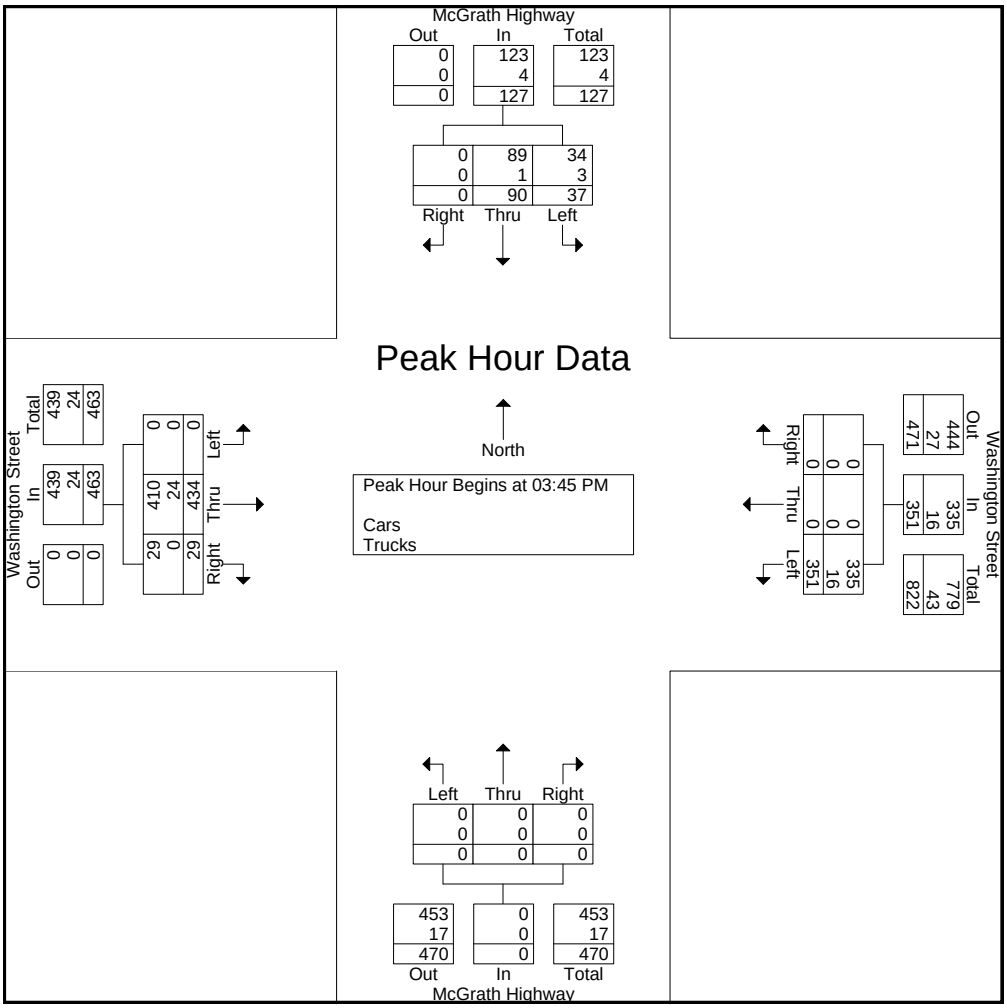
	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	18	**13**	31	0	0	**105**	**105**	0	0	0	0	7	95	0	102	238
04:00 PM	0	17	12	29	0	0	88	88	0	0	0	0	5	108	0	113	230
04:15 PM	0	**31**	8	**39**	0	0	83	83	0	0	0	0	**12**	115	0	**127**	**249**
04:30 PM	0	24	4	28	0	0	75	75	0	0	0	0	5	**116**	0	121	224
Total Volume	0	90	37	127	0	0	351	351	0	0	0	0	29	434	0	463	941
% App. Total	0	70.9	29.1		0	0	100		0	0	0		6.3	93.7	0		
PHF	.000	.726	.712	.814	.000	.000	.836	.836	.000	.000	.000	.000	.604	.935	.000	.911	.945
Cars	0	89	34	123	0	0	335	335	0	0	0	0	29	410	0	439	897
% Cars	0	98.9	91.9	96.9	0	0	95.4	95.4	0	0	0	0	100	94.5	0	94.8	95.3
Trucks	0	1	3	4	0	0	16	16	0	0	0	0	0	24	0	24	44
% Trucks	0	1.1	8.1	3.1	0	0	4.6	4.6	0	0	0	0	0	5.5	0	5.2	4.7



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N/S: McGrath Highway
E/W: Washington Street (East Side)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF3
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	38	177	0	153	81	17	0	0	0	466
03:15 PM	0	1	0	25	182	0	160	122	5	0	0	0	495
03:30 PM	0	0	0	25	199	0	162	97	17	0	0	0	500
03:45 PM	0	0	0	29	211	0	183	98	10	0	0	0	531
Total	0	1	0	117	769	0	658	398	49	0	0	0	1992
04:00 PM	0	0	0	39	181	0	192	102	12	0	0	0	526
04:15 PM	0	0	0	33	189	0	172	125	4	0	0	0	523
04:30 PM	0	0	0	28	178	0	189	120	12	0	0	0	527
04:45 PM	0	0	0	35	182	0	131	132	11	0	0	0	491
Total	0	0	0	135	730	0	684	479	39	0	0	0	2067
05:00 PM	0	0	0	34	230	0	169	119	7	0	0	0	559
05:15 PM	0	0	0	34	198	0	152	110	15	0	0	0	509
05:30 PM	0	0	0	32	177	0	151	108	16	0	0	0	484
05:45 PM	0	0	0	28	205	0	139	109	8	0	0	0	489
Total	0	0	0	128	810	0	611	446	46	0	0	0	2041
Grand Total	0	1	0	380	2309	0	1953	1323	134	0	0	0	6100
Apprch %	0	100	0	14.1	85.9	0	57.3	38.8	3.9	0	0	0	
Total %	0	0	0	6.2	37.9	0	32	21.7	2.2	0	0	0	
Cars	0	1	0	369	2230	0	1860	1280	132	0	0	0	5872
% Cars	0	100	0	97.1	96.6	0	95.2	96.7	98.5	0	0	0	96.3
Trucks	0	0	0	11	79	0	93	43	2	0	0	0	228
% Trucks	0	0	0	2.9	3.4	0	4.8	3.3	1.5	0	0	0	3.7

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	0	0	0	29	**211**	0	**240**	183	98	10	291	0	0	0	0	**531**
04:00 PM	0	0	0	0	**39**	181	0	220	**192**	102	**12**	306	0	0	0	0	526
04:15 PM	0	0	0	0	33	189	0	222	172	**125**	4	301	0	0	0	0	523
04:30 PM	0	0	0	0	28	178	0	206	189	120	12	**321**	0	0	0	0	527
Total Volume	0	0	0	0	129	759	0	888	736	445	38	1219	0	0	0	0	2107
% App. Total	0	0	0		14.5	85.5	0		60.4	36.5	3.1		0	0	0		
PHF	.000	.000	.000	.000	.827	.899	.000	.925	.958	.890	.792	.949	.000	.000	.000	.000	.992
Cars	0	0	0	0	124	728	0	852	701	431	37	1169	0	0	0	0	2021
% Cars	0	0	0	0	96.1	95.9	0	95.9	95.2	96.9	97.4	95.9	0	0	0	0	95.9
Trucks	0	0	0	0	5	31	0	36	35	14	1	50	0	0	0	0	86
% Trucks	0	0	0	0	3.9	4.1	0	4.1	4.8	3.1	2.6	4.1	0	0	0	0	4.1

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF3
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Cars

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	36	167	0	147	79	17	0	0	0	446
03:15 PM	0	1	0	24	178	0	154	115	5	0	0	0	477
03:30 PM	0	0	0	23	191	0	153	93	17	0	0	0	477
03:45 PM	0	0	0	28	195	0	171	94	10	0	0	0	498
Total	0	1	0	111	731	0	625	381	49	0	0	0	1898
04:00 PM	0	0	0	38	179	0	182	100	11	0	0	0	510
04:15 PM	0	0	0	30	181	0	167	120	4	0	0	0	502
04:30 PM	0	0	0	28	173	0	181	117	12	0	0	0	511
04:45 PM	0	0	0	35	177	0	125	128	11	0	0	0	476
Total	0	0	0	131	710	0	655	465	38	0	0	0	1999
05:00 PM	0	0	0	33	222	0	158	115	6	0	0	0	534
05:15 PM	0	0	0	34	194	0	148	106	15	0	0	0	497
05:30 PM	0	0	0	32	173	0	143	106	16	0	0	0	470
05:45 PM	0	0	0	28	200	0	131	107	8	0	0	0	474
Total	0	0	0	127	789	0	580	434	45	0	0	0	1975
Grand Total	0	1	0	369	2230	0	1860	1280	132	0	0	0	5872
Apprch %	0	100	0	14.2	85.8	0	56.8	39.1	4	0	0	0	
Total %	0	0	0	6.3	38	0	31.7	21.8	2.2	0	0	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	30	181	0	211	167	120	4	291	0	0	0	0	502
04:30 PM	0	0	0	0	28	173	0	201	**181**	117	**12**	**310**	0	0	0	0	511
04:45 PM	0	0	0	0	**35**	177	0	212	125	**128**	11	264	0	0	0	0	476
05:00 PM	0	0	0	0	33	**222**	0	**255**	158	115	6	279	0	0	0	0	**534**
Total Volume	0	0	0	0	126	753	0	879	631	480	33	1144	0	0	0	0	2023
% App. Total	0	0	0		14.3	85.7	0		55.2	42	2.9		0	0	0		
PHF	.000	.000	.000	.000	.900	.848	.000	.862	.872	.938	.688	.923	.000	.000	.000	.000	.947

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N/S: McGrath Highway
E/W: Washington Street (East Side)
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-FF3
Site Code : 10303
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Groups Printed- Trucks

	McGrath Highway From North			Washington Street From East			McGrath Highway From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	2	10	0	6	2	0	0	0	0	20
03:15 PM	0	0	0	1	4	0	6	7	0	0	0	0	18
03:30 PM	0	0	0	2	8	0	9	4	0	0	0	0	23
03:45 PM	0	0	0	1	16	0	12	4	0	0	0	0	33
Total	0	0	0	6	38	0	33	17	0	0	0	0	94
04:00 PM	0	0	0	1	2	0	10	2	1	0	0	0	16
04:15 PM	0	0	0	3	8	0	5	5	0	0	0	0	21
04:30 PM	0	0	0	0	5	0	8	3	0	0	0	0	16
04:45 PM	0	0	0	0	5	0	6	4	0	0	0	0	15
Total	0	0	0	4	20	0	29	14	1	0	0	0	68
05:00 PM	0	0	0	1	8	0	11	4	1	0	0	0	25
05:15 PM	0	0	0	0	4	0	4	4	0	0	0	0	12
05:30 PM	0	0	0	0	4	0	8	2	0	0	0	0	14
05:45 PM	0	0	0	0	5	0	8	2	0	0	0	0	15
Total	0	0	0	1	21	0	31	12	1	0	0	0	66
Grand Total	0	0	0	11	79	0	93	43	2	0	0	0	228
Apprch %	0	0	0	12.2	87.8	0	67.4	31.2	1.4	0	0	0	
Total %	0	0	0	4.8	34.6	0	40.8	18.9	0.9	0	0	0	

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	**2**	10	0	12	6	2	0	8	0	0	0	0	20
03:15 PM	0	0	0	0	1	4	0	5	6	**7**	0	13	0	0	0	0	18
03:30 PM	0	0	0	0	2	8	0	10	9	4	0	13	0	0	0	0	23
03:45 PM	0	0	0	0	1	**16**	0	**17**	**12**	4	0	**16**	0	0	0	0	**33**
Total Volume	0	0	0	0	6	38	0	44	33	17	0	50	0	0	0	0	94
% App. Total	0	0	0		13.6	86.4	0		66	34	0		0	0	0		
PHF	.000	.000	.000	.000	.750	.594	.000	.647	.688	.607	.000	.781	.000	.000	.000	.000	.712

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File Name : 71360Som-FF3
Site Code : 10303
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Groups Printed- Peds and Bicycles

	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	21	0	2	0	0	0	0	0	0	0	0	0	0	23
03:15 PM	0	0	0	15	0	13	0	1	2	1	0	0	0	4	0	0	36
03:30 PM	0	0	0	8	0	4	0	0	0	2	0	0	0	4	0	0	18
03:45 PM	0	0	0	12	0	2	0	1	0	0	0	0	0	1	0	1	17
Total	0	0	0	56	0	21	0	2	2	3	0	0	0	9	0	1	94
04:00 PM	0	0	0	10	0	2	0	2	1	0	0	1	0	1	0	0	17
04:15 PM	1	1	0	15	0	9	0	2	1	0	0	0	0	4	0	0	33
04:30 PM	0	0	0	9	0	6	1	1	5	0	0	0	0	2	0	0	24
04:45 PM	0	0	0	8	0	4	0	5	5	0	0	0	0	1	0	0	23
Total	1	1	0	42	0	21	1	10	12	0	0	1	0	8	0	0	97
05:00 PM	0	0	0	13	0	4	0	0	2	1	0	0	0	1	0	0	21
05:15 PM	0	0	0	12	0	4	0	2	3	2	0	0	0	2	0	0	25
05:30 PM	0	0	0	10	0	7	0	4	3	5	0	0	0	2	0	0	31
05:45 PM	0	0	0	21	0	3	1	0	1	3	0	1	0	1	0	0	31
Total	0	0	0	56	0	18	1	6	9	11	0	1	0	6	0	0	108
Grand Total	1	1	0	154	0	60	2	18	23	14	0	2	0	23	0	1	299
Apprch %	0.6	0.6	0	98.7	0	75	2.5	22.5	59	35.9	0	5.1	0	95.8	0	4.2	
Total %	0.3	0.3	0	51.5	0	20.1	0.7	6	7.7	4.7	0	0.7	0	7.7	0	0.3	

	McGrath Highway From North					Washington Street From East					McGrath Highway From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	13	13	0	4	0	0	4	2	1	0	0	3	0	1	0	0	1	21
05:15 PM	0	0	0	12	12	0	4	0	2	6	**3**	**2**	**0**	**0**	**5**	**0**	**2**	0	0	**2**	25
05:30 PM	0	0	0	10	10	0	**7**	**0**	**4**	**11**	3	**5**	**0**	**0**	**8**	0	2	0	0	2	**31**
05:45 PM	0	0	0	**21**	**21**	0	3	**1**	**0**	**4**	**1**	**3**	**0**	**1**	**5**	**0**	**1**	**0**	**0**	**1**	**31**
Total Volume	0	0	0	56	56	0	18	1	6	25	9	11	0	1	21	0	6	0	0	6	108
% App. Total	0	0	0	100		0	72	4	24		42.9	52.4	0	4.8		0	100	0	0		
PHF	.000	.000	.000	.667	.667	.000	.643	.250	.375	.568	.750	.550	.000	.250	.656	.000	.750	.000	.000	.750	.871

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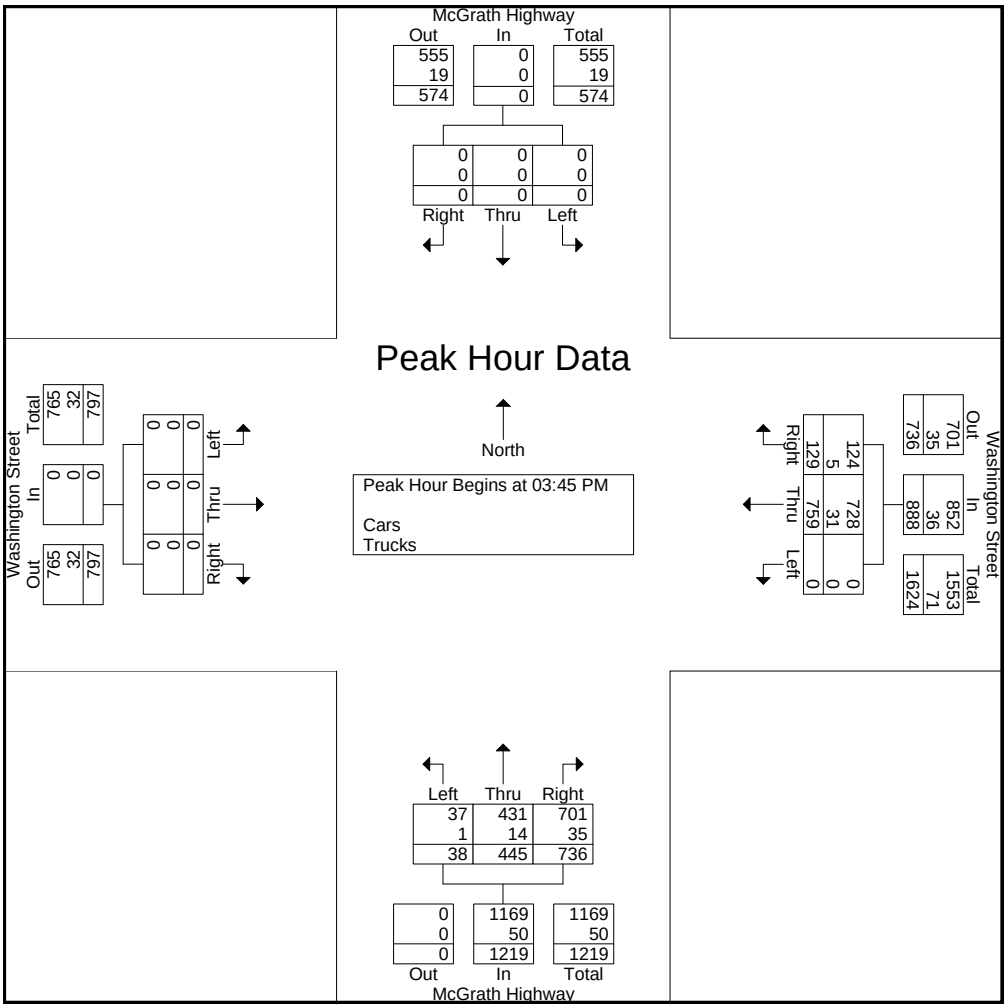
	McGrath Highway From North				Washington Street From East				McGrath Highway From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	0	0	0	29	**211**	0	**240**	183	98	10	291	0	0	0	0	**531**
04:00 PM	0	0	0	0	**39**	181	0	220	**192**	102	**12**	306	0	0	0	0	526
04:15 PM	0	0	0	0	33	189	0	222	172	**125**	4	301	0	0	0	0	523
04:30 PM	0	0	0	0	28	178	0	206	189	120	12	**321**	0	0	0	0	527
Total Volume	0	0	0	0	129	759	0	888	736	445	38	1219	0	0	0	0	2107
% App. Total	0	0	0		14.5	85.5	0		60.4	36.5	3.1		0	0	0		
PHF	.000	.000	.000	.000	.827	.899	.000	.925	.958	.890	.792	.949	.000	.000	.000	.000	.992
Cars	0	0	0	0	124	728	0	852	701	431	37	1169	0	0	0	0	2021
% Cars	0	0	0	0	96.1	95.9	0	95.9	95.2	96.9	97.4	95.9	0	0	0	0	95.9
Trucks	0	0	0	0	5	31	0	36	35	14	1	50	0	0	0	0	86
% Trucks	0	0	0	0	3.9	4.1	0	4.1	4.8	3.1	2.6	4.1	0	0	0	0	4.1



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E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-G
Site Code : 10303
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Groups Printed- Cars - Trucks

	Somerville Avenue/Bow Street From North			Washington Street From East			Webster Avenue From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	8	86	56	86	95	77	0	0	0	13	53	6	480
07:15 AM	12	76	73	84	103	90	0	0	0	10	59	9	516
07:30 AM	14	79	69	91	112	108	0	0	0	14	67	8	562
07:45 AM	10	74	74	94	114	125	0	0	0	11	65	8	575
Total	44	315	272	355	424	400	0	0	0	48	244	31	2133
08:00 AM	14	76	82	91	99	117	0	0	0	21	65	11	576
08:15 AM	17	73	68	93	67	107	0	0	0	15	71	6	517
08:30 AM	13	91	84	91	78	96	0	0	0	18	49	8	528
08:45 AM	8	85	65	99	92	106	0	0	0	20	77	12	564
Total	52	325	299	374	336	426	0	0	0	74	262	37	2185
09:00 AM	17	77	81	115	82	82	0	0	0	16	66	6	542
09:15 AM	10	52	57	90	81	100	0	0	0	8	52	6	456
09:30 AM	7	57	84	91	78	104	0	0	0	11	58	6	496
09:45 AM	14	34	83	95	90	78	0	0	0	8	54	7	463
Total	48	220	305	391	331	364	0	0	0	43	230	25	1957
Grand Total	144	860	876	1120	1091	1190	0	0	0	165	736	93	6275
Apprch %	7.7	45.7	46.6	32.9	32.1	35	0	0	0	16.6	74	9.4	
Total %	2.3	13.7	14	17.8	17.4	19	0	0	0	2.6	11.7	1.5	
Cars	129	842	819	1042	1002	1146	0	0	0	153	648	92	5873
% Cars	89.6	97.9	93.5	93	91.8	96.3	0	0	0	92.7	88	98.9	93.6
Trucks	15	18	57	78	89	44	0	0	0	12	88	1	402
% Trucks	10.4	2.1	6.5	7	8.2	3.7	0	0	0	7.3	12	1.1	6.4

	Somerville Avenue/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	**79**	69	162	91	112	108	311	0	0	0	0	14	67	8	89	562
07:45 AM	10	74	74	158	**94**	**114**	**125**	**333**	0	0	0	0	11	65	8	84	575
08:00 AM	14	76	**82**	**172**	91	99	117	307	0	0	0	0	**21**	65	**11**	**97**	**576**
08:15 AM	**17**	73	68	158	93	67	107	267	0	0	0	0	15	**71**	6	92	517
Total Volume	55	302	293	650	369	392	457	1218	0	0	0	0	61	268	33	362	2230
% App. Total	8.5	46.5	45.1		30.3	32.2	37.5		0	0	0		16.9	74	9.1		
PHF	.809	.956	.893	.945	.981	.860	.914	.914	.000	.000	.000	.000	.726	.944	.750	.933	.968
Cars	47	296	278	621	343	359	441	1143	0	0	0	0	56	240	33	329	2093
% Cars	85.5	98.0	94.9	95.5	93.0	91.6	96.5	93.8	0	0	0	0	91.8	89.6	100	90.9	93.9
Trucks	8	6	15	29	26	33	16	75	0	0	0	0	5	28	0	33	137
% Trucks	14.5	2.0	5.1	4.5	7.0	8.4	3.5	6.2	0	0	0	0	8.2	10.4	0	9.1	6.1

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Groups Printed- Cars

	Somerville Avenue/Bow Street From North			Washington Street From East			Webster Avenue From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	7	85	54	77	86	75	0	0	0	12	47	6	449
07:15 AM	10	75	69	79	96	87	0	0	0	9	51	9	485
07:30 AM	11	78	66	82	102	104	0	0	0	13	54	8	518
07:45 AM	10	73	71	90	109	120	0	0	0	10	61	8	552
Total	38	311	260	328	393	386	0	0	0	44	213	31	2004
08:00 AM	13	73	76	85	89	115	0	0	0	19	59	11	540
08:15 AM	13	72	65	86	59	102	0	0	0	14	66	6	483
08:30 AM	13	90	74	85	69	91	0	0	0	15	44	8	489
08:45 AM	8	82	60	95	84	102	0	0	0	19	65	11	526
Total	47	317	275	351	301	410	0	0	0	67	234	36	2038
09:00 AM	15	76	74	108	78	78	0	0	0	15	56	6	506
09:15 AM	9	49	55	84	76	94	0	0	0	8	42	6	423
09:30 AM	7	57	81	84	74	103	0	0	0	11	55	6	478
09:45 AM	13	32	74	87	80	75	0	0	0	8	48	7	424
Total	44	214	284	363	308	350	0	0	0	42	201	25	1831
Grand Total	129	842	819	1042	1002	1146	0	0	0	153	648	92	5873
Apprch %	7.2	47	45.8	32.7	31.4	35.9	0	0	0	17.1	72.6	10.3	
Total %	2.2	14.3	13.9	17.7	17.1	19.5	0	0	0	2.6	11	1.6	

	Somerville Avenue/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	10	75	69	154	79	96	87	262	0	0	0	0	9	51	9	69	485
07:30 AM	11	**78**	66	155	82	102	104	288	0	0	0	0	13	54	8	75	518
07:45 AM	10	73	71	154	**90**	**109**	**120**	**319**	0	0	0	0	10	**61**	8	79	**552**
08:00 AM	**13**	73	**76**	**162**	85	89	115	289	0	0	0	0	**19**	59	**11**	**89**	540
Total Volume	44	299	282	625	336	396	426	1158	0	0	0	0	51	225	36	312	2095
% App. Total	7	47.8	45.1		29	34.2	36.8		0	0	0		16.3	72.1	11.5		
PHF	.846	.958	.928	.965	.933	.908	.888	.908	.000	.000	.000	.000	.671	.922	.818	.876	.949

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Groups Printed- Trucks

	Somerville Avenue/Bow Street From North			Washington Street From East			Webster Avenue From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	1	1	2	9	9	2	0	0	0	1	6	0	31
07:15 AM	2	1	4	5	7	3	0	0	0	1	8	0	31
07:30 AM	3	1	3	9	10	4	0	0	0	1	13	0	44
07:45 AM	0	1	3	4	5	5	0	0	0	1	4	0	23
Total	6	4	12	27	31	14	0	0	0	4	31	0	129
08:00 AM	1	3	6	6	10	2	0	0	0	2	6	0	36
08:15 AM	4	1	3	7	8	5	0	0	0	1	5	0	34
08:30 AM	0	1	10	6	9	5	0	0	0	3	5	0	39
08:45 AM	0	3	5	4	8	4	0	0	0	1	12	1	38
Total	5	8	24	23	35	16	0	0	0	7	28	1	147
09:00 AM	2	1	7	7	4	4	0	0	0	1	10	0	36
09:15 AM	1	3	2	6	5	6	0	0	0	0	10	0	33
09:30 AM	0	0	3	7	4	1	0	0	0	0	3	0	18
09:45 AM	1	2	9	8	10	3	0	0	0	0	6	0	39
Total	4	6	21	28	23	14	0	0	0	1	29	0	126
Grand Total	15	18	57	78	89	44	0	0	0	12	88	1	402
Apprch %	16.7	20	63.3	37	42.2	20.9	0	0	0	11.9	87.1	1	
Total %	3.7	4.5	14.2	19.4	22.1	10.9	0	0	0	3	21.9	0.2	

	Somerville Avenue/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	**3**	6	10	6	**10**	2	18	0	0	0	0	2	6	0	8	36
08:15 AM	**4**	1	3	8	**7**	8	**5**	**20**	0	0	0	0	1	5	0	6	34
08:30 AM	0	1	**10**	**11**	6	9	5	20	0	0	0	0	**3**	5	0	8	**39**
08:45 AM	0	3	5	8	4	8	4	16	0	0	0	0	1	**12**	**1**	**14**	38
Total Volume	5	8	24	37	23	35	16	74	0	0	0	0	7	28	1	36	147
% App. Total	13.5	21.6	64.9		31.1	47.3	21.6		0	0	0		19.4	77.8	2.8		
PHF	.313	.667	.600	.841	.821	.875	.800	.925	.000	.000	.000	.000	.583	.583	.250	.643	.942

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Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Somerville Avenue/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	1	1	4	0	0	0	2	0	0	0	4	0	0	0	2	15
07:15 AM	0	2	0	7	0	0	0	6	0	0	0	4	0	0	0	0	19
07:30 AM	0	3	2	6	0	0	0	4	0	0	0	14	0	0	0	6	35
07:45 AM	0	2	0	6	0	0	0	12	0	0	0	6	0	0	0	6	32
Total	1	8	3	23	0	0	0	24	0	0	0	28	0	0	0	14	101
08:00 AM	0	4	1	4	2	2	0	8	0	0	0	2	0	1	0	2	26
08:15 AM	1	7	0	16	0	0	2	2	0	0	0	6	0	0	0	4	38
08:30 AM	1	4	1	9	0	2	0	6	0	0	0	2	0	0	0	2	27
08:45 AM	3	10	0	9	0	0	2	4	0	0	0	2	0	0	0	2	32
Total	5	25	2	38	2	4	4	20	0	0	0	12	0	1	0	10	123
09:00 AM	1	9	0	6	0	0	0	6	0	0	0	4	0	1	0	2	29
09:15 AM	0	9	2	13	0	0	0	4	0	0	0	0	0	0	0	2	30
09:30 AM	1	5	0	13	0	0	2	4	0	0	0	2	0	0	0	0	27
09:45 AM	0	3	1	13	0	0	0	6	0	0	0	1	0	0	0	3	27
Total	2	26	3	45	0	0	2	20	0	0	0	7	0	1	0	7	113
Grand Total	8	59	8	106	2	4	6	64	0	0	0	47	0	2	0	31	337
Apprch %	4.4	32.6	4.4	58.6	2.6	5.3	7.9	84.2	0	0	0	100	0	6.1	0	93.9	
Total %	2.4	17.5	2.4	31.5	0.6	1.2	1.8	19	0	0	0	13.9	0	0.6	0	9.2	

	Somerville Avenue/Bow Street From North					Washington Street From East					Webster Avenue From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	3	**2**	**6**	**11**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**14**	**14**	0	0	0	**6**	**6**	35
07:45 AM	0	2	0	6	8	0	0	0	**12**	**12**	0	0	0	6	6	0	0	0	6	6	32
08:00 AM	0	4	1	4	9	**2**	**2**	**0**	**8**	**12**	**0**	**0**	**0**	**2**	**2**	**0**	**1**	0	2	3	26
08:15 AM	**1**	**7**	0	**16**	**24**	0	0	**2**	**2**	**4**	**0**	**0**	**0**	**6**	**6**	**0**	**0**	**0**	**4**	**4**	**38**
Total Volume	1	16	3	32	52	2	2	2	26	32	0	0	0	28	28	0	1	0	18	19	131
% App. Total	1.9	30.8	5.8	61.5		6.2	6.2	6.2	81.2		0	0	0	100		0	5.3	0	94.7		
PHF	.250	.571	.375	.500	.542	.250	.250	.250	.542	.667	.000	.000	.000	.500	.500	.000	.250	.000	.750	.792	.862

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N/S: Somerville Ave-Bow St/Webster Ave
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-G
Site Code : 10303
Start Date : 11/8/2007
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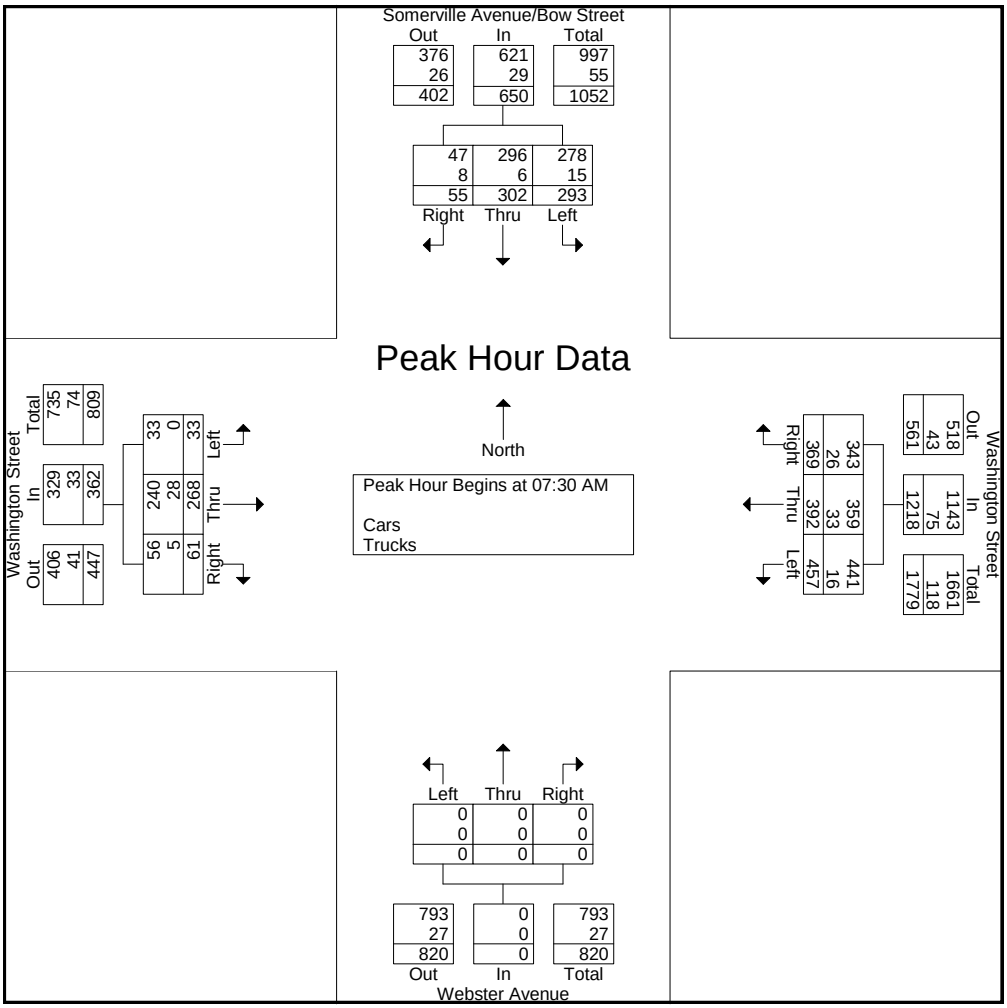
	Somerville Avenue/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	**79**	69	162	91	112	108	311	0	0	0	0	14	67	8	89	562
07:45 AM	10	74	74	158	**94**	**114**	**125**	**333**	0	0	0	0	11	65	8	84	575
08:00 AM	14	76	**82**	**172**	91	99	117	307	0	0	0	0	**21**	65	**11**	**97**	**576**
08:15 AM	**17**	73	68	158	93	67	107	267	0	0	0	0	15	**71**	6	92	517
Total Volume	55	302	293	650	369	392	457	1218	0	0	0	0	61	268	33	362	2230
% App. Total	8.5	46.5	45.1		30.3	32.2	37.5		0	0	0		16.9	74	9.1		
PHF	.809	.956	.893	.945	.981	.860	.914	.914	.000	.000	.000	.000	.726	.944	.750	.933	.968
Cars	47	296	278	621	343	359	441	1143	0	0	0	0	56	240	33	329	2093
% Cars	85.5	98.0	94.9	95.5	93.0	91.6	96.5	93.8	0	0	0	0	91.8	89.6	100	90.9	93.9
Trucks	8	6	15	29	26	33	16	75	0	0	0	0	5	28	0	33	137
% Trucks	14.5	2.0	5.1	4.5	7.0	8.4	3.5	6.2	0	0	0	0	8.2	10.4	0	9.1	6.1



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N/S: Somerville Ave-Bow St/Webster Ave
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-GG
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Somerville Ave/Bow Street From North			Washington Street From East			Webster Avenue From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	17	49	79	148	71	89	0	0	0	8	70	4	535
03:15 PM	15	45	89	141	71	83	0	0	0	8	74	11	537
03:30 PM	10	38	98	150	86	95	0	0	0	2	70	11	560
03:45 PM	8	33	81	147	72	86	0	0	0	10	67	11	515
Total	50	165	347	586	300	353	0	0	0	28	281	37	2147
04:00 PM	6	59	94	153	79	91	0	0	0	5	55	12	554
04:15 PM	5	47	95	177	75	92	0	0	0	4	67	10	572
04:30 PM	6	52	90	193	80	89	0	0	0	7	75	13	605
04:45 PM	7	51	102	192	77	92	0	0	0	8	64	10	603
Total	24	209	381	715	311	364	0	0	0	24	261	45	2334
05:00 PM	5	53	77	200	89	98	0	0	0	4	82	11	619
05:15 PM	11	58	105	208	96	116	0	0	0	8	66	12	680
05:30 PM	10	43	95	234	91	79	0	0	0	11	70	20	653
05:45 PM	9	63	84	200	70	102	0	0	0	2	74	14	618
Total	35	217	361	842	346	395	0	0	0	25	292	57	2570
Grand Total	109	591	1089	2143	957	1112	0	0	0	77	834	139	7051
Apprch %	6.1	33	60.9	50.9	22.7	26.4	0	0	0	7.3	79.4	13.2	
Total %	1.5	8.4	15.4	30.4	13.6	15.8	0	0	0	1.1	11.8	2	
Cars	107	579	1056	2106	920	1090	0	0	0	76	790	136	6860
% Cars	98.2	98	97	98.3	96.1	98	0	0	0	98.7	94.7	97.8	97.3
Trucks	2	12	33	37	37	22	0	0	0	1	44	3	191
% Trucks	1.8	2	3	1.7	3.9	2	0	0	0	1.3	5.3	2.2	2.7

	Somerville Ave/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	53	77	135	200	89	98	387	0	0	0	0	4	**82**	11	97	619
05:15 PM	**11**	58	**105**	**174**	208	**96**	**116**	**420**	0	0	0	0	8	66	12	86	**680**
05:30 PM	10	43	95	148	**234**	91	79	404	0	0	0	0	**11**	70	**20**	**101**	653
05:45 PM	9	**63**	84	156	200	70	102	372	0	0	0	0	2	74	14	90	618
Total Volume	35	217	361	613	842	346	395	1583	0	0	0	0	25	292	57	374	2570
% App. Total	5.7	35.4	58.9		53.2	21.9	25		0	0	0		6.7	78.1	15.2		
PHF	.795	.861	.860	.881	.900	.901	.851	.942	.000	.000	.000	.000	.568	.890	.713	.926	.945
Cars	34	215	353	602	830	334	388	1552	0	0	0	0	25	287	56	368	2522
% Cars	97.1	99.1	97.8	98.2	98.6	96.5	98.2	98.0	0	0	0	0	100	98.3	98.2	98.4	98.1
Trucks	1	2	8	11	12	12	7	31	0	0	0	0	0	5	1	6	48
% Trucks	2.9	0.9	2.2	1.8	1.4	3.5	1.8	2.0	0	0	0	0	0	1.7	1.8	1.6	1.9

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E/W: Washington Street
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Client: VHB/A. Ng

File Name : 71360Som-GG
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Somerville Ave/Bow Street From North			Washington Street From East			Webster Avenue From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	17	46	73	145	69	87	0	0	0	8	66	4	515
03:15 PM	15	44	88	137	67	81	0	0	0	8	70	11	521
03:30 PM	10	35	96	148	83	94	0	0	0	2	65	11	544
03:45 PM	8	32	78	142	67	84	0	0	0	10	62	11	494
Total	50	157	335	572	286	346	0	0	0	28	263	37	2074
04:00 PM	6	59	92	149	75	89	0	0	0	5	45	11	531
04:15 PM	5	46	93	175	72	89	0	0	0	4	62	10	556
04:30 PM	6	52	84	191	77	88	0	0	0	7	73	12	590
04:45 PM	6	50	99	189	76	90	0	0	0	7	60	10	587
Total	23	207	368	704	300	356	0	0	0	23	240	43	2264
05:00 PM	5	53	76	198	86	96	0	0	0	4	81	11	610
05:15 PM	11	57	103	204	94	114	0	0	0	8	65	12	668
05:30 PM	10	42	91	233	87	77	0	0	0	11	68	19	638
05:45 PM	8	63	83	195	67	101	0	0	0	2	73	14	606
Total	34	215	353	830	334	388	0	0	0	25	287	56	2522
Grand Total	107	579	1056	2106	920	1090	0	0	0	76	790	136	6860
Apprch %	6.1	33.2	60.6	51.2	22.4	26.5	0	0	0	7.6	78.8	13.6	
Total %	1.6	8.4	15.4	30.7	13.4	15.9	0	0	0	1.1	11.5	2	

	Somerville Ave/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	53	76	134	198	86	96	380	0	0	0	0	4	**81**	11	96	610
05:15 PM	**11**	57	**103**	**171**	204	**94**	**114**	**412**	0	0	0	0	8	65	12	85	**668**
05:30 PM	10	42	91	143	**233**	87	77	397	0	0	0	0	**11**	68	**19**	**98**	638
05:45 PM	8	**63**	83	154	195	67	101	363	0	0	0	0	2	73	14	89	606
Total Volume	34	215	353	602	830	334	388	1552	0	0	0	0	25	287	56	368	2522
% App. Total	5.6	35.7	58.6		53.5	21.5	25		0	0	0		6.8	78	15.2		
PHF	.773	.853	.857	.880	.891	.888	.851	.942	.000	.000	.000	.000	.568	.886	.737	.939	.944

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Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Somerville Ave/Bow Street From North			Washington Street From East			Webster Avenue From South			Washington Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	3	6	3	2	2	0	0	0	0	4	0	20
03:15 PM	0	1	1	4	4	2	0	0	0	0	4	0	16
03:30 PM	0	3	2	2	3	1	0	0	0	0	5	0	16
03:45 PM	0	1	3	5	5	2	0	0	0	0	5	0	21
Total	0	8	12	14	14	7	0	0	0	0	18	0	73
04:00 PM	0	0	2	4	4	2	0	0	0	0	10	1	23
04:15 PM	0	1	2	2	3	3	0	0	0	0	5	0	16
04:30 PM	0	0	6	2	3	1	0	0	0	0	2	1	15
04:45 PM	1	1	3	3	1	2	0	0	0	1	4	0	16
Total	1	2	13	11	11	8	0	0	0	1	21	2	70
05:00 PM	0	0	1	2	3	2	0	0	0	0	1	0	9
05:15 PM	0	1	2	4	2	2	0	0	0	0	1	0	12
05:30 PM	0	1	4	1	4	2	0	0	0	0	2	1	15
05:45 PM	1	0	1	5	3	1	0	0	0	0	1	0	12
Total	1	2	8	12	12	7	0	0	0	0	5	1	48
Grand Total	2	12	33	37	37	22	0	0	0	1	44	3	191
Apprch %	4.3	25.5	70.2	38.5	38.5	22.9	0	0	0	2.1	91.7	6.2	
Total %	1	6.3	17.3	19.4	19.4	11.5	0	0	0	0.5	23	1.6	

	Somerville Ave/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	0	1	1	2	4	4	**2**	10	0	0	0	0	0	4	0	4	16
03:30 PM	0	**3**	2	**5**	2	3	1	6	0	0	0	0	0	5	0	5	16
03:45 PM	0	1	**3**	4	**5**	**5**	2	**12**	0	0	0	0	0	5	0	5	21
04:00 PM	0	0	2	2	4	4	2	10	0	0	0	0	0	**10**	**1**	**11**	**23**
Total Volume	0	5	8	13	15	16	7	38	0	0	0	0	0	24	1	25	76
% App. Total	0	38.5	61.5		39.5	42.1	18.4		0	0	0		0	96	4		
PHF	.000	.417	.667	.650	.750	.800	.875	.792	.000	.000	.000	.000	.000	.600	.250	.568	.826

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Groups Printed- Peds and Bicycles

	Somerville Ave/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	2	0	4	0	1	0	3	0	0	0	7	0	0	0	1	18
03:15 PM	0	0	1	3	1	3	0	3	0	0	0	6	0	1	0	2	20
03:30 PM	0	1	0	6	1	4	0	9	0	1	1	1	0	0	0	0	24
03:45 PM	0	0	0	8	0	1	1	4	0	0	0	11	0	0	0	1	26
Total	0	3	1	21	2	9	1	19	0	1	1	25	0	1	0	4	88
04:00 PM	0	0	0	2	1	2	0	16	1	1	0	4	0	1	0	1	29
04:15 PM	0	2	1	3	1	2	0	4	0	0	1	16	0	0	0	3	33
04:30 PM	1	1	0	4	1	2	1	7	0	0	0	5	0	0	0	4	26
04:45 PM	0	0	0	11	2	5	0	5	0	1	1	12	0	0	0	2	39
Total	1	3	1	20	5	11	1	32	1	2	2	37	0	1	0	10	127
05:00 PM	0	1	0	13	2	4	0	11	1	0	0	12	1	1	0	5	51
05:15 PM	0	0	0	8	1	1	1	4	0	0	1	7	0	1	0	2	26
05:30 PM	1	1	2	7	2	2	0	12	0	0	0	5	0	1	2	6	41
05:45 PM	1	0	0	16	1	2	0	10	0	0	0	9	0	0	1	4	44
Total	2	2	2	44	6	9	1	37	1	0	1	33	1	3	3	17	162
Grand Total	3	8	4	85	13	29	3	88	2	3	4	95	1	5	3	31	377
Apprch %	3	8	4	85	9.8	21.8	2.3	66.2	1.9	2.9	3.8	91.3	2.5	12.5	7.5	77.5	
Total %	0.8	2.1	1.1	22.5	3.4	7.7	0.8	23.3	0.5	0.8	1.1	25.2	0.3	1.3	0.8	8.2	

	Somerville Ave/Bow Street From North					Washington Street From East					Webster Avenue From South					Washington Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	**1**	0	13	14	**2**	**4**	**0**	**11**	**17**	**1**	**0**	**0**	**12**	**13**	**1**	**1**	0	5	7	**51**
05:15 PM	0	0	0	8	8	1	1	**1**	**4**	**7**	**0**	**0**	**1**	7	8	0	1	0	2	3	26
05:30 PM	**1**	**1**	**2**	**7**	**11**	**2**	**2**	**0**	**12**	16	0	0	0	5	5	0	1	**2**	**6**	**9**	41
05:45 PM	1	0	0	**16**	**17**	1	2	0	10	13	0	0	0	9	9	0	0	1	4	5	44
Total Volume	2	2	2	44	50	6	9	1	37	53	1	0	1	33	35	1	3	3	17	24	162
% App. Total	4	4	4	88		11.3	17	1.9	69.8		2.9	0	2.9	94.3		4.2	12.5	12.5	70.8		
PHF	.500	.500	.250	.688	.735	.750	.563	.250	.771	.779	.250	.000	.250	.688	.673	.250	.750	.375	.708	.667	.794

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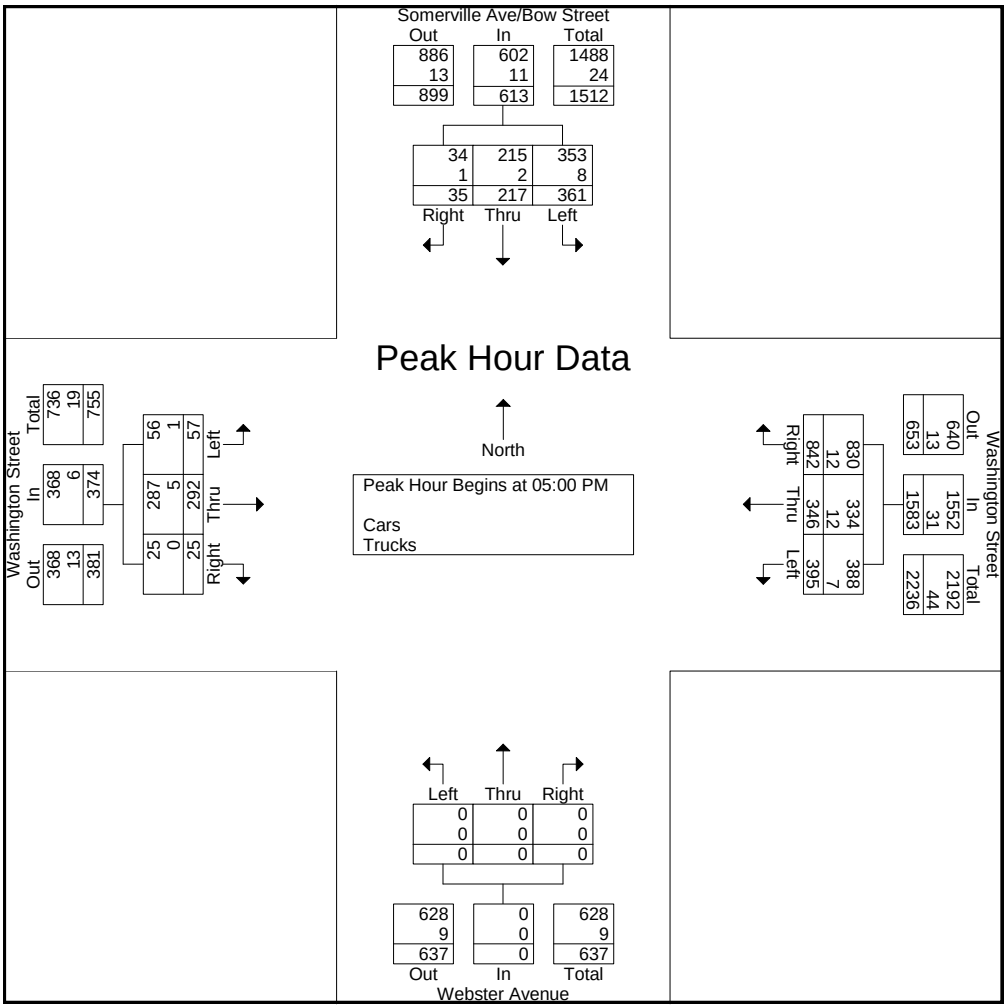
N/S: Somerville Ave-Bow St/Webster Ave
E/W: Washington Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-GG
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

	Somerville Ave/Bow Street From North				Washington Street From East				Webster Avenue From South				Washington Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	5	53	77	135	200	89	98	387	0	0	0	0	4	**82**	11	97	619
05:15 PM	**11**	58	**105**	**174**	208	**96**	**116**	**420**	0	0	0	0	8	66	12	86	**680**
05:30 PM	10	43	95	148	**234**	91	79	404	0	0	0	0	**11**	70	**20**	**101**	653
05:45 PM	9	**63**	84	156	200	70	102	372	0	0	0	0	2	74	14	90	618
Total Volume	35	217	361	613	842	346	395	1583	0	0	0	0	25	292	57	374	2570
% App. Total	5.7	35.4	58.9		53.2	21.9	25		0	0	0		6.7	78.1	15.2		
PHF	.795	.861	.860	.881	.900	.901	.851	.942	.000	.000	.000	.000	.568	.890	.713	.926	.945
Cars	34	215	353	602	830	334	388	1552	0	0	0	0	25	287	56	368	2522
% Cars	97.1	99.1	97.8	98.2	98.6	96.5	98.2	98.0	0	0	0	0	100	98.3	98.2	98.4	98.1
Trucks	1	2	8	11	12	12	7	31	0	0	0	0	0	5	1	6	48
% Trucks	2.9	0.9	2.2	1.8	1.4	3.5	1.8	2.0	0	0	0	0	0	1.7	1.8	1.6	1.9



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N/S: Beacon Street
E/W: Washington Street/Kirkland Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-H
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Beacon Street From North			Washington Street From East			Beacon Street From South			Kirkland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	12	87	2	3	44	6	2	42	3	4	29	6	240
07:15 AM	20	128	4	8	69	7	3	66	5	6	39	13	368
07:30 AM	35	125	8	9	93	12	6	55	7	11	48	7	416
07:45 AM	28	105	13	11	73	15	7	61	2	8	46	8	377
Total	95	445	27	31	279	40	18	224	17	29	162	34	1401
08:00 AM	36	101	6	18	83	9	2	69	8	10	59	16	417
08:15 AM	26	117	7	17	65	7	11	56	7	4	35	18	370
08:30 AM	25	103	8	17	66	12	6	53	18	9	34	12	363
08:45 AM	21	101	12	13	57	3	4	62	8	13	51	18	363
Total	108	422	33	65	271	31	23	240	41	36	179	64	1513
09:00 AM	17	100	7	14	58	5	8	38	10	12	40	12	321
09:15 AM	13	75	7	8	50	6	6	29	4	8	37	15	258
09:30 AM	8	109	4	22	49	10	8	39	5	9	31	13	307
09:45 AM	12	81	7	17	44	15	7	45	5	7	26	8	274
Total	50	365	25	61	201	36	29	151	24	36	134	48	1160
Grand Total	253	1232	85	157	751	107	70	615	82	101	475	146	4074
Apprch %	16.1	78.5	5.4	15.5	74	10.5	9.1	80.2	10.7	14	65.8	20.2	
Total %	6.2	30.2	2.1	3.9	18.4	2.6	1.7	15.1	2	2.5	11.7	3.6	
Cars	238	1180	72	134	683	95	59	567	73	95	416	140	3752
% Cars	94.1	95.8	84.7	85.4	90.9	88.8	84.3	92.2	89	94.1	87.6	95.9	92.1
Trucks	15	52	13	23	68	12	11	48	9	6	59	6	322
% Trucks	5.9	4.2	15.3	14.6	9.1	11.2	15.7	7.8	11	5.9	12.4	4.1	7.9

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	35	**125**	8	**168**	9	**93**	12	**114**	6	55	7	68	**11**	48	7	66	416
07:45 AM	28	105	**13**	146	11	73	**15**	99	7	61	2	70	8	46	8	62	377
08:00 AM	**36**	101	6	143	**18**	83	9	110	2	**69**	**8**	**79**	10	**59**	16	**85**	**417**
08:15 AM	26	117	7	150	17	65	7	89	**11**	56	7	74	4	35	**18**	57	370
Total Volume	125	448	34	607	55	314	43	412	26	241	24	291	33	188	49	270	1580
% App. Total	20.6	73.8	5.6		13.3	76.2	10.4		8.9	82.8	8.2		12.2	69.6	18.1		
PHF	.868	.896	.654	.903	.764	.844	.717	.904	.591	.873	.750	.921	.750	.797	.681	.794	.947
Cars	121	435	30	586	51	288	37	376	23	221	23	267	32	173	48	253	1482
% Cars	96.8	97.1	88.2	96.5	92.7	91.7	86.0	91.3	88.5	91.7	95.8	91.8	97.0	92.0	98.0	93.7	93.8
Trucks	4	13	4	21	4	26	6	36	3	20	1	24	1	15	1	17	98
% Trucks	3.2	2.9	11.8	3.5	7.3	8.3	14.0	8.7	11.5	8.3	4.2	8.2	3.0	8.0	2.0	6.3	6.2

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E/W: Washington Street/Kirkland Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-H
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Beacon Street From North			Washington Street From East			Beacon Street From South			Kirkland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	12	84	2	3	42	5	2	41	3	4	25	6	229
07:15 AM	18	120	3	7	63	6	2	58	5	4	33	12	331
07:30 AM	33	123	8	9	85	11	5	52	7	11	45	7	396
07:45 AM	28	101	12	11	64	14	7	56	2	8	43	8	354
Total	91	428	25	30	254	36	16	207	17	27	146	33	1310
08:00 AM	35	97	3	17	78	8	2	63	7	9	52	16	387
08:15 AM	25	114	7	14	61	4	9	50	7	4	33	17	345
08:30 AM	24	97	5	15	56	11	5	48	16	9	29	12	327
08:45 AM	20	96	11	9	55	3	4	59	7	12	42	17	335
Total	104	404	26	55	250	26	20	220	37	34	156	62	1394
09:00 AM	17	94	5	11	51	5	6	35	7	12	32	12	287
09:15 AM	10	74	6	6	48	5	5	29	3	7	31	13	237
09:30 AM	7	104	3	19	45	10	8	36	4	8	28	12	284
09:45 AM	9	76	7	13	35	13	4	40	5	7	23	8	240
Total	43	348	21	49	179	33	23	140	19	34	114	45	1048
Grand Total	238	1180	72	134	683	95	59	567	73	95	416	140	3752
Apprch %	16	79.2	4.8	14.7	74.9	10.4	8.4	81.1	10.4	14.6	63.9	21.5	
Total %	6.3	31.4	1.9	3.6	18.2	2.5	1.6	15.1	1.9	2.5	11.1	3.7	

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	33	**123**	8	**164**	9	**85**	11	**105**	5	52	**7**	64	**11**	45	7	63	**396**
07:45 AM	28	101	**12**	141	11	64	**14**	89	7	56	2	65	8	43	8	59	354
08:00 AM	**35**	97	3	135	**17**	78	8	103	2	**63**	7	**72**	9	**52**	16	**77**	387
08:15 AM	25	114	7	146	14	61	4	79	**9**	50	7	66	4	33	**17**	54	345
Total Volume	121	435	30	586	51	288	37	376	23	221	23	267	32	173	48	253	1482
% App. Total	20.6	74.2	5.1		13.6	76.6	9.8		8.6	82.8	8.6		12.6	68.4	19		
PHF	.864	.884	.625	.893	.750	.847	.661	.895	.639	.877	.821	.927	.727	.832	.706	.821	.936

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-H
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Beacon Street From North			Washington Street From East			Beacon Street From South			Kirkland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	3	0	0	2	1	0	1	0	0	4	0	11
07:15 AM	2	8	1	1	6	1	1	8	0	2	6	1	37
07:30 AM	2	2	0	0	8	1	1	3	0	0	3	0	20
07:45 AM	0	4	1	0	9	1	0	5	0	0	3	0	23
Total	4	17	2	1	25	4	2	17	0	2	16	1	91
08:00 AM	1	4	3	1	5	1	0	6	1	1	7	0	30
08:15 AM	1	3	0	3	4	3	2	6	0	0	2	1	25
08:30 AM	1	6	3	2	10	1	1	5	2	0	5	0	36
08:45 AM	1	5	1	4	2	0	0	3	1	1	9	1	28
Total	4	18	7	10	21	5	3	20	4	2	23	2	119
09:00 AM	0	6	2	3	7	0	2	3	3	0	8	0	34
09:15 AM	3	1	1	2	2	1	1	0	1	1	6	2	21
09:30 AM	1	5	1	3	4	0	0	3	1	1	3	1	23
09:45 AM	3	5	0	4	9	2	3	5	0	0	3	0	34
Total	7	17	4	12	22	3	6	11	5	2	20	3	112
Grand Total	15	52	13	23	68	12	11	48	9	6	59	6	322
Apprch %	18.8	65	16.2	22.3	66	11.7	16.2	70.6	13.2	8.5	83.1	8.5	
Total %	4.7	16.1	4	7.1	21.1	3.7	3.4	14.9	2.8	1.9	18.3	1.9	

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:15 AM																	
08:15 AM	**1**	3	0	4	3	4	**3**	10	**2**	**6**	0	**8**	0	2	**1**	3	25
08:30 AM	1	**6**	**3**	**10**	2	**10**	1	**13**	1	5	2	8	0	5	0	5	**36**
08:45 AM	1	5	1	7	**4**	2	0	6	0	3	1	4	**1**	**9**	1	**11**	28
09:00 AM	0	6	2	8	3	7	0	10	2	3	**3**	8	0	8	0	8	34
Total Volume	3	20	6	29	12	23	4	39	5	17	6	28	1	24	2	27	123
% App. Total	10.3	69	20.7		30.8	59	10.3		17.9	60.7	21.4		3.7	88.9	7.4		
PHF	.750	.833	.500	.725	.750	.575	.333	.750	.625	.708	.500	.875	.250	.667	.500	.614	.854

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File Name : 71360Som-H
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	4	0	1	0	2	0	2	1	5	0	2	0	0	0	0	17
07:15 AM	0	16	1	16	0	1	1	11	1	2	0	13	0	1	0	2	65
07:30 AM	0	18	0	13	1	7	0	10	0	2	0	21	2	2	0	4	80
07:45 AM	1	23	0	13	0	5	2	13	0	4	1	17	0	1	0	11	91
Total	1	61	1	43	1	15	3	36	2	13	1	53	2	4	0	17	253
08:00 AM	0	28	0	18	0	8	0	10	0	6	0	17	0	1	0	10	98
08:15 AM	2	27	0	12	1	18	0	16	1	6	0	23	2	4	2	4	118
08:30 AM	3	33	0	29	1	11	0	4	0	9	0	27	0	0	0	4	121
08:45 AM	1	43	1	16	1	15	1	14	0	2	1	36	1	0	0	5	137
Total	6	131	1	75	3	52	1	44	1	23	1	103	3	5	2	23	474
09:00 AM	2	22	0	15	0	14	1	10	0	1	1	16	0	3	0	3	88
09:15 AM	1	18	3	20	0	11	3	9	0	6	0	19	0	2	0	2	94
09:30 AM	0	13	0	10	1	5	1	5	0	4	1	30	0	1	0	0	71
09:45 AM	0	16	0	17	1	13	1	3	2	3	2	22	0	0	0	1	81
Total	3	69	3	62	2	43	6	27	2	14	4	87	0	6	0	6	334
Grand Total	10	261	5	180	6	110	10	107	5	50	6	243	5	15	2	46	1061
Apprch %	2.2	57.2	1.1	39.5	2.6	47.2	4.3	45.9	1.6	16.4	2	79.9	7.4	22.1	2.9	67.6	
Total %	0.9	24.6	0.5	17	0.6	10.4	0.9	10.1	0.5	4.7	0.6	22.9	0.5	1.4	0.2	4.3	

	Beacon Street From North					Washington Street From East					Beacon Street From South					Kirkland Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	28	0	18	46	0	8	0	10	18	0	6	0	17	23	0	1	0	**10**	**11**	**98**
08:15 AM	**2**	**27**	**0**	**12**	**41**	**1**	**18**	**0**	**16**	**35**	**1**	**6**	**0**	**23**	**30**	**2**	**4**	**2**	**4**	**12**	118
08:30 AM	**3**	**33**	**0**	**29**	**65**	1	11	0	4	16	0	**9**	**0**	**27**	**36**	**0**	**0**	**0**	**4**	**4**	**121**
08:45 AM	**1**	**43**	**1**	**16**	**61**	**1**	**15**	**1**	**14**	**31**	**0**	**2**	**1**	**36**	**39**	1	0	0	5	6	**137**
Total Volume	6	131	1	75	213	3	52	1	44	100	1	23	1	103	128	3	5	2	23	33	474
% App. Total	2.8	61.5	0.5	35.2		3	52	1	44		0.8	18	0.8	80.5		9.1	15.2	6.1	69.7		
PHF	.500	.762	.250	.647	.819	.750	.722	.250	.688	.714	.250	.639	.250	.715	.821	.375	.313	.250	.575	.688	.865

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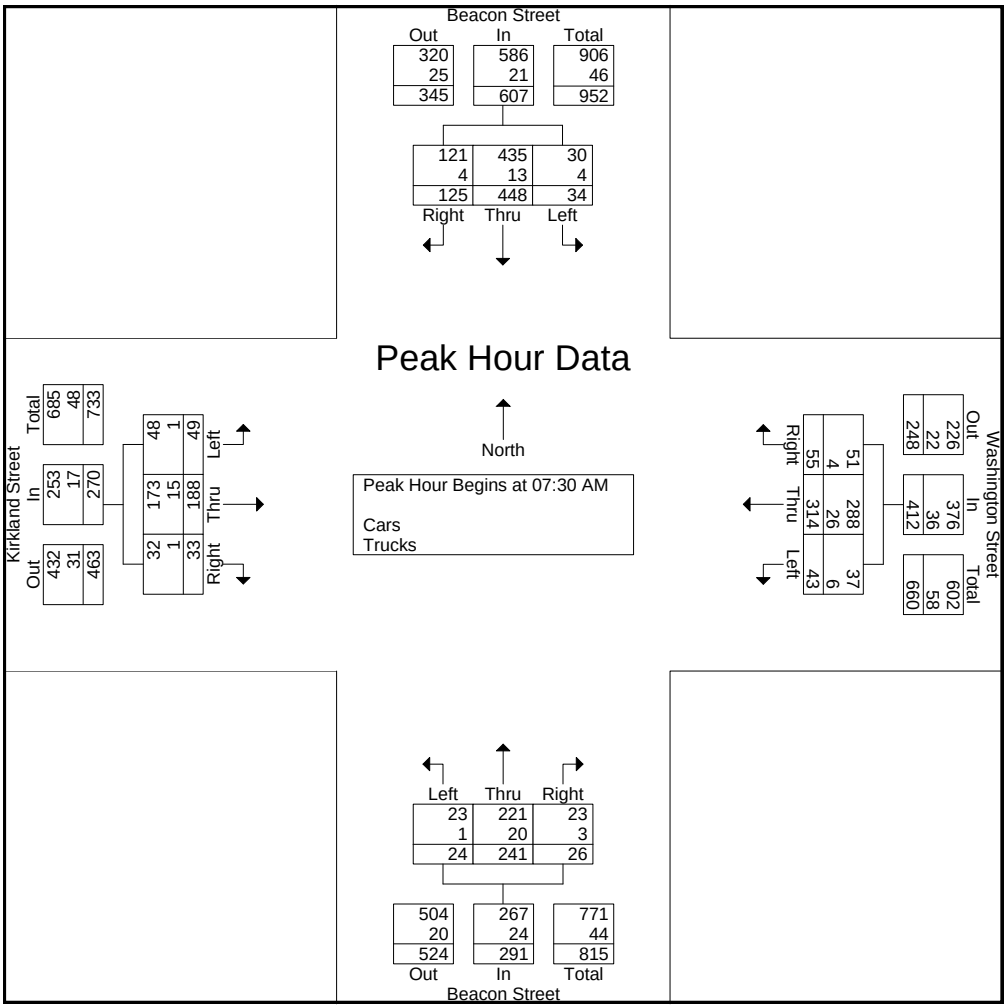
	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	35	**125**	8	**168**	9	**93**	12	**114**	6	55	7	68	**11**	48	7	66	416
07:45 AM	28	105	**13**	146	11	73	**15**	99	7	61	2	70	8	46	8	62	377
08:00 AM	**36**	101	6	143	**18**	83	9	110	2	**69**	**8**	**79**	10	**59**	16	**85**	**417**
08:15 AM	26	117	7	150	17	65	7	89	**11**	56	7	74	4	35	**18**	57	370
Total Volume	125	448	34	607	55	314	43	412	26	241	24	291	33	188	49	270	1580
% App. Total	20.6	73.8	5.6		13.3	76.2	10.4		8.9	82.8	8.2		12.2	69.6	18.1		
PHF	.868	.896	.654	.903	.764	.844	.717	.904	.591	.873	.750	.921	.750	.797	.681	.794	.947
Cars	121	435	30	586	51	288	37	376	23	221	23	267	32	173	48	253	1482
% Cars	96.8	97.1	88.2	96.5	92.7	91.7	86.0	91.3	88.5	91.7	95.8	91.8	97.0	92.0	98.0	93.7	93.8
Trucks	4	13	4	21	4	26	6	36	3	20	1	24	1	15	1	17	98
% Trucks	3.2	2.9	11.8	3.5	7.3	8.3	14.0	8.7	11.5	8.3	4.2	8.2	3.0	8.0	2.0	6.3	6.2



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Client: VHB/ A. Ng

File Name : 71360Som-HH
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Beacon Street From North			Washington Street From East			Beacon Street From South			Kirkland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	32	98	12	13	54	8	6	76	4	11	60	23	397
03:15 PM	18	86	10	10	48	6	9	83	4	9	71	21	375
03:30 PM	21	74	13	13	44	6	10	89	8	10	85	21	394
03:45 PM	21	69	7	13	48	9	22	70	5	8	71	20	363
Total	92	327	42	49	194	29	47	318	21	38	287	85	1529
04:00 PM	21	71	9	11	63	12	17	105	11	9	70	24	423
04:15 PM	24	76	12	8	56	11	14	86	10	20	85	15	417
04:30 PM	20	79	5	9	55	10	11	112	8	10	78	21	418
04:45 PM	19	74	7	14	61	7	21	108	10	7	64	30	422
Total	84	300	33	42	235	40	63	411	39	46	297	90	1680
05:00 PM	15	97	6	13	56	5	18	113	5	10	77	31	446
05:15 PM	17	80	9	16	58	18	15	117	7	11	76	25	449
05:30 PM	7	92	17	20	73	6	13	106	4	9	82	20	449
05:45 PM	24	91	10	12	62	15	18	84	5	9	79	25	434
Total	63	360	42	61	249	44	64	420	21	39	314	101	1778
Grand Total	239	987	117	152	678	113	174	1149	81	123	898	276	4987
Apprch %	17.8	73.5	8.7	16.1	71.9	12	12.4	81.8	5.8	9.5	69.2	21.3	
Total %	4.8	19.8	2.3	3	13.6	2.3	3.5	23	1.6	2.5	18	5.5	
Cars	235	963	114	148	659	109	172	1125	79	119	851	274	4848
% Cars	98.3	97.6	97.4	97.4	97.2	96.5	98.9	97.9	97.5	96.7	94.8	99.3	97.2
Trucks	4	24	3	4	19	4	2	24	2	4	47	2	139
% Trucks	1.7	2.4	2.6	2.6	2.8	3.5	1.1	2.1	2.5	3.3	5.2	0.7	2.8

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**20**	79	5	104	9	55	10	74	11	112	8	131	10	**78**	21	109	418
04:45 PM	19	74	7	100	14	**61**	7	82	**21**	108	**10**	**139**	7	64	30	101	422
05:00 PM	15	**97**	6	**118**	13	56	5	74	18	113	5	136	10	77	**31**	**118**	446
05:15 PM	17	80	**9**	106	**16**	58	**18**	**92**	15	**117**	7	139	**11**	76	25	112	**449**
Total Volume	71	330	27	428	52	230	40	322	65	450	30	545	38	295	107	440	1735
% App. Total	16.6	77.1	6.3		16.1	71.4	12.4		11.9	82.6	5.5		8.6	67	24.3		
PHF	.888	.851	.750	.907	.813	.943	.556	.875	.774	.962	.750	.980	.864	.946	.863	.932	.966
Cars	71	322	27	420	52	223	40	315	63	442	30	535	36	287	107	430	1700
% Cars	100	97.6	100	98.1	100	97.0	100	97.8	96.9	98.2	100	98.2	94.7	97.3	100	97.7	98.0
Trucks	0	8	0	8	0	7	0	7	2	8	0	10	2	8	0	10	35
% Trucks	0	2.4	0	1.9	0	3.0	0	2.2	3.1	1.8	0	1.8	5.3	2.7	0	2.3	2.0

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Som-HH
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Beacon Street From North			Washington Street From East			Beacon Street From South			Kirkland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	31	92	11	12	52	7	6	75	3	11	55	22	377
03:15 PM	18	84	10	10	47	5	9	81	4	9	67	21	365
03:30 PM	20	74	13	13	42	6	10	87	8	10	81	21	385
03:45 PM	21	68	7	11	45	7	22	68	4	8	63	20	344
Total	90	318	41	46	186	25	47	311	19	38	266	84	1471
04:00 PM	21	69	8	11	62	12	17	99	11	9	65	24	408
04:15 PM	23	75	11	7	55	11	14	86	10	19	82	15	408
04:30 PM	20	77	5	9	53	10	9	110	8	9	75	21	406
04:45 PM	19	72	7	14	59	7	21	105	10	7	59	30	410
Total	83	293	31	41	229	40	61	400	39	44	281	90	1632
05:00 PM	15	93	6	13	55	5	18	110	5	9	77	31	437
05:15 PM	17	80	9	16	56	18	15	117	7	11	76	25	447
05:30 PM	6	89	17	20	72	6	13	104	4	8	80	19	438
05:45 PM	24	90	10	12	61	15	18	83	5	9	71	25	423
Total	62	352	42	61	244	44	64	414	21	37	304	100	1745
Grand Total	235	963	114	148	659	109	172	1125	79	119	851	274	4848
Apprch %	17.9	73.4	8.7	16.2	71.9	11.9	12.5	81.8	5.7	9.6	68.4	22	
Total %	4.8	19.9	2.4	3.1	13.6	2.2	3.5	23.2	1.6	2.5	17.6	5.7	

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**20**	77	5	102	9	53	10	72	9	110	8	127	9	75	21	105	406
04:45 PM	19	72	7	98	14	**59**	7	80	**21**	105	**10**	136	7	59	30	96	410
05:00 PM	15	**93**	6	**114**	13	55	5	73	18	110	5	133	9	**77**	**31**	**117**	437
05:15 PM	17	80	**9**	106	**16**	56	**18**	**90**	15	**117**	7	**139**	**11**	76	25	112	**447**
Total Volume	71	322	27	420	52	223	40	315	63	442	30	535	36	287	107	430	1700
% App. Total	16.9	76.7	6.4		16.5	70.8	12.7		11.8	82.6	5.6		8.4	66.7	24.9		
PHF	.888	.866	.750	.921	.813	.945	.556	.875	.750	.944	.750	.962	.818	.932	.863	.919	.951

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File Name : 71360Som-HH
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Beacon Street From North			Washington Street From East			Beacon Street From South			Kirkland Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	6	1	1	2	1	0	1	1	0	5	1	20
03:15 PM	0	2	0	0	1	1	0	2	0	0	4	0	10
03:30 PM	1	0	0	0	2	0	0	2	0	0	4	0	9
03:45 PM	0	1	0	2	3	2	0	2	1	0	8	0	19
Total	2	9	1	3	8	4	0	7	2	0	21	1	58
04:00 PM	0	2	1	0	1	0	0	6	0	0	5	0	15
04:15 PM	1	1	1	1	1	0	0	0	0	1	3	0	9
04:30 PM	0	2	0	0	2	0	2	2	0	1	3	0	12
04:45 PM	0	2	0	0	2	0	0	3	0	0	5	0	12
Total	1	7	2	1	6	0	2	11	0	2	16	0	48
05:00 PM	0	4	0	0	1	0	0	3	0	1	0	0	9
05:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
05:30 PM	1	3	0	0	1	0	0	2	0	1	2	1	11
05:45 PM	0	1	0	0	1	0	0	1	0	0	8	0	11
Total	1	8	0	0	5	0	0	6	0	2	10	1	33
Grand Total	4	24	3	4	19	4	2	24	2	4	47	2	139
Apprch %	12.9	77.4	9.7	14.8	70.4	14.8	7.1	85.7	7.1	7.5	88.7	3.8	
Total %	2.9	17.3	2.2	2.9	13.7	2.9	1.4	17.3	1.4	2.9	33.8	1.4	

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	**1**	**6**	**1**	**8**	1	2	1	4	0	1	**1**	2	0	5	**1**	6	**20**
03:15 PM	0	2	0	2	0	1	1	2	0	**2**	0	2	0	4	0	4	10
03:30 PM	1	0	0	1	0	2	0	2	0	2	0	2	0	4	0	4	9
03:45 PM	0	1	0	1	**2**	**3**	**2**	**7**	0	2	1	**3**	0	**8**	0	**8**	19
Total Volume	2	9	1	12	3	8	4	15	0	7	2	9	0	21	1	22	58
% App. Total	16.7	75	8.3		20	53.3	26.7		0	77.8	22.2		0	95.5	4.5		
PHF	.500	.375	.250	.375	.375	.667	.500	.536	.000	.875	.500	.750	.000	.656	.250	.688	.725

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Client: VHB/ A. Ng

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Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	2	0	8	0	3	0	6	1	4	0	13	0	4	1	7	49
03:15 PM	0	0	0	11	0	2	0	5	0	6	0	15	0	2	0	8	49
03:30 PM	0	3	0	10	0	1	0	7	0	8	0	19	1	3	1	1	54
03:45 PM	0	3	0	20	0	4	0	10	0	8	1	15	2	3	1	6	73
Total	0	8	0	49	0	10	0	28	1	26	1	62	3	12	3	22	225
04:00 PM	1	3	0	8	0	7	0	1	0	9	0	14	1	7	0	7	58
04:15 PM	0	4	0	13	0	3	0	3	0	7	0	7	1	5	0	10	53
04:30 PM	0	5	0	10	0	3	0	11	1	11	0	14	5	6	0	2	68
04:45 PM	0	2	0	13	0	1	0	5	1	15	0	19	0	9	0	2	67
Total	1	14	0	44	0	14	0	20	2	42	0	54	7	27	0	21	246
05:00 PM	0	4	0	28	1	6	0	10	1	8	0	16	0	5	0	7	86
05:15 PM	0	3	0	14	0	3	1	4	1	18	1	30	1	12	2	9	99
05:30 PM	0	6	0	11	3	4	0	11	6	22	1	16	0	3	1	5	89
05:45 PM	1	2	0	31	1	4	0	10	2	18	0	21	3	5	0	21	119
Total	1	15	0	84	5	17	1	35	10	66	2	83	4	25	3	42	393
Grand Total	2	37	0	177	5	41	1	83	13	134	3	199	14	64	6	85	864
Apprch %	0.9	17.1	0	81.9	3.8	31.5	0.8	63.8	3.7	38.4	0.9	57	8.3	37.9	3.6	50.3	
Total %	0.2	4.3	0	20.5	0.6	4.7	0.1	9.6	1.5	15.5	0.3	23	1.6	7.4	0.7	9.8	

	Beacon Street From North					Washington Street From East					Beacon Street From South					Kirkland Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	**5**	0	10	15	0	3	0	**11**	14	**1**	**11**	**0**	**14**	**26**	**5**	**6**	**0**	**2**	**13**	**68**
04:45 PM	**0**	**2**	**0**	**13**	**15**	**0**	**1**	**0**	**5**	**6**	**1**	**15**	**0**	**19**	**35**	**0**	**9**	**0**	**2**	**11**	**67**
05:00 PM	**0**	**4**	**0**	**28**	**32**	**1**	**6**	**0**	**10**	**17**	1	8	0	16	25	0	5	0	7	12	86
05:15 PM	0	3	0	14	17	0	3	**1**	**4**	**8**	**1**	**18**	**1**	**30**	**50**	1	**12**	**2**	**9**	**24**	**99**
Total Volume	0	14	0	65	79	1	13	1	30	45	4	52	1	79	136	6	32	2	20	60	320
% App. Total	0	17.7	0	82.3		2.2	28.9	2.2	66.7		2.9	38.2	0.7	58.1		10	53.3	3.3	33.3		
PHF	.000	.700	.000	.580	.617	.250	.542	.250	.682	.662	1.000	.722	.250	.658	.680	.300	.667	.250	.556	.625	.808

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Site Code : 10303
Start Date : 11/8/2007
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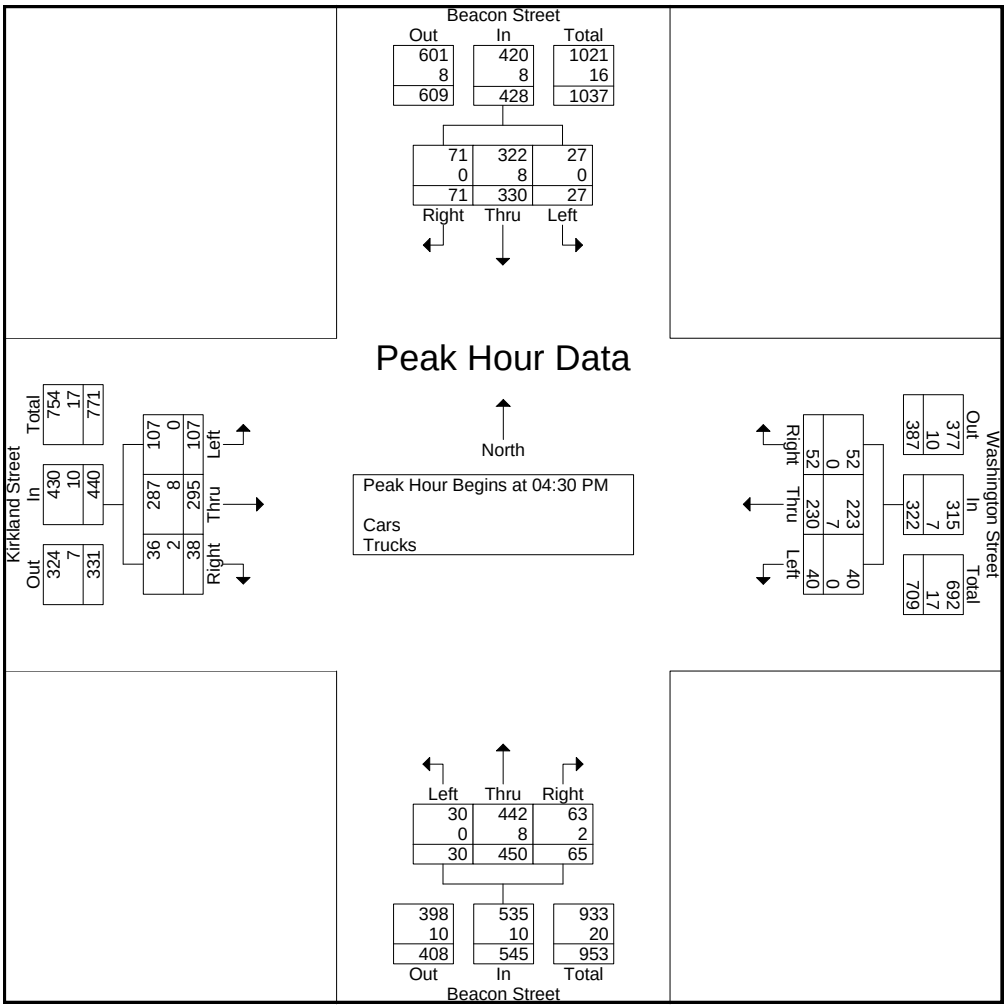
	Beacon Street From North				Washington Street From East				Beacon Street From South				Kirkland Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**20**	79	5	104	9	55	10	74	11	112	8	131	10	**78**	21	109	418
04:45 PM	19	74	7	100	14	**61**	7	82	**21**	108	**10**	**139**	7	64	30	101	422
05:00 PM	15	**97**	6	**118**	13	56	5	74	18	113	5	136	10	77	**31**	**118**	446
05:15 PM	17	80	**9**	106	**16**	58	**18**	**92**	15	**117**	7	139	**11**	76	25	112	**449**
Total Volume	71	330	27	428	52	230	40	322	65	450	30	545	38	295	107	440	1735
% App. Total	16.6	77.1	6.3		16.1	71.4	12.4		11.9	82.6	5.5		8.6	67	24.3		
PHF	.888	.851	.750	.907	.813	.943	.556	.875	.774	.962	.750	.980	.864	.946	.863	.932	.966
Cars	71	322	27	420	52	223	40	315	63	442	30	535	36	287	107	430	1700
% Cars	100	97.6	100	98.1	100	97.0	100	97.8	96.9	98.2	100	98.2	94.7	97.3	100	97.7	98.0
Trucks	0	8	0	8	0	7	0	7	2	8	0	10	2	8	0	10	35
% Trucks	0	2.4	0	1.9	0	3.0	0	2.2	3.1	1.8	0	1.8	5.3	2.7	0	2.3	2.0



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Client: VHB/A. Ng

File Name : 71360som-j
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Prospect Avenue From North			Somerville Avenue From East			Prospect Avenue From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	223	0	0	2	45	0	10	98	34	0	50	57	519
07:15 AM	250	0	0	4	31	0	15	99	29	0	82	59	569
07:30 AM	242	0	0	4	42	0	12	117	25	0	102	52	596
07:45 AM	276	0	0	12	43	0	16	116	28	0	103	63	657
Total	991	0	0	22	161	0	53	430	116	0	337	231	2341
08:00 AM	268	0	0	7	41	0	16	114	31	0	112	54	643
08:15 AM	193	0	0	14	32	0	17	121	43	0	90	42	552
08:30 AM	191	0	0	5	55	0	18	91	29	0	93	53	535
08:45 AM	221	0	0	4	46	0	25	104	45	0	86	58	589
Total	873	0	0	30	174	0	76	430	148	0	381	207	2319
09:00 AM	172	0	0	5	68	0	16	90	41	0	101	59	552
09:15 AM	192	0	0	2	29	0	21	71	44	0	80	45	484
09:30 AM	191	0	0	3	53	0	16	102	43	0	73	56	537
09:45 AM	189	0	0	4	42	0	22	62	38	0	104	55	516
Total	744	0	0	14	192	0	75	325	166	0	358	215	2089
Grand Total	2608	0	0	66	527	0	204	1185	430	0	1076	653	6749
Apprch %	100	0	0	11.1	88.9	0	11.2	65.1	23.6	0	62.2	37.8	
Total %	38.6	0	0	1	7.8	0	3	17.6	6.4	0	15.9	9.7	
Cars	2446	0	0	65	484	0	188	1108	408	0	1003	574	6276
% Cars	93.8	0	0	98.5	91.8	0	92.2	93.5	94.9	0	93.2	87.9	93
Trucks	162	0	0	1	43	0	16	77	22	0	73	79	473
% Trucks	6.2	0	0	1.5	8.2	0	7.8	6.5	5.1	0	6.8	12.1	7

	Prospect Avenue From North				Somerville Avenue From East				Prospect Avenue From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	250	0	0	250	4	31	0	35	15	99	29	143	0	82	59	141	569
07:30 AM	242	0	0	242	4	42	0	46	12	**117**	25	154	0	102	52	154	596
07:45 AM	**276**	0	0	**276**	**12**	**43**	0	**55**	**16**	116	28	160	0	103	**63**	**166**	**657**
08:00 AM	268	0	0	268	7	41	0	48	16	114	**31**	**161**	0	**112**	54	166	643
Total Volume	1036	0	0	1036	27	157	0	184	59	446	113	618	0	399	228	627	2465
% App. Total	100	0	0		14.7	85.3	0		9.5	72.2	18.3		0	63.6	36.4		
PHF	.938	.000	.000	.938	.563	.913	.000	.836	.922	.953	.911	.960	.000	.891	.905	.944	.938
Cars	976	0	0	976	27	143	0	170	58	421	105	584	0	372	208	580	2310
% Cars	94.2	0	0	94.2	100	91.1	0	92.4	98.3	94.4	92.9	94.5	0	93.2	91.2	92.5	93.7
Trucks	60	0	0	60	0	14	0	14	1	25	8	34	0	27	20	47	155
% Trucks	5.8	0	0	5.8	0	8.9	0	7.6	1.7	5.6	7.1	5.5	0	6.8	8.8	7.5	6.3

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E/W: Somerville Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360som-j
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Prospect Avenue From North			Somerville Avenue From East			Prospect Avenue From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	208	0	0	2	39	0	8	92	31	0	48	52	480
07:15 AM	235	0	0	4	29	0	14	97	27	0	76	54	536
07:30 AM	226	0	0	4	35	0	12	110	21	0	93	44	545
07:45 AM	266	0	0	12	41	0	16	106	26	0	97	61	625
Total	935	0	0	22	144	0	50	405	105	0	314	211	2186
08:00 AM	249	0	0	7	38	0	16	108	31	0	106	49	604
08:15 AM	177	0	0	13	30	0	16	116	42	0	87	37	518
08:30 AM	181	0	0	5	48	0	13	84	27	0	81	46	485
08:45 AM	204	0	0	4	44	0	23	99	45	0	80	49	548
Total	811	0	0	29	160	0	68	407	145	0	354	181	2155
09:00 AM	159	0	0	5	65	0	14	80	40	0	92	51	506
09:15 AM	180	0	0	2	26	0	20	64	42	0	75	38	447
09:30 AM	182	0	0	3	48	0	16	95	42	0	69	47	502
09:45 AM	179	0	0	4	41	0	20	57	34	0	99	46	480
Total	700	0	0	14	180	0	70	296	158	0	335	182	1935
Grand Total	2446	0	0	65	484	0	188	1108	408	0	1003	574	6276
Apprch %	100	0	0	11.8	88.2	0	11	65	23.9	0	63.6	36.4	
Total %	39	0	0	1	7.7	0	3	17.7	6.5	0	16	9.1	

	Prospect Avenue From North				Somerville Avenue From East				Prospect Avenue From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	235	0	0	235	4	29	0	33	14	97	27	138	0	76	54	130	536
07:30 AM	226	0	0	226	4	35	0	39	12	**110**	21	143	0	93	44	137	545
07:45 AM	**266**	0	0	**266**	**12**	**41**	0	**53**	**16**	106	26	148	0	97	**61**	**158**	**625**
08:00 AM	249	0	0	249	7	38	0	45	16	108	**31**	**155**	0	**106**	49	155	604
Total Volume	976	0	0	976	27	143	0	170	58	421	105	584	0	372	208	580	2310
% App. Total	100	0	0		15.9	84.1	0		9.9	72.1	18		0	64.1	35.9		
PHF	.917	.000	.000	.917	.563	.872	.000	.802	.906	.957	.847	.942	.000	.877	.852	.918	.924

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N/S: Prospect Avenue
E/W: Somerville Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360som-j
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Prospect Avenue From North			Somerville Avenue From East			Prospect Avenue From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	15	0	0	0	6	0	2	6	3	0	2	5	39
07:15 AM	15	0	0	0	2	0	1	2	2	0	6	5	33
07:30 AM	16	0	0	0	7	0	0	7	4	0	9	8	51
07:45 AM	10	0	0	0	2	0	0	10	2	0	6	2	32
Total	56	0	0	0	17	0	3	25	11	0	23	20	155
08:00 AM	19	0	0	0	3	0	0	6	0	0	6	5	39
08:15 AM	16	0	0	1	2	0	1	5	1	0	3	5	34
08:30 AM	10	0	0	0	7	0	5	7	2	0	12	7	50
08:45 AM	17	0	0	0	2	0	2	5	0	0	6	9	41
Total	62	0	0	1	14	0	8	23	3	0	27	26	164
09:00 AM	13	0	0	0	3	0	2	10	1	0	9	8	46
09:15 AM	12	0	0	0	3	0	1	7	2	0	5	7	37
09:30 AM	9	0	0	0	5	0	0	7	1	0	4	9	35
09:45 AM	10	0	0	0	1	0	2	5	4	0	5	9	36
Total	44	0	0	0	12	0	5	29	8	0	23	33	154
Grand Total	162	0	0	1	43	0	16	77	22	0	73	79	473
Apprch %	100	0	0	2.3	97.7	0	13.9	67	19.1	0	48	52	
Total %	34.2	0	0	0.2	9.1	0	3.4	16.3	4.7	0	15.4	16.7	

	Prospect Avenue From North				Somerville Avenue From East				Prospect Avenue From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:30 AM																	
08:30 AM	10	0	0	10	0	**7**	0	**7**	**5**	7	**2**	**14**	0	**12**	7	**19**	**50**
08:45 AM	**17**	0	0	**17**	0	2	0	2	2	5	0	7	0	6	**9**	15	41
09:00 AM	13	0	0	13	0	3	0	3	2	**10**	1	13	0	9	8	17	46
09:15 AM	12	0	0	12	0	3	0	3	1	7	2	10	0	5	7	12	37
Total Volume	52	0	0	52	0	15	0	15	10	29	5	44	0	32	31	63	174
% App. Total	100	0	0		0	100	0		22.7	65.9	11.4		0	50.8	49.2		
PHF	.765	.000	.000	.765	.000	.536	.000	.536	.500	.725	.625	.786	.000	.667	.861	.829	.870

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N/S: Prospect Avenue
E/W: Somerville Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360som-j
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Prospect Avenue From North				Somerville Avenue From East				Prospect Avenue From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	4	0	0	0	2	0	0	0	5	0	0	0	4	15
07:15 AM	2	0	0	7	0	1	0	3	0	0	0	15	0	0	0	1	29
07:30 AM	0	6	0	1	0	1	0	0	0	1	0	11	0	3	0	4	27
07:45 AM	1	1	0	3	0	3	2	6	0	2	0	12	0	2	3	1	36
Total	3	7	0	15	0	5	2	11	0	3	0	43	0	5	3	10	107
08:00 AM	0	2	0	1	0	1	0	1	2	2	0	5	0	1	0	7	22
08:15 AM	0	0	0	2	0	1	0	2	1	3	0	10	0	4	0	7	30
08:30 AM	0	0	0	3	0	2	1	5	0	1	0	8	0	3	2	4	29
08:45 AM	1	2	1	2	0	1	0	3	0	0	0	6	0	3	0	2	21
Total	1	4	1	8	0	5	1	11	3	6	0	29	0	11	2	20	102
09:00 AM	1	0	0	3	0	0	0	0	0	1	0	7	0	0	0	4	16
09:15 AM	2	1	0	5	0	0	1	2	1	2	1	6	0	2	0	5	28
09:30 AM	3	1	0	6	0	0	0	3	2	1	0	4	0	2	1	6	29
09:45 AM	3	0	0	5	0	0	1	9	0	1	0	6	0	1	0	2	28
Total	9	2	0	19	0	0	2	14	3	5	1	23	0	5	1	17	101
Grand Total	13	13	1	42	0	10	5	36	6	14	1	95	0	21	6	47	310
Apprch %	18.8	18.8	1.4	60.9	0	19.6	9.8	70.6	5.2	12.1	0.9	81.9	0	28.4	8.1	63.5	
Total %	4.2	4.2	0.3	13.5	0	3.2	1.6	11.6	1.9	4.5	0.3	30.6	0	6.8	1.9	15.2	

	Prospect Avenue From North					Somerville Avenue From East					Prospect Avenue From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**1**	**1**	**0**	**3**	**5**	0	**3**	**2**	**6**	**11**	0	2	0	**12**	**14**	0	2	**3**	**1**	**6**	**36**
08:00 AM	0	**2**	0	1	3	0	1	0	1	2	**2**	**2**	**0**	**5**	**9**	**0**	**1**	**0**	**7**	**8**	**22**
08:15 AM	**0**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**2**	**3**	**1**	**3**	**0**	**10**	**14**	**0**	**4**	0	7	**11**	30
08:30 AM	0	0	0	3	3	0	2	1	5	8	0	1	0	8	9	0	3	2	4	9	29
Total Volume	1	3	0	9	13	0	7	3	14	24	3	8	0	35	46	0	10	5	19	34	117
% App. Total	7.7	23.1	0	69.2		0	29.2	12.5	58.3		6.5	17.4	0	76.1		0	29.4	14.7	55.9		
PHF	.250	.375	.000	.750	.650	.000	.583	.375	.583	.545	.375	.667	.000	.729	.821	.000	.625	.417	.679	.773	.813

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N/S: Prospect Avenue
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City, State: Somerville, MA
Client: VHB/A. Ng

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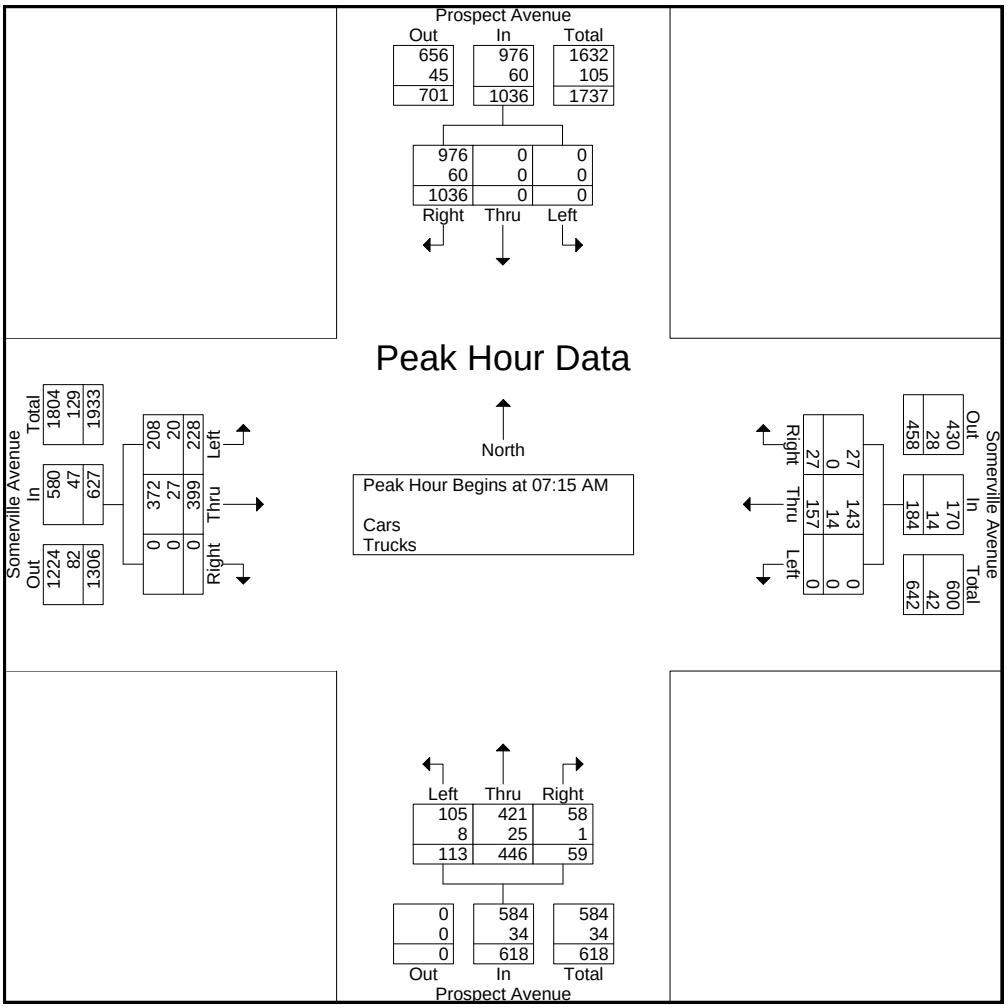
	Prospect Avenue From North				Somerville Avenue From East				Prospect Avenue From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	250	0	0	250	4	31	0	35	15	99	29	143	0	82	59	141	569
07:30 AM	242	0	0	242	4	42	0	46	12	**117**	25	154	0	102	52	154	596
07:45 AM	**276**	0	0	**276**	**12**	**43**	0	**55**	**16**	116	28	160	0	103	**63**	**166**	**657**
08:00 AM	268	0	0	268	7	41	0	48	16	114	**31**	**161**	0	**112**	54	166	643
Total Volume	1036	0	0	1036	27	157	0	184	59	446	113	618	0	399	228	627	2465
% App. Total	100	0	0		14.7	85.3	0		9.5	72.2	18.3		0	63.6	36.4		
PHF	.938	.000	.000	.938	.563	.913	.000	.836	.922	.953	.911	.960	.000	.891	.905	.944	.938
Cars	976	0	0	976	27	143	0	170	58	421	105	584	0	372	208	580	2310
% Cars	94.2	0	0	94.2	100	91.1	0	92.4	98.3	94.4	92.9	94.5	0	93.2	91.2	92.5	93.7
Trucks	60	0	0	60	0	14	0	14	1	25	8	34	0	27	20	47	155
% Trucks	5.8	0	0	5.8	0	8.9	0	7.6	1.7	5.6	7.1	5.5	0	6.8	8.8	7.5	6.3



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N/S: Prospect Avenue
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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-JJ
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Prospect Street From North			Somerville Avenue From East			Prospect Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	160	0	0	4	85	0	37	171	69	0	87	89	702
03:15 PM	153	0	0	4	70	0	37	155	87	0	82	79	667
03:30 PM	189	0	0	5	80	0	25	123	76	0	99	80	677
03:45 PM	176	0	0	4	74	1	23	150	68	0	93	82	671
Total	678	0	0	17	309	1	122	599	300	0	361	330	2717
04:00 PM	175	0	0	3	77	0	28	200	72	0	72	77	704
04:15 PM	181	0	0	4	93	0	28	158	92	0	107	85	748
04:30 PM	199	0	0	6	82	0	21	170	100	0	106	90	774
04:45 PM	189	0	0	6	92	0	24	167	96	0	93	102	769
Total	744	0	0	19	344	0	101	695	360	0	378	354	2995
05:00 PM	203	0	0	11	66	0	20	169	106	0	74	67	716
05:15 PM	212	0	0	9	119	0	19	182	112	0	91	85	829
05:30 PM	217	0	0	8	107	0	21	154	123	0	87	81	798
05:45 PM	185	0	0	3	76	0	27	130	104	0	82	72	679
Total	817	0	0	31	368	0	87	635	445	0	334	305	3022
Grand Total	2239	0	0	67	1021	1	310	1929	1105	0	1073	989	8734
Apprch %	100	0	0	6.2	93.8	0.1	9.3	57.7	33	0	52	48	
Total %	25.6	0	0	0.8	11.7	0	3.5	22.1	12.7	0	12.3	11.3	
Cars	2179	0	0	67	1005	0	304	1883	1090	0	1042	938	8508
% Cars	97.3	0	0	100	98.4	0	98.1	97.6	98.6	0	97.1	94.8	97.4
Trucks	60	0	0	0	16	1	6	46	15	0	31	51	226
% Trucks	2.7	0	0	0	1.6	100	1.9	2.4	1.4	0	2.9	5.2	2.6

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	189	0	0	189	6	92	0	98	**24**	167	96	287	0	**93**	**102**	**195**	769
05:00 PM	203	0	0	203	**11**	66	0	77	20	169	106	295	0	74	67	141	716
05:15 PM	212	0	0	212	9	**119**	0	**128**	19	**182**	112	**313**	0	91	85	176	**829**
05:30 PM	**217**	0	0	**217**	8	107	0	115	21	154	**123**	298	0	87	81	168	798
Total Volume	821	0	0	821	34	384	0	418	84	672	437	1193	0	345	335	680	3112
% App. Total	100	0	0		8.1	91.9	0		7	56.3	36.6		0	50.7	49.3		
PHF	.946	.000	.000	.946	.773	.807	.000	.816	.875	.923	.888	.953	.000	.927	.821	.872	.938
Cars	807	0	0	807	34	381	0	415	84	662	432	1178	0	338	326	664	3064
% Cars	98.3	0	0	98.3	100	99.2	0	99.3	100	98.5	98.9	98.7	0	98.0	97.3	97.6	98.5
Trucks	14	0	0	14	0	3	0	3	0	10	5	15	0	7	9	16	48
% Trucks	1.7	0	0	1.7	0	0.8	0	0.7	0	1.5	1.1	1.3	0	2.0	2.7	2.4	1.5

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Groups Printed- Cars

	Prospect Street From North			Somerville Avenue From East			Prospect Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	154	0	0	4	83	0	35	161	69	0	84	81	671
03:15 PM	145	0	0	4	68	0	35	152	85	0	79	76	644
03:30 PM	183	0	0	5	79	0	25	118	75	0	96	72	653
03:45 PM	169	0	0	4	73	0	22	147	67	0	92	78	652
Total	651	0	0	17	303	0	117	578	296	0	351	307	2620
04:00 PM	171	0	0	3	75	0	27	196	71	0	68	71	682
04:15 PM	174	0	0	4	91	0	28	151	90	0	104	80	722
04:30 PM	196	0	0	6	80	0	21	168	98	0	99	85	753
04:45 PM	185	0	0	6	91	0	24	165	94	0	89	98	752
Total	726	0	0	19	337	0	100	680	353	0	360	334	2909
05:00 PM	201	0	0	11	65	0	20	167	105	0	74	63	706
05:15 PM	207	0	0	9	118	0	19	180	111	0	91	85	820
05:30 PM	214	0	0	8	107	0	21	150	122	0	84	80	786
05:45 PM	180	0	0	3	75	0	27	128	103	0	82	69	667
Total	802	0	0	31	365	0	87	625	441	0	331	297	2979
Grand Total	2179	0	0	67	1005	0	304	1883	1090	0	1042	938	8508
Apprch %	100	0	0	6.2	93.8	0	9.3	57.5	33.3	0	52.6	47.4	
Total %	25.6	0	0	0.8	11.8	0	3.6	22.1	12.8	0	12.2	11	

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	185	0	0	185	6	91	0	97	**24**	165	94	283	0	89	**98**	**187**	752
05:00 PM	201	0	0	201	**11**	65	0	76	20	167	105	292	0	74	63	137	706
05:15 PM	207	0	0	207	9	**118**	0	**127**	19	**180**	111	**310**	0	**91**	85	176	**820**
05:30 PM	**214**	0	0	**214**	8	107	0	115	21	150	**122**	293	0	84	80	164	786
Total Volume	807	0	0	807	34	381	0	415	84	662	432	1178	0	338	326	664	3064
% App. Total	100	0	0		8.2	91.8	0		7.1	56.2	36.7		0	50.9	49.1		
PHF	.943	.000	.000	.943	.773	.807	.000	.817	.875	.919	.885	.950	.000	.929	.832	.888	.934

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Groups Printed- Trucks

	Prospect Street From North			Somerville Avenue From East			Prospect Street From South			Somerville Avenue From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	6	0	0	0	2	0	2	10	0	0	3	8	31
03:15 PM	8	0	0	0	2	0	2	3	2	0	3	3	23
03:30 PM	6	0	0	0	1	0	0	5	1	0	3	8	24
03:45 PM	7	0	0	0	1	1	1	3	1	0	1	4	19
Total	27	0	0	0	6	1	5	21	4	0	10	23	97
04:00 PM	4	0	0	0	2	0	1	4	1	0	4	6	22
04:15 PM	7	0	0	0	2	0	0	7	2	0	3	5	26
04:30 PM	3	0	0	0	2	0	0	2	2	0	7	5	21
04:45 PM	4	0	0	0	1	0	0	2	2	0	4	4	17
Total	18	0	0	0	7	0	1	15	7	0	18	20	86
05:00 PM	2	0	0	0	1	0	0	2	1	0	0	4	10
05:15 PM	5	0	0	0	1	0	0	2	1	0	0	0	9
05:30 PM	3	0	0	0	0	0	0	4	1	0	3	1	12
05:45 PM	5	0	0	0	1	0	0	2	1	0	0	3	12
Total	15	0	0	0	3	0	0	10	4	0	3	8	43
Grand Total	60	0	0	0	16	1	6	46	15	0	31	51	226
Apprch %	100	0	0	0	94.1	5.9	9	68.7	22.4	0	37.8	62.2	
Total %	26.5	0	0	0	7.1	0.4	2.7	20.4	6.6	0	13.7	22.6	

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	6	0	0	6	0	**2**	0	**2**	**2**	**10**	0	**12**	0	**3**	**8**	**11**	**31**
03:15 PM	**8**	0	0	**8**	0	2	0	2	2	3	**2**	7	0	3	3	6	23
03:30 PM	6	0	0	6	0	1	0	1	0	5	1	6	0	3	8	11	24
03:45 PM	7	0	0	7	0	1	**1**	2	1	3	1	5	0	1	4	5	19
Total Volume	27	0	0	27	0	6	1	7	5	21	4	30	0	10	23	33	97
% App. Total	100	0	0		0	85.7	14.3		16.7	70	13.3		0	30.3	69.7		
PHF	.844	.000	.000	.844	.000	.750	.250	.875	.625	.525	.500	.625	.000	.833	.719	.750	.782

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N/S: Prospect Avenue
E/W: Prospect Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-JJ
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	2	0	1	1	13	0	1	0	12	0	1	0	4	35
03:15 PM	2	2	1	4	0	1	1	7	0	4	2	22	0	2	0	3	51
03:30 PM	0	1	1	13	1	0	0	6	2	2	3	14	0	2	0	5	50
03:45 PM	0	1	0	5	0	1	0	5	1	0	0	17	0	2	1	4	37
Total	2	4	2	24	1	3	2	31	3	7	5	65	0	7	1	16	173
04:00 PM	1	0	0	2	0	1	0	3	0	0	0	11	0	5	3	1	27
04:15 PM	1	1	1	3	0	1	0	2	0	1	1	16	0	1	0	8	36
04:30 PM	1	1	0	4	0	1	1	2	1	4	0	7	0	3	0	10	35
04:45 PM	0	3	0	1	0	7	0	4	0	3	2	10	0	2	0	4	36
Total	3	5	1	10	0	10	1	11	1	8	3	44	0	11	3	23	134
05:00 PM	2	0	0	0	0	3	0	3	1	6	2	7	0	1	1	3	29
05:15 PM	0	0	0	4	0	1	1	7	0	6	2	17	0	2	1	2	43
05:30 PM	0	1	0	0	0	0	0	3	0	6	4	21	0	1	2	3	41
05:45 PM	1	0	0	2	0	1	0	5	0	0	1	14	0	0	0	8	32
Total	3	1	0	6	0	5	1	18	1	18	9	59	0	4	4	16	145
Grand Total	8	10	3	40	1	18	4	60	5	33	17	168	0	22	8	55	452
Apprch %	13.1	16.4	4.9	65.6	1.2	21.7	4.8	72.3	2.2	14.8	7.6	75.3	0	25.9	9.4	64.7	
Total %	1.8	2.2	0.7	8.8	0.2	4	0.9	13.3	1.1	7.3	3.8	37.2	0	4.9	1.8	12.2	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	2	2	0	**1**	**1**	**13**	**15**	0	1	0	12	13	0	1	0	4	5	35
03:15 PM	**2**	**2**	**1**	**4**	**9**	**0**	**1**	**1**	**7**	**9**	**0**	**4**	**2**	**22**	**28**	0	**2**	0	3	5	**51**
03:30 PM	0	1	1	**13**	**15**	**1**	0	0	6	7	**2**	**2**	**3**	14	21	0	2	0	**5**	**7**	50
03:45 PM	0	1	0	5	6	0	1	0	5	6	1	0	0	17	18	0	2	**1**	**4**	**7**	**37**
Total Volume	2	4	2	24	32	1	3	2	31	37	3	7	5	65	80	0	7	1	16	24	173
% App. Total	6.2	12.5	6.2	75		2.7	8.1	5.4	83.8		3.8	8.8	6.2	81.2		0	29.2	4.2	66.7		
PHF	.250	.500	.500	.462	.533	.250	.750	.500	.596	.617	.375	.438	.417	.739	.714	.000	.875	.250	.800	.857	.848

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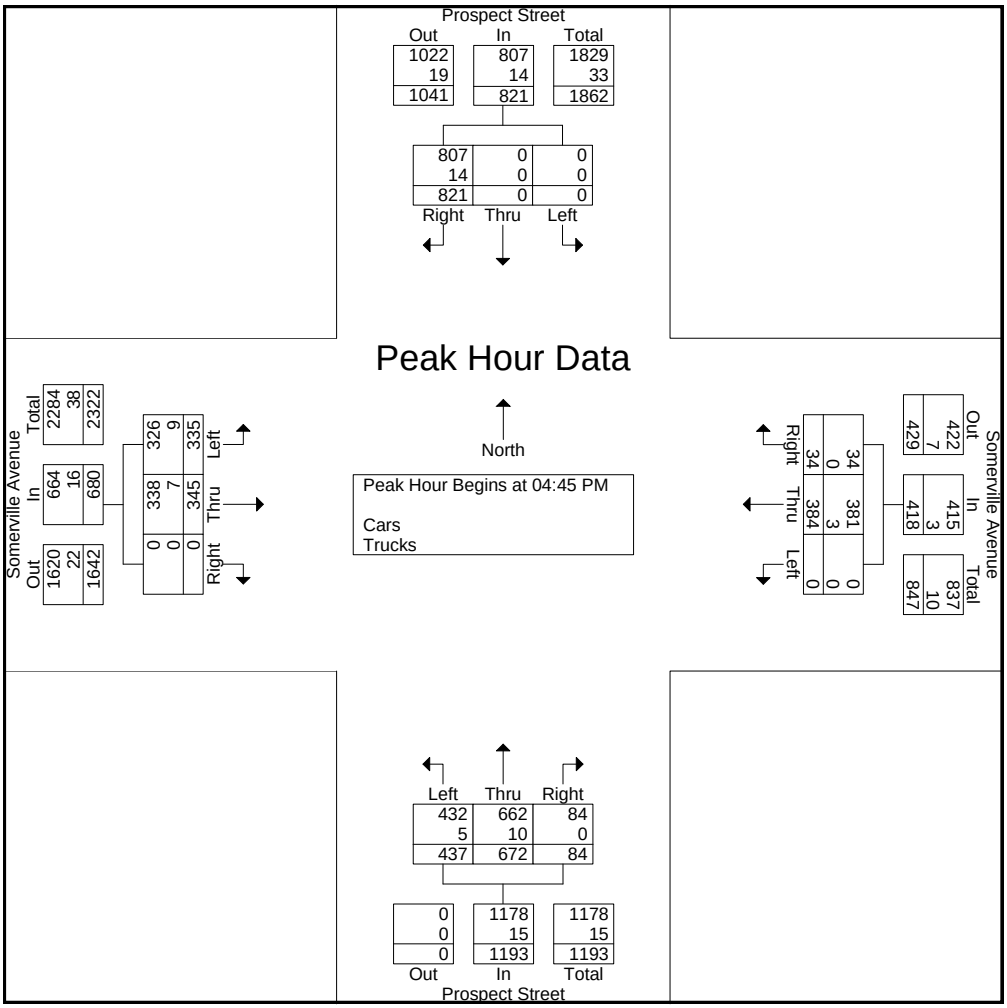
N/S: Prospect Avenue
E/W: Prospect Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-JJ
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	189	0	0	189	6	92	0	98	**24**	167	96	287	0	**93**	**102**	**195**	769
05:00 PM	203	0	0	203	**11**	66	0	77	20	169	106	295	0	74	67	141	716
05:15 PM	212	0	0	212	9	**119**	0	**128**	19	**182**	112	**313**	0	91	85	176	**829**
05:30 PM	**217**	0	0	**217**	8	107	0	115	21	154	**123**	298	0	87	81	168	798
Total Volume	821	0	0	821	34	384	0	418	84	672	437	1193	0	345	335	680	3112
% App. Total	100	0	0		8.1	91.9	0		7	56.3	36.6		0	50.7	49.3		
PHF	.946	.000	.000	.946	.773	.807	.000	.816	.875	.923	.888	.953	.000	.927	.821	.872	.938
Cars	807	0	0	807	34	381	0	415	84	662	432	1178	0	338	326	664	3064
% Cars	98.3	0	0	98.3	100	99.2	0	99.3	100	98.5	98.9	98.7	0	98.0	97.3	97.6	98.5
Trucks	14	0	0	14	0	3	0	3	0	10	5	15	0	7	9	16	48
% Trucks	1.7	0	0	1.7	0	0.8	0	0.7	0	1.5	1.1	1.3	0	2.0	2.7	2.4	1.5



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N/S/SW: Prospect Street/Concord Avenue
E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-K
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Prospect Street From North				Webster Avenue From East				Prospect Street From South				Concord Avenue From Southwest				Webster Avenue From West				
Start	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	36	0	6	2	7	72	0	3	0	0	0	0	1	102	54	23	306
07:15 AM	0	0	0	0	41	0	17	0	4	67	0	2	0	0	0	0	0	68	84	22	305
07:30 AM	0	0	0	0	35	0	18	0	2	68	0	7	0	0	0	0	0	86	89	34	339
07:45 AM	0	0	0	0	37	0	11	0	6	65	0	2	0	0	0	0	1	76	95	22	315
Total	0	0	0	0	149	0	52	2	19	272	0	14	0	0	0	0	2	332	322	101	1265
08:00 AM	0	0	0	0	48	0	9	0	6	83	0	5	0	0	0	0	1	77	112	20	361
08:15 AM	0	0	0	0	39	0	22	0	5	78	0	5	0	0	0	0	2	69	114	18	352
08:30 AM	0	0	0	0	38	0	9	0	6	81	0	7	0	0	0	0	1	86	96	13	337
08:45 AM	0	0	0	0	55	0	7	0	4	96	0	8	0	0	0	0	1	66	127	17	381
Total	0	0	0	0	180	0	47	0	21	338	0	25	0	0	0	0	5	298	449	68	1431
09:00 AM	0	0	0	0	48	0	15	0	3	74	0	1	0	0	0	0	1	56	92	11	301
09:15 AM	0	0	0	0	46	0	8	1	4	65	0	2	0	0	0	0	1	63	73	18	281
09:30 AM	0	0	0	0	46	0	3	0	11	56	0	3	0	0	0	0	0	76	70	13	278
09:45 AM	0	0	0	0	49	0	13	0	6	79	0	1	0	0	0	0	1	72	42	15	278
Total	0	0	0	0	189	0	39	1	24	274	0	7	0	0	0	0	3	267	277	57	1138
Grand Total	0	0	0	0	518	0	138	3	64	884	0	46	0	0	0	0	10	897	1048	226	3834
Apprch %	0	0	0	0	78.6	0	20.9	0.5	6.4	88.9	0	4.6	0	0	0	0	0.5	41.1	48.1	10.4	
Total %	0	0	0	0	13.5	0	3.6	0.1	1.7	23.1	0	1.2	0	0	0	0	0.3	23.4	27.3	5.9	
Cars	0	0	0	0	479	0	136	3	63	860	0	44	0	0	0	0	10	882	1014	206	3697
% Cars	0	0	0	0	92.5	0	98.6	100	98.4	97.3	0	95.7	0	0	0	0	100	98.3	96.8	91.2	96.4
Trucks	0	0	0	0	39	0	2	0	1	24	0	2	0	0	0	0	0	15	34	20	137
% Trucks	0	0	0	0	7.5	0	1.4	0	1.6	2.7	0	4.3	0	0	0	0	0	1.7	3.2	8.8	3.6

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 08:00 AM																										
08:00 AM	0	0	0	0	0	48	0	9	0	57	**6**	83	0	5	94	0	0	0	0	0	1	77	112	**20**	**210**	**361**
08:15 AM	0	0	0	0	0	39	0	**22**	0	61	5	78	0	5	88	0	0	0	0	0	**2**	**69**	114	18	203	352
08:30 AM	0	0	0	0	0	38	0	9	0	47	6	81	0	7	94	0	0	0	0	0	1	**86**	**96**	**13**	**196**	**337**
08:45 AM	0	0	0	0	0	**55**	**0**	**7**	**0**	**62**	**4**	**96**	**0**	**8**	**108**	**0**	**0**	**0**	**0**	**0**	**1**	**66**	**127**	17	**211**	**381**
Total Volume	0	0	0	0	0	180	0	47	0	227	21	338	0	25	384	0	0	0	0	0	5	298	449	68	820	1431
% App. Total	0	0	0	0		79.3	0	20.7	0		5.5	88	0	6.5		0	0	0	0		0.6	36.3	54.8	8.3		
PHF	.000	.000	.000	.000	.000	.818	.000	.534	.000	.915	.875	.880	.000	.781	.889	.000	.000	.000	.000	.000	.625	.866	.884	.850	.972	.939
Cars	0	0	0	0	0	172	0	46	0	218	21	333	0	23	377	0	0	0	0	0	5	297	434			
% Cars	0	0	0	0	0	95.6	0	97.9	0	96.0	100	98.5	0	92.0	98.2	0	0	0	0	0	100	99.7	96.7	85.3	96.8	97.1
Trucks	0	0	0	0	0	8	0	1	0	9	0	5	0	2	7	0	0	0	0	0	0	1	15	10	26	42
% Trucks																								14.7	3.2	2.9

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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-K
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Prospect Street From North				Webster Avenue From East				Prospect Street From South				Concord Avenue From Southwest				Webster Avenue From West				
Start	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	33	0	6	2	7	70	0	3	0	0	0	0	1	99	52	23	296
07:15 AM	0	0	0	0	38	0	17	0	4	64	0	2	0	0	0	0	0	67	80	21	293
07:30 AM	0	0	0	0	30	0	18	0	2	67	0	7	0	0	0	0	0	83	88	34	329
07:45 AM	0	0	0	0	30	0	10	0	5	65	0	2	0	0	0	0	1	75	93	20	301
Total	0	0	0	0	131	0	51	2	18	266	0	14	0	0	0	0	2	324	313	98	1219
08:00 AM	0	0	0	0	47	0	8	0	6	82	0	5	0	0	0	0	1	77	109	15	350
08:15 AM	0	0	0	0	38	0	22	0	5	78	0	4	0	0	0	0	2	68	110	16	343
08:30 AM	0	0	0	0	33	0	9	0	6	77	0	6	0	0	0	0	1	86	94	12	324
08:45 AM	0	0	0	0	54	0	7	0	4	96	0	8	0	0	0	0	1	66	121	15	372
Total	0	0	0	0	172	0	46	0	21	333	0	23	0	0	0	0	5	297	434	58	1389
09:00 AM	0	0	0	0	44	0	15	0	3	69	0	1	0	0	0	0	1	55	89	9	286
09:15 AM	0	0	0	0	42	0	8	1	4	64	0	2	0	0	0	0	1	62	70	18	272
09:30 AM	0	0	0	0	44	0	3	0	11	55	0	3	0	0	0	0	0	75	69	10	270
09:45 AM	0	0	0	0	46	0	13	0	6	73	0	1	0	0	0	0	1	69	39	13	261
Total	0	0	0	0	176	0	39	1	24	261	0	7	0	0	0	0	3	261	267	50	1089
Grand Total	0	0	0	0	479	0	136	3	63	860	0	44	0	0	0	0	10	882	1014	206	3697
Apprch %	0	0	0	0	77.5	0	22	0.5	6.5	88.9	0	4.6	0	0	0	0	0.5	41.8	48	9.8	
Total %	0	0	0	0	13	0	3.7	0.1	1.7	23.3	0	1.2	0	0	0	0	0.3	23.9	27.4	5.6	

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 08:00 AM																										
08:00 AM	0	0	0	0	0	47	0	8	0	55	**6**	82	0	5	93	0	0	0	0	0	1	77	109	15	202	350
08:15 AM	0	0	0	0	0	38	0	**22**	0	60	5	78	0	4	87	0	0	0	0	0	**2**	**68**	110	**16**	**196**	**343**
08:30 AM	0	0	0	0	0	33	0	9	0	42	6	77	0	6	89	0	0	0	0	0	1	**86**	**94**	**12**	**193**	**324**
08:45 AM	0	0	0	0	0	**54**	**0**	**7**	**0**	**61**	**4**	**96**	**0**	**8**	**108**	**0**	**0**	**0**	**0**	**0**	**1**	**66**	**121**	15	**203**	**372**
Total Volume	0	0	0	0	0	172	0	46	0	218	21	333	0	23	377	0	0	0	0	0	5	297	434	58	794	1389
% App. Total	0	0	0	0		78.9	0	21.1	0		5.6	88.3	0	6.1		0	0	0	0		0.6	37.4	54.7	7.3		
PHF	.000	.000	.000	.000	.000	.796	.000	.523	.000	.893	.875	.867	.000	.719	.873	.000	.000	.000	.000	.000	.625	.863	.897	.906	.978	.933

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File Name : 71360Som-K
Site Code : 10303
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Page No : 1

Groups Printed- Trucks

	Prospect Street From North				Webster Avenue From East				Prospect Street From South				Concord Avenue From Southwest				Webster Avenue From West				
Start	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	3	2	0	10
07:15 AM	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	1	4	1	12
07:30 AM	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	3	1	0	10
07:45 AM	0	0	0	0	7	0	1	0	1	0	0	0	0	0	0	0	0	1	2	2	14
Total	0	0	0	0	18	0	1	0	1	6	0	0	0	0	0	0	0	8	9	3	46
08:00 AM	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	3	5	11
08:15 AM	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	4	2	9
08:30 AM	0	0	0	0	5	0	0	0	0	4	0	1	0	0	0	0	0	0	2	1	13
08:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	9
Total	0	0	0	0	8	0	1	0	0	5	0	2	0	0	0	0	0	1	15	10	42
09:00 AM	0	0	0	0	4	0	0	0	0	5	0	0	0	0	0	0	0	1	3	2	15
09:15 AM	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	1	3	0	9
09:30 AM	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	1	3	8
09:45 AM	0	0	0	0	3	0	0	0	0	6	0	0	0	0	0	0	0	3	3	2	17
Total	0	0	0	0	13	0	0	0	0	13	0	0	0	0	0	0	0	6	10	7	49
Grand Total	0	0	0	0	39	0	2	0	1	24	0	2	0	0	0	0	0	15	34	20	137
Apprch %	0	0	0	0	95.1	0	4.9	0	3.7	88.9	0	7.4	0	0	0	0	0	21.7	49.3	29	
Total %	0	0	0	0	28.5	0	1.5	0	0.7	17.5	0	1.5	0	0	0	0	0	10.9	24.8	14.6	

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 09:00 AM																										
09:00 AM	0	0	0	0	0	**4**	**0**	**0**	**0**	**4**	**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	2	6	15
09:15 AM	0	0	0	0	0	4	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	1	3	0	4	9
09:30 AM	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	**3**	**5**	**8**
09:45 AM	0	0	0	0	0	3	0	0	0	3	0	**6**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**2**	**8**	**17**
Total Volume	0	0	0	0	0	13	0	0	0	13	0	13	0	0	13	0	0	0	0	0	0	6	10	7	23	49
% App. Total	0	0	0	0		100	0	0	0		0	100	0	0		0	0	0	0		0	26.1	43.5	30.4		
PHF	.000	.000	.000	.000	.000	.813	.000	.000	.000	.813	.000	.542	.000	.000		.000	.000	.000	.000	.000	.000	.500	.833	.583	.719	.721

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N/S/SW: Prospect Street/Concord Avenue
E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-K
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	1	0	0	0	0	3	0	0	0	0	7	0	0	0	0	0	0	0	4	0	5	20
07:15 AM	0	0	0	0	5	0	0	0	0	3	0	0	0	0	4	0	0	0	0	0	0	0	1	0	6	19
07:30 AM	0	0	1	2	5	0	0	0	1	1	0	1	0	0	7	0	0	0	0	0	0	1	6	0	16	41
07:45 AM	0	0	0	0	2	0	0	0	0	3	0	1	0	0	6	0	0	0	0	0	0	0	1	0	8	21
Total	0	0	1	2	13	0	0	0	1	10	0	2	0	0	24	0	0	0	0	0	0	1	12	0	35	101
08:00 AM	0	0	0	0	3	0	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	2	7	0	9	33
08:15 AM	0	0	0	0	5	1	0	0	0	3	0	1	0	0	3	0	0	0	0	0	0	1	3	0	8	25
08:30 AM	0	0	0	0	3	1	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	3	7	0	3	23
08:45 AM	0	0	1	0	3	2	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	1	14	0	9	35
Total	0	0	1	0	14	4	0	0	0	11	0	6	0	0	13	0	0	0	0	0	0	7	31	0	29	116
09:00 AM	0	0	0	0	6	0	0	0	0	0	0	1	0	0	6	0	0	0	0	0	0	0	10	0	6	29
09:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	3	0	6	15
09:30 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	1	0	2	8
09:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	4	0	4	14
Total	0	0	0	0	11	0	0	0	0	2	0	1	0	0	13	0	0	0	0	0	0	3	18	0	18	66
Grand Total	0	0	2	2	38	4	0	0	1	23	0	9	0	0	50	0	0	0	0	0	0	11	61	0	82	283
Apprch %	0	0	4.8	4.8	90.5	14.3	0	0	3.6	82.1	0	15.3	0	0	84.7	0	0	0	0	0	0	7.1	39.6	0	53.2	
Total %	0	0	0.7	0.7	13.4	1.4	0	0	0.4	8.1	0	3.2	0	0	17.7	0	0	0	0	0	0	3.9	21.6	0	29	

	Prospect Street From North						Webster Avenue From East						Prospect Street From South						Concord Avenue From Southwest						Webster Avenue From West						
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:30 AM																															
07:30 AM	0	0	**1**	**2**	**5**	**8**	0	0	0	**1**	1	2	0	1	0	0	**7**	8	0	0	0	0	0	0	0	1	6	0	**16**	**23**	**41**
07:45 AM	0	0	0	0	2	2	0	0	0	0	**3**	3	0	1	0	0	6	7	0	0	0	0	0	0	0	0	1	0	8	9	21
08:00 AM	0	0	0	0	3	3	0	0	0	0	2	2	0	**5**	0	0	5	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	0	9	18	33
08:15 AM	0	0	0	0	5	5	**1**	0	0	0	3	**4**	0	1	0	0	3	4	0	0	0	0	0	0	0	1	3	0	8	12	25
Total Volume	0	0	1	2	15	18	1	0	0	1	9	11	0	8	0	0	21	29	0	0	0	0	0	0	0	4	17	0	41	62	120
% App. Total	0	0	5.6	11.1	83.3		9.1	0	0	9.1	81.8		0	27.6	0	0	72.4		0	0	0	0	0		0	6.5	27.4	0	66.1		
PHF	.000	.000	.250	.250	.750	.563	.250	.000	.000	.250	.750	.688	.000	.400	.000	.000	.750	.725	.000	.000	.000	.000	.000	.000	.000	.500	.607	.000	.641	.674	.732

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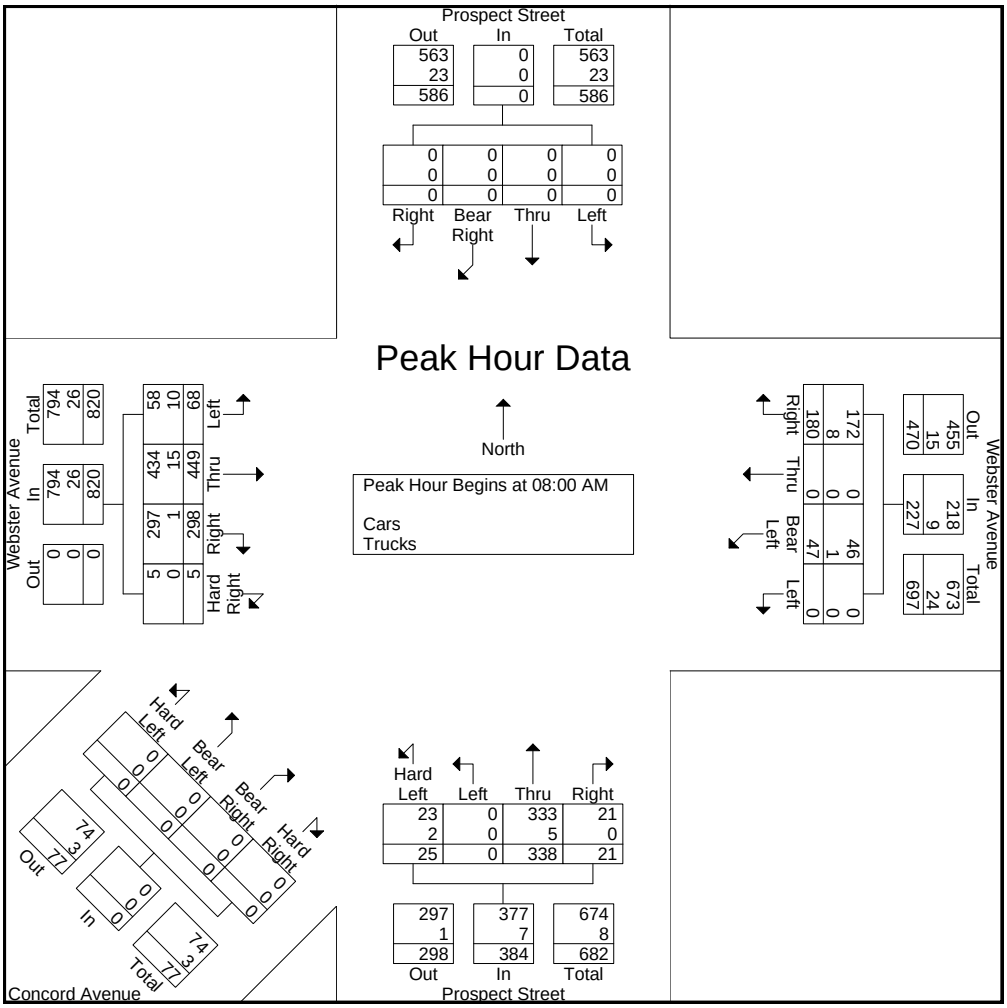
E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-K
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Start Time	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 08:00 AM																										
08:00 AM	0	0	0	0	0	48	0	9	0	57	**6**	83	0	5	94	0	0	0	0	0	1	77	112	**20**	**210**	**361**
08:15 AM	0	0	0	0	0	39	0	**22**	0	61	5	78	0	5	88	0	0	0	0	0	**2**	**69**	114	18	203	352
08:30 AM	0	0	0	0	0	38	0	9	0	47	6	81	0	7	94	0	0	0	0	0	1	**86**	**96**	**13**	**196**	**337**
08:45 AM	0	0	0	0	0	**55**	**0**	**7**	**0**	**62**	**4**	**96**	**0**	**8**	**108**	**0**	**0**	**0**	**0**	**0**	**1**	**66**	**127**	17	**211**	**381**
Total Volume	0	0	0	0	0	180	0	47	0	227	21	338	0	25	384	0	0	0	0	0	5	298	449	68	820	1431
% App. Total	0	0	0	0		79.3	0	20.7	0		5.5	88	0	6.5		0	0	0	0		0.6	36.3	54.8	8.3		
PHF	.000	.000	.000	.000	.000	.818	.000	.534	.000	.915	.875	.880	.000	.781	.889	.000	.000	.000	.000	.000	.625	.866	.884	.850	.972	.939
Cars	0	0	0	0	0	172	0	46	0	218	21	333	0	23	377	0	0	0	0	0	5	297	434			
% Cars	0	0	0	0	0	95.6	0	97.9	0	96.0	100	98.5	0	92.0	98.2	0	0	0	0	0	100	99.7	96.7	85.3	96.8	97.1
Trucks	0	0	0	0	0	8	0	1	0	9	0	5	0	2	7	0	0	0	0	0	0	1	15	10	26	42
% Trucks																								14.7	3.2	2.9



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N/S/SW: Prospect Street/Concord Avenue
E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-KK
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Prospect Street From North				Webster Avenue From East				Prospect Street From South				Concord Avenue From Southwest				Webster Avenue From West				
Start	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	78	0	20	0	1	133	0	6	0	0	0	0	0	72	58	21	389
03:15 PM	0	0	0	0	104	0	19	2	4	124	0	1	0	0	0	0	0	69	55	20	398
03:30 PM	0	0	0	0	96	0	18	0	3	119	0	2	0	0	0	0	1	58	53	18	368
03:45 PM	0	0	0	0	92	0	19	0	1	136	0	3	0	0	0	0	1	67	45	31	395
Total	0	0	0	0	370	0	76	2	9	512	0	12	0	0	0	0	2	266	211	90	1550
04:00 PM	0	0	0	0	115	0	28	0	1	115	0	5	0	0	0	0	2	60	56	32	414
04:15 PM	0	0	0	0	113	0	14	0	2	139	0	3	0	0	0	0	0	48	59	31	409
04:30 PM	0	0	0	0	143	0	28	0	3	129	0	1	0	0	0	0	2	60	45	36	447
04:45 PM	0	0	0	0	133	0	25	0	4	139	0	2	0	0	0	0	1	51	58	23	436
Total	0	0	0	0	504	0	95	0	10	522	0	11	0	0	0	0	5	219	218	122	1706
05:00 PM	0	0	0	0	147	0	31	0	3	131	0	1	0	0	0	0	5	69	57	36	480
05:15 PM	0	0	0	0	159	0	31	0	0	130	0	4	0	0	0	0	2	68	64	26	484
05:30 PM	0	0	0	0	149	0	35	0	3	129	0	4	0	0	0	0	1	58	65	25	469
05:45 PM	0	0	0	0	129	0	23	0	1	111	0	2	0	0	0	0	3	69	67	21	426
Total	0	0	0	0	584	0	120	0	7	501	0	11	0	0	0	0	11	264	253	108	1859
Grand Total	0	0	0	0	1458	0	291	2	26	1535	0	34	0	0	0	0	18	749	682	320	5115
Apprch %	0	0	0	0	83.3	0	16.6	0.1	1.6	96.2	0	2.1	0	0	0	0	1	42.3	38.6	18.1	
Total %	0	0	0	0	28.5	0	5.7	0	0.5	30	0	0.7	0	0	0	0	0.4	14.6	13.3	6.3	
Cars	0	0	0	0	1433	0	289	2	26	1514	0	34	0	0	0	0	18	739	668	309	5032
% Cars	0	0	0	0	98.3	0	99.3	100	100	98.6	0	100	0	0	0	0	100	98.7	97.9	96.6	98.4
Trucks	0	0	0	0	25	0	2	0	0	21	0	0	0	0	0	0	0	10	14	11	83
% Trucks	0	0	0	0	1.7	0	0.7	0	0	1.4	0	0	0	0	0	0	0	1.3	2.1	3.4	1.6

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
04:45 PM	0	0	0	0	0	133	0	25	0	158	**4**	**139**	**0**	**2**	**145**	**0**	**0**	**0**	**0**	**0**	**1**	**51**	**58**	**23**	**133**	**436**
05:00 PM	0	0	0	0	0	147	0	31	0	178	3	131	0	1	135	0	0	0	0	0	**5**	**69**	**57**	**36**	**167**	**480**
05:15 PM	0	0	0	0	0	**159**	**0**	**31**	**0**	**190**	**0**	130	0	**4**	134	0	0	0	0	0	2	68	64	26	160	**484**
05:30 PM	0	0	0	0	0	149	0	**35**	0	184	3	129	0	4	136	0	0	0	0	0	1	58	**65**	25	149	469
Total Volume	0	0	0	0	0	588	0	122	0	710	10	529	0	11	550	0	0	0	0	0	9	246	244	110	609	1869
% App. Total						82.8	0	17.2				96.2	0	2		0	0	0	0		1.5	40.4	40.1	18.1		
PHF	.000	.000	.000	.000	.000	.925	.000	.871	.000	.934	.625	.951	.000	.688		.000	.000	.000	.000	.000	.450	.891	.938	.764	.912	.965
Cars	0	0	0	0	0	582	0	122				526	0	11	547	0	0	0	0	0	9	244	238	108	599	1850
% Cars	0	0	0	0	0	99.0	0	100			100	99.4	0	100							100	99.2	97.5	98.2	98.4	99.0
Trucks	0	0	0	0	0	6	0	0	0	6	0	3	0	0	3	0	0	0	0	0	0	2	6	2	10	19
% Trucks																										

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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-KK
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Prospect Street From North				Webster Avenue From East				Prospect Street From South				Concord Avenue From Southwest				Webster Avenue From West				
Start	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	75	0	20	0	1	128	0	6	0	0	0	0	0	71	57	18	376
03:15 PM	0	0	0	0	101	0	19	2	4	120	0	1	0	0	0	0	0	66	54	20	387
03:30 PM	0	0	0	0	94	0	17	0	3	116	0	2	0	0	0	0	1	57	52	18	360
03:45 PM	0	0	0	0	90	0	18	0	1	135	0	3	0	0	0	0	1	66	44	29	387
Total	0	0	0	0	360	0	74	2	9	499	0	12	0	0	0	0	2	260	207	85	1510
04:00 PM	0	0	0	0	114	0	28	0	1	113	0	5	0	0	0	0	2	60	56	30	409
04:15 PM	0	0	0	0	109	0	14	0	2	136	0	3	0	0	0	0	0	47	56	30	397
04:30 PM	0	0	0	0	141	0	28	0	3	129	0	1	0	0	0	0	2	59	45	36	444
04:45 PM	0	0	0	0	132	0	25	0	4	139	0	2	0	0	0	0	1	50	56	22	431
Total	0	0	0	0	496	0	95	0	10	517	0	11	0	0	0	0	5	216	213	118	1681
05:00 PM	0	0	0	0	146	0	31	0	3	129	0	1	0	0	0	0	5	68	56	36	475
05:15 PM	0	0	0	0	158	0	31	0	0	129	0	4	0	0	0	0	2	68	63	25	480
05:30 PM	0	0	0	0	146	0	35	0	3	129	0	4	0	0	0	0	1	58	63	25	464
05:45 PM	0	0	0	0	127	0	23	0	1	111	0	2	0	0	0	0	3	69	66	20	422
Total	0	0	0	0	577	0	120	0	7	498	0	11	0	0	0	0	11	263	248	106	1841
Grand Total	0	0	0	0	1433	0	289	2	26	1514	0	34	0	0	0	0	18	739	668	309	5032
Apprch %	0	0	0	0	83.1	0	16.8	0.1	1.7	96.2	0	2.2	0	0	0	0	1	42.6	38.5	17.8	
Total %	0	0	0	0	28.5	0	5.7	0	0.5	30.1	0	0.7	0	0	0	0	0.4	14.7	13.3	6.1	

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
04:45 PM	0	0	0	0	0	132	0	25	0	157	**4**	**139**	**0**	**2**	**145**	**0**	**0**	**0**	**0**	**0**	**1**	**50**	**56**	**22**	**129**	**431**
05:00 PM	0	0	0	0	0	146	0	31	0	177	3	129	0	1	133	0	0	0	0	0	**5**	**68**	**56**	**36**	**165**	**475**
05:15 PM	0	0	0	0	0	**158**	**0**	**31**	**0**	**189**	**0**	129	0	**4**	133	0	0	0	0	0	2	68	**63**	25	158	**480**
05:30 PM	0	0	0	0	0	146	0	**35**	0	181	3	129	0	4	136	0	0	0	0	0	1	58	63	25	147	464
Total Volume						582	0	122				526	0	11	547	0	0	0	0	0	9	244	238	108	599	1850
% App. Total						82.7	0	17.3				96.2	0	2		0	0	0	0		1.5	40.7	39.7			
PHF	.000	.000	.000	.000	.000	.921	.000	.871	.000	.931	.625	.946	.000	.688	.943	.000	.000	.000	.000	.000	.450	.897	.944	.750	.908	.964

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N/S/SW: Prospect Street/Concord Avenue
E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-KK
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Trucks

	Prospect Street From North				Webster Avenue From East				Prospect Street From South				Concord Avenue From Southwest				Webster Avenue From West				
Start	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
03:00 PM	0	0	0	0	3	0	0	0	0	5	0	0	0	0	0	0	0	1	1	3	13
03:15 PM	0	0	0	0	3	0	0	0	0	4	0	0	0	0	0	0	0	3	1	0	11
03:30 PM	0	0	0	0	2	0	1	0	0	3	0	0	0	0	0	0	0	1	1	0	8
03:45 PM	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	1	1	2	8
Total	0	0	0	0	10	0	2	0	0	13	0	0	0	0	0	0	0	6	4	5	40
04:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	5
04:15 PM	0	0	0	0	4	0	0	0	0	3	0	0	0	0	0	0	0	1	3	1	12
04:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
04:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	5
Total	0	0	0	0	8	0	0	0	0	5	0	0	0	0	0	0	0	3	5	4	25
05:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	1	1	0	5
05:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	4
05:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5
05:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
Total	0	0	0	0	7	0	0	0	0	3	0	0	0	0	0	0	0	1	5	2	18
Grand Total	0	0	0	0	25	0	2	0	0	21	0	0	0	0	0	0	0	10	14	11	83
Apprch %	0	0	0	0	92.6	0	7.4	0	0	100	0	0	0	0	0	0	0	28.6	40	31.4	
Total %	0	0	0	0	30.1	0	2.4	0	0	25.3	0	0	0	0	0	0	0	12	16.9	13.3	

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 03:00 PM																										
03:00 PM	0	0	0	0	0	**3**	**0**	**0**	**0**	**3**	**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**3**	**5**	**13**
03:15 PM	0	0	0	0	0	3	0	0	0	3	0	4	0	0	4	0	0	0	0	0	0	**3**	**1**	**0**	**4**	**11**
03:30 PM	0	0	0	0	0	2	0	**1**	0	3	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	8
03:45 PM	0	0	0	0	0	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	1	1	2	4	8
Total Volume	0	0	0	0	0	10	0	2	0	12	0	13	0	0	13	0	0	0	0	0	0	6	4	5	15	40
% App. Total	0	0	0	0		83.3	0	16.7	0		0	100	0	0		0	0	0	0		0	40	26.7	33.3		
PHF	.000	.000	.000	.000	.000	.833	.000	.500	.000	1.000	.000	.650	.000	.000		.000	.000	.000	.000	.000	.000	.500	1.000	.417	.750	.769

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E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-KK
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	0	23	0	0	0	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0	1	12	44
03:15 PM	0	0	0	0	2	0	0	0	0	3	0	1	0	0	17	0	0	0	0	0	0	2	0	0	15	40
03:30 PM	0	0	0	0	1	0	0	0	0	4	0	1	0	0	8	0	0	0	0	0	0	0	3	0	9	26
03:45 PM	0	0	0	0	4	0	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	1	0	0	3	14
Total	0	0	0	0	30	0	0	0	0	13	0	3	0	0	32	0	0	0	0	0	0	3	3	1	39	124
04:00 PM	0	0	0	0	4	0	1	0	1	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	5	17
04:15 PM	0	0	0	0	4	2	1	0	0	3	0	2	0	0	3	0	0	0	0	0	0	2	2	0	7	26
04:30 PM	0	0	0	0	0	0	2	0	0	8	0	1	0	0	6	0	0	0	0	0	0	1	3	0	8	29
04:45 PM	0	0	1	0	6	3	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	1	0	0	9	32
Total	0	0	1	0	14	5	4	0	1	21	0	3	0	0	17	0	0	0	0	0	0	4	5	0	29	104
05:00 PM	0	0	0	0	2	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	1	0	6	19
05:15 PM	0	0	0	0	6	0	2	0	0	2	0	3	0	0	7	0	0	0	0	0	0	1	1	0	4	26
05:30 PM	0	0	1	0	3	4	3	0	0	0	0	3	0	0	7	0	0	0	0	0	0	0	0	0	8	29
05:45 PM	0	0	0	0	7	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	15
Total	0	0	1	0	18	5	6	0	0	8	0	6	0	0	20	0	0	0	0	0	0	1	2	0	22	89
Grand Total	0	0	2	0	62	10	10	0	1	42	0	12	0	0	69	0	0	0	0	0	0	8	10	1	90	317
Apprch %	0	0	3.1	0	96.9	15.9	15.9	0	1.6	66.7	0	14.8	0	0	85.2	0	0	0	0	0	0	7.3	9.2	0.9	82.6	
Total %	0	0	0.6	0	19.6	3.2	3.2	0	0.3	13.2	0	3.8	0	0	21.8	0	0	0	0	0	0	2.5	3.2	0.3	28.4	

	Prospect Street From North						Webster Avenue From East						Prospect Street From South						Concord Avenue From Southwest						Webster Avenue From West						
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 03:00 PM																															
03:00 PM	0	0	0	0	**23**	**23**	0	0	0	0	2	2	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	**1**	12	13	**44**
03:15 PM	0	0	0	0	2	2	0	0	0	0	3	3	0	**1**	0	0	**17**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0	0	**15**	**17**	40
03:30 PM	0	0	0	0	1	1	0	0	0	0	**4**	**4**	0	1	0	0	8	9	0	0	0	0	0	0	0	0	**3**	0	9	12	26
03:45 PM	0	0	0	0	4	4	0	0	0	0	4	4	0	1	0	0	1	2	0	0	0	0	0	0	0	1	0	0	3	4	14
Total Volume	0	0	0	0	30	30	0	0	0	0	13	13	0	3	0	0	32	35	0	0	0	0	0	0	0	3	3	1	39	46	124
% App. Total	0	0	0	0	100		0	0	0	0	100		0	8.6	0	0	91.4		0	0	0	0	0		0	6.5	6.5	2.2	84.8		
PHF	.000	.000	.000	.000	.326	.326	.000	.000	.000	.000	.813	.813	.000	.750	.000	.000	.471	.486	.000	.000	.000	.000	.000	.000	.000	.375	.250	.250	.650	.676	.705

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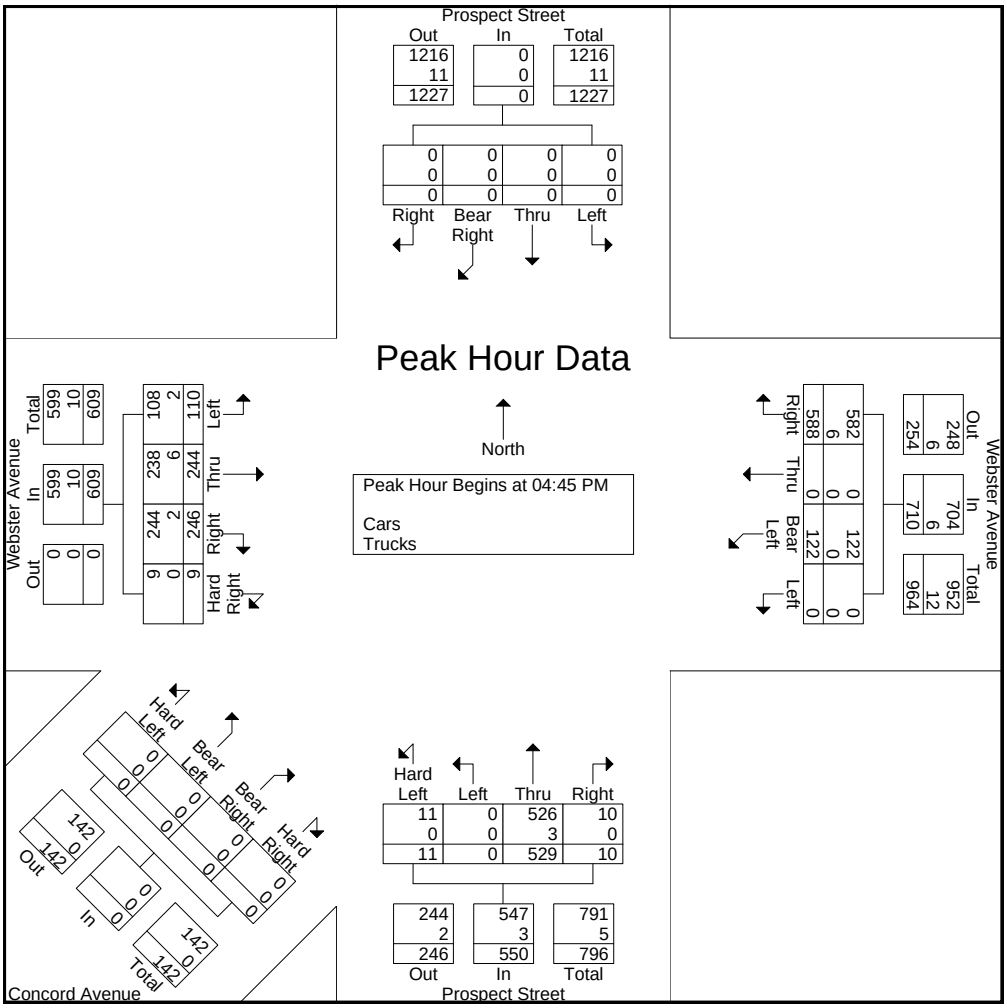
E/W: Webster Avenue
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360Som-KK
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Start Time	Prospect Street From North					Webster Avenue From East					Prospect Street From South					Concord Avenue From Southwest					Webster Avenue From West					
	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
04:45 PM	0	0	0	0	0	133	0	25	0	158	**4**	**139**	**0**	**2**	**145**	**0**	**0**	**0**	**0**	**0**	**1**	**51**	**58**	**23**	**133**	**436**
05:00 PM	0	0	0	0	0	147	0	31	0	178	3	131	0	1	135	0	0	0	0	0	**5**	**69**	**57**	**36**	**167**	**480**
05:15 PM	0	0	0	0	0	**159**	**0**	**31**	**0**	**190**	**0**	130	0	**4**	134	0	0	0	0	0	2	68	64	26	160	**484**
05:30 PM	0	0	0	0	0	149	0	**35**	0	184	3	129	0	4	136	0	0	0	0	0	1	58	**65**	25	149	469
Total Volume	0	0	0	0	0	588	0	122	0	710	10	529	0	11	550	0	0	0	0	0	9	246	244	110	609	1869
% App. Total						82.8	0	17.2				96.2	0	2		0	0	0	0		1.5	40.4	40.1	18.1		
PHF	.000	.000	.000	.000	.000	.925	.000	.871	.000	.934	.625	.951	.000	.688		.000	.000	.000	.000	.000	.450	.891	.938	.764	.912	.965
Cars	0	0	0	0	0	582	0	122				526	0	11	547	0	0	0	0	0	9	244	238	108	599	1850
% Cars	0	0	0	0	0	99.0	0	100			100	99.4	0	100							100	99.2	97.5	98.2	98.4	99.0
Trucks	0	0	0	0	0	6	0	0	0	6	0	3	0	0	3	0	0	0	0	0	0	2	6	2	10	19
% Trucks																										



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N/S: Medford Street
E/W: Central Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360W
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Medford Street From North			Central Street From East			Medford Street From South			Central Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	29	126	2	5	35	4	1	33	13	6	31	7	292
07:15 AM	23	155	3	3	30	1	1	44	10	14	35	18	337
07:30 AM	23	134	3	2	42	5	0	47	17	17	33	11	334
07:45 AM	24	119	3	5	44	7	3	56	15	19	57	11	363
Total	99	534	11	15	151	17	5	180	55	56	156	47	1326
08:00 AM	28	135	3	3	54	4	3	56	24	21	59	18	408
08:15 AM	29	148	3	3	33	5	3	64	17	19	44	13	381
08:30 AM	18	159	1	2	30	3	6	61	14	8	30	16	348
08:45 AM	35	149	1	2	36	3	1	60	12	13	35	12	359
Total	110	591	8	10	153	15	13	241	67	61	168	59	1496
09:00 AM	22	136	4	0	29	2	1	51	10	10	21	11	297
09:15 AM	20	122	2	0	32	3	1	47	9	16	30	12	294
09:30 AM	16	120	5	1	20	1	2	46	9	10	32	11	273
09:45 AM	14	87	0	4	30	2	1	47	13	16	31	17	262
Total	72	465	11	5	111	8	5	191	41	52	114	51	1126
Grand Total	281	1590	30	30	415	40	23	612	163	169	438	157	3948
Apprch %	14.8	83.6	1.6	6.2	85.6	8.2	2.9	76.7	20.4	22.1	57.3	20.5	
Total %	7.1	40.3	0.8	0.8	10.5	1	0.6	15.5	4.1	4.3	11.1	4	
Cars	279	1559	28	30	406	38	19	592	157	166	429	151	3854
% Cars	99.3	98.1	93.3	100	97.8	95	82.6	96.7	96.3	98.2	97.9	96.2	97.6
Trucks	2	31	2	0	9	2	4	20	6	3	9	6	94
% Trucks	0.7	1.9	6.7	0	2.2	5	17.4	3.3	3.7	1.8	2.1	3.8	2.4

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	24	119	**3**	146	**5**	44	**7**	56	3	56	15	74	19	57	11	87	363
08:00 AM	28	135	3	166	3	**54**	4	**61**	3	56	**24**	83	**21**	**59**	**18**	**98**	**408**
08:15 AM	**29**	148	3	**180**	3	33	5	41	3	**64**	17	**84**	19	44	13	76	381
08:30 AM	18	**159**	1	178	2	30	3	35	**6**	61	14	81	8	30	16	54	348
Total Volume	99	561	10	670	13	161	19	193	15	237	70	322	67	190	58	315	1500
% App. Total	14.8	83.7	1.5		6.7	83.4	9.8		4.7	73.6	21.7		21.3	60.3	18.4		
PHF	.853	.882	.833	.931	.650	.745	.679	.791	.625	.926	.729	.958	.798	.805	.806	.804	.919
Cars	99	547	9	655	13	157	18	188	12	228	68	308	66	187	55	308	1459
% Cars	100	97.5	90.0	97.8	100	97.5	94.7	97.4	80.0	96.2	97.1	95.7	98.5	98.4	94.8	97.8	97.3
Trucks	0	14	1	15	0	4	1	5	3	9	2	14	1	3	3	7	41
% Trucks	0	2.5	10.0	2.2	0	2.5	5.3	2.6	20.0	3.8	2.9	4.3	1.5	1.6	5.2	2.2	2.7

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N/S: Medford Street
E/W: Central Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360W
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Medford Street From North			Central Street From East			Medford Street From South			Central Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	29	124	2	5	34	4	1	32	12	6	31	7	287
07:15 AM	23	152	3	3	29	1	1	42	10	14	34	18	330
07:30 AM	23	134	3	2	42	4	0	45	17	16	33	11	330
07:45 AM	24	117	3	5	43	6	3	55	15	19	56	11	357
Total	99	527	11	15	148	15	5	174	54	55	154	47	1304
08:00 AM	28	130	3	3	51	4	2	55	23	21	58	17	395
08:15 AM	29	146	2	3	33	5	3	60	16	18	44	12	371
08:30 AM	18	154	1	2	30	3	4	58	14	8	29	15	336
08:45 AM	35	149	1	2	35	3	0	59	12	13	35	11	355
Total	110	579	7	10	149	15	9	232	65	60	166	55	1457
09:00 AM	21	135	3	0	28	2	1	48	9	9	21	11	288
09:15 AM	20	118	2	0	32	3	1	46	9	16	30	12	289
09:30 AM	16	116	5	1	19	1	2	45	8	10	30	10	263
09:45 AM	13	84	0	4	30	2	1	47	12	16	28	16	253
Total	70	453	10	5	109	8	5	186	38	51	109	49	1093
Grand Total	279	1559	28	30	406	38	19	592	157	166	429	151	3854
Apprch %	15	83.5	1.5	6.3	85.7	8	2.5	77.1	20.4	22.3	57.5	20.2	
Total %	7.2	40.5	0.7	0.8	10.5	1	0.5	15.4	4.1	4.3	11.1	3.9	

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	24	117	**3**	144	**5**	43	**6**	54	3	55	15	73	19	56	11	86	357
08:00 AM	28	130	3	161	3	**51**	4	**58**	2	55	**23**	**80**	**21**	**58**	**17**	**96**	**395**
08:15 AM	**29**	146	2	**177**	3	33	5	41	3	**60**	16	79	18	44	12	74	371
08:30 AM	18	**154**	1	173	2	30	3	35	**4**	58	14	76	8	29	15	52	336
Total Volume	99	547	9	655	13	157	18	188	12	228	68	308	66	187	55	308	1459
% App. Total	15.1	83.5	1.4		6.9	83.5	9.6		3.9	74	22.1		21.4	60.7	17.9		
PHF	.853	.888	.750	.925	.650	.770	.750	.810	.750	.950	.739	.963	.786	.806	.809	.802	.923

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Client: VHB/ A. Ng

File Name : 71360W
Site Code : 10303
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Groups Printed- Trucks

	Medford Street From North			Central Street From East			Medford Street From South			Central Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	2	0	0	1	0	0	1	1	0	0	0	5
07:15 AM	0	3	0	0	1	0	0	2	0	0	1	0	7
07:30 AM	0	0	0	0	0	1	0	2	0	1	0	0	4
07:45 AM	0	2	0	0	1	1	0	1	0	0	1	0	6
Total	0	7	0	0	3	2	0	6	1	1	2	0	22
08:00 AM	0	5	0	0	3	0	1	1	1	0	1	1	13
08:15 AM	0	2	1	0	0	0	0	4	1	1	0	1	10
08:30 AM	0	5	0	0	0	0	2	3	0	0	1	1	12
08:45 AM	0	0	0	0	1	0	1	1	0	0	0	1	4
Total	0	12	1	0	4	0	4	9	2	1	2	4	39
09:00 AM	1	1	1	0	1	0	0	3	1	1	0	0	9
09:15 AM	0	4	0	0	0	0	0	1	0	0	0	0	5
09:30 AM	0	4	0	0	1	0	0	1	1	0	2	1	10
09:45 AM	1	3	0	0	0	0	0	0	1	0	3	1	9
Total	2	12	1	0	2	0	0	5	3	1	5	2	33
Grand Total	2	31	2	0	9	2	4	20	6	3	9	6	94
Apprch %	5.7	88.6	5.7	0	81.8	18.2	13.3	66.7	20	16.7	50	33.3	
Total %	2.1	33	2.1	0	9.6	2.1	4.3	21.3	6.4	3.2	9.6	6.4	

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	2	0	2	0	1	**1**	2	0	1	0	1	0	**1**	0	1	6
08:00 AM	0	**5**	0	**5**	0	**3**	0	**3**	1	1	**1**	3	0	1	**1**	**2**	**13**
08:15 AM	0	2	**1**	3	0	0	0	0	0	**4**	1	**5**	**1**	0	1	2	10
08:30 AM	0	5	0	5	0	0	0	0	**2**	3	0	5	0	1	1	2	12
Total Volume	0	14	1	15	0	4	1	5	3	9	2	14	1	3	3	7	41
% App. Total	0	93.3	6.7		0	80	20		21.4	64.3	14.3		14.3	42.9	42.9		
PHF	.000	.700	.250	.750	.000	.333	.250	.417	.375	.563	.500	.700	.250	.750	.750	.875	.788

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Site Code : 10303
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Groups Printed- Peds and Bicycles

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	1	0	2	0	0	0	6	0	0	0	1	0	0	0	0	10
07:15 AM	0	1	0	2	0	0	0	14	0	0	0	4	0	0	0	5	26
07:30 AM	0	2	0	2	0	0	0	10	0	1	0	2	0	0	0	8	25
07:45 AM	0	3	0	10	0	0	0	12	0	1	0	0	1	0	0	6	33
Total	0	7	0	16	0	0	0	42	0	2	0	7	1	0	0	19	94
08:00 AM	3	1	0	6	0	1	0	9	0	0	0	3	1	0	0	2	26
08:15 AM	0	0	0	2	0	0	0	1	0	1	0	1	0	0	0	5	10
08:30 AM	1	2	0	4	0	0	0	2	0	0	1	3	0	0	0	1	14
08:45 AM	0	1	0	1	0	0	0	2	0	1	0	1	0	0	0	0	6
Total	4	4	0	13	0	1	0	14	0	2	1	8	1	0	0	8	56
09:00 AM	0	2	0	0	0	0	0	0	0	1	1	4	1	1	0	1	11
09:15 AM	0	1	0	1	0	0	0	6	0	0	0	6	0	0	0	2	16
09:30 AM	0	1	0	3	0	0	0	4	0	1	0	3	0	0	0	1	13
09:45 AM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	6
Total	0	4	0	4	0	0	0	10	0	3	3	16	1	1	0	4	46
Grand Total	4	15	0	33	0	1	0	66	0	7	4	31	3	1	0	31	196
Apprch %	7.7	28.8	0	63.5	0	1.5	0	98.5	0	16.7	9.5	73.8	8.6	2.9	0	88.6	
Total %	2	7.7	0	16.8	0	0.5	0	33.7	0	3.6	2	15.8	1.5	0.5	0	15.8	

	Medford Street From North					Central Street From East					Medford Street From South					Central Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	1	0	2	3	0	0	0	**14**	**14**	0	0	0	**4**	**4**	0	0	0	5	5	26
07:30 AM	0	2	0	2	4	0	0	0	10	10	0	**1**	**0**	**2**	**3**	**0**	**0**	**0**	**8**	**8**	25
07:45 AM	0	**3**	0	**10**	**13**	0	0	0	12	12	0	1	0	0	1	**1**	**0**	**0**	**6**	**7**	**33**
08:00 AM	**3**	**1**	**0**	**6**	**10**	**0**	**1**	**0**	**9**	**10**	**0**	**0**	**0**	**3**	**3**	**1**	**0**	**0**	**2**	**3**	**26**
Total Volume	3	7	0	20	30	0	1	0	45	46	0	2	0	9	11	2	0	0	21	23	110
% App. Total	10	23.3	0	66.7		0	2.2	0	97.8		0	18.2	0	81.8		8.7	0	0	91.3		
PHF	.250	.583	.000	.500	.577	.000	.250	.000	.804	.821	.000	.500	.000	.563	.688	.500	.000	.000	.656	.719	.833

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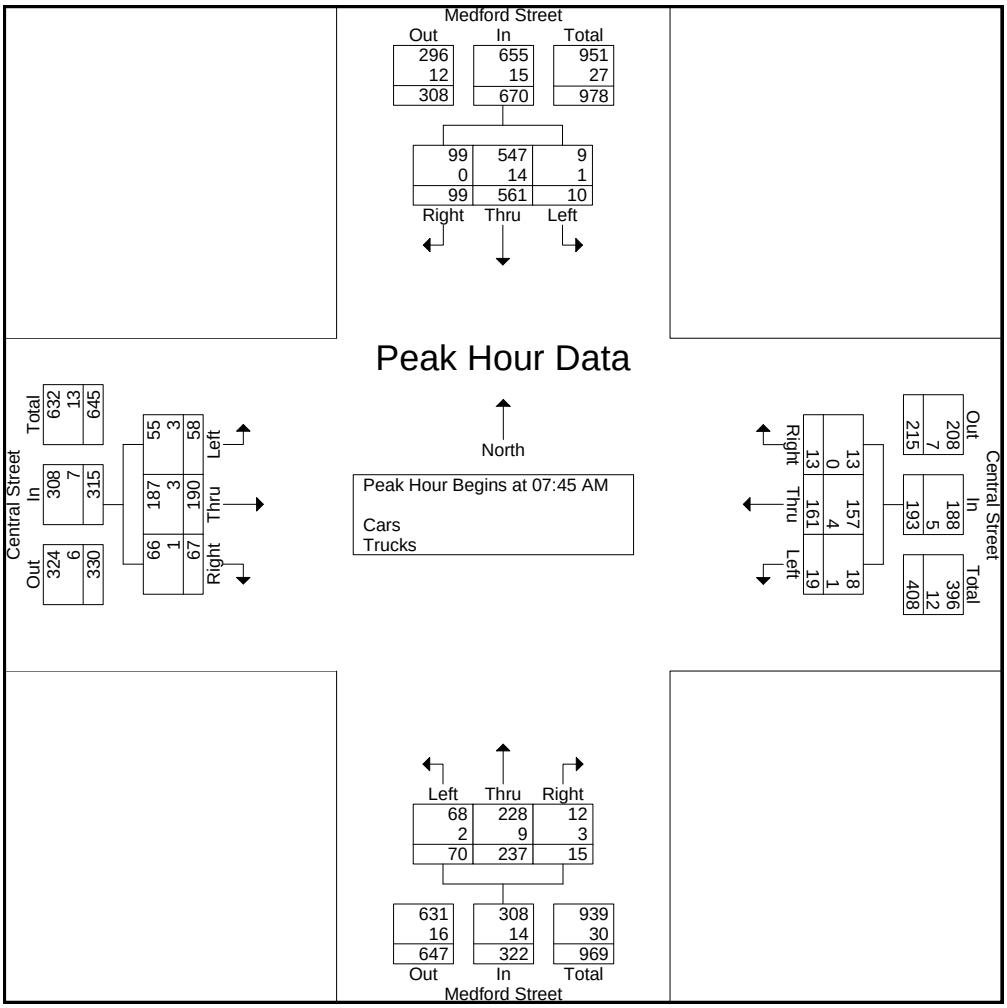
	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	24	119	**3**	146	**5**	44	**7**	56	3	56	15	74	19	57	11	87	363
08:00 AM	28	135	3	166	3	**54**	4	**61**	3	56	**24**	83	**21**	**59**	**18**	**98**	**408**
08:15 AM	**29**	148	3	**180**	3	33	5	41	3	**64**	17	**84**	19	44	13	76	381
08:30 AM	18	**159**	1	178	2	30	3	35	**6**	61	14	81	8	30	16	54	348
Total Volume	99	561	10	670	13	161	19	193	15	237	70	322	67	190	58	315	1500
% App. Total	14.8	83.7	1.5		6.7	83.4	9.8		4.7	73.6	21.7		21.3	60.3	18.4		
PHF	.853	.882	.833	.931	.650	.745	.679	.791	.625	.926	.729	.958	.798	.805	.806	.804	.919
Cars	99	547	9	655	13	157	18	188	12	228	68	308	66	187	55	308	1459
% Cars	100	97.5	90.0	97.8	100	97.5	94.7	97.4	80.0	96.2	97.1	95.7	98.5	98.4	94.8	97.8	97.3
Trucks	0	14	1	15	0	4	1	5	3	9	2	14	1	3	3	7	41
% Trucks	0	2.5	10.0	2.2	0	2.5	5.3	2.6	20.0	3.8	2.9	4.3	1.5	1.6	5.2	2.2	2.7



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File Name : 71360WW
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Groups Printed- Cars - Trucks

	Medford Street From North			Central Street From East			Medford Street From South			Central Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	11	100	5	3	38	1	2	67	19	12	59	17	334
03:15 PM	17	82	5	2	33	3	2	87	21	22	60	22	356
03:30 PM	10	79	0	2	20	3	2	85	14	13	63	27	318
03:45 PM	16	81	1	3	28	5	0	83	22	13	56	30	338
Total	54	342	11	10	119	12	6	322	76	60	238	96	1346
04:00 PM	21	104	1	2	24	1	2	72	13	12	69	33	354
04:15 PM	10	75	3	0	27	1	3	96	16	19	63	26	339
04:30 PM	13	93	1	2	33	4	4	91	18	23	58	37	377
04:45 PM	13	88	6	0	24	2	3	93	10	17	66	16	338
Total	57	360	11	4	108	8	12	352	57	71	256	112	1408
05:00 PM	12	106	3	0	24	0	5	94	15	25	63	23	370
05:15 PM	16	85	3	2	24	2	4	90	14	16	66	16	338
05:30 PM	16	67	3	1	33	1	9	106	12	23	59	32	362
05:45 PM	10	91	1	0	25	0	2	92	13	18	44	13	309
Total	54	349	10	3	106	3	20	382	54	82	232	84	1379
Grand Total	165	1051	32	17	333	23	38	1056	187	213	726	292	4133
Apprch %	13.2	84.2	2.6	4.6	89.3	6.2	3	82.4	14.6	17.3	59	23.7	
Total %	4	25.4	0.8	0.4	8.1	0.6	0.9	25.6	4.5	5.2	17.6	7.1	
Cars	165	1024	31	17	331	22	38	1033	184	208	715	290	4058
% Cars	100	97.4	96.9	100	99.4	95.7	100	97.8	98.4	97.7	98.5	99.3	98.2
Trucks	0	27	1	0	2	1	0	23	3	5	11	2	75
% Trucks	0	2.6	3.1	0	0.6	4.3	0	2.2	1.6	2.3	1.5	0.7	1.8

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	10	75	3	88	0	27	1	28	3	**96**	16	**115**	19	63	26	108	339
04:30 PM	**13**	93	1	107	**2**	**33**	**4**	**39**	4	91	**18**	113	23	58	**37**	**118**	**377**
04:45 PM	13	88	**6**	107	0	24	2	26	3	93	10	106	17	**66**	16	99	338
05:00 PM	12	**106**	3	**121**	0	24	0	24	**5**	94	15	114	**25**	63	23	111	370
Total Volume	48	362	13	423	2	108	7	117	15	374	59	448	84	250	102	436	1424
% App. Total	11.3	85.6	3.1		1.7	92.3	6		3.3	83.5	13.2		19.3	57.3	23.4		
PHF	.923	.854	.542	.874	.250	.818	.438	.750	.750	.974	.819	.974	.840	.947	.689	.924	.944
Cars	48	354	13	415	2	108	7	117	15	367	58	440	84	249	101	434	1406
% Cars	100	97.8	100	98.1	100	100	100	100	100	98.1	98.3	98.2	100	99.6	99.0	99.5	98.7
Trucks	0	8	0	8	0	0	0	0	0	7	1	8	0	1	1	2	18
% Trucks	0	2.2	0	1.9	0	0	0	0	0	1.9	1.7	1.8	0	0.4	1.0	0.5	1.3

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Groups Printed- Cars

	Medford Street From North			Central Street From East			Medford Street From South			Central Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	11	91	5	3	38	1	2	64	19	12	58	17	321
03:15 PM	17	81	5	2	33	3	2	85	21	22	55	22	348
03:30 PM	10	78	0	2	20	3	2	79	12	11	61	27	305
03:45 PM	16	80	0	3	26	4	0	81	22	12	55	29	328
Total	54	330	10	10	117	11	6	309	74	57	229	95	1302
04:00 PM	21	101	1	2	24	1	2	70	13	12	69	33	349
04:15 PM	10	75	3	0	27	1	3	96	15	19	63	26	338
04:30 PM	13	91	1	2	33	4	4	90	18	23	58	36	373
04:45 PM	13	82	6	0	24	2	3	90	10	17	65	16	328
Total	57	349	11	4	108	8	12	346	56	71	255	111	1388
05:00 PM	12	106	3	0	24	0	5	91	15	25	63	23	367
05:15 PM	16	84	3	2	24	2	4	90	14	16	65	16	336
05:30 PM	16	66	3	1	33	1	9	105	12	22	59	32	359
05:45 PM	10	89	1	0	25	0	2	92	13	17	44	13	306
Total	54	345	10	3	106	3	20	378	54	80	231	84	1368
Grand Total	165	1024	31	17	331	22	38	1033	184	208	715	290	4058
Apprch %	13.5	83.9	2.5	4.6	89.5	5.9	3	82.3	14.7	17.1	58.9	23.9	
Total %	4.1	25.2	0.8	0.4	8.2	0.5	0.9	25.5	4.5	5.1	17.6	7.1	

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	10	75	3	88	0	27	1	28	3	**96**	15	**114**	19	63	26	108	338
04:30 PM	**13**	91	1	105	**2**	**33**	**4**	**39**	4	90	**18**	112	23	58	**36**	**117**	**373**
04:45 PM	13	82	**6**	101	0	24	2	26	3	90	10	103	17	**65**	16	98	328
05:00 PM	12	**106**	3	**121**	0	24	0	24	**5**	91	15	111	**25**	63	23	111	367
Total Volume	48	354	13	415	2	108	7	117	15	367	58	440	84	249	101	434	1406
% App. Total	11.6	85.3	3.1		1.7	92.3	6		3.4	83.4	13.2		19.4	57.4	23.3		
PHF	.923	.835	.542	.857	.250	.818	.438	.750	.750	.956	.806	.965	.840	.958	.701	.927	.942

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Groups Printed- Trucks

	Medford Street From North			Central Street From East			Medford Street From South			Central Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	9	0	0	0	0	0	3	0	0	1	0	13
03:15 PM	0	1	0	0	0	0	0	2	0	0	5	0	8
03:30 PM	0	1	0	0	0	0	0	6	2	2	2	0	13
03:45 PM	0	1	1	0	2	1	0	2	0	1	1	1	10
Total	0	12	1	0	2	1	0	13	2	3	9	1	44
04:00 PM	0	3	0	0	0	0	0	2	0	0	0	0	5
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
04:30 PM	0	2	0	0	0	0	0	1	0	0	0	1	4
04:45 PM	0	6	0	0	0	0	0	3	0	0	1	0	10
Total	0	11	0	0	0	0	0	6	1	0	1	1	20
05:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
05:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
05:30 PM	0	1	0	0	0	0	0	1	0	1	0	0	3
05:45 PM	0	2	0	0	0	0	0	0	0	1	0	0	3
Total	0	4	0	0	0	0	0	4	0	2	1	0	11
Grand Total	0	27	1	0	2	1	0	23	3	5	11	2	75
Apprch %	0	96.4	3.6	0	66.7	33.3	0	88.5	11.5	27.8	61.1	11.1	
Total %	0	36	1.3	0	2.7	1.3	0	30.7	4	6.7	14.7	2.7	

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	**9**	0	**9**	0	0	0	0	0	3	0	3	0	1	0	1	**13**
03:15 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	**5**	0	**5**	8
03:30 PM	0	1	0	1	0	0	0	0	0	**6**	**2**	**8**	**2**	2	0	4	13
03:45 PM	0	1	**1**	2	0	**2**	**1**	**3**	0	2	0	2	1	1	**1**	3	10
Total Volume	0	12	1	13	0	2	1	3	0	13	2	15	3	9	1	13	44
% App. Total	0	92.3	7.7		0	66.7	33.3		0	86.7	13.3		23.1	69.2	7.7		
PHF	.000	.333	.250	.361	.000	.250	.250	.250	.000	.542	.250	.469	.375	.450	.250	.650	.846

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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360WW
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Peds and Bicycles

	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	5	0	0	0	9	0	0	0	7	0	0	0	5	27
03:15 PM	0	0	0	4	0	0	0	1	0	0	0	7	0	0	0	2	14
03:30 PM	0	1	0	3	0	0	0	0	0	0	0	3	0	0	0	2	9
03:45 PM	0	1	0	1	0	0	0	2	0	0	0	1	0	0	0	1	6
Total	0	3	0	13	0	0	0	12	0	0	0	18	0	0	0	10	56
04:00 PM	0	0	0	6	0	0	0	6	0	1	0	3	0	0	0	1	17
04:15 PM	0	1	0	0	0	1	0	4	0	1	0	9	0	0	0	2	18
04:30 PM	0	0	0	4	0	0	0	7	0	2	1	8	0	0	0	3	25
04:45 PM	0	0	0	1	0	1	0	0	0	0	1	2	0	0	0	1	6
Total	0	1	0	11	0	2	0	17	0	4	2	22	0	0	0	7	66
05:00 PM	0	1	0	3	0	0	0	2	0	1	0	1	0	0	1	1	10
05:15 PM	0	0	0	2	0	0	0	3	1	2	0	2	0	0	0	2	12
05:30 PM	0	0	0	2	0	0	0	1	0	1	0	5	0	2	0	5	16
05:45 PM	0	0	0	2	0	0	0	2	0	0	0	1	0	1	0	2	8
Total	0	1	0	9	0	0	0	8	1	4	0	9	0	3	1	10	46
Grand Total	0	5	0	33	0	2	0	37	1	8	2	49	0	3	1	27	168
Apprch %	0	13.2	0	86.8	0	5.1	0	94.9	1.7	13.3	3.3	81.7	0	9.7	3.2	87.1	
Total %	0	3	0	19.6	0	1.2	0	22	0.6	4.8	1.2	29.2	0	1.8	0.6	16.1	

	Medford Street From North					Central Street From East					Medford Street From South					Central Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	**1**	0	1	2	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1	6
04:00 PM	0	0	0	**6**	**6**	0	0	0	6	6	0	1	0	3	4	0	0	0	1	1	17
04:15 PM	0	1	0	0	1	0	**1**	**0**	**4**	**5**	**0**	**1**	**0**	**9**	**10**	**0**	**0**	**0**	**2**	**2**	**18**
04:30 PM	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**7**	**7**	0	**2**	**1**	8	**11**	0	0	0	**3**	**3**	**25**
Total Volume	0	2	0	11	13	0	1	0	19	20	0	4	1	21	26	0	0	0	7	7	66
% App. Total	0	15.4	0	84.6		0	5	0	95		0	15.4	3.8	80.8		0	0	0	100		
PHF	.000	.500	.000	.458	.542	.000	.250	.000	.679	.714	.000	.500	.250	.583	.591	.000	.000	.000	.583	.583	.660

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File Name : 71360WW
Site Code : 10303
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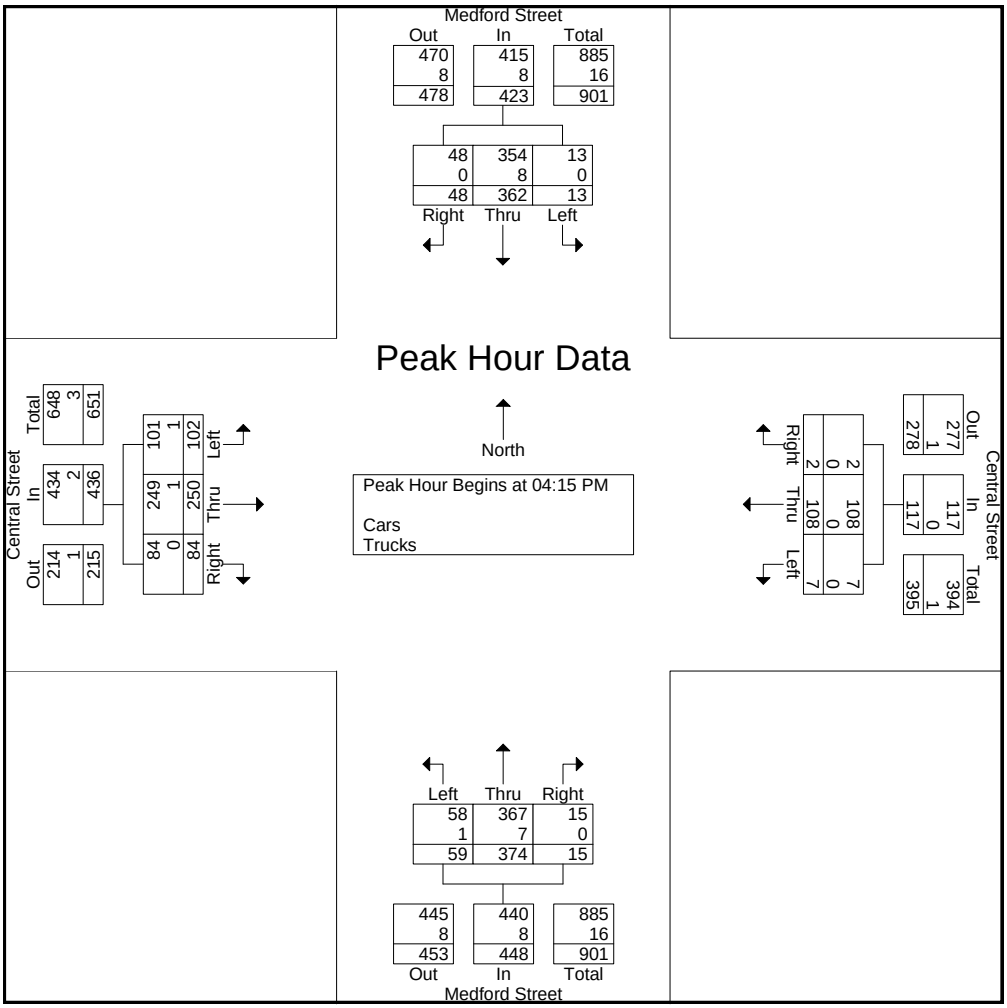
	Medford Street From North				Central Street From East				Medford Street From South				Central Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	10	75	3	88	0	27	1	28	3	**96**	16	**115**	19	63	26	108	339
04:30 PM	**13**	93	1	107	**2**	**33**	**4**	**39**	4	91	**18**	113	23	58	**37**	**118**	**377**
04:45 PM	13	88	**6**	107	0	24	2	26	3	93	10	106	17	**66**	16	99	338
05:00 PM	12	**106**	3	**121**	0	24	0	24	**5**	94	15	114	**25**	63	23	111	370
Total Volume	48	362	13	423	2	108	7	117	15	374	59	448	84	250	102	436	1424
% App. Total	11.3	85.6	3.1		1.7	92.3	6		3.3	83.5	13.2		19.3	57.3	23.4		
PHF	.923	.854	.542	.874	.250	.818	.438	.750	.750	.974	.819	.974	.840	.947	.689	.924	.944
Cars	48	354	13	415	2	108	7	117	15	367	58	440	84	249	101	434	1406
% Cars	100	97.8	100	98.1	100	100	100	100	100	98.1	98.3	98.2	100	99.6	99.0	99.5	98.7
Trucks	0	8	0	8	0	0	0	0	0	7	1	8	0	1	1	2	18
% Trucks	0	2.2	0	1.9	0	0	0	0	0	1.9	1.7	1.8	0	0.4	1.0	0.5	1.3



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E/W: School Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360X
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars - Trucks

	Medford Street From North			School Street From East			Medford Street From South			School Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	25	124	4	4	42	27	9	30	31	0	0	0	296
07:15 AM	27	150	3	2	71	30	11	46	37	0	0	0	377
07:30 AM	21	150	1	4	77	32	9	46	43	0	0	0	383
07:45 AM	25	148	2	7	76	37	16	69	38	0	0	0	418
Total	98	572	10	17	266	126	45	191	149	0	0	0	1474
08:00 AM	20	168	5	4	75	36	22	72	32	0	0	0	434
08:15 AM	20	173	2	5	61	27	16	55	25	0	0	0	384
08:30 AM	14	177	5	6	47	22	15	67	25	0	0	0	378
08:45 AM	22	163	4	6	62	26	12	52	41	0	0	0	388
Total	76	681	16	21	245	111	65	246	123	0	0	0	1584
09:00 AM	25	151	7	5	54	16	19	58	30	0	0	0	365
09:15 AM	26	125	2	3	52	19	14	56	23	0	0	0	320
09:30 AM	16	117	6	6	36	17	13	45	24	0	0	0	280
09:45 AM	21	105	3	4	36	11	12	46	25	0	0	0	263
Total	88	498	18	18	178	63	58	205	102	0	0	0	1228
Grand Total	262	1751	44	56	689	300	168	642	374	0	0	0	4286
Apprch %	12.7	85.1	2.1	5.4	65.9	28.7	14.2	54.2	31.6	0	0	0	
Total %	6.1	40.9	1	1.3	16.1	7	3.9	15	8.7	0	0	0	
Cars	254	1723	43	55	678	299	164	619	365	0	0	0	4200
% Cars	96.9	98.4	97.7	98.2	98.4	99.7	97.6	96.4	97.6	0	0	0	98
Trucks	8	28	1	1	11	1	4	23	9	0	0	0	86
% Trucks	3.1	1.6	2.3	1.8	1.6	0.3	2.4	3.6	2.4	0	0	0	2

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	21	150	1	172	4	**77**	32	113	9	46	**43**	98	0	0	0	0	383
07:45 AM	**25**	148	2	175	**7**	76	**37**	**120**	16	69	38	123	0	0	0	0	418
08:00 AM	20	168	**5**	193	4	75	36	115	**22**	**72**	32	**126**	0	0	0	0	**434**
08:15 AM	20	**173**	2	**195**	5	61	27	93	16	55	25	96	0	0	0	0	384
Total Volume	86	639	10	735	20	289	132	441	63	242	138	443	0	0	0	0	1619
% App. Total	11.7	86.9	1.4		4.5	65.5	29.9		14.2	54.6	31.2		0	0	0		
PHF	.860	.923	.500	.942	.714	.938	.892	.919	.716	.840	.802	.879	.000	.000	.000	.000	.933
Cars	86	627	10	723	20	287	132	439	63	235	136	434	0	0	0	0	1596
% Cars	100	98.1	100	98.4	100	99.3	100	99.5	100	97.1	98.6	98.0	0	0	0	0	98.6
Trucks	0	12	0	12	0	2	0	2	0	7	2	9	0	0	0	0	23
% Trucks	0	1.9	0	1.6	0	0.7	0	0.5	0	2.9	1.4	2.0	0	0	0	0	1.4

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City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360X
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

Groups Printed- Cars

	Medford Street From North			School Street From East			Medford Street From South			School Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	22	123	4	4	41	27	9	29	29	0	0	0	288
07:15 AM	27	149	3	2	69	30	10	44	36	0	0	0	370
07:30 AM	21	148	1	4	77	32	9	46	41	0	0	0	379
07:45 AM	25	146	2	7	76	37	16	67	38	0	0	0	414
Total	95	566	10	17	263	126	44	186	144	0	0	0	1451
08:00 AM	20	164	5	4	74	36	22	70	32	0	0	0	427
08:15 AM	20	169	2	5	60	27	16	52	25	0	0	0	376
08:30 AM	13	174	5	6	47	22	15	63	25	0	0	0	370
08:45 AM	22	162	4	5	60	26	12	52	41	0	0	0	384
Total	75	669	16	20	241	111	65	237	123	0	0	0	1557
09:00 AM	25	149	7	5	54	16	19	55	29	0	0	0	359
09:15 AM	24	123	2	3	51	18	13	55	22	0	0	0	311
09:30 AM	16	114	5	6	33	17	12	43	23	0	0	0	269
09:45 AM	19	102	3	4	36	11	11	43	24	0	0	0	253
Total	84	488	17	18	174	62	55	196	98	0	0	0	1192
Grand Total	254	1723	43	55	678	299	164	619	365	0	0	0	4200
Apprch %	12.6	85.3	2.1	5.3	65.7	29	14.3	53.9	31.8	0	0	0	
Total %	6	41	1	1.3	16.1	7.1	3.9	14.7	8.7	0	0	0	

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	21	148	1	170	4	**77**	32	113	9	46	**41**	96	0	0	0	0	379
07:45 AM	**25**	146	2	173	**7**	76	**37**	**120**	16	67	38	121	0	0	0	0	414
08:00 AM	20	164	**5**	189	4	74	36	114	**22**	**70**	32	**124**	0	0	0	0	**427**
08:15 AM	20	**169**	2	**191**	5	60	27	92	16	52	25	93	0	0	0	0	376
Total Volume	86	627	10	723	20	287	132	439	63	235	136	434	0	0	0	0	1596
% App. Total	11.9	86.7	1.4		4.6	65.4	30.1		14.5	54.1	31.3		0	0	0		
PHF	.860	.928	.500	.946	.714	.932	.892	.915	.716	.839	.829	.875	.000	.000	.000	.000	.934

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File Name : 71360X
Site Code : 10303
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Groups Printed- Trucks

	Medford Street From North			School Street From East			Medford Street From South			School Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	3	1	0	0	1	0	0	1	2	0	0	0	8
07:15 AM	0	1	0	0	2	0	1	2	1	0	0	0	7
07:30 AM	0	2	0	0	0	0	0	0	2	0	0	0	4
07:45 AM	0	2	0	0	0	0	0	2	0	0	0	0	4
Total	3	6	0	0	3	0	1	5	5	0	0	0	23
08:00 AM	0	4	0	0	1	0	0	2	0	0	0	0	7
08:15 AM	0	4	0	0	1	0	0	3	0	0	0	0	8
08:30 AM	1	3	0	0	0	0	0	4	0	0	0	0	8
08:45 AM	0	1	0	1	2	0	0	0	0	0	0	0	4
Total	1	12	0	1	4	0	0	9	0	0	0	0	27
09:00 AM	0	2	0	0	0	0	0	3	1	0	0	0	6
09:15 AM	2	2	0	0	1	1	1	1	1	0	0	0	9
09:30 AM	0	3	1	0	3	0	1	2	1	0	0	0	11
09:45 AM	2	3	0	0	0	0	1	3	1	0	0	0	10
Total	4	10	1	0	4	1	3	9	4	0	0	0	36
Grand Total	8	28	1	1	11	1	4	23	9	0	0	0	86
Apprch %	21.6	75.7	2.7	7.7	84.6	7.7	11.1	63.9	25	0	0	0	
Total %	9.3	32.6	1.2	1.2	12.8	1.2	4.7	26.7	10.5	0	0	0	

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 09:00 AM																	
09:00 AM	0	2	0	2	0	0	0	0	0	**3**	**1**	4	0	0	0	0	6
09:15 AM	**2**	2	0	4	0	1	**1**	2	**1**	1	1	3	0	0	0	0	9
09:30 AM	0	**3**	**1**	4	0	**3**	0	**3**	1	2	1	4	0	0	0	0	**11**
09:45 AM	2	3	0	**5**	0	0	0	0	1	3	1	**5**	0	0	0	0	10
Total Volume	4	10	1	15	0	4	1	5	3	9	4	16	0	0	0	0	36
% App. Total	26.7	66.7	6.7		0	80	20		18.8	56.2	25		0	0	0		
PHF	.500	.833	.250	.750	.000	.333	.250	.417	.750	.750	1.000	.800	.000	.000	.000	.000	.818

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Groups Printed- Peds and Bicycles

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	2	0	0	0	4	0	0	2	5	0	0	0	2	15
07:15 AM	0	1	0	3	0	0	0	4	0	0	0	18	0	1	0	4	31
07:30 AM	0	0	0	17	0	1	1	16	0	1	0	38	0	0	0	5	79
07:45 AM	0	3	0	11	0	1	0	6	0	2	0	23	0	0	0	6	52
Total	0	4	0	33	0	2	1	30	0	3	2	84	0	1	0	17	177
08:00 AM	0	1	1	6	0	1	0	13	0	0	0	5	0	0	0	1	28
08:15 AM	0	0	0	2	0	5	0	4	0	1	0	4	1	0	0	3	20
08:30 AM	0	4	0	8	0	2	0	4	0	0	1	9	0	0	0	2	30
08:45 AM	0	1	0	4	0	1	0	4	0	1	1	5	0	0	0	0	17
Total	0	6	1	20	0	9	0	25	0	2	2	23	1	0	0	6	95
09:00 AM	0	2	0	1	0	3	0	2	0	0	0	1	1	0	0	3	13
09:15 AM	0	2	0	1	0	2	0	0	0	1	0	3	0	0	0	5	14
09:30 AM	0	2	0	2	0	0	1	1	0	0	0	3	0	0	0	4	13
09:45 AM	0	0	0	2	0	2	0	1	0	0	2	4	0	0	0	1	12
Total	0	6	0	6	0	7	1	4	0	1	2	11	1	0	0	13	52
Grand Total	0	16	1	59	0	18	2	59	0	6	6	118	2	1	0	36	324
Apprch %	0	21.1	1.3	77.6	0	22.8	2.5	74.7	0	4.6	4.6	90.8	5.1	2.6	0	92.3	
Total %	0	4.9	0.3	18.2	0	5.6	0.6	18.2	0	1.9	1.9	36.4	0.6	0.3	0	11.1	

	Medford Street From North					School Street From East					Medford Street From South					School Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	1	0	3	4	0	0	0	4	4	0	0	0	18	18	0	**1**	0	4	5	31
07:30 AM	0	0	0	**17**	**17**	0	**1**	**1**	**16**	**18**	0	1	0	**38**	**39**	0	0	0	5	5	**79**
07:45 AM	0	**3**	0	11	14	0	1	0	6	7	0	**2**	**0**	**23**	**25**	**0**	**0**	**0**	**6**	**6**	52
08:00 AM	0	1	**1**	**6**	**8**	**0**	**1**	**0**	**13**	**14**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**1**	**1**	**28**
Total Volume	0	5	1	37	43	0	3	1	39	43	0	3	0	84	87	0	1	0	16	17	190
% App. Total	0	11.6	2.3	86		0	7	2.3	90.7		0	3.4	0	96.6		0	5.9	0	94.1		
PHF	.000	.417	.250	.544	.632	.000	.750	.250	.609	.597	.000	.375	.000	.553	.558	.000	.250	.000	.667	.708	.601

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E/W: School Street
City, State: Somerville, MA
Client: VHB/A. Ng

File Name : 71360X
Site Code : 10303
Start Date : 11/8/2007
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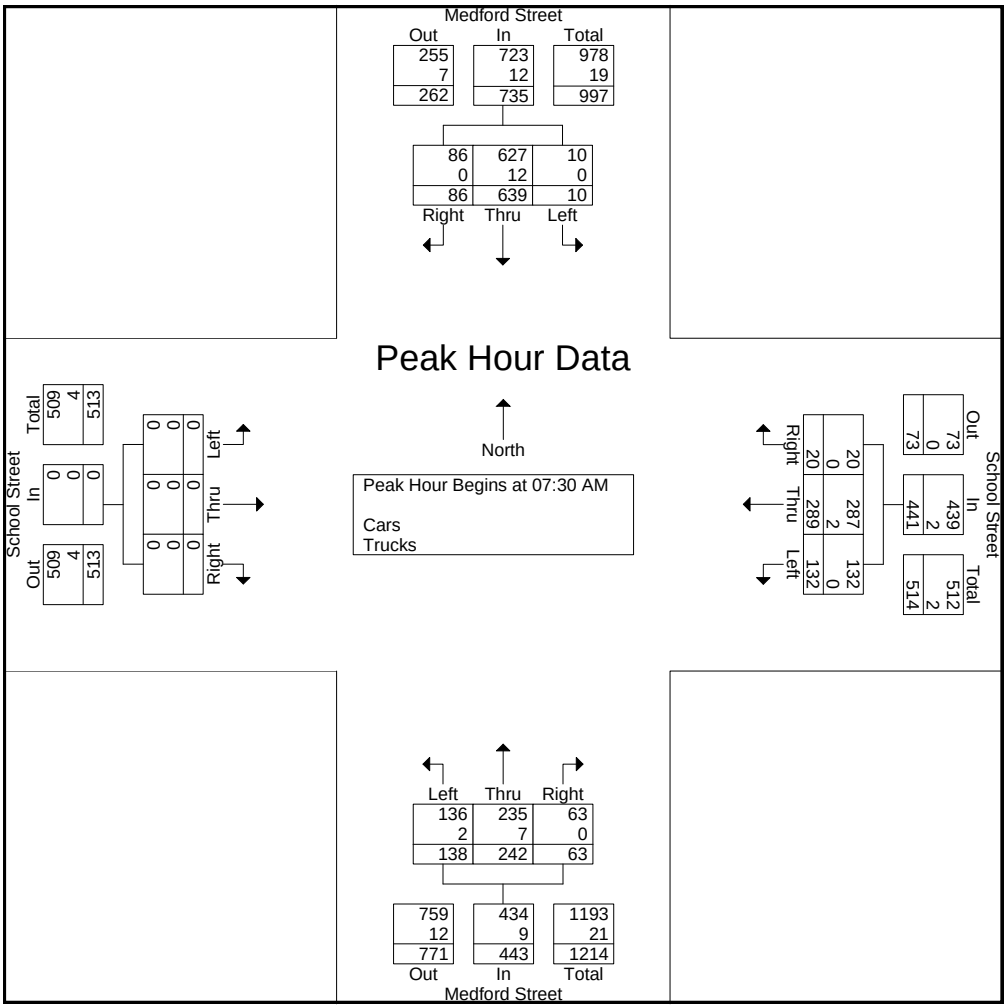
	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	21	150	1	172	4	**77**	32	113	9	46	**43**	98	0	0	0	0	383
07:45 AM	**25**	148	2	175	**7**	76	**37**	**120**	16	69	38	123	0	0	0	0	418
08:00 AM	20	168	**5**	193	4	75	36	115	**22**	**72**	32	**126**	0	0	0	0	**434**
08:15 AM	20	**173**	2	**195**	5	61	27	93	16	55	25	96	0	0	0	0	384
Total Volume	86	639	10	735	20	289	132	441	63	242	138	443	0	0	0	0	1619
% App. Total	11.7	86.9	1.4		4.5	65.5	29.9		14.2	54.6	31.2		0	0	0		
PHF	.860	.923	.500	.942	.714	.938	.892	.919	.716	.840	.802	.879	.000	.000	.000	.000	.933
Cars	86	627	10	723	20	287	132	439	63	235	136	434	0	0	0	0	1596
% Cars	100	98.1	100	98.4	100	99.3	100	99.5	100	97.1	98.6	98.0	0	0	0	0	98.6
Trucks	0	12	0	12	0	2	0	2	0	7	2	9	0	0	0	0	23
% Trucks	0	1.9	0	1.6	0	0.7	0	0.5	0	2.9	1.4	2.0	0	0	0	0	1.4



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File Name : 71360XX
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Cars - Trucks

	Medford Street From North			School Street From East			Medford Street From South			School Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	18	92	12	3	35	6	35	96	25	0	0	0	322
03:15 PM	17	100	7	7	53	14	19	89	29	0	0	0	335
03:30 PM	20	88	3	3	37	8	37	96	24	0	0	0	316
03:45 PM	17	74	8	7	46	12	27	95	28	0	0	0	314
Total	72	354	30	20	171	40	118	376	106	0	0	0	1287
04:00 PM	19	98	8	1	44	6	29	102	36	0	0	0	343
04:15 PM	21	77	9	6	55	10	27	122	28	0	0	0	355
04:30 PM	23	102	3	5	48	12	46	111	23	0	0	0	373
04:45 PM	26	101	8	3	56	17	33	103	41	0	0	0	388
Total	89	378	28	15	203	45	135	438	128	0	0	0	1459
05:00 PM	24	100	11	5	55	8	38	103	37	0	0	0	381
05:15 PM	24	84	10	7	48	12	28	117	37	0	0	0	367
05:30 PM	19	71	10	8	59	17	28	126	32	0	0	0	370
05:45 PM	27	99	7	7	55	10	30	102	51	0	0	0	388
Total	94	354	38	27	217	47	124	448	157	0	0	0	1506
Grand Total	255	1086	96	62	591	132	377	1262	391	0	0	0	4252
Apprch %	17.7	75.6	6.7	7.9	75.3	16.8	18.6	62.2	19.3	0	0	0	
Total %	6	25.5	2.3	1.5	13.9	3.1	8.9	29.7	9.2	0	0	0	
Cars	251	1059	93	62	576	132	376	1242	386	0	0	0	4177
% Cars	98.4	97.5	96.9	100	97.5	100	99.7	98.4	98.7	0	0	0	98.2
Trucks	4	27	3	0	15	0	1	20	5	0	0	0	75
% Trucks	1.6	2.5	3.1	0	2.5	0	0.3	1.6	1.3	0	0	0	1.8

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	23	**102**	3	128	5	48	12	65	**46**	111	23	180	0	0	0	0	373
04:45 PM	**26**	101	8	**135**	3	**56**	**17**	**76**	33	103	**41**	177	0	0	0	0	**388**
05:00 PM	24	100	**11**	135	5	55	8	68	38	103	37	178	0	0	0	0	381
05:15 PM	24	84	10	118	**7**	48	12	67	28	**117**	37	**182**	0	0	0	0	367
Total Volume	97	387	32	516	20	207	49	276	145	434	138	717	0	0	0	0	1509
% App. Total	18.8	75	6.2		7.2	75	17.8		20.2	60.5	19.2		0	0	0		
PHF	.933	.949	.727	.956	.714	.924	.721	.908	.788	.927	.841	.985	.000	.000	.000	.000	.972
Cars	95	380	32	507	20	205	49	274	144	428	136	708	0	0	0	0	1489
% Cars	97.9	98.2	100	98.3	100	99.0	100	99.3	99.3	98.6	98.6	98.7	0	0	0	0	98.7
Trucks	2	7	0	9	0	2	0	2	1	6	2	9	0	0	0	0	20
% Trucks	2.1	1.8	0	1.7	0	1.0	0	0.7	0.7	1.4	1.4	1.3	0	0	0	0	1.3

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Groups Printed- Cars

	Medford Street From North			School Street From East			Medford Street From South			School Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	17	85	11	3	33	6	35	95	25	0	0	0	310
03:15 PM	17	99	7	7	49	14	19	87	29	0	0	0	328
03:30 PM	20	86	3	3	34	8	37	91	24	0	0	0	306
03:45 PM	17	73	7	7	45	12	27	93	28	0	0	0	309
Total	71	343	28	20	161	40	118	366	106	0	0	0	1253
04:00 PM	18	96	7	1	44	6	29	100	35	0	0	0	336
04:15 PM	21	76	9	6	55	10	27	121	27	0	0	0	352
04:30 PM	23	100	3	5	48	12	46	110	23	0	0	0	370
04:45 PM	24	98	8	3	56	17	32	101	41	0	0	0	380
Total	86	370	27	15	203	45	134	432	126	0	0	0	1438
05:00 PM	24	100	11	5	53	8	38	100	36	0	0	0	375
05:15 PM	24	82	10	7	48	12	28	117	36	0	0	0	364
05:30 PM	19	70	10	8	57	17	28	125	32	0	0	0	366
05:45 PM	27	94	7	7	54	10	30	102	50	0	0	0	381
Total	94	346	38	27	212	47	124	444	154	0	0	0	1486
Grand Total	251	1059	93	62	576	132	376	1242	386	0	0	0	4177
Apprch %	17.9	75.5	6.6	8.1	74.8	17.1	18.8	62	19.3	0	0	0	
Total %	6	25.4	2.2	1.5	13.8	3.2	9	29.7	9.2	0	0	0	

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	23	**100**	3	126	5	48	12	65	**46**	110	23	179	0	0	0	0	370
04:45 PM	**24**	98	8	130	3	**56**	**17**	**76**	32	101	**41**	174	0	0	0	0	**380**
05:00 PM	24	100	**11**	**135**	5	53	8	66	38	100	36	174	0	0	0	0	375
05:15 PM	24	82	10	116	**7**	48	12	67	28	**117**	36	**181**	0	0	0	0	364
Total Volume	95	380	32	507	20	205	49	274	144	428	136	708	0	0	0	0	1489
% App. Total	18.7	75	6.3		7.3	74.8	17.9		20.3	60.5	19.2		0	0	0		
PHF	.990	.950	.727	.939	.714	.915	.721	.901	.783	.915	.829	.978	.000	.000	.000	.000	.980

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Groups Printed- Trucks

	Medford Street From North			School Street From East			Medford Street From South			School Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	7	1	0	2	0	0	1	0	0	0	0	12
03:15 PM	0	1	0	0	4	0	0	2	0	0	0	0	7
03:30 PM	0	2	0	0	3	0	0	5	0	0	0	0	10
03:45 PM	0	1	1	0	1	0	0	2	0	0	0	0	5
Total	1	11	2	0	10	0	0	10	0	0	0	0	34
04:00 PM	1	2	1	0	0	0	0	2	1	0	0	0	7
04:15 PM	0	1	0	0	0	0	0	1	1	0	0	0	3
04:30 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
04:45 PM	2	3	0	0	0	0	1	2	0	0	0	0	8
Total	3	8	1	0	0	0	1	6	2	0	0	0	21
05:00 PM	0	0	0	0	2	0	0	3	1	0	0	0	6
05:15 PM	0	2	0	0	0	0	0	0	1	0	0	0	3
05:30 PM	0	1	0	0	2	0	0	1	0	0	0	0	4
05:45 PM	0	5	0	0	1	0	0	0	1	0	0	0	7
Total	0	8	0	0	5	0	0	4	3	0	0	0	20
Grand Total	4	27	3	0	15	0	1	20	5	0	0	0	75
Apprch %	11.8	79.4	8.8	0	100	0	3.8	76.9	19.2	0	0	0	
Total %	5.3	36	4	0	20	0	1.3	26.7	6.7	0	0	0	

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	**1**	**7**	**1**	**9**	0	2	0	2	0	1	0	1	0	0	0	0	**12**
03:15 PM	0	1	0	1	0	**4**	0	**4**	0	2	0	2	0	0	0	0	7
03:30 PM	0	2	0	2	0	3	0	3	0	**5**	0	**5**	0	0	0	0	10
03:45 PM	0	1	1	2	0	1	0	1	0	2	0	2	0	0	0	0	5
Total Volume	1	11	2	14	0	10	0	10	0	10	0	10	0	0	0	0	34
% App. Total	7.1	78.6	14.3		0	100	0		0	100	0		0	0	0		
PHF	.250	.393	.500	.389	.000	.625	.000	.625	.000	.500	.000	.500	.000	.000	.000	.000	.708

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Groups Printed- Peds and Bicycles

	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	10	0	1	0	9	0	0	0	6	0	2	0	3	32
03:15 PM	0	2	0	1	0	0	0	6	0	0	0	7	0	0	0	2	18
03:30 PM	0	0	0	5	0	0	0	3	0	1	0	8	0	0	0	4	21
03:45 PM	0	1	0	4	0	1	0	0	0	1	1	4	0	1	0	1	14
Total	0	4	0	20	0	2	0	18	0	2	1	25	0	3	0	10	85
04:00 PM	0	0	0	2	1	0	0	4	1	1	0	16	0	0	0	1	26
04:15 PM	0	0	0	10	0	1	0	15	1	1	0	8	0	0	0	0	36
04:30 PM	0	1	0	6	0	1	0	3	1	1	1	6	0	0	0	1	21
04:45 PM	0	1	0	0	0	0	0	2	1	1	0	8	0	0	0	5	18
Total	0	2	0	18	1	2	0	24	4	4	1	38	0	0	0	7	101
05:00 PM	0	2	0	4	0	1	0	1	0	2	0	7	0	0	0	4	21
05:15 PM	0	0	0	3	0	1	0	6	0	1	0	8	0	1	0	3	23
05:30 PM	0	3	0	1	0	0	0	2	1	1	0	13	2	0	0	1	24
05:45 PM	0	0	0	3	0	0	0	4	0	3	0	3	0	2	0	3	18
Total	0	5	0	11	0	2	0	13	1	7	0	31	2	3	0	11	86
Grand Total	0	11	0	49	1	6	0	55	5	13	2	94	2	6	0	28	272
Apprch %	0	18.3	0	81.7	1.6	9.7	0	88.7	4.4	11.4	1.8	82.5	5.6	16.7	0	77.8	
Total %	0	4	0	18	0.4	2.2	0	20.2	1.8	4.8	0.7	34.6	0.7	2.2	0	10.3	

	Medford Street From North					School Street From East					Medford Street From South					School Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	2	2	**1**	0	0	4	5	**1**	**1**	**0**	**16**	**18**	0	0	0	1	1	26
04:15 PM	0	0	0	**10**	**10**	0	**1**	**0**	**15**	**16**	1	1	0	8	10	0	0	0	0	0	**36**
04:30 PM	0	**1**	0	6	7	0	1	0	3	4	1	1	**1**	6	9	0	0	0	1	1	21
04:45 PM	0	1	0	0	1	0	0	0	2	2	1	1	0	8	10	0	0	0	**5**	**5**	18
Total Volume	0	2	0	18	20	1	2	0	24	27	4	4	1	38	47	0	0	0	7	7	101
% App. Total	0	10	0	90		3.7	7.4	0	88.9		8.5	8.5	2.1	80.9		0	0	0	100		
PHF	.000	.500	.000	.450	.500	.250	.500	.000	.400	.422	1.000	1.000	.250	.594	.653	.000	.000	.000	.350	.350	.701

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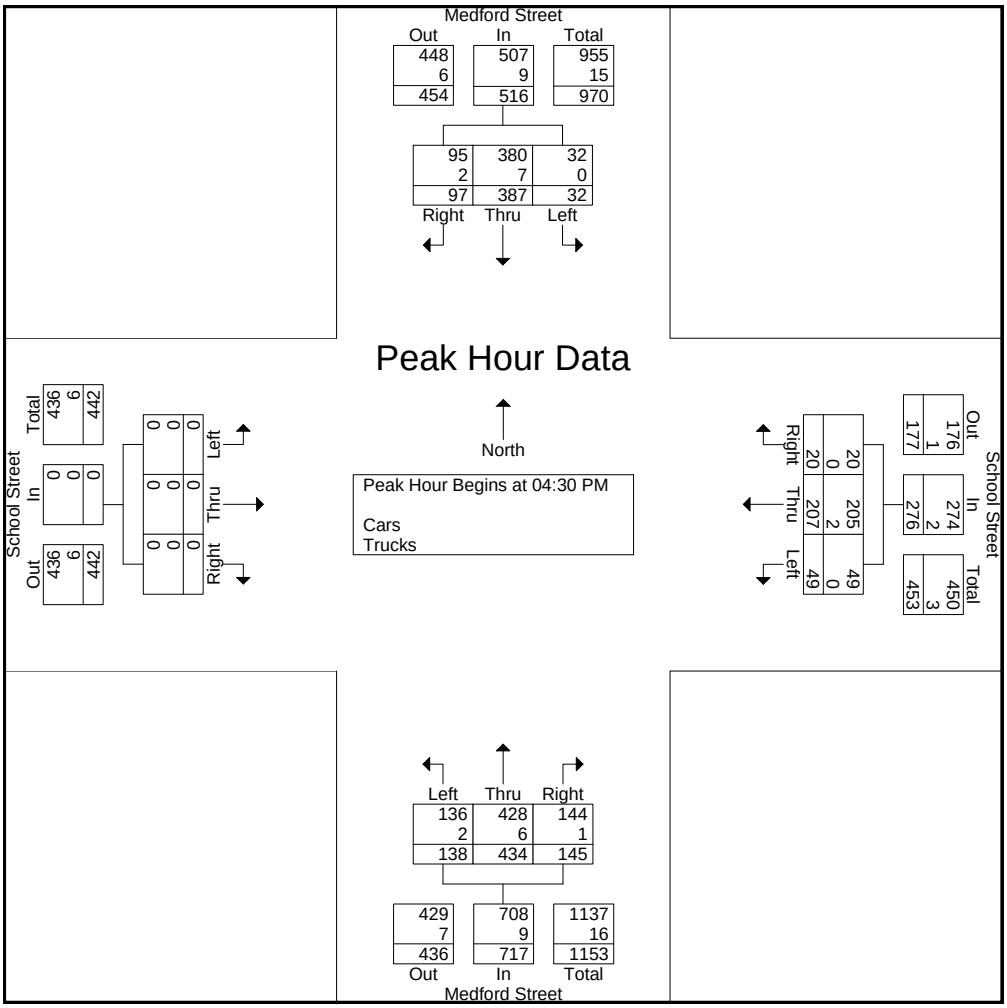
	Medford Street From North				School Street From East				Medford Street From South				School Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	23	**102**	3	128	5	48	12	65	**46**	111	23	180	0	0	0	0	373
04:45 PM	**26**	101	8	**135**	3	**56**	**17**	**76**	33	103	**41**	177	0	0	0	0	**388**
05:00 PM	24	100	**11**	135	5	55	8	68	38	103	37	178	0	0	0	0	381
05:15 PM	24	84	10	118	**7**	48	12	67	28	**117**	37	**182**	0	0	0	0	367
Total Volume	97	387	32	516	20	207	49	276	145	434	138	717	0	0	0	0	1509
% App. Total	18.8	75	6.2		7.2	75	17.8		20.2	60.5	19.2		0	0	0		
PHF	.933	.949	.727	.956	.714	.924	.721	.908	.788	.927	.841	.985	.000	.000	.000	.000	.972
Cars	95	380	32	507	20	205	49	274	144	428	136	708	0	0	0	0	1489
% Cars	97.9	98.2	100	98.3	100	99.0	100	99.3	99.3	98.6	98.6	98.7	0	0	0	0	98.7
Trucks	2	7	0	9	0	2	0	2	1	6	2	9	0	0	0	0	20
% Trucks	2.1	1.8	0	1.7	0	1.0	0	0.7	0.7	1.4	1.4	1.3	0	0	0	0	1.3



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Groups Printed- Cars - Trucks

	Medford Street From North			Walnut Street From East			Medford Street From South			Walnut Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	121	0	0	0	0	3	19	0	1	34	8	186
07:15 AM	0	133	1	0	0	0	1	20	0	1	27	11	194
07:30 AM	0	126	4	1	0	0	8	37	0	4	43	12	235
07:45 AM	0	132	3	0	0	0	2	44	0	0	44	22	247
Total	0	512	8	1	0	0	14	120	0	6	148	53	862
08:00 AM	0	126	0	0	0	0	2	36	0	2	44	15	225
08:15 AM	0	125	0	0	0	0	6	27	0	1	45	18	222
08:30 AM	0	142	1	0	0	0	3	32	0	2	42	19	241
08:45 AM	0	120	2	0	0	0	3	31	0	3	37	11	207
Total	0	513	3	0	0	0	14	126	0	8	168	63	895
09:00 AM	0	139	1	0	0	0	1	29	0	1	31	13	215
09:15 AM	0	114	3	0	0	0	2	38	0	1	31	13	202
09:30 AM	0	100	0	0	0	0	3	27	0	1	16	12	159
09:45 AM	0	95	0	0	0	0	2	36	0	0	18	11	162
Total	0	448	4	0	0	0	8	130	0	3	96	49	738
Grand Total	0	1473	15	1	0	0	36	376	0	17	412	165	2495
Apprch %	0	99	1	100	0	0	8.7	91.3	0	2.9	69.4	27.8	
Total %	0	59	0.6	0	0	0	1.4	15.1	0	0.7	16.5	6.6	
Cars	0	1454	15	1	0	0	36	360	0	17	406	163	2452
% Cars	0	98.7	100	100	0	0	100	95.7	0	100	98.5	98.8	98.3
Trucks	0	19	0	0	0	0	0	16	0	0	6	2	43
% Trucks	0	1.3	0	0	0	0	0	4.3	0	0	1.5	1.2	1.7

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	132	**3**	135	0	0	0	0	2	**44**	0	**46**	0	44	**22**	**66**	**247**
08:00 AM	0	126	0	126	0	0	0	0	2	36	0	38	**2**	44	15	61	225
08:15 AM	0	125	0	125	0	0	0	0	**6**	27	0	33	1	**45**	18	64	222
08:30 AM	0	**142**	1	**143**	0	0	0	0	3	32	0	35	2	42	19	63	241
Total Volume	0	525	4	529	0	0	0	0	13	139	0	152	5	175	74	254	935
% App. Total	0	99.2	0.8		0	0	0		8.6	91.4	0		2	68.9	29.1		
PHF	.000	.924	.333	.925	.000	.000	.000	.000	.542	.790	.000	.826	.625	.972	.841	.962	.946
Cars	0	518	4	522	0	0	0	0	13	133	0	146	5	173	74	252	920
% Cars	0	98.7	100	98.7	0	0	0	0	100	95.7	0	96.1	100	98.9	100	99.2	98.4
Trucks	0	7	0	7	0	0	0	0	0	6	0	6	0	2	0	2	15
% Trucks	0	1.3	0	1.3	0	0	0	0	0	4.3	0	3.9	0	1.1	0	0.8	1.6

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E/W: Walnut Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Y
Site Code : 10303
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Groups Printed- Cars

	Medford Street From North			Walnut Street From East			Medford Street From South			Walnut Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	119	0	0	0	0	3	19	0	1	33	6	181
07:15 AM	0	133	1	0	0	0	1	20	0	1	27	11	194
07:30 AM	0	126	4	1	0	0	8	36	0	4	42	12	233
07:45 AM	0	131	3	0	0	0	2	44	0	0	43	22	245
Total	0	509	8	1	0	0	14	119	0	6	145	51	853
08:00 AM	0	125	0	0	0	0	2	34	0	2	43	15	221
08:15 AM	0	121	0	0	0	0	6	26	0	1	45	18	217
08:30 AM	0	141	1	0	0	0	3	29	0	2	42	19	237
08:45 AM	0	116	2	0	0	0	3	30	0	3	36	11	201
Total	0	503	3	0	0	0	14	119	0	8	166	63	876
09:00 AM	0	139	1	0	0	0	1	27	0	1	31	13	213
09:15 AM	0	112	3	0	0	0	2	36	0	1	30	13	197
09:30 AM	0	97	0	0	0	0	3	25	0	1	16	12	154
09:45 AM	0	94	0	0	0	0	2	34	0	0	18	11	159
Total	0	442	4	0	0	0	8	122	0	3	95	49	723
Grand Total	0	1454	15	1	0	0	36	360	0	17	406	163	2452
Apprch %	0	99	1	100	0	0	9.1	90.9	0	2.9	69.3	27.8	
Total %	0	59.3	0.6	0	0	0	1.5	14.7	0	0.7	16.6	6.6	

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	131	**3**	134	0	0	0	0	2	**44**	0	**46**	0	43	**22**	**65**	**245**
08:00 AM	0	125	0	125	0	0	0	0	2	34	0	36	**2**	43	15	60	221
08:15 AM	0	121	0	121	0	0	0	0	**6**	26	0	32	1	**45**	18	64	217
08:30 AM	0	**141**	1	**142**	0	0	0	0	3	29	0	32	2	42	19	63	237
Total Volume	0	518	4	522	0	0	0	0	13	133	0	146	5	173	74	252	920
% App. Total	0	99.2	0.8		0	0	0		8.9	91.1	0		2	68.7	29.4		
PHF	.000	.918	.333	.919	.000	.000	.000	.000	.542	.756	.000	.793	.625	.961	.841	.969	.939

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Groups Printed- Trucks

	Medford Street From North			Walnut Street From East			Medford Street From South			Walnut Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	2	0	0	0	0	0	0	0	0	1	2	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
07:45 AM	0	1	0	0	0	0	0	0	0	0	1	0	2
Total	0	3	0	0	0	0	0	1	0	0	3	2	9
08:00 AM	0	1	0	0	0	0	0	2	0	0	1	0	4
08:15 AM	0	4	0	0	0	0	0	1	0	0	0	0	5
08:30 AM	0	1	0	0	0	0	0	3	0	0	0	0	4
08:45 AM	0	4	0	0	0	0	0	1	0	0	1	0	6
Total	0	10	0	0	0	0	0	7	0	0	2	0	19
09:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
09:15 AM	0	2	0	0	0	0	0	2	0	0	1	0	5
09:30 AM	0	3	0	0	0	0	0	2	0	0	0	0	5
09:45 AM	0	1	0	0	0	0	0	2	0	0	0	0	3
Total	0	6	0	0	0	0	0	8	0	0	1	0	15
Grand Total	0	19	0	0	0	0	0	16	0	0	6	2	43
Apprch %	0	100	0	0	0	0	0	100	0	0	75	25	
Total %	0	44.2	0	0	0	0	0	37.2	0	0	14	4.7	

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	**1**	0	**1**	4
08:15 AM	0	**4**	0	**4**	0	0	0	0	0	1	0	1	0	0	0	0	5
08:30 AM	0	1	0	1	0	0	0	0	0	**3**	0	**3**	0	0	0	0	4
08:45 AM	0	4	0	4	0	0	0	0	0	1	0	1	0	1	0	1	**6**
Total Volume	0	10	0	10	0	0	0	0	0	7	0	7	0	2	0	2	19
% App. Total	0	100	0		0	0	0		0	100	0		0	100	0		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.583	.000	.583	.000	.500	.000	.500	.792

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Groups Printed- Peds and Bicycles

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	3	0	0	0	0	0	0	0	2	0	1	0	0	6
07:15 AM	1	0	0	15	0	0	0	0	0	0	0	4	0	0	0	2	22
07:30 AM	0	1	0	39	0	1	0	1	0	0	0	8	0	0	1	1	52
07:45 AM	0	3	0	32	0	1	0	2	0	1	0	13	0	0	0	4	56
Total	1	4	0	89	0	2	0	3	0	1	0	27	0	1	1	7	136
08:00 AM	0	3	0	10	0	0	0	3	0	0	0	10	0	0	0	0	26
08:15 AM	0	0	0	8	0	4	0	0	1	1	0	7	0	1	0	1	23
08:30 AM	0	6	0	5	0	0	1	0	0	0	0	6	0	0	0	3	21
08:45 AM	0	2	0	7	0	2	0	0	0	0	0	6	0	1	1	1	20
Total	0	11	0	30	0	6	1	3	1	1	0	29	0	2	1	5	90
09:00 AM	0	2	0	2	0	1	0	0	0	0	0	2	0	0	0	0	7
09:15 AM	0	2	0	9	0	1	0	3	0	0	0	4	0	2	0	0	21
09:30 AM	1	3	0	4	0	0	0	1	0	0	0	4	0	0	0	1	14
09:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Total	1	8	0	15	0	2	0	4	0	0	0	10	0	2	1	1	44
Grand Total	2	23	0	134	0	10	1	10	1	2	0	66	0	5	3	13	270
Apprch %	1.3	14.5	0	84.3	0	47.6	4.8	47.6	1.4	2.9	0	95.7	0	23.8	14.3	61.9	
Total %	0.7	8.5	0	49.6	0	3.7	0.4	3.7	0.4	0.7	0	24.4	0	1.9	1.1	4.8	

	Medford Street From North					Walnut Street From East					Medford Street From South					Walnut Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	1	0	**39**	**40**	0	1	0	1	2	0	0	0	8	8	0	0	**1**	**1**	**2**	**52**
07:45 AM	**0**	**3**	0	32	35	0	1	0	2	3	0	**1**	**0**	**13**	**14**	0	0	0	**4**	**4**	**56**
08:00 AM	0	3	0	10	13	0	0	0	**3**	3	0	0	0	10	10	0	0	0	0	0	26
08:15 AM	0	0	0	8	8	0	**4**	**0**	**0**	**4**	**1**	**1**	**0**	**7**	**9**	**0**	**1**	0	1	2	23
Total Volume	0	7	0	89	96	0	6	0	6	12	1	2	0	38	41	0	1	1	6	8	157
% App. Total	0	7.3	0	92.7		0	50	0	50		2.4	4.9	0	92.7		0	12.5	12.5	75		
PHF	.000	.583	.000	.571	.600	.000	.375	.000	.500	.750	.250	.500	.000	.731	.732	.000	.250	.250	.375	.500	.701

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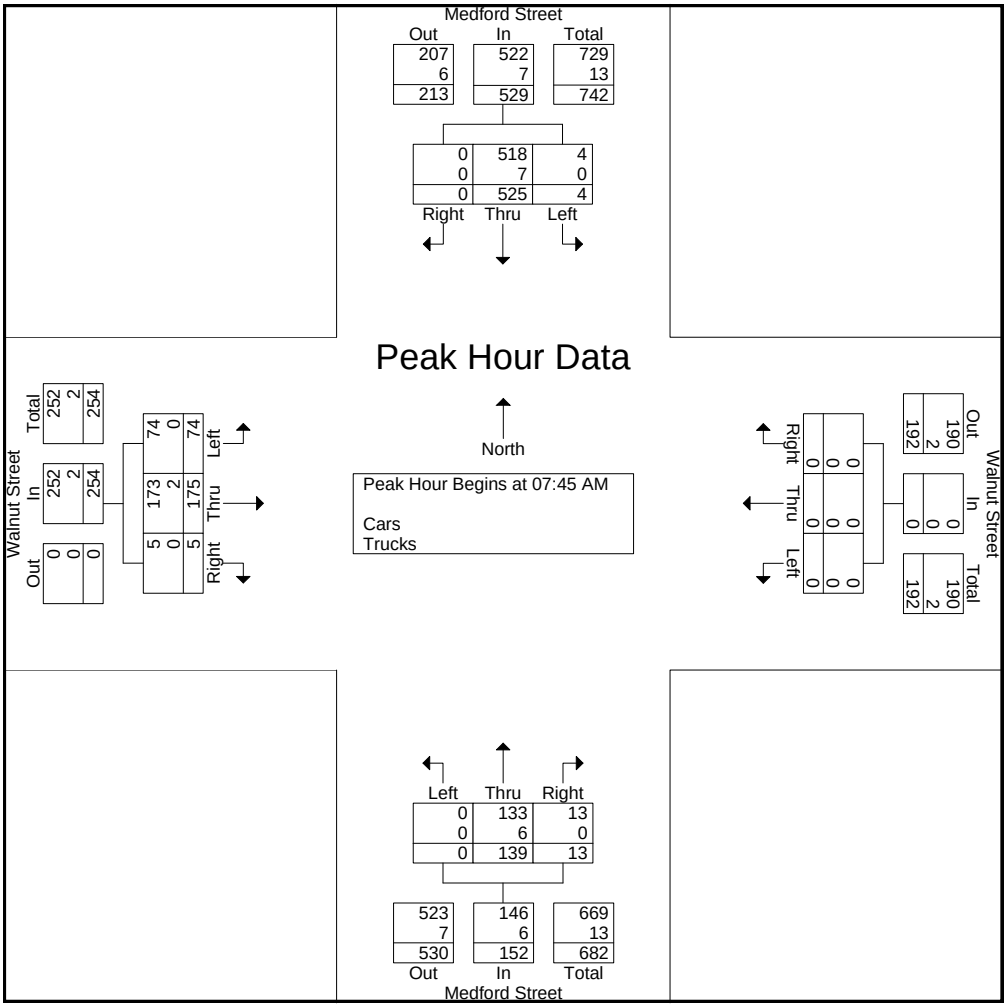
	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	132	**3**	135	0	0	0	0	2	**44**	0	**46**	0	44	**22**	**66**	**247**
08:00 AM	0	126	0	126	0	0	0	0	2	36	0	38	**2**	44	15	61	225
08:15 AM	0	125	0	125	0	0	0	0	**6**	27	0	33	1	**45**	18	64	222
08:30 AM	0	**142**	1	**143**	0	0	0	0	3	32	0	35	2	42	19	63	241
Total Volume	0	525	4	529	0	0	0	0	13	139	0	152	5	175	74	254	935
% App. Total	0	99.2	0.8		0	0	0		8.6	91.4	0		2	68.9	29.1		
PHF	.000	.924	.333	.925	.000	.000	.000	.000	.542	.790	.000	.826	.625	.972	.841	.962	.946
Cars	0	518	4	522	0	0	0	0	13	133	0	146	5	173	74	252	920
% Cars	0	98.7	100	98.7	0	0	0	0	100	95.7	0	96.1	100	98.9	100	99.2	98.4
Trucks	0	7	0	7	0	0	0	0	0	6	0	6	0	2	0	2	15
% Trucks	0	1.3	0	1.3	0	0	0	0	0	4.3	0	3.9	0	1.1	0	0.8	1.6



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Groups Printed- Cars - Trucks

	Medford Street From North			Walnut Street From East			Medford Street From South			Walnut Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	51	4	0	0	0	4	59	0	2	54	28	202
03:15 PM	0	68	2	0	0	0	5	67	0	4	59	16	221
03:30 PM	0	68	1	0	0	0	3	75	0	2	59	19	227
03:45 PM	0	57	1	0	0	1	3	75	0	2	41	20	200
Total	0	244	8	0	0	1	15	276	0	10	213	83	850
04:00 PM	0	58	4	0	0	0	6	67	0	2	74	22	233
04:15 PM	0	52	1	0	0	0	5	85	0	0	69	28	240
04:30 PM	0	66	0	0	0	0	3	80	0	0	55	36	240
04:45 PM	0	71	2	0	0	1	2	78	0	1	65	36	256
Total	0	247	7	0	0	1	16	310	0	3	263	122	969
05:00 PM	0	36	0	0	1	0	3	59	0	2	37	16	154
05:15 PM	0	68	1	0	0	0	2	87	0	2	79	24	263
05:30 PM	0	51	1	0	0	0	9	75	0	3	64	26	229
05:45 PM	0	52	1	0	0	0	12	72	0	2	65	25	229
Total	0	207	3	0	1	0	26	293	0	9	245	91	875
Grand Total	0	698	18	0	1	2	57	879	0	22	721	296	2694
Apprch %	0	97.5	2.5	0	33.3	66.7	6.1	93.9	0	2.1	69.4	28.5	
Total %	0	25.9	0.7	0	0	0.1	2.1	32.6	0	0.8	26.8	11	
Cars	0	685	18	0	1	2	57	872	0	22	711	291	2659
% Cars	0	98.1	100	0	100	100	100	99.2	0	100	98.6	98.3	98.7
Trucks	0	13	0	0	0	0	0	7	0	0	10	5	35
% Trucks	0	1.9	0	0	0	0	0	0.8	0	0	1.4	1.7	1.3

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	58	**4**	62	0	0	0	0	**6**	67	0	73	**2**	**74**	22	98	233
04:15 PM	0	52	1	53	0	0	0	0	5	**85**	0	**90**	0	69	28	97	240
04:30 PM	0	66	0	66	0	0	0	0	3	80	0	83	0	55	**36**	91	240
04:45 PM	0	**71**	2	**73**	0	0	**1**	**1**	2	78	0	80	1	65	36	**102**	**256**
Total Volume	0	247	7	254	0	0	1	1	16	310	0	326	3	263	122	388	969
% App. Total	0	97.2	2.8		0	0	100		4.9	95.1	0		0.8	67.8	31.4		
PHF	.000	.870	.438	.870	.000	.000	.250	.250	.667	.912	.000	.906	.375	.889	.847	.951	.946
Cars	0	241	7	248	0	0	1	1	16	307	0	323	3	262	118	383	955
% Cars	0	97.6	100	97.6	0	0	100	100	100	99.0	0	99.1	100	99.6	96.7	98.7	98.6
Trucks	0	6	0	6	0	0	0	0	0	3	0	3	0	1	4	5	14
% Trucks	0	2.4	0	2.4	0	0	0	0	0	1.0	0	0.9	0	0.4	3.3	1.3	1.4

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Groups Printed- Cars

	Medford Street From North			Walnut Street From East			Medford Street From South			Walnut Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	47	4	0	0	0	4	57	0	2	54	28	196
03:15 PM	0	66	2	0	0	0	5	67	0	4	57	15	216
03:30 PM	0	68	1	0	0	0	3	74	0	2	56	19	223
03:45 PM	0	56	1	0	0	1	3	74	0	2	41	20	198
Total	0	237	8	0	0	1	15	272	0	10	208	82	833
04:00 PM	0	58	4	0	0	0	6	66	0	2	74	21	231
04:15 PM	0	51	1	0	0	0	5	84	0	0	69	27	237
04:30 PM	0	64	0	0	0	0	3	79	0	0	54	36	236
04:45 PM	0	68	2	0	0	1	2	78	0	1	65	34	251
Total	0	241	7	0	0	1	16	307	0	3	262	118	955
05:00 PM	0	36	0	0	1	0	3	59	0	2	37	16	154
05:15 PM	0	68	1	0	0	0	2	87	0	2	77	24	261
05:30 PM	0	51	1	0	0	0	9	75	0	3	62	26	227
05:45 PM	0	52	1	0	0	0	12	72	0	2	65	25	229
Total	0	207	3	0	1	0	26	293	0	9	241	91	871
Grand Total	0	685	18	0	1	2	57	872	0	22	711	291	2659
Apprch %	0	97.4	2.6	0	33.3	66.7	6.1	93.9	0	2.1	69.4	28.4	
Total %	0	25.8	0.7	0	0	0.1	2.1	32.8	0	0.8	26.7	10.9	

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	58	**4**	62	0	0	0	0	**6**	66	0	72	**2**	**74**	21	97	231
04:15 PM	0	51	1	52	0	0	0	0	5	**84**	0	**89**	0	69	27	96	237
04:30 PM	0	64	0	64	0	0	0	0	3	79	0	82	0	54	**36**	90	236
04:45 PM	0	**68**	2	**70**	0	0	**1**	**1**	2	78	0	80	1	65	34	**100**	**251**
Total Volume	0	241	7	248	0	0	1	1	16	307	0	323	3	262	118	383	955
% App. Total	0	97.2	2.8		0	0	100		5	95	0		0.8	68.4	30.8		
PHF	.000	.886	.438	.886	.000	.000	.250	.250	.667	.914	.000	.907	.375	.885	.819	.958	.951

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Groups Printed- Trucks

	Medford Street From North			Walnut Street From East			Medford Street From South			Walnut Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	0	4	0	0	0	0	0	2	0	0	0	0	6
03:15 PM	0	2	0	0	0	0	0	0	0	0	2	1	5
03:30 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
03:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
Total	0	7	0	0	0	0	0	4	0	0	5	1	17
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
04:15 PM	0	1	0	0	0	0	0	1	0	0	0	1	3
04:30 PM	0	2	0	0	0	0	0	1	0	0	1	0	4
04:45 PM	0	3	0	0	0	0	0	0	0	0	0	2	5
Total	0	6	0	0	0	0	0	3	0	0	1	4	14
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	4	0	4
Grand Total	0	13	0	0	0	0	0	7	0	0	10	5	35
Apprch %	0	100	0	0	0	0	0	100	0	0	66.7	33.3	
Total %	0	37.1	0	0	0	0	0	20	0	0	28.6	14.3	

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	**4**	0	**4**	0	0	0	0	0	**2**	0	**2**	0	0	0	0	**6**
03:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	2	**1**	**3**	5
03:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	**3**	0	3	4
03:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	7	0	7	0	0	0	0	0	4	0	4	0	5	1	6	17
% App. Total	0	100	0		0	0	0		0	100	0		0	83.3	16.7		
PHF	.000	.438	.000	.438	.000	.000	.000	.000	.000	.500	.000	.500	.000	.417	.250	.500	.708

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Groups Printed- Peds and Bicycles

	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	14	0	0	0	2	0	0	0	4	0	0	0	0	21
03:15 PM	0	0	0	7	0	0	1	1	0	1	0	0	0	0	0	0	10
03:30 PM	0	0	0	17	0	0	0	5	0	0	0	9	0	0	2	1	34
03:45 PM	0	0	0	9	0	0	0	1	1	0	0	10	0	1	0	3	25
Total	0	1	0	47	0	0	1	9	1	1	0	23	0	1	2	4	90
04:00 PM	1	0	0	6	0	0	0	4	0	1	0	6	0	0	0	2	20
04:15 PM	0	0	0	8	0	0	0	3	0	0	0	3	0	1	2	1	18
04:30 PM	1	0	0	11	0	0	0	3	0	2	0	5	0	0	0	1	23
04:45 PM	0	0	0	3	0	0	0	2	0	3	0	6	0	0	0	3	17
Total	2	0	0	28	0	0	0	12	0	6	0	20	0	1	2	7	78
05:00 PM	0	1	0	4	0	1	0	4	0	1	0	3	0	3	0	0	17
05:15 PM	0	1	0	14	0	0	0	1	1	0	0	4	0	1	1	2	25
05:30 PM	0	1	0	1	0	0	0	1	0	1	0	6	0	1	1	3	15
05:45 PM	0	0	0	3	0	1	0	0	0	1	0	8	0	1	2	0	16
Total	0	3	0	22	0	2	0	6	1	3	0	21	0	6	4	5	73
Grand Total	2	4	0	97	0	2	1	27	2	10	0	64	0	8	8	16	241
Apprch %	1.9	3.9	0	94.2	0	6.7	3.3	90	2.6	13.2	0	84.2	0	25	25	50	
Total %	0.8	1.7	0	40.2	0	0.8	0.4	11.2	0.8	4.1	0	26.6	0	3.3	3.3	6.6	

	Medford Street From North					Walnut Street From East					Medford Street From South					Walnut Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	**17**	**17**	0	0	0	**5**	**5**	0	0	0	9	9	0	0	**2**	**1**	**3**	**34**
03:45 PM	0	0	0	9	9	0	0	0	1	1	**1**	**0**	**0**	**10**	**11**	0	**1**	0	**3**	**4**	25
04:00 PM	**1**	**0**	**0**	**6**	**7**	**0**	**0**	**0**	**4**	**4**	**0**	**1**	**0**	**6**	**7**	**0**	**0**	**0**	**2**	**2**	**20**
04:15 PM	**0**	**0**	**0**	**8**	**8**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**3**	**3**	**0**	**1**	**2**	**1**	**4**	**18**
Total Volume	1	0	0	40	41	0	0	0	13	13	1	1	0	28	30	0	2	4	7	13	97
% App. Total	2.4	0	0	97.6		0	0	0	100		3.3	3.3	0	93.3		0	15.4	30.8	53.8		
PHF	.250	.000	.000	.588	.603	.000	.000	.000	.650	.650	.250	.250	.000	.700	.682	.000	.500	.500	.583	.813	.713

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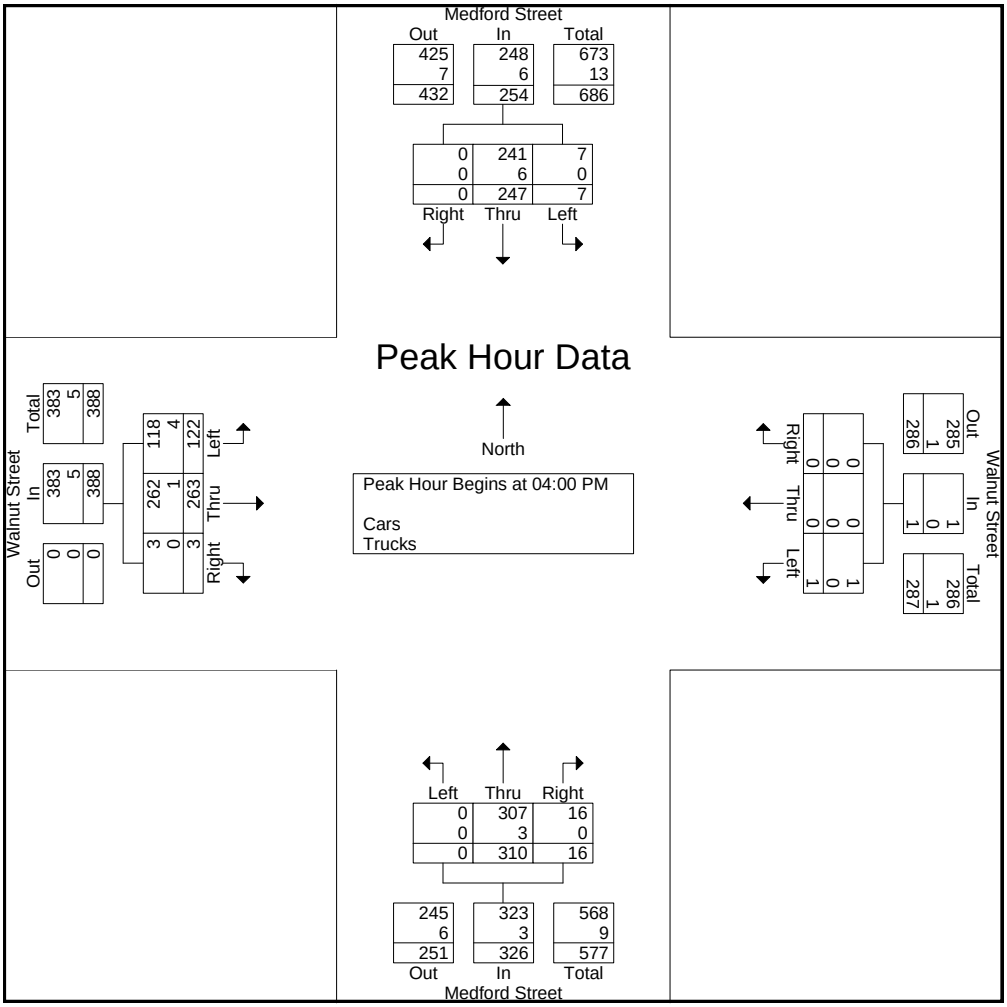
	Medford Street From North				Walnut Street From East				Medford Street From South				Walnut Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	58	**4**	62	0	0	0	0	**6**	67	0	73	**2**	**74**	22	98	233
04:15 PM	0	52	1	53	0	0	0	0	5	**85**	0	**90**	0	69	28	97	240
04:30 PM	0	66	0	66	0	0	0	0	3	80	0	83	0	55	**36**	91	240
04:45 PM	0	**71**	2	**73**	0	0	**1**	**1**	2	78	0	80	1	65	36	**102**	**256**
Total Volume	0	247	7	254	0	0	1	1	16	310	0	326	3	263	122	388	969
% App. Total	0	97.2	2.8		0	0	100		4.9	95.1	0		0.8	67.8	31.4		
PHF	.000	.870	.438	.870	.000	.000	.250	.250	.667	.912	.000	.906	.375	.889	.847	.951	.946
Cars	0	241	7	248	0	0	1	1	16	307	0	323	3	262	118	383	955
% Cars	0	97.6	100	97.6	0	0	100	100	100	99.0	0	99.1	100	99.6	96.7	98.7	98.6
Trucks	0	6	0	6	0	0	0	0	0	3	0	3	0	1	4	5	14
% Trucks	0	2.4	0	2.4	0	0	0	0	0	1.0	0	0.9	0	0.4	3.3	1.3	1.4



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City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Z
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Cars - Trucks

	Highland Avenue From North			Medford Street From East			Medford Street From South			Hamlet Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	115	0	2	15	109	20	60	5	5	0	0	333
07:15 AM	4	131	0	3	9	113	21	80	6	0	0	1	368
07:30 AM	8	139	0	1	11	125	39	96	5	6	0	0	430
07:45 AM	4	128	0	1	11	121	46	101	6	1	0	1	420
Total	18	513	0	7	46	468	126	337	22	12	0	2	1551
08:00 AM	7	148	0	3	4	115	34	79	8	1	0	2	401
08:15 AM	3	156	0	0	3	123	32	77	10	9	0	0	413
08:30 AM	8	155	0	2	4	135	34	71	2	3	0	1	415
08:45 AM	8	125	0	9	3	121	29	93	6	2	0	0	396
Total	26	584	0	14	14	494	129	320	26	15	0	3	1625
09:00 AM	4	135	0	2	4	121	36	69	7	2	0	2	382
09:15 AM	7	132	0	1	4	124	33	68	5	2	0	1	377
09:30 AM	6	121	0	5	6	91	30	53	4	2	0	1	319
09:45 AM	2	94	0	4	3	93	37	81	8	2	0	1	325
Total	19	482	0	12	17	429	136	271	24	8	0	5	1403
Grand Total	63	1579	0	33	77	1391	391	928	72	35	0	10	4579
Apprch %	3.8	96.2	0	2.2	5.1	92.7	28.1	66.7	5.2	77.8	0	22.2	
Total %	1.4	34.5	0	0.7	1.7	30.4	8.5	20.3	1.6	0.8	0	0.2	
Cars	58	1521	0	32	76	1366	369	869	69	34	0	9	4403
% Cars	92.1	96.3	0	97	98.7	98.2	94.4	93.6	95.8	97.1	0	90	96.2
Trucks	5	58	0	1	1	25	22	59	3	1	0	1	176
% Trucks	7.9	3.7	0	3	1.3	1.8	5.6	6.4	4.2	2.9	0	10	3.8

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**8**	139	0	147	1	**11**	**125**	**137**	39	96	5	140	6	0	0	6	**430**
07:45 AM	4	128	0	132	1	11	121	133	**46**	**101**	6	**153**	1	0	1	2	420
08:00 AM	7	148	0	155	**3**	4	115	122	34	79	8	121	1	0	**2**	3	401
08:15 AM	3	**156**	0	**159**	0	3	123	126	32	77	**10**	119	**9**	0	0	**9**	413
Total Volume	22	571	0	593	5	29	484	518	151	353	29	533	17	0	3	20	1664
% App. Total	3.7	96.3	0		1	5.6	93.4		28.3	66.2	5.4		85	0	15		
PHF	.688	.915	.000	.932	.417	.659	.968	.945	.821	.874	.725	.871	.472	.000	.375	.556	.967
Cars	21	552	0	573	4	28	474	506	145	336	27	508	16	0	3	19	1606
% Cars	95.5	96.7	0	96.6	80.0	96.6	97.9	97.7	96.0	95.2	93.1	95.3	94.1	0	100	95.0	96.5
Trucks	1	19	0	20	1	1	10	12	6	17	2	25	1	0	0	1	58
% Trucks	4.5	3.3	0	3.4	20.0	3.4	2.1	2.3	4.0	4.8	6.9	4.7	5.9	0	0	5.0	3.5

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Groups Printed- Cars

	Highland Avenue From North			Medford Street From East			Medford Street From South			Hamlet Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	2	108	0	2	15	107	20	54	5	5	0	0	318
07:15 AM	4	126	0	3	9	113	19	75	6	0	0	1	356
07:30 AM	8	135	0	0	11	125	38	91	5	6	0	0	419
07:45 AM	4	127	0	1	11	119	45	97	5	1	0	1	411
Total	18	496	0	6	46	464	122	317	21	12	0	2	1504
08:00 AM	6	138	0	3	3	112	31	73	8	1	0	2	377
08:15 AM	3	152	0	0	3	118	31	75	9	8	0	0	399
08:30 AM	7	152	0	2	4	133	31	66	2	3	0	1	401
08:45 AM	6	119	0	9	3	117	28	82	6	2	0	0	372
Total	22	561	0	14	13	480	121	296	25	14	0	3	1549
09:00 AM	4	131	0	2	4	121	33	65	6	2	0	2	370
09:15 AM	6	128	0	1	4	122	31	66	5	2	0	0	365
09:30 AM	6	115	0	5	6	89	28	47	4	2	0	1	303
09:45 AM	2	90	0	4	3	90	34	78	8	2	0	1	312
Total	18	464	0	12	17	422	126	256	23	8	0	4	1350
Grand Total	58	1521	0	32	76	1366	369	869	69	34	0	9	4403
Apprch %	3.7	96.3	0	2.2	5.2	92.7	28.2	66.5	5.3	79.1	0	20.9	
Total %	1.3	34.5	0	0.7	1.7	31	8.4	19.7	1.6	0.8	0	0.2	

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**8**	135	0	143	0	**11**	**125**	**136**	38	91	5	134	6	0	0	6	**419**
07:45 AM	4	127	0	131	1	11	119	131	**45**	**97**	5	**147**	1	0	1	2	411
08:00 AM	6	138	0	144	**3**	3	112	118	31	73	8	112	1	0	**2**	3	377
08:15 AM	3	**152**	0	**155**	0	3	118	121	31	75	**9**	115	**8**	0	0	**8**	399
Total Volume	21	552	0	573	4	28	474	506	145	336	27	508	16	0	3	19	1606
% App. Total	3.7	96.3	0		0.8	5.5	93.7		28.5	66.1	5.3		84.2	0	15.8		
PHF	.656	.908	.000	.924	.333	.636	.948	.930	.806	.866	.750	.864	.500	.000	.375	.594	.958

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Groups Printed- Trucks

	Highland Avenue From North			Medford Street From East			Medford Street From South			Hamlet Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	0	7	0	0	0	2	0	6	0	0	0	0	15
07:15 AM	0	5	0	0	0	0	2	5	0	0	0	0	12
07:30 AM	0	4	0	1	0	0	1	5	0	0	0	0	11
07:45 AM	0	1	0	0	0	2	1	4	1	0	0	0	9
Total	0	17	0	1	0	4	4	20	1	0	0	0	47
08:00 AM	1	10	0	0	1	3	3	6	0	0	0	0	24
08:15 AM	0	4	0	0	0	5	1	2	1	1	0	0	14
08:30 AM	1	3	0	0	0	2	3	5	0	0	0	0	14
08:45 AM	2	6	0	0	0	4	1	11	0	0	0	0	24
Total	4	23	0	0	1	14	8	24	1	1	0	0	76
09:00 AM	0	4	0	0	0	0	3	4	1	0	0	0	12
09:15 AM	1	4	0	0	0	2	2	2	0	0	0	1	12
09:30 AM	0	6	0	0	0	2	2	6	0	0	0	0	16
09:45 AM	0	4	0	0	0	3	3	3	0	0	0	0	13
Total	1	18	0	0	0	7	10	15	1	0	0	1	53
Grand Total	5	58	0	1	1	25	22	59	3	1	0	1	176
Apprch %	7.9	92.1	0	3.7	3.7	92.6	26.2	70.2	3.6	50	0	50	
Total %	2.8	33	0	0.6	0.6	14.2	12.5	33.5	1.7	0.6	0	0.6	

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	**10**	0	**11**	0	**1**	3	4	**3**	6	0	9	0	0	0	0	**24**
08:15 AM	0	4	0	4	0	0	**5**	**5**	1	2	**1**	4	**1**	0	0	**1**	14
08:30 AM	1	3	0	4	0	0	2	2	3	5	0	8	0	0	0	0	14
08:45 AM	**2**	6	0	8	0	0	4	4	1	**11**	0	**12**	0	0	0	0	24
Total Volume	4	23	0	27	0	1	14	15	8	24	1	33	1	0	0	1	76
% App. Total	14.8	85.2	0		0	6.7	93.3		24.2	72.7	3		100	0	0		
PHF	.500	.575	.000	.614	.000	.250	.700	.750	.667	.545	.250	.688	.250	.000	.000	.250	.792

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E/W: Medford Street/Hamlet Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360Z
Site Code : 10303
Start Date : 11/8/2007
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Groups Printed- Peds and Bicycles

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0	2	7
07:15 AM	0	0	0	3	0	0	0	2	0	0	0	3	0	0	0	8	16
07:30 AM	0	0	0	4	0	0	0	5	0	0	0	1	0	0	0	6	16
07:45 AM	0	2	0	2	0	0	2	4	0	1	0	2	0	0	0	11	24
Total	0	6	0	9	0	0	2	11	0	1	0	7	0	0	0	27	63
08:00 AM	0	2	0	5	0	0	2	3	0	0	0	2	0	0	0	5	19
08:15 AM	0	3	0	3	0	0	0	2	1	1	0	0	0	0	0	8	18
08:30 AM	0	0	0	6	0	0	4	4	0	0	0	1	0	0	0	9	24
08:45 AM	0	3	0	5	0	0	0	0	0	0	0	1	0	0	0	5	14
Total	0	8	0	19	0	0	6	9	1	1	0	4	0	0	0	27	75
09:00 AM	0	2	0	0	1	0	2	1	0	0	0	2	0	0	0	1	9
09:15 AM	0	1	0	0	0	0	1	2	0	0	0	2	0	0	0	1	7
09:30 AM	0	0	0	4	0	0	3	0	0	0	0	1	0	0	0	3	11
09:45 AM	0	1	0	2	0	0	1	3	0	0	1	3	0	0	0	7	18
Total	0	4	0	6	1	0	7	6	0	0	1	8	0	0	0	12	45
Grand Total	0	18	0	34	1	0	15	26	1	2	1	19	0	0	0	66	183
Apprch %	0	34.6	0	65.4	2.4	0	35.7	61.9	4.3	8.7	4.3	82.6	0	0	0	100	
Total %	0	9.8	0	18.6	0.5	0	8.2	14.2	0.5	1.1	0.5	10.4	0	0	0	36.1	

	Highland Avenue From North					Medford Street From East					Medford Street From South					Hamlet Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	2	0	2	4	0	0	2	**4**	6	0	**1**	**0**	**2**	**3**	0	0	0	**11**	**11**	**24**
08:00 AM	0	2	0	5	**7**	0	0	2	3	5	0	0	0	2	2	0	0	0	5	5	19
08:15 AM	0	**3**	0	3	6	0	0	0	2	2	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**8**	**8**	**18**
08:30 AM	**0**	**0**	**0**	**6**	**6**	**0**	**0**	**4**	**4**	**8**	0	0	0	1	1	0	0	0	9	9	24
Total Volume	0	7	0	16	23	0	0	8	13	21	1	2	0	5	8	0	0	0	33	33	85
% App. Total	0	30.4	0	69.6		0	0	38.1	61.9		12.5	25	0	62.5		0	0	0	100		
PHF	.000	.583	.000	.667	.821	.000	.000	.500	.813	.656	.250	.500	.000	.625	.667	.000	.000	.000	.750	.750	.885

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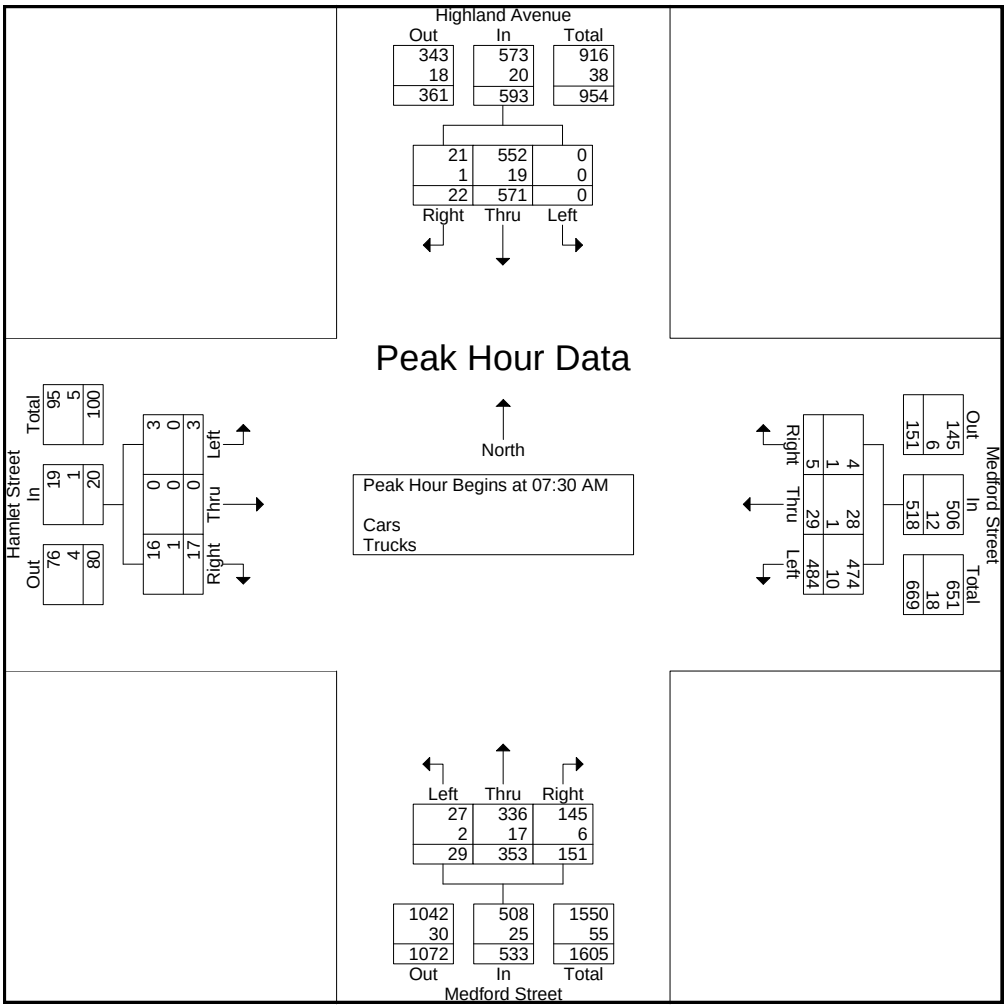
	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**8**	139	0	147	1	**11**	**125**	**137**	39	96	5	140	6	0	0	6	**430**
07:45 AM	4	128	0	132	1	11	121	133	**46**	**101**	6	**153**	1	0	1	2	420
08:00 AM	7	148	0	155	**3**	4	115	122	34	79	8	121	1	0	**2**	3	401
08:15 AM	3	**156**	0	**159**	0	3	123	126	32	77	**10**	119	**9**	0	0	**9**	413
Total Volume	22	571	0	593	5	29	484	518	151	353	29	533	17	0	3	20	1664
% App. Total	3.7	96.3	0		1	5.6	93.4		28.3	66.2	5.4		85	0	15		
PHF	.688	.915	.000	.932	.417	.659	.968	.945	.821	.874	.725	.871	.472	.000	.375	.556	.967
Cars	21	552	0	573	4	28	474	506	145	336	27	508	16	0	3	19	1606
% Cars	95.5	96.7	0	96.6	80.0	96.6	97.9	97.7	96.0	95.2	93.1	95.3	94.1	0	100	95.0	96.5
Trucks	1	19	0	20	1	1	10	12	6	17	2	25	1	0	0	1	58
% Trucks	4.5	3.3	0	3.4	20.0	3.4	2.1	2.3	4.0	4.8	6.9	4.7	5.9	0	0	5.0	3.5



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Start Date : 11/8/2007
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Groups Printed- Cars - Trucks

	Highland Avenue From North			Medford Street From East			Medford Street From South			Hamlet Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	7	99	0	2	5	53	63	108	11	3	0	0	351
03:15 PM	3	120	0	1	1	72	81	116	9	4	0	1	408
03:30 PM	8	124	0	2	6	64	74	94	7	3	1	0	383
03:45 PM	3	123	1	4	6	43	81	103	6	3	0	1	374
Total	21	466	1	9	18	232	299	421	33	13	1	2	1516
04:00 PM	2	120	0	4	3	60	69	129	9	5	0	2	403
04:15 PM	7	118	0	2	6	45	84	141	10	3	0	2	418
04:30 PM	6	121	0	2	4	60	84	114	8	2	0	0	401
04:45 PM	5	115	0	8	4	57	78	127	12	2	0	1	409
Total	20	474	0	16	17	222	315	511	39	12	0	5	1631
05:00 PM	6	88	0	3	5	40	61	105	7	7	0	0	322
05:15 PM	4	125	0	0	9	59	68	110	9	4	0	2	390
05:30 PM	3	97	1	3	2	50	69	137	14	4	0	1	381
05:45 PM	5	93	0	4	4	45	66	137	6	7	0	1	368
Total	18	403	1	10	20	194	264	489	36	22	0	4	1461
Grand Total	59	1343	2	35	55	648	878	1421	108	47	1	11	4608
Apprch %	4.2	95.7	0.1	4.7	7.5	87.8	36.5	59	4.5	79.7	1.7	18.6	
Total %	1.3	29.1	0	0.8	1.2	14.1	19.1	30.8	2.3	1	0	0.2	
Cars	57	1298	2	35	53	636	866	1388	108	47	1	11	4502
% Cars	96.6	96.6	100	100	96.4	98.1	98.6	97.7	100	100	100	100	97.7
Trucks	2	45	0	0	2	12	12	33	0	0	0	0	106
% Trucks	3.4	3.4	0	0	3.6	1.9	1.4	2.3	0	0	0	0	2.3

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	120	0	122	4	3	**60**	67	69	129	9	207	**5**	0	**2**	**7**	403
04:15 PM	**7**	118	0	125	2	**6**	45	53	**84**	**141**	10	**235**	3	0	2	5	**418**
04:30 PM	6	**121**	0	**127**	2	4	60	66	84	114	8	206	2	0	0	2	401
04:45 PM	5	115	0	120	**8**	4	57	**69**	78	127	**12**	217	2	0	1	3	409
Total Volume	20	474	0	494	16	17	222	255	315	511	39	865	12	0	5	17	1631
% App. Total	4	96	0		6.3	6.7	87.1		36.4	59.1	4.5		70.6	0	29.4		
PHF	.714	.979	.000	.972	.500	.708	.925	.924	.938	.906	.813	.920	.600	.000	.625	.607	.975
Cars	19	461	0	480	16	17	216	249	310	501	39	850	12	0	5	17	1596
% Cars	95.0	97.3	0	97.2	100	100	97.3	97.6	98.4	98.0	100	98.3	100	0	100	100	97.9
Trucks	1	13	0	14	0	0	6	6	5	10	0	15	0	0	0	0	35
% Trucks	5.0	2.7	0	2.8	0	0	2.7	2.4	1.6	2.0	0	1.7	0	0	0	0	2.1

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Groups Printed- Cars

	Highland Avenue From North			Medford Street From East			Medford Street From South			Hamlet Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	6	94	0	2	4	50	62	105	11	3	0	0	337
03:15 PM	3	114	0	1	1	70	81	110	9	4	0	1	394
03:30 PM	8	120	0	2	6	64	72	92	7	3	1	0	375
03:45 PM	3	119	1	4	6	42	80	98	6	3	0	1	363
Total	20	447	1	9	17	226	295	405	33	13	1	2	1469
04:00 PM	2	116	0	4	3	60	68	128	9	5	0	2	397
04:15 PM	7	115	0	2	6	44	83	137	10	3	0	2	409
04:30 PM	6	116	0	2	4	59	82	113	8	2	0	0	392
04:45 PM	4	114	0	8	4	53	77	123	12	2	0	1	398
Total	19	461	0	16	17	216	310	501	39	12	0	5	1596
05:00 PM	6	86	0	3	5	40	59	102	7	7	0	0	315
05:15 PM	4	119	0	0	8	59	68	110	9	4	0	2	383
05:30 PM	3	94	1	3	2	50	69	134	14	4	0	1	375
05:45 PM	5	91	0	4	4	45	65	136	6	7	0	1	364
Total	18	390	1	10	19	194	261	482	36	22	0	4	1437
Grand Total	57	1298	2	35	53	636	866	1388	108	47	1	11	4502
Apprch %	4.2	95.7	0.1	4.8	7.3	87.8	36.7	58.8	4.6	79.7	1.7	18.6	
Total %	1.3	28.8	0	0.8	1.2	14.1	19.2	30.8	2.4	1	0	0.2	

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	**116**	0	118	4	3	**60**	**67**	68	128	9	205	**5**	0	**2**	**7**	397
04:15 PM	**7**	115	0	**122**	2	**6**	44	52	**83**	**137**	10	**230**	3	0	2	5	**409**
04:30 PM	6	116	0	122	2	4	59	65	82	113	8	203	2	0	0	2	392
04:45 PM	4	114	0	118	**8**	4	53	65	77	123	**12**	212	2	0	1	3	398
Total Volume	19	461	0	480	16	17	216	249	310	501	39	850	12	0	5	17	1596
% App. Total	4	96	0		6.4	6.8	86.7		36.5	58.9	4.6		70.6	0	29.4		
PHF	.679	.994	.000	.984	.500	.708	.900	.929	.934	.914	.813	.924	.600	.000	.625	.607	.976

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Groups Printed- Trucks

	Highland Avenue From North			Medford Street From East			Medford Street From South			Hamlet Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
03:00 PM	1	5	0	0	1	3	1	3	0	0	0	0	14
03:15 PM	0	6	0	0	0	2	0	6	0	0	0	0	14
03:30 PM	0	4	0	0	0	0	2	2	0	0	0	0	8
03:45 PM	0	4	0	0	0	1	1	5	0	0	0	0	11
Total	1	19	0	0	1	6	4	16	0	0	0	0	47
04:00 PM	0	4	0	0	0	0	1	1	0	0	0	0	6
04:15 PM	0	3	0	0	0	1	1	4	0	0	0	0	9
04:30 PM	0	5	0	0	0	1	2	1	0	0	0	0	9
04:45 PM	1	1	0	0	0	4	1	4	0	0	0	0	11
Total	1	13	0	0	0	6	5	10	0	0	0	0	35
05:00 PM	0	2	0	0	0	0	2	3	0	0	0	0	7
05:15 PM	0	6	0	0	1	0	0	0	0	0	0	0	7
05:30 PM	0	3	0	0	0	0	0	3	0	0	0	0	6
05:45 PM	0	2	0	0	0	0	1	1	0	0	0	0	4
Total	0	13	0	0	1	0	3	7	0	0	0	0	24
Grand Total	2	45	0	0	2	12	12	33	0	0	0	0	106
Apprch %	4.3	95.7	0	0	14.3	85.7	26.7	73.3	0	0	0	0	
Total %	1.9	42.5	0	0	1.9	11.3	11.3	31.1	0	0	0	0	

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	**1**	5	0	**6**	0	**1**	**3**	**4**	1	3	0	4	0	0	0	0	**14**
03:15 PM	0	**6**	0	6	0	0	2	2	0	**6**	0	**6**	0	0	0	0	14
03:30 PM	0	4	0	4	0	0	0	0	**2**	2	0	4	0	0	0	0	8
03:45 PM	0	4	0	4	0	0	1	1	1	5	0	6	0	0	0	0	11
Total Volume	1	19	0	20	0	1	6	7	4	16	0	20	0	0	0	0	47
% App. Total	5	95	0		0	14.3	85.7		20	80	0		0	0	0		
PHF	.250	.792	.000	.833	.000	.250	.500	.438	.500	.667	.000	.833	.000	.000	.000	.000	.839

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Groups Printed- Peds and Bicycles

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	1	0	3	0	0	1	7	0	0	0	1	0	0	0	11	24
03:15 PM	0	1	0	3	0	0	1	2	1	0	0	5	0	0	0	14	27
03:30 PM	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	5	8
03:45 PM	0	0	0	2	0	0	0	4	1	0	0	1	0	0	0	9	17
Total	0	2	0	10	0	0	2	13	2	1	0	7	0	0	0	39	76
04:00 PM	0	0	0	1	0	0	0	5	1	0	0	5	0	0	0	8	20
04:15 PM	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	3	8
04:30 PM	0	0	0	1	0	0	0	3	1	1	0	0	0	0	0	5	11
04:45 PM	0	0	0	2	0	0	0	5	2	0	0	1	0	0	0	9	19
Total	0	0	0	5	0	0	0	15	4	1	0	8	0	0	0	25	58
05:00 PM	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	5	8
05:15 PM	0	1	0	1	0	0	0	1	0	1	0	2	0	0	0	2	8
05:30 PM	0	1	0	2	0	0	1	0	0	2	0	3	0	0	0	2	11
05:45 PM	0	0	0	2	0	0	0	1	0	1	0	3	0	0	0	5	12
Total	0	2	0	6	0	0	1	3	1	4	0	8	0	0	0	14	39
Grand Total	0	4	0	21	0	0	3	31	7	6	0	23	0	0	0	78	173
Apprch %	0	16	0	84	0	0	8.8	91.2	19.4	16.7	0	63.9	0	0	0	100	
Total %	0	2.3	0	12.1	0	0	1.7	17.9	4	3.5	0	13.3	0	0	0	45.1	

	Highland Avenue From North					Medford Street From East					Medford Street From South					Hamlet Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	**1**	0	**3**	**4**	0	0	**1**	**7**	**8**	0	0	0	1	1	0	0	0	11	11	24
03:15 PM	0	1	0	3	4	0	0	1	2	3	**1**	**0**	**0**	**5**	**6**	0	0	0	**14**	**14**	**27**
03:30 PM	0	0	0	2	2	0	0	0	0	0	0	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**5**	**8**
03:45 PM	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**4**	**4**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**9**	**9**	**17**
Total Volume	0	2	0	10	12	0	0	2	13	15	2	1	0	7	10	0	0	0	39	39	76
% App. Total	0	16.7	0	83.3		0	0	13.3	86.7		20	10	0	70		0	0	0	100		
PHF	.000	.500	.000	.833	.750	.000	.000	.500	.464	.469	.500	.250	.000	.350	.417	.000	.000	.000	.696	.696	.704

PRECISION DATA INDUSTRIES, LLC
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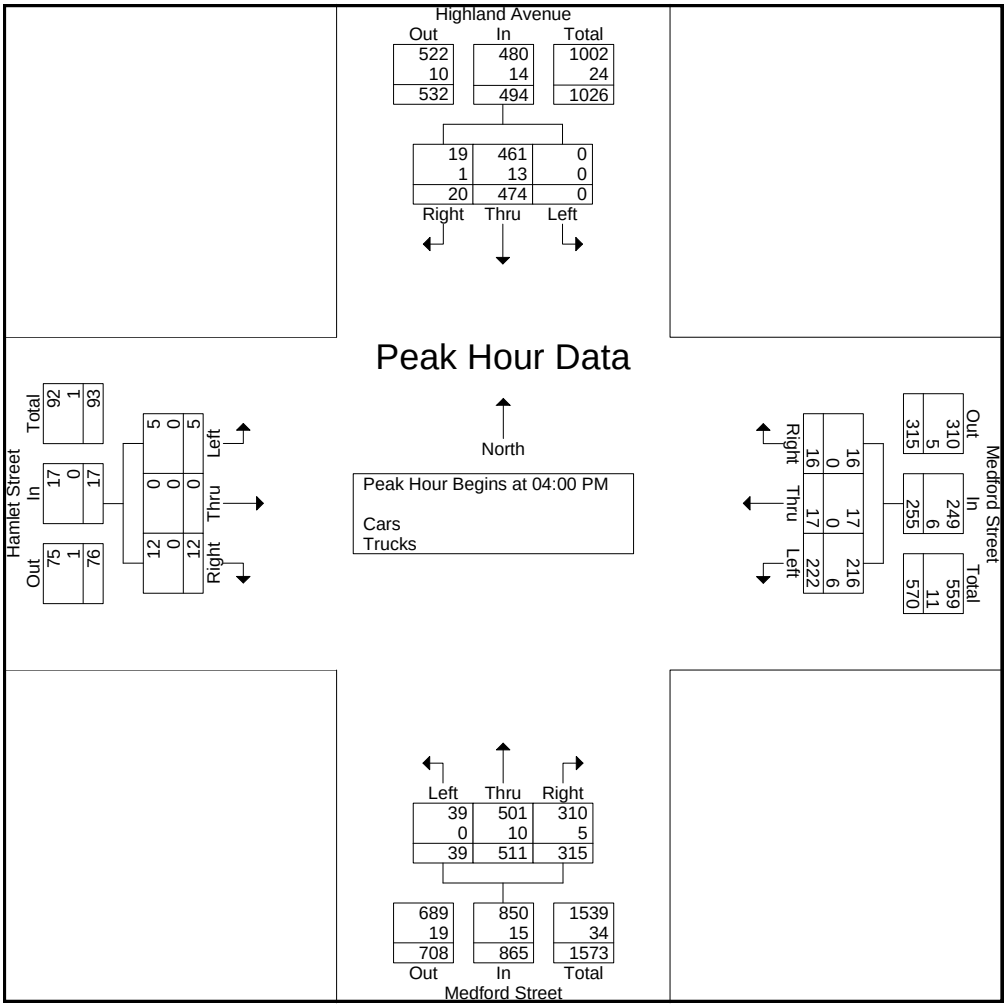
N/S: Highland Avenue/Medford Street
E/W: Medford Street/Hamlet Street
City, State: Somerville, MA
Client: VHB/ A. Ng

File Name : 71360ZZ
Site Code : 10303
Start Date : 11/8/2007
Page No : 1

	Highland Avenue From North				Medford Street From East				Medford Street From South				Hamlet Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	120	0	122	4	3	**60**	67	69	129	9	207	**5**	0	**2**	**7**	403
04:15 PM	**7**	118	0	125	2	**6**	45	53	**84**	**141**	10	**235**	3	0	2	5	**418**
04:30 PM	6	**121**	0	**127**	2	4	60	66	84	114	8	206	2	0	0	2	401
04:45 PM	5	115	0	120	**8**	4	57	**69**	78	127	**12**	217	2	0	1	3	409
Total Volume	20	474	0	494	16	17	222	255	315	511	39	865	12	0	5	17	1631
% App. Total	4	96	0		6.3	6.7	87.1		36.4	59.1	4.5		70.6	0	29.4		
PHF	.714	.979	.000	.972	.500	.708	.925	.924	.938	.906	.813	.920	.600	.000	.625	.607	.975
Cars	19	461	0	480	16	17	216	249	310	501	39	850	12	0	5	17	1596
% Cars	95.0	97.3	0	97.2	100	100	97.3	97.6	98.4	98.0	100	98.3	100	0	100	100	97.9
Trucks	1	13	0	14	0	0	6	6	5	10	0	15	0	0	0	0	35
% Trucks	5.0	2.7	0	2.8	0	0	2.7	2.4	1.6	2.0	0	1.7	0	0	0	0	2.1



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Traffic Counts with Precision



Customer:	Engineer:	Project #:	Date:	PDI File #:	City, State:
VHB	S. Lewis	10303	Wednesday 9/10/08	81693	Somerville, MA

PRECISION
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N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693A
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Boston Avenue From North				Broadway From East				Boston Avenue From South				Rogers Avenue From Southwest				Broadway From West				
Start Time	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
07:00 AM	1	1	3	52	20	102	0	1	12	6	7	0	0	0	0	0	3	3	126	1	338
07:15 AM	2	0	5	65	32	126	0	2	9	8	1	0	0	0	0	0	4	1	171	2	428
07:30 AM	5	1	9	73	50	146	0	1	15	8	3	0	0	0	0	0	3	5	198	3	520
07:45 AM	4	1	5	66	32	140	1	4	19	10	3	1	0	0	0	0	4	10	202	1	503
Total	12	3	22	256	134	514	1	8	55	32	14	1	0	0	0	0	14	19	697	7	1789
08:00 AM	8	4	5	73	31	125	1	2	9	16	1	1	0	0	0	0	4	9	196	1	486
08:15 AM	1	3	4	72	21	117	3	3	19	9	5	3	0	0	0	0	5	4	181	3	453
08:30 AM	2	1	7	71	26	93	1	4	13	9	2	1	0	0	0	0	6	4	194	0	434
08:45 AM	4	2	4	62	34	93	0	1	9	5	7	0	0	0	0	0	2	3	170	0	396
Total	15	10	20	278	112	428	5	10	50	39	15	5	0	0	0	0	17	20	741	4	1769
Grand Total	27	13	42	534	246	942	6	18	105	71	29	6	0	0	0	0	31	39	1438	11	3558
Apprch %	4.4	2.1	6.8	86.7	20.3	77.7	0.5	1.5	49.8	33.6	13.7	2.8	0	0	0	0	2	2.6	94.7	0.7	
Total %	0.8	0.4	1.2	15	6.9	26.5	0.2	0.5	3	2	0.8	0.2	0	0	0	0	0.9	1.1	40.4	0.3	
Cars	27	13	42	525	240	889	6	18	104	71	29	6	0	0	0	0	29	38	1395	11	3443
% Cars	100	100	100	98.3	97.6	94.4	100	100	99	100	100	100	0	0	0	0	93.5	97.4	97	100	96.8
Heavy Vehicles	0	0	0	9	6	53	0	0	1	0	0	0	0	0	0	0	2	1	43	0	115
% Heavy Vehicles	0	0	0	1.7	2.4	5.6	0	0	1	0	0	0	0	0	0	0	6.5	2.6	3	0	3.2

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:30 AM																										
07:30 AM	5	1	**9**	**73**	**88**	**50**	**146**	**0**	**1**	**197**	**15**	**8**	**3**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**3**	**5**	198	**3**	**209**	**520**
07:45 AM	4	1	5	66	76	32	140	1	**4**	**177**	**19**	10	3	1	33	0	0	0	0	0	4	**10**	**202**	1	**217**	**503**
08:00 AM	**8**	**4**	5	73	**90**	31	125	1	2	159	9	**16**	**1**	**1**	**27**	**0**	**0**	**0**	**0**	**0**	**4**	**9**	196	1	210	486
08:15 AM	1	3	4	72	80	21	117	**3**	3	144	19	9	**5**	**3**	**36**	**0**	**0**	**0**	**0**	**0**	**5**	**4**	181	3	193	453
Total Volume	18	9	23	284	334	134	528	5	10	677	62	43	12	5	122	0	0	0	0	0	16	28	777	8	829	1962
% App. Total	5.4	2.7	6.9	85		19.8	78	0.7	1.5		50.8	35.2	9.8	4.1		0	0	0	0		1.9	3.4	93.7	1		
PHF	.563	.563	.639	.973	.928	.670	.904	.417	.625	.859	.816	.672	.600	.417	.847	.000	.000	.000	.000	.000	.800	.700	.962	.667	.955	.943
Cars	18	9	23	279	329	129	501	5	10	645	62	43	12	5	122	0	0	0	0	0	14	27	751			
% Cars	100	100	100	98.2	98.5	96.3	94.9	100	100	95.3	100	100	100	100	100	0	0	0	0	0	87.5	96.4	96.7	100	96.5	96.6
Heavy Vehicles																										
% Heavy Vehicles	0	0	0	1.8	1.5	3.7	5.1	0	0	4.7	0	0	0	0	0	0	0	0	0	0	12.5	3.6	3.3	0	3.5	3.4

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N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693A
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars

	Boston Avenue From North				Broadway From East				Boston Avenue From South				Rogers Avenue From Southwest				Broadway From West				
Start Time	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
07:00 AM	1	1	3	51	19	94	0	1	12	6	7	0	0	0	0	0	3	3	124	1	326
07:15 AM	2	0	5	64	32	120	0	2	9	8	1	0	0	0	0	0	4	1	168	2	418
07:30 AM	5	1	9	72	48	134	0	1	15	8	3	0	0	0	0	0	3	5	189	3	496
07:45 AM	4	1	5	65	32	136	1	4	19	10	3	1	0	0	0	0	3	9	195	1	489
Total	12	3	22	252	131	484	1	8	55	32	14	1	0	0	0	0	13	18	676	7	1729
08:00 AM	8	4	5	71	28	119	1	2	9	16	1	1	0	0	0	0	4	9	189	1	468
08:15 AM	1	3	4	71	21	112	3	3	19	9	5	3	0	0	0	0	4	4	178	3	443
08:30 AM	2	1	7	70	26	88	1	4	12	9	2	1	0	0	0	0	6	4	185	0	418
08:45 AM	4	2	4	61	34	86	0	1	9	5	7	0	0	0	0	0	2	3	167	0	385
Total	15	10	20	273	109	405	5	10	49	39	15	5	0	0	0	0	16	20	719	4	1714
Grand Total	27	13	42	525	240	889	6	18	104	71	29	6	0	0	0	0	29	38	1395	11	3443
Apprch %	4.4	2.1	6.9	86.5	20.8	77.1	0.5	1.6	49.5	33.8	13.8	2.9	0	0	0	0	2	2.6	94.7	0.7	
Total %	0.8	0.4	1.2	15.2	7	25.8	0.2	0.5	3	2.1	0.8	0.2	0	0	0	0	0.8	1.1	40.5	0.3	

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:30 AM																										
07:30 AM	5	1	**9**	**72**	**87**	**48**	134	0	1	**183**	**15**	**8**	**3**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**3**	**5**	189	**3**	**200**	**496**
07:45 AM	4	1	5	65	75	32	**136**	**1**	**4**	**173**	**19**	10	3	1	33	0	0	0	0	0	3	**9**	**195**	1	**208**	**489**
08:00 AM	**8**	**4**	5	71	**88**	28	119	1	2	150	9	**16**	**1**	**1**	**27**	**0**	**0**	**0**	**0**	**0**	**4**	**9**	189	1	203	468
08:15 AM	1	3	4	71	79	21	112	**3**	3	139	19	9	**5**	**3**	**36**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	178	3	189	443
Total Volume	18	9	23	279	329	129	501	5	10	645	62	43	12	5	122	0	0	0	0	0	14	27	751	8	800	1896
% App. Total	5.5	2.7	7	84.8		20	77.7	0.8	1.6		50.8	35.2	9.8	4.1		0	0	0	0		1.8	3.4	93.9	1		
PHF	.563	.563	.639	.969	.935	.672	.921	.417	.625	.881	.816	.672	.600	.417	.847	.000	.000	.000	.000	.000	.875	.750	.963	.667	.962	.956

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N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693A
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Boston Avenue From North				Broadway From East				Boston Avenue From South				Rogers Avenue From Southwest				Broadway From West				
Start Time	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
07:00 AM	0	0	0	1	1	8	0	0	0	0	0	0	0	0	0	0	0	0	2	0	12
07:15 AM	0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	10
07:30 AM	0	0	0	1	2	12	0	0	0	0	0	0	0	0	0	0	0	0	9	0	24
07:45 AM	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	1	1	7	0	14
Total	0	0	0	4	3	30	0	0	0	0	0	0	0	0	0	0	1	1	21	0	60
08:00 AM	0	0	0	2	3	6	0	0	0	0	0	0	0	0	0	0	0	0	7	0	18
08:15 AM	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	1	0	3	0	10
08:30 AM	0	0	0	1	0	5	0	0	1	0	0	0	0	0	0	0	0	0	9	0	16
08:45 AM	0	0	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	11
Total	0	0	0	5	3	23	0	0	1	0	0	0	0	0	0	0	1	0	22	0	55
Grand Total	0	0	0	9	6	53	0	0	1	0	0	0	0	0	0	0	2	1	43	0	115
Apprch %	0	0	0	100	10.2	89.8	0	0	100	0	0	0	0	0	0	0	4.3	2.2	93.5	0	
Total %	0	0	0	7.8	5.2	46.1	0	0	0.9	0	0	0	0	0	0	0	1.7	0.9	37.4	0	

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:15 AM																										
07:15 AM	0	0	0	1	1	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	10
07:30 AM	0	0	0	1	1	2	**12**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	0	**9**	**24**
07:45 AM	0	0	0	1	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**7**	**0**	**9**	**14**
08:00 AM	0	0	0	**2**	**2**	**3**	**6**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**7**	**18**
Total Volume	0	0	0	5	5	5	28	0	0	33	0	0	0	0	0	0	0	0	0	0	1	1	26	0	28	66
% App. Total	0	0	0	100		15.2	84.8	0	0		0	0	0	0		0	0	0	0		3.6	3.6	92.9	0		
PHF	.000	.000	.000	.625	.625	.417	.583	.000	.000	.589	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.722	.000	.778	.688

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N/S/SW: Boston Avenue/ Rogers Avenue
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Client: VHB/S. Lewis

File Name : 81693A
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	1	1	5	0	2	0	0	0	0	0	0	0	12	0	0	0	0	14	0	1	0	0	0	36
07:15 AM	0	0	0	0	0	2	1	0	0	0	0	1	0	0	9	0	0	0	0	11	0	0	1	0	1	26
07:30 AM	0	0	0	0	4	1	0	0	0	0	0	0	0	0	7	0	0	0	0	9	0	0	1	0	1	23
07:45 AM	0	0	2	0	10	0	0	0	0	0	0	1	0	0	2	0	0	0	0	4	0	0	3	0	0	22
Total	0	0	3	1	19	3	3	0	0	0	0	2	0	0	30	0	0	0	0	38	0	1	5	0	2	107
08:00 AM	2	0	0	1	10	1	2	0	0	0	0	0	0	0	5	0	0	0	0	12	0	0	6	0	2	41
08:15 AM	0	0	6	0	4	0	2	0	0	0	0	0	0	0	7	0	0	0	0	7	0	0	2	0	0	28
08:30 AM	1	0	5	1	10	2	4	0	0	0	0	2	0	0	6	0	0	0	0	8	0	0	2	0	0	41
08:45 AM	0	0	1	0	7	0	0	0	0	0	0	0	0	0	4	0	0	0	0	3	0	0	4	1	1	21
Total	3	0	12	2	31	3	8	0	0	0	0	2	0	0	22	0	0	0	0	30	0	0	14	1	3	131
Grand Total	3	0	15	3	50	6	11	0	0	0	0	4	0	0	52	0	0	0	0	68	0	1	19	1	5	238
Apprch %	4.2	0	21.1	4.2	70.4	35.3	64.7	0	0	0	0	7.1	0	0	92.9	0	0	0	0	100	0	3.8	73.1	3.8	19.2	
Total %	1.3	0	6.3	1.3	21	2.5	4.6	0	0	0	0	1.7	0	0	21.8	0	0	0	0	28.6	0	0.4	8	0.4	2.1	

	Boston Avenue From North						Broadway From East						Boston Avenue From South						Rogers Avenue From Southwest						Broadway From West						
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:45 AM																															
07:45 AM	0	0	2	0	**10**	12	0	0	0	0	0	0	0	1	0	0	2	3	0	0	0	0	4	4	0	0	3	0	0	3	22
08:00 AM	**2**	0	0	**1**	10	13	1	2	0	0	0	3	0	0	0	0	5	5	0	0	0	0	**12**	**12**	0	0	**6**	0	**2**	**8**	**41**
08:15 AM	0	0	**6**	0	4	10	0	2	0	0	0	2	0	0	0	0	**7**	7	0	0	0	0	7	7	0	0	2	0	0	2	28
08:30 AM	1	0	5	1	10	**17**	**2**	**4**	0	0	0	**6**	0	**2**	0	0	6	**8**	**0**	**0**	**0**	**0**	**8**	**8**	**0**	**0**	**2**	**0**	**0**	**2**	**41**
Total Volume	3	0	13	2	34	52	3	8	0	0	0	11	0	3	0	0	20	23	0	0	0	0	31	31	0	0	13	0	2	15	132
% App. Total	5.8	0	25	3.8	65.4		27.3	72.7	0	0	0		0	13	0	0	87		0	0	0	0	100		0	0	86.7	0	13.3		
PHF	.375	.000	.542	.500	.850	.765	.375	.500	.000	.000	.000	.458	.000	.375	.000	.000	.714	.719	.000	.000	.000	.000	.646	.646	.000	.000	.542	.000	.250	.469	.805

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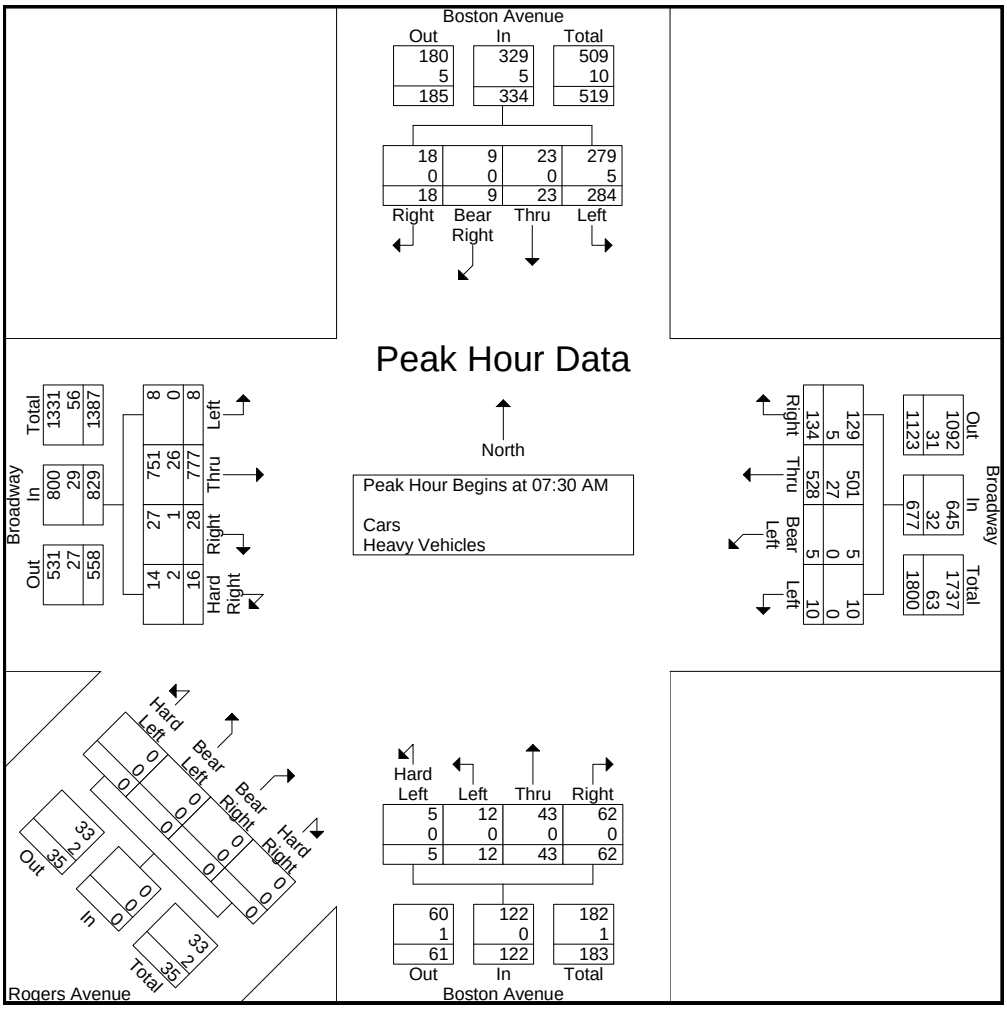
N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693A
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:30 AM																										
07:30 AM	5	1	**9**	**73**	**88**	**50**	**146**	**0**	**1**	**197**	**15**	**8**	**3**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**3**	**5**	198	**3**	**209**	**520**
07:45 AM	4	1	5	66	76	32	140	1	**4**	**177**	**19**	10	3	1	33	0	0	0	0	0	4	**10**	**202**	1	**217**	**503**
08:00 AM	**8**	**4**	5	73	**90**	31	125	1	2	159	9	**16**	**1**	**1**	**27**	**0**	**0**	**0**	**0**	**0**	**4**	**9**	196	1	210	486
08:15 AM	1	3	4	72	80	21	117	**3**	3	144	19	9	**5**	**3**	**36**	**0**	**0**	**0**	**0**	**0**	**5**	**4**	181	3	193	453
Total Volume	18	9	23	284	334	134	528	5	10	677	62	43	12	5	122	0	0	0	0	0	16	28	777	8	829	1962
% App. Total	5.4	2.7	6.9	85		19.8	78	0.7	1.5		50.8	35.2	9.8	4.1		0	0	0	0		1.9	3.4	93.7	1		
PHF	.563	.563	.639	.973	.928	.670	.904	.417	.625	.859	.816	.672	.600	.417	.847	.000	.000	.000	.000	.000	.800	.700	.962	.667	.955	.943
Cars	18	9	23	279	329	129	501	5	10	645	62	43	12	5	122	0	0	0	0	0	14	27	751			
% Cars	100	100	100	98.2	98.5	96.3	94.9	100	100	95.3	100	100	100	100	100	0	0	0	0	0	87.5	96.4	96.7	100	96.5	96.6
Heavy Vehicles																										
% Heavy Vehicles	0	0	0	1.8	1.5	3.7	5.1	0	0	4.7	0	0	0	0	0	0	0	0	0	0	12.5	3.6	3.3	0	3.5	3.4



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N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693AA
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Boston Avenue From North				Broadway From East				Boston Avenue From South				Rogers Avenue From Southwest				Broadway From West				
Start Time	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
04:00 PM	0	1	8	14	50	106	8	3	8	6	1	3	0	0	0	0	5	3	114	2	332
04:15 PM	1	1	9	29	51	103	3	4	7	4	2	0	0	0	0	0	5	3	138	1	361
04:30 PM	3	1	10	39	51	106	1	6	11	5	1	1	0	0	0	0	3	4	140	0	382
04:45 PM	0	3	9	26	59	146	2	2	14	6	3	1	0	0	0	0	6	5	132	2	416
Total	4	6	36	108	211	461	14	15	40	21	7	5	0	0	0	0	19	15	524	5	1491
05:00 PM	6	2	14	36	47	133	5	4	7	12	2	1	0	0	0	0	6	7	141	1	424
05:15 PM	0	7	7	33	51	123	7	5	13	14	1	3	0	0	0	0	4	6	159	0	433
05:30 PM	4	0	14	30	40	127	8	5	11	9	0	0	0	0	0	0	6	8	152	2	416
05:45 PM	2	2	15	44	37	127	2	5	13	7	1	3	0	0	0	0	6	9	122	1	396
Total	12	11	50	143	175	510	22	19	44	42	4	7	0	0	0	0	22	30	574	4	1669
Grand Total	16	17	86	251	386	971	36	34	84	63	11	12	0	0	0	0	41	45	1098	9	3160
Apprch %	4.3	4.6	23.2	67.8	27	68	2.5	2.4	49.4	37.1	6.5	7.1	0	0	0	0	3.4	3.8	92	0.8	
Total %	0.5	0.5	2.7	7.9	12.2	30.7	1.1	1.1	2.7	2	0.3	0.4	0	0	0	0	1.3	1.4	34.7	0.3	
Cars	15	17	86	247	381	938	35	34	84	60	11	12	0	0	0	0	40	45	1067	9	3081
% Cars	93.8	100	100	98.4	98.7	96.6	97.2	100	100	95.2	100	100	0	0	0	0	97.6	100	97.2	100	97.5
Heavy Vehicles	1	0	0	4	5	33	1	0	0	3	0	0	0	0	0	0	1	0	31	0	79
% Heavy Vehicles	6.2	0	0	1.6	1.3	3.4	2.8	0	0	4.8	0	0	0	0	0	0	2.4	0	2.8	0	2.5

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
04:45 PM	0	3	9	26	38	**59**	**146**	**2**	**2**	**209**	**14**	6	**3**	**1**	**24**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	132	**2**	**145**	**416**
05:00 PM	**6**	**2**	**14**	**36**	**58**	47	133	5	4	189	7	12	2	1	22	0	0	0	0	0	6	7	141	1	155	424
05:15 PM	0	**7**	7	33	47	51	123	7	**5**	**186**	**13**	**14**	**1**	**3**	**31**	**0**	**0**	**0**	**0**	**0**	**4**	**6**	**159**	0	**169**	**433**
05:30 PM	4	0	14	30	48	40	127	**8**	5	180	11	9	0	0	20	0	0	0	0	0	6	**8**	152	2	168	416
Total Volume	10	12	44	125	191	197	529	22	16	764	45	41	6	5	97	0	0	0	0	0	22	26	584	5	637	1689
% App. Total	5.2	6.3	23	65.4		25.8	69.2	2.9	2.1		46.4	42.3	6.2	5.2		0	0	0	0		3.5	4.1	91.7	0.8		
PHF	.417	.429	.786	.868	.823	.835	.906	.688	.800	.914	.804	.732	.500	.417	.782	.000	.000	.000	.000	.000	.917	.813	.918	.625	.942	.975
Cars	10	12	44	123	189	194	515	22	16	747	45	39	6	5	95	0	0	0	0	0	22	26	570			
% Cars	100	100	100	98.4	99.0	98.5	97.4	100	100	97.8	100	95.1	100	100	97.9	0	0	0	0	0	100	100	97.6	100	97.8	97.9
Heavy Vehicles																										
% Heavy Vehicles	0	0	0	1.6	1.0	1.5	2.6	0	0	2.2	0	4.9	0	0	2.1	0	0	0	0	0	0	0	2.4	0	2.2	2.1

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E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693AA
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars

	Boston Avenue From North				Broadway From East				Boston Avenue From South				Rogers Avenue From Southwest				Broadway From West				
Start Time	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
04:00 PM	0	1	8	14	49	104	7	3	8	5	1	3	0	0	0	0	5	3	111	2	324
04:15 PM	1	1	9	29	50	97	3	4	7	4	2	0	0	0	0	0	5	3	135	1	351
04:30 PM	2	1	10	37	51	98	1	6	11	5	1	1	0	0	0	0	2	4	134	0	364
04:45 PM	0	3	9	25	57	140	2	2	14	6	3	1	0	0	0	0	6	5	128	2	403
Total	3	6	36	105	207	439	13	15	40	20	7	5	0	0	0	0	18	15	508	5	1442
05:00 PM	6	2	14	36	47	132	5	4	7	11	2	1	0	0	0	0	6	7	137	1	418
05:15 PM	0	7	7	32	51	120	7	5	13	13	1	3	0	0	0	0	4	6	156	0	425
05:30 PM	4	0	14	30	39	123	8	5	11	9	0	0	0	0	0	0	6	8	149	2	408
05:45 PM	2	2	15	44	37	124	2	5	13	7	1	3	0	0	0	0	6	9	117	1	388
Total	12	11	50	142	174	499	22	19	44	40	4	7	0	0	0	0	22	30	559	4	1639
Grand Total	15	17	86	247	381	938	35	34	84	60	11	12	0	0	0	0	40	45	1067	9	3081
Apprch %	4.1	4.7	23.6	67.7	27.4	67.6	2.5	2.4	50.3	35.9	6.6	7.2	0	0	0	0	3.4	3.9	91.9	0.8	
Total %	0.5	0.6	2.8	8	12.4	30.4	1.1	1.1	2.7	1.9	0.4	0.4	0	0	0	0	1.3	1.5	34.6	0.3	

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
04:45 PM	0	3	9	25	37	**57**	**140**	**2**	**2**	**201**	**14**	6	**3**	**1**	**24**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	128	**2**	**141**	**403**
05:00 PM	**6**	**2**	**14**	**36**	**58**	47	132	5	4	188	7	11	2	1	21	0	0	0	0	0	6	7	137	1	151	418
05:15 PM	0	**7**	7	32	46	51	120	7	**5**	**183**	**13**	**13**	**1**	**3**	**30**	**0**	**0**	**0**	**0**	**0**	**4**	**6**	**156**	0	**166**	**425**
05:30 PM	4	0	14	30	48	39	123	**8**	5	175	11	9	0	0	20	0	0	0	0	0	6	**8**	149	2	165	408
Total Volume	10	12	44	123	189	194	515	22	16	747	45	39	6	5	95	0	0	0	0	0	22	26	570	5	623	1654
% App. Total	5.3	6.3	23.3	65.1		26	68.9	2.9	2.1		47.4	41.1	6.3	5.3		0	0	0	0		3.5	4.2	91.5	0.8		
PHF	.417	.429	.786	.854	.815	.851	.920	.688	.800	.929	.804	.750	.500	.417	.792	.000	.000	.000	.000	.000	.917	.813	.913	.625	.938	.973

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N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693AA
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Boston Avenue From North				Broadway From East				Boston Avenue From South				Rogers Avenue From Southwest				Broadway From West				
Start Time	Right	Bear Right	Thru	Left	Right	Thru	Bear Left	Left	Right	Thru	Left	Hard Left	Hard Right	Bear Right	Bear Left	Hard Left	Hard Right	Right	Thru	Left	Int. Total
04:00 PM	0	0	0	0	1	2	1	0	0	1	0	0	0	0	0	0	0	0	3	0	8
04:15 PM	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	3	0	10
04:30 PM	1	0	0	2	0	8	0	0	0	0	0	0	0	0	0	0	1	0	6	0	18
04:45 PM	0	0	0	1	2	6	0	0	0	0	0	0	0	0	0	0	0	0	4	0	13
Total	1	0	0	3	4	22	1	0	0	1	0	0	0	0	0	0	1	0	16	0	49
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	4	0	6
05:15 PM	0	0	0	1	0	3	0	0	0	1	0	0	0	0	0	0	0	0	3	0	8
05:30 PM	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	3	0	8
05:45 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5	0	8
Total	0	0	0	1	1	11	0	0	0	2	0	0	0	0	0	0	0	0	15	0	30
Grand Total	1	0	0	4	5	33	1	0	0	3	0	0	0	0	0	0	1	0	31	0	79
Apprch %	20	0	0	80	12.8	84.6	2.6	0	0	100	0	0	0	0	0	0	3.1	0	96.9	0	
Total %	1.3	0	0	5.1	6.3	41.8	1.3	0	0	3.8	0	0	0	0	0	0	1.3	0	39.2	0	

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:00 PM																										
04:00 PM	0	0	0	0	0	1	2	**1**	0	4	0	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**8**
04:15 PM	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	10
04:30 PM	**1**	**0**	**0**	**2**	**3**	0	**8**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	0	**7**	**18**
04:45 PM	0	0	0	1	1	**2**	**6**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**4**	**13**
Total Volume	1	0	0	3	4	4	22	1	0	27	0	1	0	0	1	0	0	0	0	0	1	0	16	0	17	49
% App. Total	25	0	0	75		14.8	81.5	3.7	0		0	100	0	0		0	0	0	0		5.9	0	94.1	0		
PHF	.250	.000	.000	.375	.333	.500	.688	.250	.000	.844	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.667	.000	.607	.681

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E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693AA
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	2	2	2	0	0	0	2	1	0	0	8	0	0	0	0	4	0	0	0	1	0	22
04:15 PM	0	0	1	0	11	0	2	1	0	0	1	0	2	0	8	0	0	0	0	6	0	0	2	0	3	37
04:30 PM	0	0	0	0	2	1	1	0	0	0	2	0	0	0	7	0	0	0	0	7	0	0	1	0	0	21
04:45 PM	0	0	2	0	4	0	1	0	0	0	2	0	0	0	14	0	0	0	0	14	0	0	2	0	2	41
Total	0	0	3	0	19	3	6	1	0	0	7	1	2	0	37	0	0	0	0	31	0	0	5	1	5	121
05:00 PM	2	0	1	0	5	0	0	0	0	0	0	0	0	0	8	0	0	0	0	6	0	0	3	0	0	25
05:15 PM	0	0	2	0	4	1	0	0	0	0	1	1	0	0	15	0	0	0	0	12	0	0	2	0	1	39
05:30 PM	0	0	1	0	9	0	2	0	0	0	0	1	0	0	9	0	0	0	0	5	0	0	3	1	1	32
05:45 PM	0	0	1	0	1	1	0	0	0	0	0	0	1	0	19	0	0	0	0	4	0	1	7	0	1	36
Total	2	0	5	0	19	2	2	0	0	0	1	2	1	0	51	0	0	0	0	27	0	1	15	1	3	132
Grand Total	2	0	8	0	38	5	8	1	0	0	8	3	3	0	88	0	0	0	0	58	0	1	20	2	8	253
Apprch %	4.2	0	16.7	0	79.2	35.7	57.1	7.1	0	0	7.8	2.9	2.9	0	86.3	0	0	0	0	100	0	3.2	64.5	6.5	25.8	
Total %	0.8	0	3.2	0	15	2	3.2	0.4	0	0	3.2	1.2	1.2	0	34.8	0	0	0	0	22.9	0	0.4	7.9	0.8	3.2	

	Boston Avenue From North						Broadway From East						Boston Avenue From South						Rogers Avenue From Southwest						Broadway From West					
Start Time	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:45 PM																															
04:45 PM	0	0	**2**	0	4	6	0	1	0	0	0	1	**2**	0	0	0	14	16	0	0	0	0	**14**	**14**	0	0	2	0	**2**	4	**41**
05:00 PM	**2**	0	1	0	5	8	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	6	6	0	0	**3**	0	0	3	25
05:15 PM	0	0	2	0	4	6	**1**	0	0	0	0	1	1	**1**	0	0	**15**	**17**	**0**	**0**	**0**	**0**	**12**	**12**	**0**	**0**	**2**	**0**	**1**	**3**	**39**
05:30 PM	0	0	1	0	**9**	**10**	0	**2**	0	0	0	**2**	0	1	0	0	9	10	0	0	0	0	5	5	0	0	3	**1**	1	**5**	32
Total Volume	2	0	6	0	22	30	1	3	0	0	0	4	3	2	0	0	46	51	0	0	0	0	37	37	0	0	10	1	4	15	137
% App. Total	6.7	0	20	0	73.3		25	75	0	0	0		5.9	3.9	0	0	90.2		0	0	0	0	100		0	0	66.7	6.7	26.7		
PHF	.250	.000	.750	.000	.611	.750	.250	.375	.000	.000	.000	.500	.375	.500	.000	.000	.767	.750	.000	.000	.000	.000	.661	.661	.000	.000	.833	.250	.500	.750	.835

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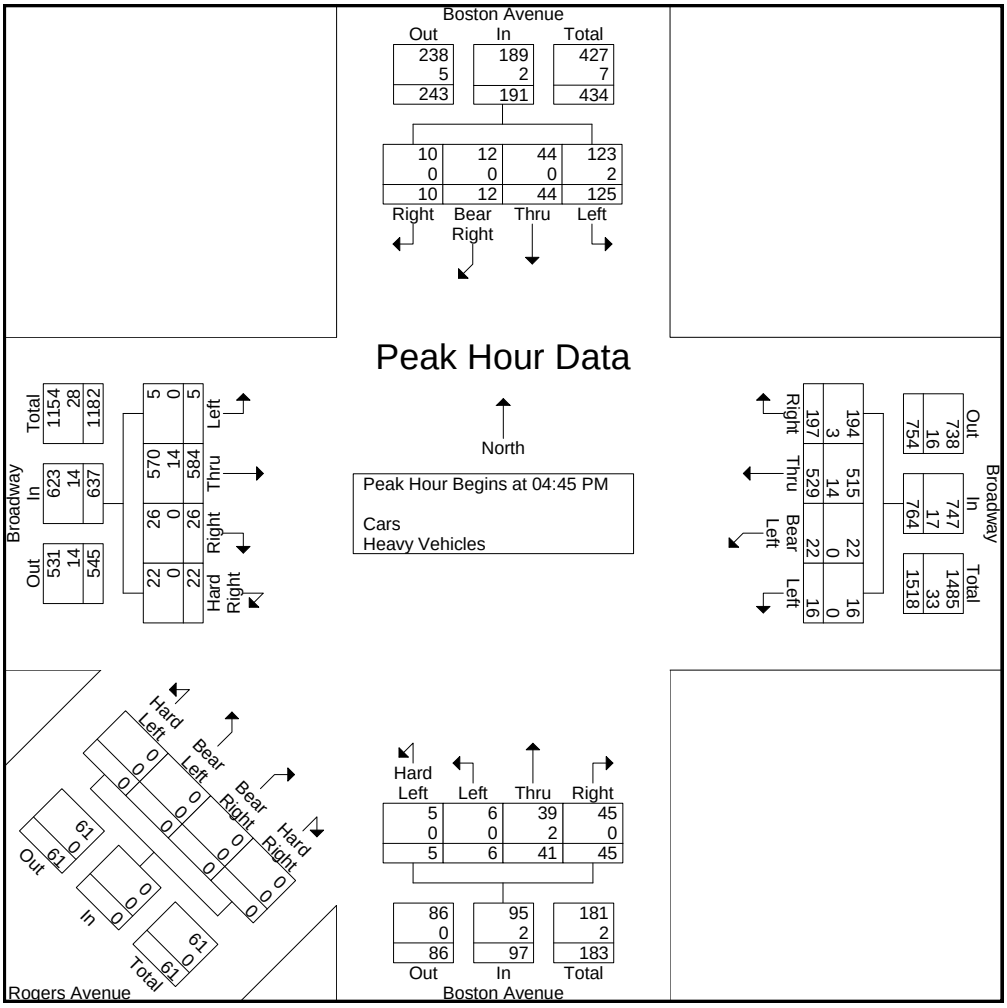
N/S/SW: Boston Avenue/ Rogers Avenue
E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693AA
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

	Boston Avenue From North					Broadway From East					Boston Avenue From South					Rogers Avenue From Southwest					Broadway From West					
Start Time	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:45 PM																										
04:45 PM	0	3	9	26	38	**59**	**146**	**2**	**2**	**209**	**14**	6	**3**	**1**	**24**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	132	**2**	**145**	**416**
05:00 PM	**6**	**2**	**14**	**36**	**58**	47	133	5	4	189	7	12	2	1	22	0	0	0	0	0	6	7	141	1	155	424
05:15 PM	0	**7**	7	33	47	51	123	7	**5**	**186**	**13**	**14**	**1**	**3**	**31**	**0**	**0**	**0**	**0**	**0**	**4**	**6**	**159**	0	**169**	**433**
05:30 PM	4	0	14	30	48	40	127	**8**	5	180	11	9	0	0	20	0	0	0	0	0	6	**8**	152	2	168	416
Total Volume	10	12	44	125	191	197	529	22	16	764	45	41	6	5	97	0	0	0	0	0	22	26	584	5	637	1689
% App. Total	5.2	6.3	23	65.4		25.8	69.2	2.9	2.1		46.4	42.3	6.2	5.2		0	0	0	0		3.5	4.1	91.7	0.8		
PHF	.417	.429	.786	.868	.823	.835	.906	.688	.800	.914	.804	.732	.500	.417	.782	.000	.000	.000	.000	.000	.917	.813	.918	.625	.942	.975
Cars	10	12	44	123	189	194	515	22	16	747	45	39	6	5	95	0	0	0	0	0	22	26	570			
% Cars	100	100	100	98.4	99.0	98.5	97.4	100	100	97.8	100	95.1	100	100	97.9	0	0	0	0	0	100	100	97.6	100	97.8	97.9
Heavy Vehicles																										
% Heavy Vehicles	0	0	0	1.6	1.0	1.5	2.6	0	0	2.2	0	4.9	0	0	2.1	0	0	0	0	0	0	0	2.4	0	2.2	2.1



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E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693B
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Winchester Street From North			Albion Street From Northeast			Broadway From East			Broadway From West			
Start Time	Right	Left	Hard Left	Hard Right	Bear Right	Hard Left	Hard Right	Right	Thru	Thru	Bear Left	Left	Int. Total
07:00 AM	7	19	0	0	7	4	0	10	123	185	0	3	358
07:15 AM	8	17	0	0	13	3	0	8	136	225	0	9	419
07:30 AM	8	28	0	0	14	10	0	12	170	279	0	5	526
07:45 AM	7	21	0	0	13	7	0	7	170	273	0	9	507
Total	30	85	0	0	47	24	0	37	599	962	0	26	1810
08:00 AM	10	12	0	0	11	9	0	8	161	288	0	12	511
08:15 AM	9	21	0	0	3	5	0	12	129	262	0	10	451
08:30 AM	7	24	0	0	2	2	0	9	128	276	0	9	457
08:45 AM	9	6	0	0	6	5	0	7	127	229	0	6	395
Total	35	63	0	0	22	21	0	36	545	1055	0	37	1814
Grand Total	65	148	0	0	69	45	0	73	1144	2017	0	63	3624
Apprch %	30.5	69.5	0	0	60.5	39.5	0	6	94	97	0	3	
Total %	1.8	4.1	0	0	1.9	1.2	0	2	31.6	55.7	0	1.7	
Cars	64	145	0	0	69	45	0	67	1092	1961	0	63	3506
% Cars	98.5	98	0	0	100	100	0	91.8	95.5	97.2	0	100	96.7
Heavy Vehicles	1	3	0	0	0	0	0	6	52	56	0	0	118
% Heavy Vehicles	1.5	2	0	0	0	0	0	8.2	4.5	2.8	0	0	3.3

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	8	**28**	0	**36**	0	**14**	**10**	**24**	0	**12**	**170**	**182**	279	0	5	284	**526**
07:45 AM	7	21	0	28	0	13	7	20	0	7	170	177	273	0	9	282	507
08:00 AM	**10**	12	0	22	0	11	9	20	0	8	161	169	**288**	0	**12**	**300**	511
08:15 AM	9	21	0	30	0	3	5	8	0	12	129	141	262	0	10	272	451
Total Volume	34	82	0	116	0	41	31	72	0	39	630	669	1102	0	36	1138	1995
% App. Total	29.3	70.7	0		0	56.9	43.1		0	5.8	94.2		96.8	0	3.2		
PHF	.850	.732	.000	.806	.000	.732	.775	.750	.000	.813	.926	.919	.957	.000	.750	.948	.948
Cars	33	81	0	114	0	41	31	72	0	37	605	642	1071	0	36	1107	1935
% Cars	97.1	98.8	0	98.3	0	100	100	100	0	94.9	96.0	96.0	97.2	0	100	97.3	97.0
Heavy Vehicles	1	1	0	2	0	0	0	0	0	2	25	27	31	0	0	31	60
% Heavy Vehicles	2.9	1.2	0	1.7	0	0	0	0	0	5.1	4.0	4.0	2.8	0	0	2.7	3.0

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City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693B
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars

	Winchester Street From North			Albion Street From Northeast			Broadway From East			Broadway From West			
Start Time	Right	Left	Hard Left	Hard Right	Bear Right	Hard Left	Hard Right	Right	Thru	Thru	Bear Left	Left	Int. Total
07:00 AM	7	19	0	0	7	4	0	7	114	180	0	3	341
07:15 AM	8	15	0	0	13	3	0	7	130	221	0	9	406
07:30 AM	8	28	0	0	14	10	0	12	158	271	0	5	506
07:45 AM	7	21	0	0	13	7	0	7	166	266	0	9	496
Total	30	83	0	0	47	24	0	33	568	938	0	26	1749
08:00 AM	9	11	0	0	11	9	0	6	157	277	0	12	492
08:15 AM	9	21	0	0	3	5	0	12	124	257	0	10	441
08:30 AM	7	24	0	0	2	2	0	9	122	266	0	9	441
08:45 AM	9	6	0	0	6	5	0	7	121	223	0	6	383
Total	34	62	0	0	22	21	0	34	524	1023	0	37	1757
Grand Total	64	145	0	0	69	45	0	67	1092	1961	0	63	3506
Apprch %	30.6	69.4	0	0	60.5	39.5	0	5.8	94.2	96.9	0	3.1	
Total %	1.8	4.1	0	0	2	1.3	0	1.9	31.1	55.9	0	1.8	

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	8	**28**	0	**36**	0	**14**	**10**	**24**	0	**12**	158	170	271	0	5	276	**506**
07:45 AM	7	21	0	28	0	13	7	20	0	7	**166**	**173**	266	0	9	275	496
08:00 AM	**9**	11	0	20	0	11	9	20	0	6	157	163	**277**	0	**12**	**289**	492
08:15 AM	9	21	0	30	0	3	5	8	0	12	124	136	257	0	10	267	441
Total Volume	33	81	0	114	0	41	31	72	0	37	605	642	1071	0	36	1107	1935
% App. Total	28.9	71.1	0		0	56.9	43.1		0	5.8	94.2		96.7	0	3.3		
PHF	.917	.723	.000	.792	.000	.732	.775	.750	.000	.771	.911	.928	.967	.000	.750	.958	.956

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City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693B
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Winchester Street From North			Albion Street From Northeast			Broadway From East			Broadway From West			
Start Time	Right	Left	Hard Left	Hard Right	Bear Right	Hard Left	Hard Right	Right	Thru	Thru	Bear Left	Left	Int. Total
07:00 AM	0	0	0	0	0	0	0	3	9	5	0	0	17
07:15 AM	0	2	0	0	0	0	0	1	6	4	0	0	13
07:30 AM	0	0	0	0	0	0	0	0	12	8	0	0	20
07:45 AM	0	0	0	0	0	0	0	0	4	7	0	0	11
Total	0	2	0	0	0	0	0	4	31	24	0	0	61
08:00 AM	1	1	0	0	0	0	0	2	4	11	0	0	19
08:15 AM	0	0	0	0	0	0	0	0	5	5	0	0	10
08:30 AM	0	0	0	0	0	0	0	0	6	10	0	0	16
08:45 AM	0	0	0	0	0	0	0	0	6	6	0	0	12
Total	1	1	0	0	0	0	0	2	21	32	0	0	57
Grand Total	1	3	0	0	0	0	0	6	52	56	0	0	118
Apprch %	25	75	0	0	0	0	0	10.3	89.7	100	0	0	
Total %	0.8	2.5	0	0	0	0	0	5.1	44.1	47.5	0	0	

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	**2**	0	**2**	0	0	0	0	0	1	6	7	4	0	0	4	13
07:30 AM	0	0	0	0	0	0	0	0	0	0	**12**	**12**	8	0	0	8	**20**
07:45 AM	0	0	0	0	0	0	0	0	0	0	4	4	7	0	0	7	11
08:00 AM	**1**	1	0	2	0	0	0	0	0	**2**	4	6	**11**	0	0	**11**	19
Total Volume	1	3	0	4	0	0	0	0	0	3	26	29	30	0	0	30	63
% App. Total	25	75	0		0	0	0		0	10.3	89.7		100	0	0		
PHF	.250	.375	.000	.500	.000	.000	.000	.000	.000	.375	.542	.604	.682	.000	.000	.682	.788

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City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693B
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	Peds	Hard Right	Bear Right	Hard Left	Peds	Hard Right	Right	Thru	Peds	Thru	Bear Left	Left	Peds	Int. Total
07:00 AM	0	0	0	2	0	0	0	3	0	0	1	0	1	0	0	0	7
07:15 AM	0	0	0	2	0	0	0	2	0	0	2	1	2	0	0	0	9
07:30 AM	0	0	0	7	0	0	0	7	0	0	1	1	2	0	0	4	22
07:45 AM	0	0	0	3	0	0	0	3	0	0	1	0	2	0	0	1	10
Total	0	0	0	14	0	0	0	15	0	0	5	2	7	0	0	5	48
08:00 AM	0	0	0	6	0	0	0	6	0	0	3	0	7	0	0	0	22
08:15 AM	0	1	0	6	0	0	0	6	0	0	3	1	3	0	0	2	22
08:30 AM	0	2	0	3	0	0	0	3	0	0	5	0	1	0	0	0	14
08:45 AM	0	1	0	2	0	0	0	2	0	0	1	0	3	0	0	0	9
Total	0	4	0	17	0	0	0	17	0	0	12	1	14	0	0	2	67
Grand Total	0	4	0	31	0	0	0	32	0	0	17	3	21	0	0	7	115
Apprch %	0	11.4	0	88.6	0	0	0	100	0	0	85	15	75	0	0	25	
Total %	0	3.5	0	27	0	0	0	27.8	0	0	14.8	2.6	18.3	0	0	6.1	

	Winchester Street From North					Albion Street From Northeast					Broadway From East					Broadway From West					
Start Time	Right	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Peds	App. Total	Thru	Bear Left	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	**7**	**7**	0	0	0	**7**	**7**	0	0	1	**1**	**2**	**2**	**0**	**0**	**4**	**6**	**22**
07:45 AM	0	0	0	3	3	0	0	0	3	3	0	0	1	0	1	2	0	0	1	3	10
08:00 AM	0	0	0	6	6	0	0	0	6	6	0	0	**3**	0	3	**7**	**0**	**0**	**0**	**7**	22
08:15 AM	0	**1**	0	6	7	0	0	0	6	6	0	0	3	1	**4**	3	0	0	2	5	22
Total Volume	0	1	0	22	23	0	0	0	22	22	0	0	8	2	10	14	0	0	7	21	76
% App. Total	0	4.3	0	95.7		0	0	0	100		0	0	80	20		66.7	0	0	33.3		
PHF	.000	.250	.000	.786	.821	.000	.000	.000	.786	.786	.000	.000	.667	.500	.625	.500	.000	.000	.438	.750	.864

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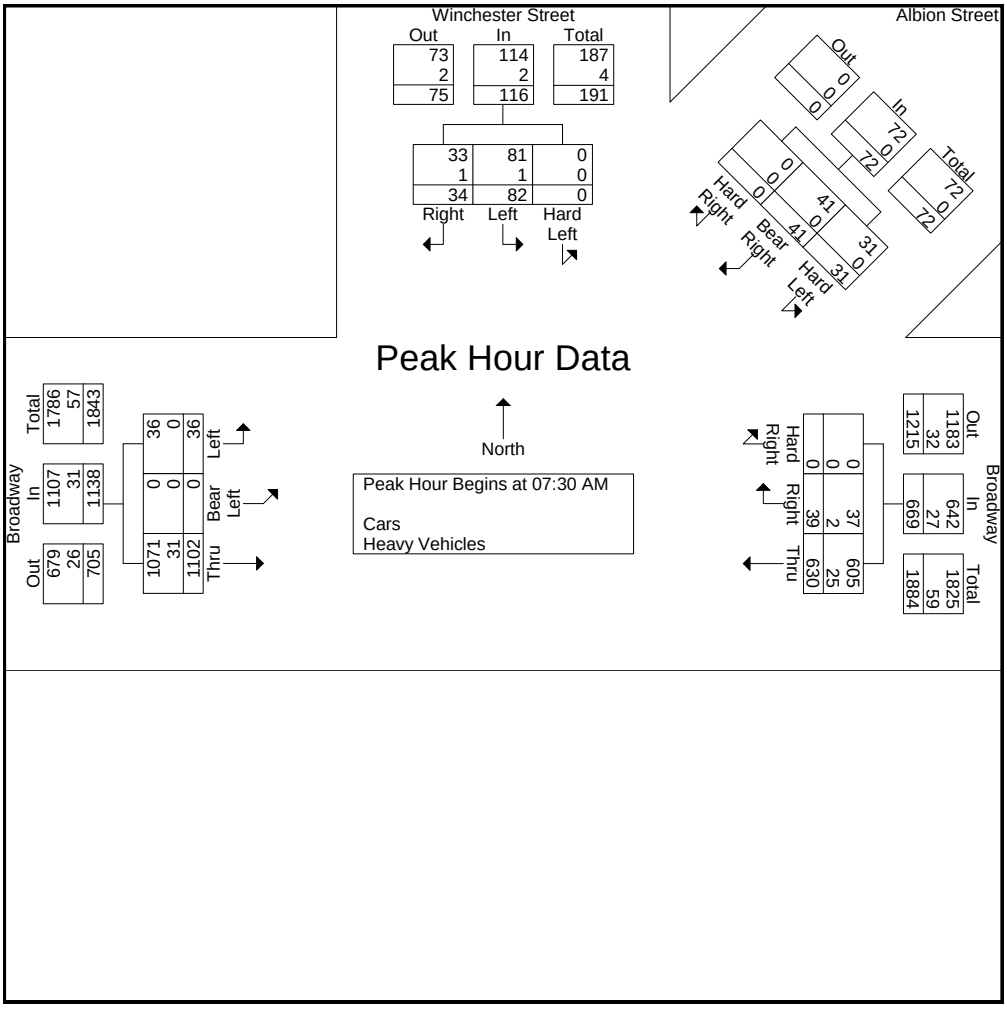
File Name : 81693B
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	8	**28**	0	**36**	0	**14**	**10**	**24**	0	**12**	**170**	**182**	279	0	5	284	**526**
07:45 AM	7	21	0	28	0	13	7	20	0	7	170	177	273	0	9	282	507
08:00 AM	**10**	12	0	22	0	11	9	20	0	8	161	169	**288**	0	**12**	**300**	511
08:15 AM	9	21	0	30	0	3	5	8	0	12	129	141	262	0	10	272	451
Total Volume	34	82	0	116	0	41	31	72	0	39	630	669	1102	0	36	1138	1995
% App. Total	29.3	70.7	0		0	56.9	43.1		0	5.8	94.2		96.8	0	3.2		
PHF	.850	.732	.000	.806	.000	.732	.775	.750	.000	.813	.926	.919	.957	.000	.750	.948	.948
Cars	33	81	0	114	0	41	31	72	0	37	605	642	1071	0	36	1107	1935
% Cars	97.1	98.8	0	98.3	0	100	100	100	0	94.9	96.0	96.0	97.2	0	100	97.3	97.0
Heavy Vehicles	1	1	0	2	0	0	0	0	0	2	25	27	31	0	0	31	60
% Heavy Vehicles	2.9	1.2	0	1.7	0	0	0	0	0	5.1	4.0	4.0	2.8	0	0	2.7	3.0



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Client: VHB/S. Lewis

File Name : 81693BB
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Winchester Street From North			Albion Street From Northeast			Broadway From East			Broadway From West			
Start Time	Right	Left	Hard Left	Hard Right	Bear Right	Hard Left	Hard Right	Right	Thru	Thru	Bear Left	Left	Int. Total
04:00 PM	2	6	0	0	5	4	0	18	168	143	0	8	354
04:15 PM	4	9	0	0	1	0	0	12	162	168	0	8	364
04:30 PM	6	6	0	0	2	2	0	14	163	184	0	7	384
04:45 PM	7	9	0	0	5	0	0	14	196	171	0	12	414
Total	19	30	0	0	13	6	0	58	689	666	0	35	1516
05:00 PM	5	7	0	0	3	3	0	10	192	169	0	12	401
05:15 PM	13	12	0	0	8	4	0	14	189	179	0	18	437
05:30 PM	6	15	0	0	7	1	0	15	165	190	0	19	418
05:45 PM	8	12	0	0	0	0	0	9	180	177	0	12	398
Total	32	46	0	0	18	8	0	48	726	715	0	61	1654
Grand Total	51	76	0	0	31	14	0	106	1415	1381	0	96	3170
Apprch %	40.2	59.8	0	0	68.9	31.1	0	7	93	93.5	0	6.5	
Total %	1.6	2.4	0	0	1	0.4	0	3.3	44.6	43.6	0	3	
Cars	51	76	0	0	31	14	0	105	1380	1346	0	96	3099
% Cars	100	100	0	0	100	100	0	99.1	97.5	97.5	0	100	97.8
Heavy Vehicles	0	0	0	0	0	0	0	1	35	35	0	0	71
% Heavy Vehicles	0	0	0	0	0	0	0	0.9	2.5	2.5	0	0	2.2

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	7	9	0	16	0	5	0	5	0	14	**196**	**210**	171	0	12	183	414
05:00 PM	5	7	0	12	0	3	3	6	0	10	192	202	169	0	12	181	401
05:15 PM	**13**	12	0	**25**	0	**8**	**4**	**12**	0	14	189	203	179	0	18	197	**437**
05:30 PM	6	**15**	0	21	0	7	1	8	0	**15**	165	180	**190**	0	**19**	**209**	418
Total Volume	31	43	0	74	0	23	8	31	0	53	742	795	709	0	61	770	1670
% App. Total	41.9	58.1	0		0	74.2	25.8		0	6.7	93.3		92.1	0	7.9		
PHF	.596	.717	.000	.740	.000	.719	.500	.646	.000	.883	.946	.946	.933	.000	.803	.921	.955
Cars	31	43	0	74	0	23	8	31	0	53	727	780	693	0	61	754	1639
% Cars	100	100	0	100	0	100	100	100	0	100	98.0	98.1	97.7	0	100	97.9	98.1
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	15	15	16	0	0	16	31
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	2.0	1.9	2.3	0	0	2.1	1.9

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E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693BB
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Cars

	Winchester Street From North			Albion Street From Northeast			Broadway From East			Broadway From West			
Start Time	Right	Left	Hard Left	Hard Right	Bear Right	Hard Left	Hard Right	Right	Thru	Thru	Bear Left	Left	Int. Total
04:00 PM	2	6	0	0	5	4	0	17	163	140	0	8	345
04:15 PM	4	9	0	0	1	0	0	12	157	164	0	8	355
04:30 PM	6	6	0	0	2	2	0	14	157	175	0	7	369
04:45 PM	7	9	0	0	5	0	0	14	190	166	0	12	403
Total	19	30	0	0	13	6	0	57	667	645	0	35	1472
05:00 PM	5	7	0	0	3	3	0	10	190	165	0	12	395
05:15 PM	13	12	0	0	8	4	0	14	186	176	0	18	431
05:30 PM	6	15	0	0	7	1	0	15	161	186	0	19	410
05:45 PM	8	12	0	0	0	0	0	9	176	174	0	12	391
Total	32	46	0	0	18	8	0	48	713	701	0	61	1627
Grand Total	51	76	0	0	31	14	0	105	1380	1346	0	96	3099
Apprch %	40.2	59.8	0	0	68.9	31.1	0	7.1	92.9	93.3	0	6.7	
Total %	1.6	2.5	0	0	1	0.5	0	3.4	44.5	43.4	0	3.1	

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	7	9	0	16	0	5	0	5	0	14	**190**	**204**	166	0	12	178	403
05:00 PM	5	7	0	12	0	3	3	6	0	10	190	200	165	0	12	177	395
05:15 PM	**13**	12	0	**25**	0	**8**	**4**	**12**	0	14	186	200	176	0	18	194	**431**
05:30 PM	6	**15**	0	21	0	7	1	8	0	**15**	161	176	**186**	0	**19**	**205**	410
Total Volume	31	43	0	74	0	23	8	31	0	53	727	780	693	0	61	754	1639
% App. Total	41.9	58.1	0		0	74.2	25.8		0	6.8	93.2		91.9	0	8.1		
PHF	.596	.717	.000	.740	.000	.719	.500	.646	.000	.883	.957	.956	.931	.000	.803	.920	.951

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E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693BB
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Heavy Vehicles

	Winchester Street From North			Albion Street From Northeast			Broadway From East			Broadway From West			
Start Time	Right	Left	Hard Left	Hard Right	Bear Right	Hard Left	Hard Right	Right	Thru	Thru	Bear Left	Left	Int. Total
04:00 PM	0	0	0	0	0	0	0	1	5	3	0	0	9
04:15 PM	0	0	0	0	0	0	0	0	5	4	0	0	9
04:30 PM	0	0	0	0	0	0	0	0	6	9	0	0	15
04:45 PM	0	0	0	0	0	0	0	0	6	5	0	0	11
Total	0	0	0	0	0	0	0	1	22	21	0	0	44
05:00 PM	0	0	0	0	0	0	0	0	2	4	0	0	6
05:15 PM	0	0	0	0	0	0	0	0	3	3	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	4	4	0	0	8
05:45 PM	0	0	0	0	0	0	0	0	4	3	0	0	7
Total	0	0	0	0	0	0	0	0	13	14	0	0	27
Grand Total	0	0	0	0	0	0	0	1	35	35	0	0	71
Apprch %	0	0	0	0	0	0	0	2.8	97.2	100	0	0	
Total %	0	0	0	0	0	0	0	1.4	49.3	49.3	0	0	

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	**1**	5	**6**	3	0	0	3	9
04:15 PM	0	0	0	0	0	0	0	0	0	0	5	5	4	0	0	4	9
04:30 PM	0	0	0	0	0	0	0	0	0	0	**6**	6	**9**	0	0	**9**	**15**
04:45 PM	0	0	0	0	0	0	0	0	0	0	6	6	5	0	0	5	11
Total Volume	0	0	0	0	0	0	0	0	0	1	22	23	21	0	0	21	44
% App. Total	0	0	0		0	0	0		0	4.3	95.7		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.917	.958	.583	.000	.000	.583	.733

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E/W: Broadway
City, State: Somerville, MA
Client: VHB/S. Lewis

File Name : 81693BB
Site Code : 10303
Start Date : 9/10/2008
Page No : 1

Groups Printed- Peds and Bicycles

	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	Peds	Hard Right	Bear Right	Hard Left	Peds	Hard Right	Right	Thru	Peds	Thru	Bear Left	Left	Peds	Int. Total
04:00 PM	0	0	0	4	0	0	0	2	0	0	4	0	1	0	0	1	12
04:15 PM	0	0	0	9	0	0	0	8	0	0	1	2	0	0	0	1	21
04:30 PM	0	0	0	1	0	0	0	1	0	0	3	2	1	0	1	0	9
04:45 PM	0	0	0	7	0	0	0	7	0	0	1	0	2	0	0	0	17
Total	0	0	0	21	0	0	0	18	0	0	9	4	4	0	1	2	59
05:00 PM	0	1	0	0	0	0	0	0	0	0	1	2	4	0	0	1	9
05:15 PM	0	0	0	0	0	0	0	2	0	0	1	10	2	0	0	1	16
05:30 PM	0	0	0	9	0	0	0	7	0	0	2	0	2	0	0	0	20
05:45 PM	0	0	0	2	0	0	0	2	0	0	1	0	3	0	0	1	9
Total	0	1	0	11	0	0	0	11	0	0	5	12	11	0	0	3	54
Grand Total	0	1	0	32	0	0	0	29	0	0	14	16	15	0	1	5	113
Apprch %	0	3	0	97	0	0	0	100	0	0	46.7	53.3	71.4	0	4.8	23.8	
Total %	0	0.9	0	28.3	0	0	0	25.7	0	0	12.4	14.2	13.3	0	0.9	4.4	

	Winchester Street From North					Albion Street From Northeast					Broadway From East					Broadway From West					
Start Time	Right	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Hard Left	Peds	App. Total	Hard Right	Right	Thru	Peds	App. Total	Thru	Bear Left	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	7	7	0	0	0	**7**	**7**	0	0	1	0	1	2	0	0	0	2	17
05:00 PM	0	**1**	0	0	1	0	0	0	0	0	0	0	1	2	3	**4**	**0**	**0**	**1**	**5**	9
05:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	1	**10**	**11**	2	0	0	1	3	16
05:30 PM	0	0	0	**9**	**9**	0	0	0	7	7	0	0	**2**	0	2	2	0	0	0	2	**20**
Total Volume	0	1	0	16	17	0	0	0	16	16	0	0	5	12	17	10	0	0	2	12	62
% App. Total	0	5.9	0	94.1		0	0	0	100		0	0	29.4	70.6		83.3	0	0	16.7		
PHF	.000	.250	.000	.444	.472	.000	.000	.000	.571	.571	.000	.000	.625	.300	.386	.625	.000	.000	.500	.600	.775

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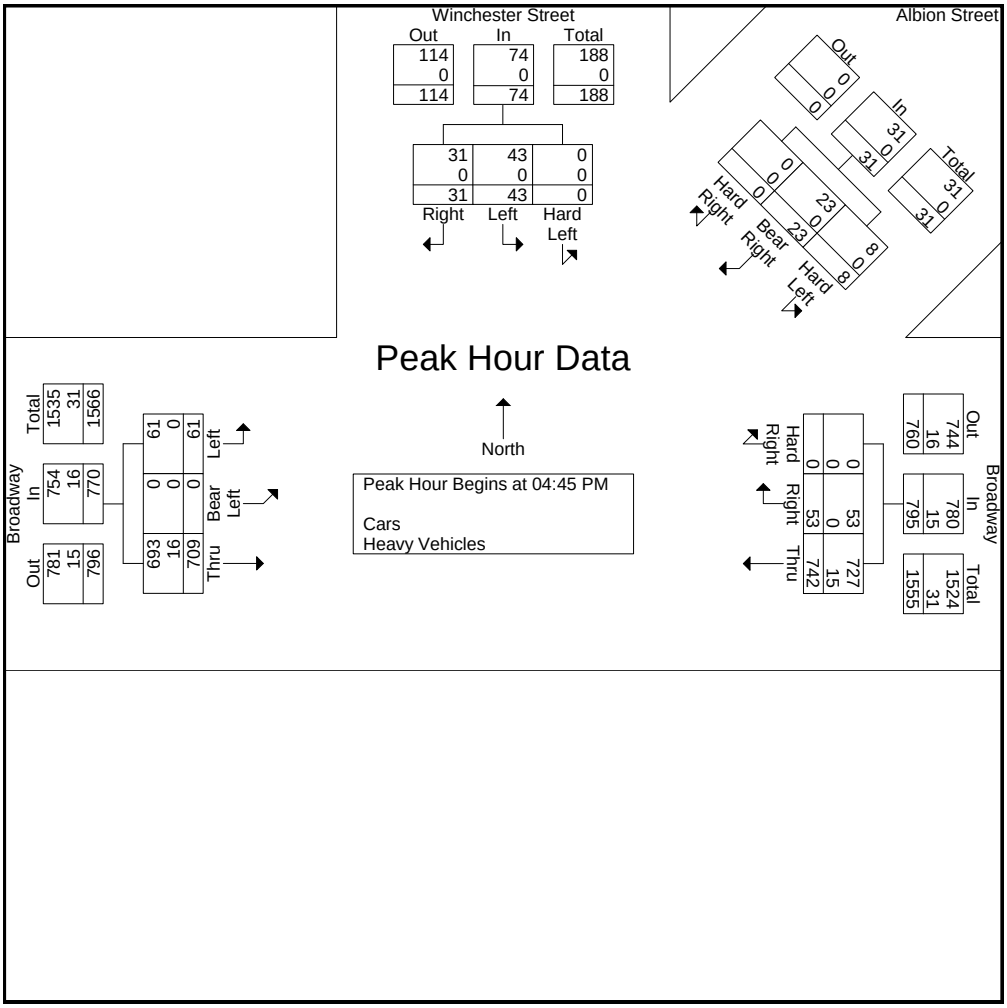
	Winchester Street From North				Albion Street From Northeast				Broadway From East				Broadway From West				
Start Time	Right	Left	Hard Left	App. Total	Hard Right	Bear Right	Hard Left	App. Total	Hard Right	Right	Thru	App. Total	Thru	Bear Left	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	7	9	0	16	0	5	0	5	0	14	**196**	**210**	171	0	12	183	414
05:00 PM	5	7	0	12	0	3	3	6	0	10	192	202	169	0	12	181	401
05:15 PM	**13**	12	0	**25**	0	**8**	**4**	**12**	0	14	189	203	179	0	18	197	**437**
05:30 PM	6	**15**	0	21	0	7	1	8	0	**15**	165	180	**190**	0	**19**	**209**	418
Total Volume	31	43	0	74	0	23	8	31	0	53	742	795	709	0	61	770	1670
% App. Total	41.9	58.1	0		0	74.2	25.8		0	6.7	93.3		92.1	0	7.9		
PHF	.596	.717	.000	.740	.000	.719	.500	.646	.000	.883	.946	.946	.933	.000	.803	.921	.955
Cars	31	43	0	74	0	23	8	31	0	53	727	780	693	0	61	754	1639
% Cars	100	100	0	100	0	100	100	100	0	100	98.0	98.1	97.7	0	100	97.9	98.1
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	15	15	16	0	0	16	31
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	2.0	1.9	2.3	0	0	2.1	1.9



Medford Street at Pearl Street | VHB, Inc.
TMC Count | Counted By: PL

Start Date 10/30/2008 nger Vehicles
Start Time 7:30

Street Name	Medford St SB			Pearl St WB			Meddford St NB		
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds
7:30 AM	137	39	0	89	21	1	0	48	0
7:45 AM	131	63	0	57	12	1	1	43	0
8:00 AM	123	51	1	66	7	2	1	48	0
8:15 AM	135	63	1	45	5	3	1	24	0
Total	526	216	2	257	45	7	3	163	0

Start Date 10/30/2008
Start Time 16:45

Street Name	Medford St SB			Pearl St WB			Meddford St NB		
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds
4:45 PM	54	52	1	74	5	1	3	92	0
5:00 PM	57	39	0	83	6	1	1	93	1
5:15 PM	69	51	0	71	5	1	0	82	0
5:30 PM	64	33	0	72	9	0	5	104	0
Total	244	175	1	300	25	3	9	371	1

Medford Street at Pearl Street
TMC Count

VHB, Inc.
Counted By: PL

Start Date 10/30/2008 Heavy Vehicles
Start Time 7:30

Street Name	Medford St SB		Pearl St WB		Meddford St NB	
Start Time	Thru	Left	Right	Left	Right	Thru
7:30 AM	1	3	1	0	0	0
7:45 AM	1	6	5	0	2	3
8:00 AM	3	3	3	0	0	2
8:15 AM	2	4	3	0	0	1
Total	7	16	12	0	2	6

Start Date 10/30/2008
Start Time 16:45

Street Name	Medford St SB		Pearl St WB		Meddford St NB	
Start Time	Thru	Left	Right	Left	Right	Thru
4:45 PM	0	1	1	0	0	1
5:00 PM	2	1	2	0	0	2
5:15 PM	2	0	0	0	0	2
5:30 PM	0	1	0	0	0	1
Total	4	3	3	0	0	6

Medford Street at Pearl Street
TMC Count

VHB, Inc.
Counted By: PL

Start Date 10/30/2008 Bicycles
Start Time 7:30

Street Name	Medford St SB		Pearl St WB		Meddford St NB	
Start Time	Thru	Left	Right	Left	Right	Thru
7:30 AM	1	0	1	0	0	0
7:45 AM	2	1	0	0	0	0
8:00 AM	4	0	0	1	0	1
8:15 AM	1	0	1	0	0	0
Total	8	1	2	1	0	1

Start Date 10/30/2008
Start Time 16:45

Street Name	Medford St SB		Pearl St WB		Meddford St NB	
Start Time	Thru	Left	Right	Left	Right	Thru
4:45 PM	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	2
5:15 PM	1	0	1	0	0	0
5:30 PM	0	0	0	0	0	1
Total	1	0	1	0	0	4

Traffic Volume Worksheets and Calculations

NETWORK PEAK HOUR CALCULATIONS

Job Number: 10303.00
Name: Green Line Extention
Location: Somerville, Medford & Cambridge

Weekday Evening (columns 1–14)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Weekday Evening	Mystic Valley Pkwy/Alewife Brook Pkwy at Capen St	Mystic Valley Pkwy at Auburn St	Mystic Valley Pkwy at Winthrop St	Sagamore Ave/Boston Ave at High St	Mystic Valley Pkwy at Boston Ave	Boston Ave at North St	Boston Ave at Winthrop St/Curtis St	Boston Ave at College Ave	Boston Ave at Harvard St/Warner St	Powderhouse Rotary 1	Powderhouse Rotary 2	Powderhouse Rotary 3	Powderhouse Rotary 4	Forest St/Main St/Salem St at Riverside/High
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME
3:00 PM	588	447	840	291	595	172	296	239	356	452	430	359	555	547
3:15 PM	638	518	848	302	679	183	323	250	310	419	380	367	490	595
3:30 PM	598	503	907	347	628	213	372	299	366	433	384	386	495	609
3:45 PM	617	481	930	353	715	221	350	299	387	458	365	400	572	597
4:00 PM	598	478	999	385	633	235	366	326	404	433	345	372	538	542
4:15 PM	634	502	1,064	390	603	233	407	337	384	440	383	395	528	621
4:30 PM	615	495	1,101	340	593	171	371	333	408	475	393	416	566	659
4:45 PM	651	488	841	372	672	216	397	340	409	497	417	421	550	670
5:00 PM	666	562	974	413	802	278	428	337	429	523	410	456	593	595
5:15 PM	727	502	1,106	383	754	272	425	366	502	543	421	436	603	650
5:30 PM	709	530	1,030	383	740	239	409	393	457	521	403	434	601	620
5:45 PM	702	518	1,007	345	790	249	395	334	319	463	360	394	523	590
Total	**7,743**	**6,024**	**11,647**	**4,304**	**8,204**	**2,682**	**4,539**	**3,853**	**4,731**	**5,657**	**4,691**	**4,836**	**6,614**	**7,295**
Individual Peak	5:00 - 6:00	5:00 - 6:00	5:00 - 6:00	4:45 - 5:45	5:00 - 6:00	5:00 - 6:00	4:45 - 5:45	4:45 - 5:45	4:45 - 5:45	4:45 - 5:45	4:45 - 5:45	4:45 - 5:45	4:45 - 5:45	4:30 - 5:30
Group Peak														
Intersection Peak Volume	2,804	2,112	4,117	1,551	3,086	1,038	1,659	1,436	1,797	2,084	1,651	1,747	2,347	2,574
Network Peak Volume	2,753	2,082	3,951	1,551	2,968	1,005	1,659	1,436	1,797	2,084	1,651	1,747	2,347	2,535
Difference	51	30	166	0	118	33	0	0	0	0	0	0	0	39
% Difference	2%	1%	4%	0%	4%	3%	0%	0%	0%	0%	0%	0%	0%	2%

Weekday Evening (columns 15–28)

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Weekday Evening	Mystic Valley Pkwy EB at Main St	Mystic Valley Pkwy WB at Main St	Mystic Ave at Main St	Main St at Harvard Ave	Medford St at Broadway	Medford St at Lowell St	Medford St at Central St	Medford St at School St	Medford St at Walnut St	Medford St at Highland Ave	McGrath Hwy at Somerville Ave	Highland Ave at Lowell St	Highland Ave and Central St	Highland Ave and School St
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME
3:00 PM	659	512	489	451	396	235	334	322	202	351	434	269	340	302
3:15 PM	714	548	556	400	440	210	356	335	221	408	501	257	359	299
3:30 PM	713	536	568	490	455	218	318	316	227	383	503	304	381	324
3:45 PM	719	550	613	489	496	240	338	314	200	374	450	264	316	304
4:00 PM	729	563	651	481	431	241	354	343	233	403	459	282	362	333
4:15 PM	703	586	645	490	425	227	339	355	240	418	505	276	351	307
4:30 PM	749	583	698	472	476	228	377	373	240	401	496	265	315	297
4:45 PM	730	590	622	511	505	218	338	388	256	409	523	306	382	356
5:00 PM	783	630	675	504	486	246	370	381	154	322	484	332	350	341
5:15 PM	728	574	702	529	531	252	338	367	263	390	514	315	370	357
5:30 PM	686	599	660	562	510	226	362	370	229	381	480	307	344	327
5:45 PM	638	519	625	510	491	236	309	388	229	368	446	324	388	349
Total	**8,551**	**6,790**	**7,504**	**5,889**	**5,642**	**2,777**	**4,133**	**4,252**	**2,694**	**4,608**	**5,795**	**3,501**	**4,258**	**3,896**
Individual Peak	4:30 - 5:30	4:45 - 5:45	4:30 - 5:30	4:45 - 5:45	4:45 - 5:45	5:00 - 6:00	4:15 - 5:15	4:30 - 5:30	4:00 - 5:00	4:00 - 5:00	4:30 - 5:30	5:00 - 6:00	5:00 - 6:00	4:45 - 5:45
Group Peak						4:45 - 5:45								
Intersection Peak Volume	2,990	2,393	2,697	2,106	2,032	960	1,424	1,509	969	1,631	2,017	1,278	1,452	1,381
Network Peak Volume	2,927	2,393	2,659	2,106	2,032	942	1,408	1,506	902	1,502	2,001	1,260	1,446	1,381
Difference	63	0	38	0	0	18	16	3	67	129	16	18	6	0
% Difference	2%	0%	1%	0%	0%	2%	1%	0%	7%	8%	1%	1%	0%	0%

Weekday Evening (columns 29–42 and totals)

	29	30	31	32	33	34	35	36	37	38	39	40	41	42				
Weekday Evening	Washington St at Mt Vernon Rd/Innerbelt Rd	McGrath Hwy at Washinton St (west side north)	McGrath Hwy at Washinton St (west side south)	McGrath Hwy at Washinton St (east side)	Union Square	Beacon St at Washington St/Kirkland St	Prospect St at Somerville Ave	Prosepect St at Webster St	Prosepct St at Cambridge St	Prospect St at Hampshire St	Mystic Valley Pkwy at Auburn St (East)	Main St at Clipper Ship Dr	Main St at George St	College Ave at George St				
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	Volume	Volume	Volume	Volume	TOTAL	HR TOTAL	PK HR TOTAL	PEAK HOUR
3:00 PM	397	340	216	466	535	397	702	389	379	346	481	411	402	247	17,171			
3:15 PM	424	387	220	495	537	375	667	398	368	364	476	411	333	200	17,561			3:00 - 4:00
3:30 PM	387	365	203	500	560	394	677	368	373	393	464	475	352	208	17,995			3:15 - 4:15
3:45 PM	390	371	238	531	515	363	671	395	359	371	496	464	335	204	18,115	70,842		3:30 - 4:30
4:00 PM	353	348	230	526	554	423	704	414	398	408	568	465	353	197	18,460	72,131		3:45 - 4:45
4:15 PM	369	385	249	523	572	417	748	409	376	381	506	483	368	245	18,819	73,389		4:00 - 5:00
4:30 PM	398	399	224	527	605	418	774	447	386	367	489	498	371	222	19,031	74,425		4:15 - 5:15
4:45 PM	385	397	218	491	603	422	769	436	394	393	485	493	379	246	19,186	75,496		4:30 - 5:30
5:00 PM	415	425	215	559	619	446	716	480	413	399	500	451	405	257	19,824	76,860		4:45 - 5:45 PEAK
5:15 PM	448	437	209	509	680	449	829	484	384	380	529	564	444	257	20,523	78,564		5:00 - 6:00
5:30 PM	462	394	194	484	653	449	798	469	362	366	483	460	421	254	19,761	79,294		
5:45 PM	468	402	177	489	618	434	679	426	356	359	467	425	409	246	18,764	78,872	79,294	
Total	**4,896**	**4,650**	**2,593**	**6,100**	**7,051**	**4,987**	**8,734**	**5,115**	**4,548**	**4,527**	**5,944**	**5,600**	**4,572**	**2,783**	**225,210**			**4:45 - 5:45**
Individual Peak	5:00 - 6:00	4:30 - 5:30	3:45 - 4:45	3:45 - 4:45	5:00 - 6:00	5:00 - 6:00	4:45 - 5:45	4:45 - 5:45	4:30 - 5:30	3:30 - 4:30								
Group Peak																		
Intersection Peak Volume	1,793	1,658	941	2,107	2,570	1,778	3,112	1,869	1,577	1,553								
Network Peak Volume	1,710	1,653	836	2,043	2,555	1,766	3,112	1,869	1,553	1,538								
Difference	83	5	105	64	15	12	0	0	24	15								
% Difference	5%	0%	11%	3%	1%	1%	0%	0%	2%	1%								

Weekday Morning (columns 1–14)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Weekday Morning	Mystic Valley Pkwy/Alewife Brook Pkwy at Capen St	Mystic Valley Pkwy at Auburn St	Mystic Valley Pkwy at Winthrop St	Sagamore Ave/Boston Ave at High St	Mystic Valley Pkwy at Boston Ave	Boston Ave at North St	Boston Ave at Winthrop St/Curtis St	Boston Ave at College Ave	Boston Ave at Harvard St/Warner St	Powderhouse Rotary 1	Powderhouse Rotary 2	Powderhouse Rotary 3	Powderhouse Rotary 4	Forest St/Main St/Salem St at Riverside/High
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME
7:00 AM	649	547	846	370	585	173	318	261	377	461	441	352	482	688
7:15 AM	764	601	936	454	679	231	360	332	474	471	451	392	513	715
7:30 AM	782	580	1,161	348	786	291	410	333	496	593	528	432	636	714
7:45 AM	690	515	945	358	627	277	409	373	515	596	544	455	576	673
8:00 AM	719	506	1,081	379	716	258	374	348	501	550	501	427	594	688
8:15 AM	692	469	1,099	349	714	247	399	337	511	555	527	461	567	644
8:30 AM	652	486	1,095	313	680	215	359	300	426	517	468	416	523	719
8:45 AM	622	496	879	336	631	234	374	271	435	491	473	424	493	672
9:00 AM	580	459	884	273	646	183	294	308	358	437	441	421	450	647
9:15 AM	478	376	643	265	507	175	276	245	342	378	414	399	453	571
9:30 AM	492	435	693	202	567	154	272	198	305	341	370	342	403	584
9:45 AM	447	385	648	251	506	140	246	183	285	304	320	297	370	574
Total	**7,567**	**5,855**	**10,910**	**3,898**	**7,644**	**2,578**	**4,091**	**3,489**	**5,025**	**5,694**	**5,478**	**4,818**	**6,060**	**7,889**
Individual Peak	7:15 - 8:15	7:00 - 8:00	7:30 - 8:30	7:15 - 8:15	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:00 - 8:00
Group Peak														
Intersection Peak Volume	2,955	2,243	4,286	1,539	2,843	1,073	1,592	1,391	2,023	2,294	2,100	1,775	2,373	2,790
Network Peak Volume	2,883	2,070	4,286	1,434	2,843	1,073	1,592	1,391	2,023	2,294	2,100	1,775	2,373	2,719
Difference	72	173	0	105	0	0	0	0	0	0	0	0	0	71
% Difference	2%	8%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%

Weekday Morning (columns 15–28)

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Weekday Morning	Mystic Valley Pkwy EB at Main St	Mystic Valley Pkwy WB at Main St	Mystic Ave at Main St	Main St at Harvard Ave	Medford St at Broadway	Medford St at Lowell St	Medford St at Central St	Medford St at School St	Medford St at Walnut St	Medford St at Highland Ave	McGrath Hwy at Somerville Ave	Highland Ave at Lowell St	Highland Ave and Central St	Highland Ave and School St
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME
7:00 AM	675	559	601	521	433	229	292	296	186	333	393	258	279	272
7:15 AM	749	599	652	490	587	347	337	377	194	368	438	269	334	333
7:30 AM	762	596	630	434	623	329	334	383	235	430	480	288	360	354
7:45 AM	764	621	662	540	619	332	363	418	247	420	527	341	376	377
8:00 AM	742	590	716	489	671	374	408	434	225	401	531	324	288	361
8:15 AM	743	608	707	588	587	313	381	384	222	413	517	332	303	330
8:30 AM	747	601	652	510	582	308	348	378	241	415	460	266	262	280
8:45 AM	690	589	673	496	503	268	359	388	207	396	516	273	288	339
9:00 AM	708	568	615	429	456	277	297	365	215	382	493	248	304	311
9:15 AM	666	524	565	444	450	237	294	320	202	377	443	239	310	278
9:30 AM	579	497	527	372	374	197	273	280	159	319	407	228	215	232
9:45 AM	590	505	490	430	394	200	262	263	162	325	407	213	244	241
Total	**8,415**	**6,857**	**7,490**	**5,743**	**6,279**	**3,411**	**3,948**	**4,286**	**2,495**	**4,579**	**5,612**	**3,279**	**3,563**	**3,708**
Individual Peak	7:15 - 8:15	7:45 - 8:45	8:00 - 9:00	7:45 - 8:45	7:15 - 8:15	7:15 - 8:15	7:45 - 8:45	7:30 - 8:30	7:45 - 8:45	7:30 - 8:30	7:30 - 8:30	7:30 - 8:30	7:15 - 8:15	7:15 - 8:15
Group Peak					7:30 - 8:30									
Intersection Peak Volume	3,017	2,420	2,748	2,127	2,500	1,382	1,500	1,619	935	1,664	2,055	1,285	1,358	1,425
Network Peak Volume	3,011	2,415	2,715	2,051	2,500	1,348	1,486	1,619	929	1,664	2,055	1,285	1,327	1,422
Difference	6	5	33	76	0	34	14	0	6	0	0	0	31	3
% Difference	0%	0%	1%	4%	0%	2%	1%	0%	1%	0%	0%	0%	2%	0%

Weekday Morning (columns 29–42 and totals)

	29	30	31	32	33	34	35	36	37	38	39	40	41	42				
Weekday Morning	Washington St at Mt Vernon Rd/Innerbelt Rd	McGrath Hwy at Washinton St (west side north)	McGrath Hwy at Washinton St (west side south)	McGrath Hwy at Washinton St (east side)	Union Square	Beacon St at Washington St/Kirkland St	Prospect St at Somerville Ave	Prosepect St at Webster St	Prosepct St at Cambridge St	Prospect St at Hampshire St	Mystic Valley Pkwy at Auburn St (East)	Main St at Clipper Ship Dr	Main St @ George St	College Ave @ George St				
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	Volume	Volume	Volume	Volume	TOTAL	HR TOTAL	PK HR TOTAL	PEAK HOUR
7:00 AM	292	360	161	320	480	240	519	306	272	288	538	506	366	181	16,706			
7:15 AM	421	420	200	417	516	368	569	305	290	320	621	516	330	214	18,954			7:00 - 8:00
7:30 AM	372	405	210	419	562	416	596	339	333	351	529	466	445	268	20,039			7:15 - 8:15
7:45 AM	420	371	215	466	575	377	657	315	339	367	517	567	404	245	19,995	75,694		7:30 - 8:30 PEAK
8:00 AM	440	393	223	403	576	417	643	361	365	396	499	558	379	236	20,085	79,073		7:45 - 8:45
8:15 AM	374	324	205	373	517	370	552	352	363	396	500	546	377	237	19,485	79,604		8:00 - 9:00
8:30 AM	403	345	202	383	528	363	535	337	294	363	505	552	362	236	18,627	78,192		8:15 - 9:15
8:45 AM	348	365	217	378	564	363	589	381	355	398	383	502	411	254	18,324	76,521		8:30 - 9:30
9:00 AM	343	297	199	334	542	321	552	301	303	314	467	507	319	185	17,033	73,469		8:45 - 9:45
9:15 AM	375	299	199	360	456	258	484	281	323	339	510	351	277	143	15,526	69,510		9:00 - 10:00
9:30 AM	364	327	186	360	496	307	537	278	310	333	406	324	296	163	14,704	65,587		
9:45 AM	277	307	180	344	463	274	516	278	318	334	372	343	286	154	14,128	61,391	79,604	
Total	**4,429**	**4,213**	**2,397**	**4,557**	**6,275**	**4,074**	**6,749**	**3,834**	**3,865**	**4,199**	**5,847**	**5,738**	**4,252**	**2,516**	**133,891**			**7:30 - 8:30**
Individual Peak	7:15 - 8:15	7:15 - 8:15	7:30 - 8:30	7:15 - 8:15	7:30 - 8:30	7:30 - 8:30	7:15 - 8:15	8:00 - 9:00	7:30 - 8:30	8:00 - 9:00								
Group Peak																		
Intersection Peak Volume	1,653	1,589	853	1,705	2,230	1,580	2,465	1,431	1,400	1,553								
Network Peak Volume	1,606	1,493	853	1,661	2,230	1,580	2,448	1,367	1,400	1,510								
Difference	47	96	0	44	0	0	17	64	0	43								
% Difference	3%	6%	0%	3%	0%	0%	1%	4%	0%	3%								

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Evening
Network Peak Hour: 4:45 - 5:45

Enter information in yellow boxes only

1 :: Mystic Valley Pkwy/Alewife Brook Pkwy at Capen St

Approach	ystic Valley Pkv	Capen St	lewife Brook Pk	ystic Valley Pkv	Total
	EB	WB	NB	SB	
Peak Hour Volume	485	1	1,125	1,145	2,756
Peak 15 min. Vol.	150	1	302	289	742
Heavy Vehicle Volume	1	0	2	0	3
PHF	0.81	0.25	0.93	0.99	0.93
HV%	0.2%	0.0%	0.2%	0.0%	0.1%

2 :: Mystic Valley Pkwy at Auburn St

Approach	ystic Valley Pkv	ystic Valley Pkv	Auburn St		Total
	EB	WB	NB	SB	
Peak Hour Volume	877	1,067	138	0	2,082
Peak 15 min. Vol.	243	288	45	0	576
Heavy Vehicle Volume	2	4	0	0	6
PHF	0.90	0.93	0.77		0.90
HV%	0.2%	0.4%	0.0%		0.3%

3 :: Mystic Valley Pkwy at Winthrop St

Approach	ystic Valley Pkv	ystic Valley Pkv	Winthrop St	Winthrop St	Total
	EB	WB	NB	SB	
Peak Hour Volume	985	1,433	572	961	3,951
Peak 15 min. Vol.	271	382	175	278	1,106
Heavy Vehicle Volume	1	1	3	3	8
PHF	0.91	0.94	0.82	0.86	0.89
HV%	0.1%	0.1%	0.5%	0.3%	0.2%

4 :: Sagamore Ave/Boston Ave at High St

Approach	High St	High St	Boston Ave	Sagamore Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	804	509	218	20	1,551
Peak 15 min. Vol.	214	137	72	11	434
Heavy Vehicle Volume	25	8	12	0	45
PHF	0.94	0.93	0.76	0.45	0.89
HV%	3.1%	1.6%	5.5%	0.0%	2.9%

5 :: Mystic Valley Pkwy at Boston Ave

Approach	ystic Valley Pkv	ystic Valley Pkv	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	1,094	1,074	491	309	2,968
Peak 15 min. Vol.	295	284	157	98	834
Heavy Vehicle Volume	1	0	6	9	16
PHF	0.93	0.95	0.78	0.79	0.89
HV%	0.1%	0.0%	1.2%	2.9%	0.5%

6 :: Boston Ave at North St

Approach	North St	North St	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	70	98	448	389	1,005
Peak 15 min. Vol.	26	31	115	115	287
Heavy Vehicle Volume	0	0	4	8	12
PHF	0.67	0.79	0.97	0.85	0.88
HV%	0.0%	0.0%	0.9%	2.1%	1.2%

7 :: Boston Ave at Winthrop St/Curtis St

Approach	Curtis St	Winthrop St	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	281	463	391	524	1,659
Peak 15 min. Vol.	76	134	107	139	456
Heavy Vehicle Volume	4	1	9	8	22
PHF	0.92	0.86	0.91	0.94	0.91
HV%	1.4%	0.2%	2.3%	1.5%	1.3%

8 :: Boston Ave at College Ave

Approach	College Ave	College Ave	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	372	360	321	383	1,436
Peak 15 min. Vol.	100	99	90	107	396
Heavy Vehicle Volume	8	0	1	6	15
PHF	0.93	0.91	0.89	0.89	0.91
HV%	2.2%	0.0%	0.3%	1.6%	1.0%

9 :: Boston Ave at Harvard St/Warner St

Approach	Warner St	Harvard St	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	471	751	308	267	1,797
Peak 15 min. Vol.	134	224	88	78	524
Heavy Vehicle Volume	11	5	0	1	17
PHF	0.88	0.84	0.88	0.86	0.86
HV%	2.3%	0.7%	0.0%	0.4%	0.9%

10 :: Powderhouse Rotary 1

Approach	wder House Bl	Rotary		College Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	432	1,327	0	325	2,084
Peak 15 min. Vol.	127	350	0	84	561
Heavy Vehicle Volume	0	24	0	12	36
PHF	0.85	0.95		0.97	0.93
HV%	0.0%	1.8%		3.7%	1.7%

11 :: Powderhouse Rotary 2

Approach	Broadway			Rotary	Total
	EB	WB	NB	SB	
Peak Hour Volume	377	0	0	1,274	1,651
Peak 15 min. Vol.	104	0	0	335	439
Heavy Vehicle Volume	16	0	0	31	47
PHF	0.91			0.95	0.94

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Evening
Network Peak Hour: 4:45 - 5:45

Enter information in yellow boxes only

HV%	4.2%			2.4%	2.8%

12 :: Powderhouse Rotary 3

Approach	College Ave			Rotary	Total
	EB	WB	NB	SB	
Peak Hour Volume	485	0	0	1,262	1,747
Peak 15 min. Vol.	139	0	0	326	465
Heavy Vehicle Volume	24	0	0	36	60
PHF	0.87			0.97	0.94
HV%	4.9%			2.9%	3.4%

13 :: Powderhouse Rotary 4

Approach	Rotary	Warner St	Broadway		Total
	EB	WB	NB	SB	
Peak Hour Volume	1,301	399	647	0	2,347
Peak 15 min. Vol.	366	110	187	0	663
Heavy Vehicle Volume	37	5	12	0	54
PHF	0.89	0.91	0.86		0.88
HV%	2.8%	1.3%	1.9%		2.3%

14 :: Forest St/Main St/Salem St at Riverside/High

Approach	High St	Riverside Ave	Salem St	Main St	Forest St	Total
	EB	WB	SWB	NB	SB	
Peak Hour Volume	454	0	1,607	183	291	2,535
Peak 15 min. Vol.	126	0	414	49	83	672
Heavy Vehicle Volume	25	0	34	12	3	74
PHF	0.90		0.97	0.93	0.88	0.94
HV%	5.5%		2.1%	6.6%	1.0%	2.9%

15 :: Mystic Valley Pkwy EB at Main St

Approach	South St	ystic Valley Pkw	Main St	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	570	1	1,401	955	2,927
Peak 15 min. Vol.	159	1	388	251	799
Heavy Vehicle Volume	6	0	24	24	54
PHF	0.90	0.25	0.90	0.95	0.92
HV%	1.1%	0.0%	1.7%	2.5%	1.8%

16 :: Mystic Valley Pkwy WB at Main St

Approach	Mystic Valley Pkwy WB		Main St	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	0	267	1,138	987	2,392
Peak 15 min. Vol.	0	74	301	267	642
Heavy Vehicle Volume	0	2	24	21	47
PHF		0.90	0.95	0.92	0.93
HV%		0.7%	2.1%	2.1%	2.0%

17 :: Mystic Ave at Main St

Approach	Main St	Fire Station	Mystic Ave	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	400	7	1,095	1,157	2,659
Peak 15 min. Vol.	114	4	301	295	714
Heavy Vehicle Volume	6	1	15	26	48
PHF	0.88	0.44	0.91	0.98	0.93
HV%	1.5%	14.3%	1.4%	2.2%	1.8%

18 :: Main St at Harvard Ave

Approach	Harvard St	Harvard St	Medford St	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	559	567	573	407	2,106
Peak 15 min. Vol.	149	154	151	116	570
Heavy Vehicle Volume	7	3	12	7	29
PHF	0.94	0.92	0.95	0.88	0.92
HV%	1.3%	0.5%	2.1%	1.7%	1.4%

19 :: Medford St at Broadway

Approach	Broadway	Broadway	Dexter St	CVS/Dunkin	Medford St	Medford St	Total
	EB	WB	SWB	NEB	NB	SB	
Peak Hour Volume	615	710	71	50	345	241	2,032
Peak 15 min. Vol.	168	190	21	15	93	65	552
Heavy Vehicle Volume	15	12	1	0	6	2	36
PHF	0.92	0.93	0.85	0.83	0.93	0.93	0.92
HV%	2.4%	1.7%	1.4%	0.0%	1.7%	0.8%	1.8%

20 :: Medford St at Lowell St

Approach	Lowell St		Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	118	0	392	432	942
Peak 15 min. Vol.	34	0	99	119	252
Heavy Vehicle Volume	1	0	6	12	19
PHF	0.87		0.99	0.91	0.93
HV%	0.8%		1.5%	2.8%	2.0%

21 :: Medford St at Central St

Approach	Central St	Central St	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	422	113	455	418	1,408
Peak 15 min. Vol.	114	35	127	121	397
Heavy Vehicle Volume	3	0	7	8	18
PHF	0.93	0.81	0.90	0.86	0.89
HV%	0.7%	0.0%	1.5%	1.9%	1.3%

22 :: Medford St at School St

Approach		School St	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	0	295	723	488	1,506

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Evening
Network Peak Hour: 4:45 - 5:45

Enter information in yellow boxes only

Peak 15 min. Vol.	0	84	186	135	405
Heavy Vehicle Volume	0	4	9	8	21
PHF		0.88	0.97	0.90	0.93
HV%		1.4%	1.2%	1.6%	1.4%

23 :: Medford St at Walnut St

Approach	Walnut St	Walnut St	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	355	2	315	230	902
Peak 15 min. Vol.	105	1	89	73	268
Heavy Vehicle Volume	6	0	0	3	9
PHF	0.85	0.50	0.88	0.79	0.84
HV%	1.7%	0.0%	0.0%	1.3%	1.0%

24 :: Medford St at Highland Ave

Approach	Hamlet St	Medford St	Medford St	Highland Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	21	240	797	444	1,502
Peak 15 min. Vol.	7	69	220	129	425
Heavy Vehicle Volume	0	5	13	13	31
PHF	0.75	0.87	0.91	0.86	0.88
HV%	0.0%	2.1%	1.6%	2.9%	2.1%

25 :: McGrath Hwy at Somerville Ave

Approach	Somerville Ave	McGrath Hwy	Medford St	McGrath Hwy	Total
	EB	WB	NB	SB	
Peak Hour Volume	448	0	559	994	2,001
Peak 15 min. Vol.	127	0	149	268	544
Heavy Vehicle Volume	5	0	5	20	30
PHF	0.88		0.94	0.93	0.92
HV%	1.1%		0.9%	2.0%	1.5%

26 :: Highland Ave at Lowell St

Approach	Highland Ave	Highland Ave	Lowell St	Lowell St	Total
	EB	WB	NB	SB	
Peak Hour Volume	425	532	179	124	1,260
Peak 15 min. Vol.	115	137	53	37	342
Heavy Vehicle Volume	9	9	1	0	19
PHF	0.92	0.97	0.84	0.84	0.92
HV%	2.1%	1.7%	0.6%	0.0%	1.5%

27 :: Highland Ave and Central St

Approach	Highland Ave	Highland Ave	Central	Central St	Total
	EB	WB	NB	SB	
Peak Hour Volume	390	463	443	150	1,446
Peak 15 min. Vol.	106	128	122	43	399
Heavy Vehicle Volume	10	11	4	0	25
PHF	0.92	0.90	0.91	0.87	0.91
HV%	2.6%	2.4%	0.9%	0.0%	1.7%

28 :: Highland Ave and School St

Approach	Highland Ave	Highland Ave	School St	School St	Total
	EB	WB	NB	SB	
Peak Hour Volume	443	520	0	418	1,381
Peak 15 min. Vol.	125	138	0	106	369
Heavy Vehicle Volume	11	12	0	14	37
PHF	0.89	0.94		0.99	0.94
HV%	2.5%	2.3%		3.3%	2.7%

29 :: Washington St at Mt Vernon Rd/Innerbelt Rd

Approach	Washington St	Washington St	Innerbelt Rd	Mt Vernon St	Total
	EB	WB	NB	SB	
Peak Hour Volume	601	778	329	2	1,710
Peak 15 min. Vol.	194	210	121	1	526
Heavy Vehicle Volume	11	29	15	0	55
PHF	0.77	0.93	0.68	0.50	0.81
HV%	1.8%	3.7%	4.6%	0.0%	3.2%

30 :: McGrath Hwy at Washinton St (west side north

Approach	Washington St	Washington St		McGrath Hwy	Total
	EB	WB	NB	SB	
Peak Hour Volume	696	524	0	433	1,653
Peak 15 min. Vol.	184	145	0	118	447
Heavy Vehicle Volume	7	12	0	1	20
PHF	0.95	0.90		0.92	0.92
HV%	1.0%	2.3%		0.2%	1.2%

31 :: McGrath Hwy at Washinton St (west side south

Approach	Washington St	Washington St		McGrath Hwy	Total
	EB	WB	NB	SB	
Peak Hour Volume	383	338	0	115	836
Peak 15 min. Vol.	99	94	0	34	227
Heavy Vehicle Volume	15	13	0	3	31
PHF	0.97	0.90		0.85	0.92
HV%	3.9%	3.8%		2.6%	3.7%

32 :: McGrath Hwy at Washinton St (east side

Approach		Washington St	McGrath Hwy		Total
	EB	WB	NB	SB	
Peak Hour Volume	0	922	1,121	0	2,043
Peak 15 min. Vol.	0	264	295	0	559
Heavy Vehicle Volume	0	22	44	0	66
PHF		0.87	0.95		0.91
HV%		2.4%	3.9%		3.2%

33:: Union Square

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Evening
Network Peak Hour: 4:45 - 5:45

Enter information in yellow boxes only

Approach	Washington St	Washington St	Webster Ave	herville Ave/Bo	Total
	EB	WB	NB	SB	
Peak Hour Volume	366	1,572	0	617	2,555
Peak 15 min. Vol.	101	420	0	174	695
Heavy Vehicle Volume	10	28	0	14	52
PHF	0.91	0.94		0.89	0.92
HV%	2.7%	1.8%		2.3%	2.0%

34 :: Beacon St at Washington St/Kirkland S

Approach	Kirkland St	Washington St	Beacon St	Beacon St	Total
	EB	WB	NB	SB	
Peak Hour Volume	442	347	537	440	1,766
Peak 15 min. Vol.	118	99	139	118	474
Heavy Vehicle Volume	10	6	8	10	34
PHF	0.94	0.88	0.97	0.93	0.93
HV%	2.3%	1.7%	1.5%	2.3%	1.9%

35 :: Prospect St at Somerville Ave

Approach	Somerville Ave	Somerville Ave	Prospect St	Prospect St	Total
	EB	WB	NB	SB	
Peak Hour Volume	680	418	1,193	821	3,112
Peak 15 min. Vol.	195	128	313	217	853
Heavy Vehicle Volume	16	3	15	14	48
PHF	0.87	0.82	0.95	0.95	0.91
HV%	2.4%	0.7%	1.3%	1.7%	1.5%

36 :: Prosepect St at Webster St

Approach	Webster Ave	Webster Ave	Concord Ave	Prospect St	Prospect St	Total
	EB	WB	NEB	NB	SB	
Peak Hour Volume	609	710	0	550	0	1,869
Peak 15 min. Vol.	167	190	0	145	0	502
Heavy Vehicle Volume	10	6	0	3	0	19
PHF	0.91	0.93		0.95		0.93
HV%	1.6%	0.8%		0.5%		1.0%

37 :: Prosepct St at Cambridge St

Approach	Cambridge St	Cambridge St	Prospect St	Prospect St	Total
	EB	WB	NB	SB	
Peak Hour Volume	362	390	549	252	1,553
Peak 15 min. Vol.	105	106	151	69	431
Heavy Vehicle Volume	6	8	3	3	20
PHF	0.86	0.92	0.91	0.91	0.90
HV%	1.7%	2.1%	0.5%	1.2%	1.3%

38 :: Prospect St at Hampshire St

Approach	Hampshire St	Hampshire St	Prospect St	Prospect St	Total
	EB	WB	NB	SB	
Peak Hour Volume	320	337	625	256	1,538
Peak 15 min. Vol.	90	93	168	70	421
Heavy Vehicle Volume	2	2	8	3	15
PHF	0.89	0.91	0.93	0.91	0.91
HV%	0.6%	0.6%	1.3%	1.2%	1.0%

39 :: Mystic Valley Pkwy at Auburn St (East

Approach	Mystic Valley	Mystic Valley		Auburn	Total
	EB	WB	NB	SB	
Peak Hour Volume	900	1,060	0	37	1,997
Peak 15 min. Vol.	241	284	0	13	538
Heavy Vehicle Volume	0	0	0	1	1
PHF	0.93	0.93		0.71	0.93
HV%	0.0%	0.0%		2.7%	0.1%

40 :: Main St at Clipper Ship Dr

Approach	High		Main	Main	Total
	EB	WB	NB	SB	
Peak Hour Volume	97	0	897	973	1,967
Peak 15 min. Vol.	27	0	259	280	566
Heavy Vehicle Volume	2	0	21	14	37
PHF	0.90		0.87	0.87	0.87
HV%	2.1%		2.3%	1.4%	1.9%

41 :: Main St at George St

Approach	George		Main	Main	Total
	EB	WB	NB	SB	
Peak Hour Volume	269	0	663	717	1,649
Peak 15 min. Vol.	71	0	180	193	444
Heavy Vehicle Volume	5	0	11	16	32
PHF	0.95		0.92	0.93	0.93
HV%	1.9%		1.7%	2.2%	1.9%

42 :: College Ave at George St

Approach	George	George	College	College	Total
	EB	WB	NB	SB	
Peak Hour Volume	241	513	256	4	1,014
Peak 15 min. Vol.	74	137	75	2	288
Heavy Vehicle Volume	2	8	4	0	14
PHF	0.81	0.94	0.85	0.50	0.88
HV%	0.8%	1.6%	1.6%	0.0%	1.4%

Weekday Evening Peak hour

Enter information in yellow boxes only Non-Orthogonal Intersections -[Scroll]->

1 :: Mystic Valley Pkwy/Alewife Brook Pkwy at Capen St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	124	160	0		284	0	0	1		1	0	181	82		263	54	0	49		103
2nd 15 min	115	172	2		289	0	0	0		0	0	180	88		268	45	0	64		109
3rd 15 min	139	148	0		287	0	0	0		0	0	177	113		290	69	0	81		150
4th 15 min	102	179	4		285	0	0	0		0	0	206	96		302	58	0	64		122
HV Vol					0					0		1	1		2	1				1
	480	659	6	0	1145	0	0	1	0	1	0	745	380	0	1125	227	0	258	0	485

2 :: Mystic Valley Pkwy at Auburn St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min					0		246	14		260	20		25		45	1	182			183
2nd 15 min					0		269	19		288	6		25		31	2	241			243
3rd 15 min					0		246	6		252	10		17		27	3	220			223
4th 15 min					0		255	12		267	15		20		35	3	225			228
HV Vol							2	2		4							2			2
	0	0	0	0	0	0	1016	51	0	1067	51	0	87	0	138	9	868	0	0	877

3 :: Mystic Valley Pkwy at Winthrop St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	9	81	68		158	94	260	0		354	23	71	5		99	1	229	0		230
2nd 15 min	13	145	117		275	74	241	0		315	51	113	2		166	3	215	0		218
3rd 15 min	13	147	118		278	115	267	0		382	51	120	4		175	1	270	0		271
4th 15 min	14	129	107		250	119	263	0		382	34	91	7		132	1	262	3		266
HV Vol		2	1		3	1				1		3			3		1			1
	49	502	410	0	961	402	1031	0	0	1433	159	395	18	0	572	6	976	3	0	985

4 :: Sagamore Ave/Boston Ave at High St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	1	6	4		11	2	100	20		122	28	5	18		51	36	147	5		188
2nd 15 min	0	2	0		2	2	101	22		125	49	1	22		72	31	182	1		214
3rd 15 min	1	2	1		4	2	110	13		125	23	2	33		58	38	156	2		196
4th 15 min	0	2	1		3	2	122	13		137	21	4	12		37	33	169	4		206
HV Vol					0		6	2		8	4		8		12	9	16			25
	2	12	6	0	20	8	433	68	0	509	121	12	85	0	218	138	654	12	0	804

5 :: Mystic Valley Pkwy at Boston Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	14	53	17		84	17	239	7		263	5	50	28		83	30	189	23		242
2nd 15 min	10	57	10		77	14	246	13		273	18	97	42		157	32	241	22		295
3rd 15 min	9	80	9		98	16	232	6		254	7	88	34		129	40	220	13		273
4th 15 min	6	34	10		50	13	261	10		284	19	69	34		122	32	233	19		284
HV Vol		9			9					0		6			6		1			1
	39	224	46	0	309	60	978	36	0	1074	49	304	138	0	491	134	883	77	0	1094

6 :: Boston Ave at North St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	8	70	1		79	4	9	6		19	4	94	11		109	6	0	3		9
2nd 15 min	13	95	2		110	8	14	9		31	4	95	12		111	9	2	15		26
3rd 15 min	16	95	4		115	5	9	7		21	2	101	12		115	5	5	11		21
4th 15 min	9	74	2		85	5	15	7		27	5	98	10		113	9	1	4		14
HV Vol		8			8					0		4			4					0
	46	334	9	0	389	22	47	29	0	98	15	388	45	0	448	29	8	33	0	70

7 :: Boston Ave at Winthrop St/Curtis St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	41	90	8		139	10	88	8		106	11	36	39		86	30	21	15		66
2nd 15 min	44	72	8		124	17	109	8		134	4	41	53		98	31	31	10		72
3rd 15 min	27	90	16		133	12	108	5		125	6	57	37		100	30	19	18		67
4th 15 min	33	77	18		128	13	76	9		98	6	52	49		107	26	25	25		76
HV Vol	4	4			8		1			1		7	2		9	2	1	1		4
	145	329	50	0	524	52	381	30	0	463	27	186	178	0	391	117	96	68	0	281

8 :: Boston Ave at College Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	27	37	25		89	26	51	10		87	15	68	2		85	0	51	28		79
2nd 15 min	19	38	24		81	31	49	9		89	7	59	1		67	0	58	42		100
3rd 15 min	40	41	25		106	35	46	4		85	16	61	2		79	0	56	40		96
4th 15 min	25	58	24		107	26	64	9		99	16	70	4		90	1	62	34		97
HV Vol	6				6					0		1			1		3	5		8
	111	174	98	0	383	118	210	32	0	360	54	258	9	0	321	1	227	144	0	372

9 :: Boston Ave at Harvard St/Warner St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	2	36	21		59	41	109	14		164	10	63	3		76	2	107	1		110
2nd 15 min	2	34	22		58	25	129	13		167	6	60	4		70	1	132	1		134
3rd 15 min	2	51	25		78	37	158	29		224	12	72	4		88	3	106	3		112
4th 15 min	1	42	29		72	39	135	22		196	4	63	7		74	4	104	7		115
HV Vol			1		1		5			5					0	1	10			11
	7	163	97	0	267	142	531	78	0	751	32	258	18	0	308	10	449	12	0	471

10 :: Powderhouse Rotary 1

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	12	68	0		80	76	91	145		312					0	105				105
2nd 15 min	14	70	0		84	89	98	139		326					0	113				113
3rd 15 min	8	69	0		77	70	111	158		339					0	127				127
4th 15 min	5	79	0		84	82	122	146		350					0	87				87
HV Vol		12			12	8	1	15		24					0					0
	39	286	0	0	325	317	422	588	0	1327	0	0	0	0	0	432	0	0	0	432

Expands to 30 Intersections --> Unhide rows below

11 :: Powderhouse Rotary 2

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	113	209			322					0					0	95				95
2nd 15 min	93	213			306					0					0	104				104
3rd 15 min	107	228			335					0					0	86				86

Weekday Evening Peak hour

4th 15 min	110	201			311					0				0	0	92				92
HV Vol	13	18			31					0				0	0	16				16
	423	851	0	0	1274	0	0	0	0	0	0	0	0	0	0	377	0	0	0	377

12 :: Powderhouse Rotary 3

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	115	124	71		310					0					0	17	94			111
2nd 15 min	114	124	79		317					0					0	15	124			139
3rd 15 min	116	152	58		326					0					0	13	97			110
4th 15 min	127	111	71		309					0					0	11	114			125
HV Vol	15	14	7		36					0					0	7	17			24
	472	511	279	0	1262	0	0	0	0	0	0	0	0	0	0	56	429	0	0	485

13 :: Powderhouse Rotary 4

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min					0	93				93	13	143			156	141	96	64		301
2nd 15 min					0	89				89	12	126			138	155	135	76		366
3rd 15 min					0	110				110	13	153			166	162	102	63		327
4th 15 min					0	107				107	17	170			187	120	105	82		307
HV Vol					0	5				5	1	11			12	18	9	10		37
	0	0	0	0	0	399	0	0	0	399	55	592	0	0	647	578	438	285	0	1301

14 :: Forest St/Main St/Salem St at Riverside/High

	From North					From NorthEast					From East				From South					From West				
	R	T	L	HL		HR	R	L	HL		HR	R	T	L	HR	R	T	L		R	T	L	HL	
1st 15 min	9	55	19	0	83	48	158	208	0	414					0	47				47	40	86		126
2nd 15 min	3	36	10	0	49	42	135	205	1	383					0	44				44	32	87		119
3rd 15 min	11	35	31	0	77	62	148	202	1	413					0	49				49	21	90		111
4th 15 min	11	53	18	0	82	36	153	208	0	397					0	43				43	28	70		98
HV Vol		2	1		3	2	22	10		34					0	12				12	8	17		25
	34	179	78	0	291	188	594	823	2	1607	0	0	0	0	0	183	0	0	0	183	121	333	0	0	454

15 :: Mystic Valley Pkwy EB at Main St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min		237	14	0	251			0		0	96	222	0	2	320	51	45	63		159
2nd 15 min		222	16	3	241			1		1	118	270	0	0	388	48	55	50		153
3rd 15 min		202	17	3	222			0		0	112	248	0	3	363	46	52	45		143
4th 15 min		213	25	3	241			0		0	94	236	0	0	330	37	37	41		115
HV Vol		21	3		24					0	4	20			24	1	3	2		6
	0	874	72	9	955	0	0	1	0	1	420	976	0	5	1401	182	189	199	0	570

16 :: Mystic Valley Pkwy WB at Main St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	49	208			257	21	6	32		59		216	57	1	274					0
2nd 15 min	39	228			267	25	5	32		62		234	67	0	301					0
3rd 15 min	30	178			208	26	11	35		72		234	60	0	294					0
4th 15 min	49	206			255	21	13	40		74		211	57	1	269					0
HV Vol	1	20			21			2		2		1	20	3	24					0
	167	820	0	0	987	93	35	139	0	267	0	895	241	2	1138	0	0	0	0	0

17 :: Mystic Ave at Main St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	196	89	3		288	1	1	0		2	0	213	16		229	1	0	102		103
2nd 15 min	190	100	1		291	1	0	0		1	1	272	19		292	3	0	88		91
3rd 15 min	197	85	1		283	4	0	0		4	0	280	21		301	1	2	111		114
4th 15 min	219	76	0		295	0	0	0		0	0	256	17		273	4	1	87		92
HV Vol	14	11	1		26		1			1		15			15			6		6
	802	350	5	0	1157	6	1	0	0	7	1	1021	73	0	1095	9	3	388	0	400

18 :: Main St at Harvard Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	9	74	15		98	6	94	27		127	35	98	18		151	11	103	21		135
2nd 15 min	13	72	7		92	11	113	21		145	24	99	13		136	8	106	17		131
3rd 15 min	19	73	9		101	8	117	16		141	20	106	17		143	15	109	20		144
4th 15 min	18	89	9		116	8	126	20		154	28	99	16		143	22	103	24		149
HV Vol		7			7		3			3	3	8	1		12		6	1		7
	59	308	40	0	407	33	450	84	0	567	107	402	64	0	573	56	421	82	0	559

19 :: Medford St at Broadway

	From North					From NorthEast						From East					From South				From SouthWest					From West					
	HR	R	T	L		HR	R	T	L	HL		R	T	L	HL	U	R	T	L	HL		HR	R	L	HL		HR	R	T	L	U	
1st 15 min	18	1	41	5	65	4	9	2	5	0	20	24	129	5	3	0	161	1	35	57	0	93	0	13	0	0	13	3	61	86	3	0	153
2nd 15 min	12	0	38	7	57	1	5	2	7	2	17	29	141	8	4	0	182	0	33	46	0	79	0	7	0	0	7	1	49	85	8	1	144
3rd 15 min	13	2	41	7	63	1	11	1	5	3	21	27	145	1	3	1	177	3	25	59	0	87	0	15	0	0	15	4	56	100	7	1	168
4th 15 min	14	2	33	7	56	2	7	0	4	0	13	34	148	3	5	0	190	2	29	55	0	86	0	15	0	0	15	2	48	96	4	0	150
HV Vol	1		1		2	1					1		12				12		1	5		6					0		4	11			15
	57	5	153	26	241	8	32	5	21	5	71	114	563	17	15	1	710	6	122	217	0	345	0	50	0	0	50	10	214	367	22	2	615

20 :: Medford St at Lowell St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	15	82			97					0		92	6		98	15		8		23
2nd 15 min	22	95			117					0		90	8		98	16		15		31
3rd 15 min	16	103			119					0		87	12		99	19		15		34
4th 15 min	24	75			99					0		93	4		97	17		13		30
HV Vol	1	11			12					0		6			6	1				1
	77	355	0	0	432	0	0	0	0	0	0	362	30	0	392	67	0	51	0	118

21 :: Medford St at Central St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	13	88	6		107	0	24	2		26	3	93	10		106	17	66	16		99
2nd 15 min	12	106	3		121	0	24	0		24	5	94	15		114	25	63	23		111
3rd 15 min	16	85	3		104	2	24	2		28	4	90	14		108	16	66	16		98
4th 15 min	16	67	3		86	1	33	1		35	9	106	12		127	23	59	32		114
HV Vol		8			8					0		7			7	1	2			3
	57	346	15	0	418	3	105	5	0	113	21	383	51	0	455	81	254	87	0	422

22 :: Medford St at School St

From North	From East	From South	From West

Weekday Evening Peak hour

	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	26	101	8		135	3	56	17		76	33	103	41		177					0
2nd 15 min	24	100	11		135	5	55	8		68	38	103	37		178					0
3rd 15 min	24	84	10		118	7	48	12		67	28	117	37		182					0
4th 15 min	19	71	10		100	8	59	17		84	28	126	32		186					0
HV Vol	2	6			8		4			4	1	6	2		9					0
	93	356	39	0	488	23	218	54	0	295	127	449	147	0	723	0	0	0	0	0

23 :: Medford St at Walnut St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min		71	2		73	0	0	1		1	2	78	0		80	1	65	36		102
2nd 15 min		36	0		36	0	1	0		1	3	59	0		62	2	37	16		55
3rd 15 min		68	1		69	0	0	0		0	2	87	0		89	2	79	24		105
4th 15 min		51	1		52	0	0	0		0	9	75	0		84	3	64	26		93
HV Vol		3			3					0					0		4	2		6
	0	226	4	0	230	0	1	1	0	2	16	299	0	0	315	8	245	102	0	355

24 :: Medford St at Highland Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	5	115	0		120	8	4	57		69	78	127	12		217	2	0	1		3
2nd 15 min	6	88	0		94	3	5	40		48	61	105	7		173	7	0	0		7
3rd 15 min	4	125	0		129	0	9	59		68	68	110	9		187	4	0	2		6
4th 15 min	3	97	1		101	3	2	50		55	69	137	14		220	4	0	1		5
HV Vol	1	12			13		1	4		5	3	10			13					0
	18	425	1	0	444	14	20	206	0	240	276	479	42	0	797	17	0	4	0	21

25 :: McGrath Hwy at Somerville Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	50	158	39		247					0	15	113	21		149	24	56	47		127
2nd 15 min	53	146	49		248					0	11	92	18		121	18	52	45		115
3rd 15 min	55	156	57		268					0	14	109	25		148	20	39	39		98
4th 15 min	64	136	31		231					0	11	107	23		141	23	48	37		108
HV Vol	5	4	11		20					0	1	4			5		4	1		5
	222	596	176	0	994	0	0	0	0	0	51	421	87	0	559	85	195	168	0	448

26 :: Highland Ave at Lowell St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	25	0	10		35	11	126	0		137	11	22	10		43	0	80	11		91
2nd 15 min	19	1	17		37	11	117	0		128	10	30	13		53	2	103	9		114
3rd 15 min	16	0	7		23	10	122	0		132	8	21	16		45	0	102	13		115
4th 15 min	15	0	14		29	13	122	0		135	9	19	10		38	0	98	7		105
HV Vol					0		9			9		1			1		8	1		9
	75	1	48	0	124	45	487	0	0	532	38	92	49	0	179	2	383	40	0	425

27 :: Highland Ave and Central St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	12	23	7		42	11	110	7		128	25	88	9		122	4	78	8		90
2nd 15 min	13	13	1		27	6	95	9		110	22	82	11		115	6	84	8		98
3rd 15 min	8	30	5		43	9	95	5		109	25	72	15		112	3	94	9		106
4th 15 min	11	24	3		38	12	99	5		116	15	66	13		94	9	74	13		96
HV Vol					0		11			11	1	2	1		4		9	1		10
	44	90	16	0	150	38	399	26	0	463	87	308	48	0	443	22	330	38	0	390

28 :: Highland Ave and School St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	27	56	23		106	0	121	17		138					0	4	108	0		112
2nd 15 min	29	54	22		105	0	106	13		119					0	3	114	0		117
3rd 15 min	29	47	26		102	0	121	9		130					0	7	118	0		125
4th 15 min	21	57	27		105	0	119	14		133					0	1	88	0		89
HV Vol	4	4	6		14		11	1		12					0		11			11
	106	214	98	0	418	0	467	53	0	520	0	0	0	0	0	15	428	0	0	443

29 :: Washington St at Mt Vernon Rd/Innerbelt Rd

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	0	0	0		0	0	192	18		210	26	0	40		66	5	104	0		109
2nd 15 min	0	0	1		1	0	141	24		165	54	0	67		121	8	120	0		128
3rd 15 min	0	0	0		0	0	179	22		201	38	2	37		77	9	161	0		170
4th 15 min	1	0	0		1	0	185	17		202	30	0	35		65	9	185	0		194
HV Vol					0		22	7		29	11		4		15	1	10			11
	1	0	1	0	2	0	697	81	0	778	148	2	179	0	329	31	570	0	0	601

30 :: McGrath Hwy at Washinton St (west side north)

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	73	37	0		110		125			125					0		162			162
2nd 15 min	84	28	0		112		145			145					0		168			168
3rd 15 min	84	34	0		118		137			137					0		182			182
4th 15 min	70	23	0		93		117			117					0		184			184
HV Vol		1			1		12			12					0		7			7
	311	122	0	0	433	0	524	0	0	524	0	0	0	0	0	0	696	0	0	696

31 :: McGrath Hwy at Washinton St (west side south)

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min		30	3		33			86		86					0	8	91			99
2nd 15 min		25	3		28			94		94					0	11	82			93
3rd 15 min		21	13		34			78		78					0	8	89			97
4th 15 min		12	8		20			80		80					0	7	87			94
HV Vol			3		3			13		13					0	1	14			15
	0	88	27	0	115	0	0	338	0	338	0	0	0	0	0	34	349	0	0	383

32 :: McGrath Hwy at Washinton St (east side)

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min					0	35	182			217	131	132	11		274					0
2nd 15 min					0	34	230			264	169	119	7		295					0
3rd 15 min					0	34	198			232	152	110	15		277					0
4th 15 min					0	32	177			209	151	108	16		275					0
HV Vol					0	1	21			22	29	14	1		44					0

Weekday Evening Peak hour

	0	0	0	0	0	135	787	0	0	922	603	469	49	0	1121	0	0	0	0	0

33:: Union Square

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	7	51	102		160	192	77	92		361					0	8	64	10		82
2nd 15 min	5	53	77		135	200	89	98		387					0	4	82	11		97
3rd 15 min	11	58	105		174	208	96	116		420					0	8	66	12		86
4th 15 min	10	43	95		148	234	91	79		404					0	11	70	20		101
HV Vol	1	3	10		14	10	10	8		28					0	1	8	1		10
	33	205	379	0	617	834	353	385	0	1572	0	0	0	0	0	31	282	53	0	366

34 :: Beacon St at Washington St/Kirkland St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	19	74	7		100	14	61	7		82	21	108	10		139	7	64	30		101
2nd 15 min	15	97	6		118	13	56	5		74	18	113	5		136	10	77	31		118
3rd 15 min	17	80	9		106	16	58	18		92	15	117	7		139	11	76	25		112
4th 15 min	7	92	17		116	20	73	6		99	13	106	4		123	9	82	20		111
HV Vol	1	9			10		6			6		8			8	2	7	1		10
	58	343	39	0	440	63	248	36	0	347	67	444	26	0	537	37	299	106	0	442

35 :: Prospect St at Somerville Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	189				189	6	92			98	24	167	96		287		93	102		195
2nd 15 min	203				203	11	66			77	20	169	106		295		74	67		141
3rd 15 min	212				212	9	119			128	19	182	112		313		91	85		176
4th 15 min	217				217	8	107			115	21	154	123		298		87	81		168
HV Vol	14				14		3			3		10	5		15		7	9		16
	821	0	0	0	821	34	384	0	0	418	84	672	437	0	1193	0	345	335	0	680

36 :: Prosepect St at Webster St

	From North					From East					From South					From SouthWest					From West				
	HR	R	T	L		R	T	L	HL		R	T	L	HL		HR	R	L	HL		HR	R	T	L	
1st 15 min					0	133	0	25		158	4	139	0	2	145					0	1	51	58	23	133
2nd 15 min					0	147	0	31		178	3	131	0	1	135					0	5	69	57	36	167
3rd 15 min					0	159	0	31		190	0	130	0	4	134					0	2	68	64	26	160
4th 15 min					0	149	0	35		184	3	129	0	4	136					0	1	58	65	25	149
HV Vol					0	6	0	0		6	0	3			3					0	0	2	6	2	10
	0	0	0	0	0	588	0	122	0	710	10	529	0	11	550	0	0	0	0	0	9	246	244	110	609

37 :: Prosepct St at Cambridge St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	11	46	5		62	7	77	10		94	20	97	16		133	5	74	26		105
2nd 15 min	11	50	5		66	6	85	15		106	20	111	20		151	8	62	20		90
3rd 15 min	10	53	6		69	7	76	10		93	15	105	16		136	4	58	24		86
4th 15 min	7	43	5		55	5	81	11		97	19	96	14		129	7	53	21		81
HV Vol		2	1		3		7	1		8	1	2			3		6			6
	39	192	21	0	252	25	319	46	0	390	74	409	66	0	549	24	247	91	0	362

38 :: Prospect St at Hampshire St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	3	57	3		63	3	80	5		88	10	114	28		152	16	70	4		90
2nd 15 min	2	62	6		70	9	77	7		93	8	122	32		162	12	58	4		74
3rd 15 min	3	51	4		58	3	66	3		72	11	117	40		168	16	63	3		82
4th 15 min	2	58	5		65	4	77	3		84	8	114	21		143	16	50	8		74
HV Vol		2	1		3	1	1			2		3	5		8	2				2
	10	228	18	0	256	19	300	18	0	337	37	467	121	0	625	60	241	19	0	320

39 :: Mystic Valley Pkwy at Auburn St (East)

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	3	0	1		4	11	262	0		273					0	0	206	2		208
2nd 15 min	6	0	3		9	6	244	0		250					0	0	235	6		241
3rd 15 min	10	0	1		11	8	276	0		284					0	0	226	8		234
4th 15 min	10	0	3		13	6	247	0		253					0	0	210	7		217
HV Vol	1	0	0		1	0	0			0					0	0	0	0		0
	29	0	8	0	37	31	1029	0	0	1060	0	0	0	0	0	0	877	23	0	900

40 :: Main St at Clipper Ship Dr

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	0	241	14		255					0	171	40	0		211	23	4	0		27
2nd 15 min	0	207	6		213					0	159	51	0		210	27	0	0		27
3rd 15 min	0	272	8		280					0	216	43	0		259	22	3	0		25
4th 15 min	0	220	5		225					0	176	41	0		217	11	7	0		18
HV Vol		14	0		14					0	7	14	0		21	2				2
	0	940	33	0	973	0	0	0	0	0	722	175	0	0	897	83	14	0	0	97

41 :: Main St at George St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	78	85	0		163					0	0	111	42		153	18	0	45		63
2nd 15 min	88	91	0		179					0	0	124	35		159	16	0	51		67
3rd 15 min	86	107	0		193					0	0	128	52		180	22	0	49		71
4th 15 min	88	94	0		182					0	0	131	40		171	22	0	46		68
HV Vol	8	8	0		16					0	0	10	1		11	1		4		5
	340	377	0	0	717	0	0	0	0	0	0	494	169	0	663	78	0	191	0	269

42 :: College Ave at George St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	0	2	0		2	1	62	57		120	40	7	24		71	22	29	2		53
2nd 15 min	0	0	0		0	5	59	63		127	40	4	31		75	17	36	2		55
3rd 15 min	0	1	0		1	4	82	51		137	33	10	17		60	20	36	3		59
4th 15 min	0	1	0		1	3	72	54		129	32	3	15		50	29	42	3		74
HV Vol		0	0		0	0	4	4		8	2	0	2		4	0	2	0		2
	0	4	0	0	4	13	275	225	0	513	145	24	87	0	256	88	143	10	0	241

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Morning
Network Peak Hour: 7:30 - 8:30

1 :: Mystic Valley Pkwy/Alewife Brook Pkwy at Capen S

Approach	ystic Valley Pkv	Capen St	lewife Brook Pk	ystic Valley Pkv	Total
	EB	WB	NB	SB	
Peak Hour Volume	882	3	762	1,236	2,883
Peak 15 min. Vol.	224	1	220	337	782
Heavy Vehicle Volume	1	1	5	4	11
PHF	0.98	0.75	0.87	0.92	0.92
HV%	0.1%	33.3%	0.7%	0.3%	0.4%

2 :: Mystic Valley Pkwy at Auburn St

Approach	ystic Valley Pkv	ystic Valley Pkv	Auburn St	0	Total
	EB	WB	NB	SB	
Peak Hour Volume	745	1,165	160	0	2,070
Peak 15 min. Vol.	209	322	49	0	580
Heavy Vehicle Volume	1	7	2	0	10
PHF	0.89	0.90	0.82		0.89
HV%	0.1%	0.6%	1.3%		0.5%

3 :: Mystic Valley Pkwy at Winthrop St

Approach	ystic Valley Pkv	ystic Valley Pkv	Winthrop St	Winthrop St	Total
	EB	WB	NB	SB	
Peak Hour Volume	918	1,169	759	1,440	4,286
Peak 15 min. Vol.	245	312	242	387	1,186
Heavy Vehicle Volume	3	11	6	16	36
PHF	0.94	0.94	0.78	0.93	0.90
HV%	0.3%	0.9%	0.8%	1.1%	0.8%

4 :: Sagamore Ave/Boston Ave at High S

Approach	High St	High St	Boston Ave	Sagamore Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	500	711	183	40	1,434
Peak 15 min. Vol.	140	211	59	14	424
Heavy Vehicle Volume	33	36	9	1	79
PHF	0.89	0.84	0.78	0.71	0.85
HV%	6.6%	5.1%	4.9%	2.5%	5.5%

5 :: Mystic Valley Pkwy at Boston Ave

Approach	ystic Valley Pkv	ystic Valley Pkv	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	906	1,099	324	514	2,843
Peak 15 min. Vol.	268	309	97	159	833
Heavy Vehicle Volume	2	5	10	14	31
PHF	0.85	0.89	0.84	0.81	0.85
HV%	0.2%	0.5%	3.1%	2.7%	1.1%

6 :: Boston Ave at North St

Approach	North St	North St	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	61	164	286	562	1,073
Peak 15 min. Vol.	23	48	80	151	302
Heavy Vehicle Volume	0	3	8	17	28
PHF	0.66	0.85	0.89	0.93	0.89
HV%	0.0%	1.8%	2.8%	3.0%	2.6%

7 :: Boston Ave at Winthrop St/Curtis S

Approach	Curtis St	Winthrop St	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	378	335	287	592	1,592
Peak 15 min. Vol.	115	95	77	158	445
Heavy Vehicle Volume	6	8	14	17	45
PHF	0.82	0.88	0.93	0.94	0.89
HV%	1.6%	2.4%	4.9%	2.9%	2.8%

8 :: Boston Ave at College Ave

Approach	College Ave	College Ave	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	194	429	205	563	1,391
Peak 15 min. Vol.	54	121	69	162	406
Heavy Vehicle Volume	2	6	2	15	25
PHF	0.90	0.89	0.74	0.87	0.86
HV%	1.0%	1.4%	1.0%	2.7%	1.8%

9 :: Boston Ave at Harvard St/Warner S

Approach	Warner St	Harvard St	Boston Ave	Boston Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	829	748	118	328	2,023
Peak 15 min. Vol.	226	206	33	95	560
Heavy Vehicle Volume	18	26	0	8	52
PHF	0.92	0.91	0.89	0.86	0.90
HV%	2.2%	3.5%	0.0%	2.4%	2.6%

10 :: Powderhouse Rotary 1

Approach	wder House Bl	Rotary	0	College Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	526	1,305	1,305	463	3,599
Peak 15 min. Vol.	142	337	337	138	954
Heavy Vehicle Volume	4	49	0	22	75
PHF	0.93	0.97	0.97	0.84	0.94
HV%	0.8%	3.8%	0.0%	4.8%	2.1%

11 :: Powderhouse Rotary 2

Approach	Broadway	0	0	Rotary	Total
	EB	WB	NB	SB	
Peak Hour Volume	364	0	0	1,736	2,100
Peak 15 min. Vol.	104	0	0	462	566
Heavy Vehicle Volume	13	0	0	56	69
PHF	0.88			0.94	0.93

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Morning
Network Peak Hour: 7:30 - 8:30

HV%	3.6%			3.2%	3.3%

12 :: Powderhouse Rotary 3

Approach	College Ave	0	0	Rotary	Total
	EB	WB	NB	SB	
Peak Hour Volume	369	0	0	1,406	1,775
Peak 15 min. Vol.	101	0	0	365	466
Heavy Vehicle Volume	10	0	0	32	42
PHF	0.91			0.96	0.95
HV%	2.7%			2.3%	2.4%

13 :: Powderhouse Rotary 4

Approach	Rotary	Warner St	Broadway	0	Total
	EB	WB	NB	SB	
Peak Hour Volume	1,230	479	664	0	2,373
Peak 15 min. Vol.	318	138	212	0	668
Heavy Vehicle Volume	0	0	0	0	0
PHF	0.97	0.87	0.78		0.89
HV%	0.0%	0.0%	0.0%		0.0%

14 :: Forest St/Main St/Salem St at Riverside/High

Approach	High St	Riverside Ave		Main St	Forest St	Total
	EB	WB	SWB	NB	SB	
Peak Hour Volume	533	0	1,693	77	416	2,719
Peak 15 min. Vol.	143	0	478	24	106	751
Heavy Vehicle Volume	32	0	66	18	11	127
PHF	0.93		0.89	0.80	0.98	0.91
HV%	6.0%		3.9%	23.4%	2.6%	4.7%

15 :: Mystic Valley Pkwy EB at Main St

Approach	South St	ystic Valley Pkw	Main St	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	613	0	807	1,591	3,011
Peak 15 min. Vol.	170	0	214	404	788
Heavy Vehicle Volume	10	0	28	58	96
PHF	0.90		0.94	0.98	0.96
HV%	1.6%		3.5%	3.6%	3.2%

16 :: Mystic Valley Pkwy WB at Main St

Approach	0	Valley Pkwy WB	Main St	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	0	219	451	1,745	2,415
Peak 15 min. Vol.	0	68	135	447	650
Heavy Vehicle Volume	0	16	23	61	100
PHF		0.81	0.84	0.98	0.93
HV%		7.3%	5.1%	3.5%	4.1%

17 :: Mystic Ave at Main St

Approach	Main St	Fire Station	Mystic Ave	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	378	8	471	1,858	2,715
Peak 15 min. Vol.	103	4	133	508	748
Heavy Vehicle Volume	16	0	26	62	104
PHF	0.92	0.50	0.89	0.91	0.91
HV%	4.2%	0.0%	5.5%	3.3%	3.8%

18 :: Main St at Harvard Ave

Approach	Harvard St	Harvard St	Medford St	Main St	Total
	EB	WB	NB	SB	
Peak Hour Volume	527	514	410	600	2,051
Peak 15 min. Vol.	145	142	133	171	591
Heavy Vehicle Volume	10	21	19	23	73
PHF	0.91	0.90	0.77	0.88	0.87
HV%	1.9%	4.1%	4.6%	3.8%	3.6%

19 :: Medford St at Broadway

Approach	Broadway	Broadway	Dexter St	CVS/Dunkin	Medford St	Medford St	Total
	EB	WB	SWB	NEB	NB	SB	
Peak Hour Volume	1,092	507	149	83	366	303	2,500
Peak 15 min. Vol.	290	138	44	24	96	88	680
Heavy Vehicle Volume	33	13	0	0	10	7	63
PHF	0.94	0.92	0.85	0.86	0.95	0.86	0.92
HV%	3.0%	2.6%	0.0%	0.0%	2.7%	2.3%	2.5%

20 :: Medford St at Lowell St

Approach	Lowell St	0	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	124	0	371	853	1,348
Peak 15 min. Vol.	41	0	102	235	378
Heavy Vehicle Volume	0	0	10	18	28
PHF	0.76		0.91	0.91	0.89
HV%	0.0%		2.7%	2.1%	2.1%

21 :: Medford St at Central St

Approach	Central St	Central St	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	322	207	305	652	1,486
Peak 15 min. Vol.	98	61	84	180	423
Heavy Vehicle Volume	6	6	11	10	33
PHF	0.82	0.85	0.91	0.91	0.88
HV%	1.9%	2.9%	3.6%	1.5%	2.2%

22 :: Medford St at School St

Approach	0	School St	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	0	441	443	735	1,619

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Morning
Network Peak Hour: 7:30 - 8:30

Peak 15 min. Vol.	0	120	126	195	441
Heavy Vehicle Volume	0	2	9	12	23
PHF		0.92	0.88	0.94	0.92
HV%		0.5%	2.0%	1.6%	1.4%

23 :: Medford St at Walnut St

Approach	Walnut St	Walnut St	Medford St	Medford St	Total
	EB	WB	NB	SB	
Peak Hour Volume	250	1	162	516	929
Peak 15 min. Vol.	66	1	46	135	248
Heavy Vehicle Volume	3	0	4	6	13
PHF	0.95	0.25	0.88	0.96	0.94
HV%	1.2%	0.0%	2.5%	1.2%	1.4%

24 :: Medford St at Highland Ave

Approach	Hamlet St	Medford St	Medford St	Highland Ave	Total
	EB	WB	NB	SB	
Peak Hour Volume	20	518	533	593	1,664
Peak 15 min. Vol.	9	137	153	159	458
Heavy Vehicle Volume	1	12	25	20	58
PHF	0.56	0.95	0.87	0.93	0.91
HV%	5.0%	2.3%	4.7%	3.4%	3.5%

25 :: McGrath Hwy at Somerville Ave

Approach	Somerville Ave	McGrath Hwy	Medford St	McGrath Hwy	Total
	EB	WB	NB	SB	
Peak Hour Volume	470	0	238	1,347	2,055
Peak 15 min. Vol.	126	0	65	360	551
Heavy Vehicle Volume	21	0	7	52	80
PHF	0.93		0.92	0.94	0.93
HV%	4.5%		2.9%	3.9%	3.9%

26 :: Highland Ave at Lowell St

Approach	Highland Ave	Highland Ave	Lowell St	Lowell St	Total
	EB	WB	NB	SB	
Peak Hour Volume	395	452	130	308	1,285
Peak 15 min. Vol.	115	148	46	82	391
Heavy Vehicle Volume	14	17	3	6	40
PHF	0.86	0.76	0.71	0.94	0.82
HV%	3.5%	3.8%	2.3%	1.9%	3.1%

27 :: Highland Ave and Central St

Approach	Highland Ave	Highland Ave	Central	Central St	Total
	EB	WB	NB	SB	
Peak Hour Volume	437	330	268	292	1,327
Peak 15 min. Vol.	125	112	76	96	409
Heavy Vehicle Volume	14	14	8	5	41
PHF	0.87	0.74	0.88	0.76	0.81
HV%	3.2%	4.2%	3.0%	1.7%	3.1%

28 :: Highland Ave and School S

Approach	Highland Ave	Highland Ave	School St	School St	Total
	EB	WB	NB	SB	
Peak Hour Volume	496	395	0	531	1,422
Peak 15 min. Vol.	144	114	0	142	400
Heavy Vehicle Volume	15	17	0	5	37
PHF	0.86	0.87		0.93	0.89
HV%	3.0%	4.3%		0.9%	2.6%

29 :: Washington St at Mt Vernon Rd/Innerbelt Rd

Approach	Washington St	Washington St	Innerbelt Rd	Mt Vernon St	Total
	EB	WB	NB	SB	
Peak Hour Volume	398	1,035	144	29	1,606
Peak 15 min. Vol.	118	281	45	11	455
Heavy Vehicle Volume	36	60	34	0	130
PHF	0.84	0.92	0.80	0.66	0.88
HV%	9.0%	5.8%	23.6%	0.0%	8.1%

30 :: McGrath Hwy at Washinton St (west side north

Approach	Washington St	Washington St	0	McGrath Hwy	Total
	EB	WB	NB	SB	
Peak Hour Volume	445	532	0	516	1,493
Peak 15 min. Vol.	121	152	0	146	419
Heavy Vehicle Volume	20	31	0	26	77
PHF	0.92	0.88		0.88	0.89
HV%	4.5%	5.8%		5.0%	5.2%

31 :: McGrath Hwy at Washinton St (west side south

Approach	Washington St	Washington St	0	McGrath Hwy	Total
	EB	WB	NB	SB	
Peak Hour Volume	279	452	0	122	853
Peak 15 min. Vol.	78	120	0	42	240
Heavy Vehicle Volume	27	23	0	7	57
PHF	0.89	0.94		0.73	0.89
HV%	9.7%	5.1%		5.7%	6.7%

32 :: McGrath Hwy at Washinton St (east side

Approach	0	Washington St	McGrath Hwy	0	Total
	EB	WB	NB	SB	
Peak Hour Volume	0	1,046	615	0	1,661
Peak 15 min. Vol.	0	289	177	0	466
Heavy Vehicle Volume	0	56	57	0	113
PHF		0.90	0.87		0.89
HV%		5.4%	9.3%		6.8%

33:: Union Square

PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 10303
Name: Green Line Extention
Location: Somerville, Medford & Cambridge
Peak Analyzed: Weekday Morning
Network Peak Hour: 7:30 - 8:30

Approach	Washington St	Washington St	Webster Ave	herville Ave/Bo	Total
	EB	WB	NB	SB	
Peak Hour Volume	362	1,218	0	650	2,230
Peak 15 min. Vol.	97	333	0	172	602
Heavy Vehicle Volume	33	75	0	29	137
PHF	0.93	0.91		0.94	0.93
HV%	9.1%	6.2%		4.5%	6.1%

34 :: Beacon St at Washington St/Kirkland S

Approach	Kirkland St	Washington St	Beacon St	Beacon St	Total
	EB	WB	NB	SB	
Peak Hour Volume	270	412	291	607	1,580
Peak 15 min. Vol.	85	114	79	168	446
Heavy Vehicle Volume	17	36	24	21	98
PHF	0.79	0.90	0.92	0.90	0.89
HV%	6.3%	8.7%	8.2%	3.5%	6.2%

35 :: Prospect St at Somerville Ave

Approach	Somerville Ave	Somerville Ave	Prospect St	Prospect St	Total
	EB	WB	NB	SB	
Peak Hour Volume	618	195	656	979	2,448
Peak 15 min. Vol.	166	55	181	276	678
Heavy Vehicle Volume	44	15	36	61	156
PHF	0.93	0.89	0.91	0.89	0.90
HV%	7.1%	7.7%	5.5%	6.2%	6.4%

36 :: Prosepect St at Webster St

Approach	Webster Ave	Webster Ave	Concord Ave	Concord Ave	Prospect St	Total
	EB	WB	NEB	NB	SB	
Peak Hour Volume	816	219	0	332	0	1,367
Peak 15 min. Vol.	210	61	0	94	0	365
Heavy Vehicle Volume	24	16	0	4	0	44
PHF	0.97	0.90		0.88		0.94
HV%	2.9%	7.3%		1.2%		3.2%

37 :: Prosepct St at Cambridge St

Approach	Cambridge St	Cambridge St	Prospect St	Prospect St	Total
	EB	WB	NB	SB	
Peak Hour Volume	330	393	331	346	1,400
Peak 15 min. Vol.	88	103	101	98	390
Heavy Vehicle Volume	18	34	13	11	76
PHF	0.94	0.95	0.82	0.88	0.90
HV%	5.5%	8.7%	3.9%	3.2%	5.4%

38 :: Prospect St at Hampshire St

Approach	Hampshire St	Hampshire St	Prospect St	Prospect St	Total
	EB	WB	NB	SB	
Peak Hour Volume	502	282	387	339	1,510
Peak 15 min. Vol.	134	81	114	93	422
Heavy Vehicle Volume	11	12	18	10	51
PHF	0.94	0.87	0.85	0.91	0.89
HV%	2.2%	4.3%	4.7%	2.9%	3.4%

39 :: Mystic Valley Pkwy at Auburn St (East

Approach	Mystic Valley	Mystic Valley		Auburn	Total
	EB	WB	NB	SB	
Peak Hour Volume	873	1,019	0	153	2,045
Peak 15 min. Vol.	235	261	0	46	542
Heavy Vehicle Volume	1	5	0	0	6
PHF	0.93	0.98		0.83	0.94
HV%	0.1%	0.5%		0.0%	0.3%

40 :: Main St at Clipper Ship Dr

Approach	High		Main	Main	Total
	EB	WB	NB	SB	
Peak Hour Volume	220	0	469	1,448	2,137
Peak 15 min. Vol.	77	0	126	374	577
Heavy Vehicle Volume	12	0	34	38	84
PHF	0.71		0.93	0.97	0.93
HV%	5.5%		7.2%	2.6%	3.9%

41 :: Main St at George St

Approach	George		Main	Main	Total
	EB	WB	NB	SB	
Peak Hour Volume	281	0	454	870	1,605
Peak 15 min. Vol.	74	0	153	225	452
Heavy Vehicle Volume	8	0	26	46	80
PHF	0.95		0.74	0.97	0.89
HV%	2.8%		5.7%	5.3%	5.0%

42 :: College Ave at George St

Approach	George	George	College	College	Total
	EB	WB	NB	SB	
Peak Hour Volume	322	489	159	16	986
Peak 15 min. Vol.	83	129	47	11	270
Heavy Vehicle Volume	7	18	1	0	26
PHF	0.97	0.95	0.85	0.36	0.91
HV%	2.2%	3.7%	0.6%	0.0%	2.6%

Weekday Morning Peak hour

Enter information in yellow boxes only Non-Orthogonal Intersections -[Scroll]->

1 :: Mystic Valley Pkwy/Alewife Brook Pkwy at Capen St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	124	212	1		337	1	0	0		1	1	153	66		220	115	0	109		224
2nd 15 min	106	183	0		289	0	1	0		1	0	127	55		182	113	0	105		218
3rd 15 min	91	219	2		312	1	0	0		1	1	126	61		188	115	0	103		218
4th 15 min	105	192	1		298	0	0	0		0	2	119	51		172	116	0	106		222
HV Vol	1	3	0		4	1	0	0		1	1	4	0		5	1	0	0		1
	426	806	4	0	1236	2	1	0	0	3	4	525	233	0	762	459	0	423	0	882

2 :: Mystic Valley Pkwy at Auburn St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min					0		294	28		322	16		33		49	4	205			209
2nd 15 min					0		267	28		295	11		26		37	4	179			183
3rd 15 min					0		268	17		285	14		20		34	4	183			187
4th 15 min					0		248	15		263	18		22		40	1	165			166
HV Vol					0		5	2		7	1		1		2	0	1			1
	0	0	0	0	0	0	1077	88	0	1165	59	0	101	0	160	13	732	0	0	745

3 :: Mystic Valley Pkwy at Winthrop St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	36	217	134		387	40	252	0		292	106	135	1		242	4	236	0		240
2nd 15 min	27	201	91		319	45	214	0		259	96	70	11		177	3	187	0		190
3rd 15 min	30	190	148		368	53	253	0		306	67	88	7		162	9	236	0		245
4th 15 min	17	199	150		366	47	265	0		312	79	89	10		178	4	239	0		243
HV Vol	1	14	1		16	5	6	0		11	0	6	0		6	1	2	0		3
	110	807	523	0	1440	185	984	0	0	1169	348	382	29	0	759	20	898	0	0	918

4 :: Sagamore Ave/Boston Ave at High St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	7	6	1		14	2	107	54		163	14	2	22		38	38	92	3		133
2nd 15 min	7	3	1		11	0	111	58		169	22	5	32		59	41	77	1		119
3rd 15 min	4	4	1		9	2	158	51		211	13	2	36		51	30	76	2		108
4th 15 min	1	5	0		6	1	115	52		168	14	1	20		35	34	103	3		140
HV Vol	0	1	0		1	1	25	10		36	3	0	6		9	8	23	2		33
	19	18	3	0	40	5	491	215	0	711	63	10	110	0	183	143	348	9	0	500

5 :: Mystic Valley Pkwy at Boston Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	13	93	6		112	26	279	4		309	2	76	19		97	46	207	15		268
2nd 15 min	5	96	11		112	18	226	9		253	1	52	17		70	38	148	6		192
3rd 15 min	35	110	14		159	6	239	9		254	4	61	10		75	41	179	8		228
4th 15 min	16	101	14		131	13	262	8		283	1	63	18		82	47	161	10		218
HV Vol	0	14	0		14	1	4	0		5	0	10	0		10	0	2	0		2
	69	400	45	0	514	63	1006	30	0	1099	8	252	64	0	324	172	695	39	0	906

6 :: Boston Ave at North St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	16	135	0		151	16	14	14		44	1	76	3		80	4	4	8		16
2nd 15 min	17	129	1		147	14	14	20		48	2	64	3		69	4	5	4		13
3rd 15 min	16	126	0		142	6	18	15		39	1	63	4		68	1	2	6		9
4th 15 min	4	117	1		122	11	7	15		33	4	61	4		69	5	8	10		23
HV Vol		17			17	2		1		3		8			8					0
	53	507	2	0	562	47	53	64	0	164	8	264	14	0	286	14	19	28	0	61

7 :: Boston Ave at Winthrop St/Curtis St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	5	71	56		132	28	28	31		87	22	47	7		76	14	98	3		115
2nd 15 min	5	105	48		158	31	32	32		95	23	33	14		70	15	69	2		86
3rd 15 min	5	110	41		156	14	26	31		71	19	40	5		64	14	67	2		83
4th 15 min	8	94	44		146	15	36	31		82	18	50	9		77	17	76	1		94
HV Vol	2	12	3		17		3	5		8	3	8	3		14		5	1		6
	23	380	189	0	592	88	122	125	0	335	82	170	35	0	287	60	310	8	0	378

8 :: Boston Ave at College Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	48	62	9		119	15	69	19		103	15	52	2		69	0	31	11		42
2nd 15 min	57	79	17		153	14	88	19		121	10	31	4		45	0	29	25		54
3rd 15 min	48	98	16		162	16	67	9		92	5	38	2		45	2	29	18		49
4th 15 min	40	70	19		129	29	76	8		113	2	44	0		46	0	34	15		49
HV Vol	9	5	1		15	3	1	2		6		2			2			2		2
	193	309	61	0	563	74	300	55	0	429	32	165	8	0	205	2	123	69	0	194

9 :: Boston Ave at Harvard St/Warner St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	0	12	59		71	45	148	13		206	12	7	6		25	5	188	1		194
2nd 15 min	0	13	69		82	30	132	16		178	16	9	4		29	16	209	1		226
3rd 15 min	0	8	72		80	39	128	19		186	17	11	5		33	8	193	1		202
4th 15 min	0	14	81		95	29	138	11		178	14	9	8		31	11	194	2		207
HV Vol		2	6		8	4	22	0		26					0	2	16			18
	0	47	281	0	328	143	546	59	0	748	59	36	23	0	118	40	784	5	0	829

10 :: Powderhouse Rotary 1

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	4	110			114	39	111	187		337	39	111	187		337	142				142
2nd 15 min	6	132			138	48	77	197		322	48	77	197		322	136				136
3rd 15 min	8	112			120	44	77	190		311	44	77	190		311	119				119
4th 15 min	3	88			91	53	67	215		335	53	67	215		335	129				129
HV Vol		22			22	14	2	33		49					0	4				4
	21	442	0	0	463	184	332	789	0	1305	184	332	789	0	1305	526	0	0	0	526

Expands to 30 Intersections --> Unhide rows below

11 :: Powderhouse Rotary 2

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	172	252			424					0					0	104				104
2nd 15 min	161	301			462					0					0	82				82
3rd 15 min	160	255			415					0					0	86				86

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4th 15 min	165	270			435					0				0	0	92				92
HV Vol	31	25			56					0				0	0	13				13
	658	1078	0	0	1736	0	0	0	0	0	0	0	0	0	0	364	0	0	0	364

12 :: Powderhouse Rotary 3

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	120	181	41		342					0					0	16	74			90
2nd 15 min	134	187	44		365					0					0	18	72			90
3rd 15 min	129	170	40		339					0					0	21	67			88
4th 15 min	137	184	39		360					0					0	17	84			101
HV Vol	23	5	4		32					0					0	4	6			10
	520	722	164	0	1406	0	0	0	0	0	0	0	0	0	0	72	297	0	0	369

13 :: Powderhouse Rotary 4

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min					0	106				106	21	191			212	192	91	35		318
2nd 15 min					0	135				135	13	123			136	190	70	45		305
3rd 15 min					0	138				138	17	138			155	198	64	39		301
4th 15 min					0	100				100	14	147			161	170	85	51		306
HV Vol					0					0					0					0
	0	0	0	0	0	479	0	0	0	479	65	599	0	0	664	750	310	170	0	1230

14 :: Forest St/Main St/Salem St at Riverside/High

	From North					From NorthEast					From East				From South					From West				
	R	T	L	HL		HR	R	L	HL		HR	R	T	L	HR	R	T	L		R	T	L	HL	
1st 15 min	2	93	10	0	105	17	149	312	0	478					0	24			24	26	81			107
2nd 15 min	5	86	9	0	100	13	120	284	0	417					0	13			13	65	78			143
3rd 15 min	1	98	6	0	105	24	117	280	0	421					0	19			19	72	71			143
4th 15 min	6	94	6	0	106	11	102	264	0	377					0	21			21	73	67			140
HV Vol	1	10			11	6	24	36		66					0	18			18	13	19			32
	14	371	31	0	416	65	488	1140	0	1693	0	0	0	0	0	77	0	0	77	236	297	0	0	533

15 :: Mystic Valley Pkwy EB at Main St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min		358	39		397					0	116	84			200	70	62	33		165
2nd 15 min		358	44		402					0	101	91			192	67	89	14		170
3rd 15 min		370	34		404					0	107	94			201	70	47	20		137
4th 15 min		357	31		388					0	96	118			214	79	44	18		141
HV Vol		47	11		58					0	8	20			28	4	4	2		10
	0	1443	148	0	1591	0	0	0	0	0	420	387	0	0	807	286	242	85	0	613

16 :: Mystic Valley Pkwy WB at Main St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	63	384			447	14	5	26		45		77	24	3	104					0
2nd 15 min	64	383			447	19	19	30		68		87	18	1	106					0
3rd 15 min	54	376			430	15	7	32		54		86	18	2	106					0
4th 15 min	53	368			421	20	8	24		52		111	21	3	135					0
HV Vol	1	60			61	10	1	5		16		21	1	1	23					0
	234	1511	0	0	1745	68	39	112	0	219	0	361	81	9	451	0	0	0	0	0

17 :: Mystic Ave at Main St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	236	190	0		426	1	0			1		98	10		108	4	0	91		95
2nd 15 min	250	202	2		454	3	1			4		105	8		113	4	0	87		91
3rd 15 min	245	263	0		508	2	0			2		106	11		117	10	1	78		89
4th 15 min	246	222	2		470	1	0			1		123	10		133	6	1	96		103
HV Vol	33	29			62					0		21	5		26	1	0	15		16
	977	877	4	0	1858	7	1	0	0	8	0	432	39	0	471	24	2	352	0	378

18 :: Main St at Harvard Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	10	104	6		120	3	90	22		115	14	54	5		73	11	92	23		126
2nd 15 min	16	143	12		171	4	94	23		121	27	75	12		114	12	107	15		134
3rd 15 min	26	110	5		141	4	111	21		136	22	56	12		90	9	97	16		122
4th 15 min	24	139	5		168	2	121	19		142	25	98	10		133	13	121	11		145
HV Vol	1	20	2		23		19	2		21	4	15			19	1	9			10
	76	496	28	0	600	13	416	85	0	514	88	283	39	0	410	45	417	65	0	527

19 :: Medford St at Broadway

	From North					From NorthEast						From East					From South					From SouthWest					From West					
	HR	R	T	L		HR	R	T	L	HL		R	T	L	HL	U	R	T	L	HL		HR	R	L	HL		HR	R	T	L	U	
1st 15 min	7	3	48	0	58	2	5	3	29	5	44	6	121	3	0	1	131	8	33	52	0	93		18			18	5	112	157	4	1	279
2nd 15 min	5	7	65	6	83	1	10	4	18	3	36	10	101	7	4	0	122	8	33	48	0	89		24			24	4	111	148	0	2	265
3rd 15 min	5	4	72	7	88	2	8	4	19	3	36	15	119	4	0	0	138	8	36	52	0	96		23			23	6	111	169	4	0	290
4th 15 min	3	4	62	5	74	1	12	3	10	7	33	19	93	4	0	0	116	5	33	50	0	88		18			18	4	104	143	6	1	258
HV Vol	1		6		7						0		12		1		13	1	1	8		10					0		12	18	2	1	33
	20	18	247	18	303	6	35	14	76	18	149	50	434	18	4	1	507	29	135	202	0	366	0	83	0	0	83	19	438	617	14	4	1092

20 :: Medford St at Lowell St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	20	188			208					0		70	10		80	19		22		41
2nd 15 min	51	168			219					0		83	18		101	3		9		12
3rd 15 min	45	190			235					0		83	19		102	16		21		37
4th 15 min	33	158			191					0		81	7		88	12		22		34
HV Vol	2	16			18					0		9	1		10					0
	149	704	0	0	853	0	0	0	0	0	0	317	54	0	371	50	0	74	0	124

21 :: Medford St at Central St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	23	134	3		160	2	42	5		49	0	47	17		64	17	33	11		61
2nd 15 min	24	119	3		146	5	44	7		56	3	56	15		74	19	57	11		87
3rd 15 min	28	135	3		166	3	54	4		61	3	56	24		83	21	59	18		98
4th 15 min	29	148	3		180	3	33	5		41	3	64	17		84	19	44	13		76
HV Vol		9	1		10		4	2		6	1	8	2		11	2	2	2		6
	104	536	12	0	652	13	173	21	0	207	9	223	73	0	305	76	193	53	0	322

22 :: Medford St at School St

From North	From East	From South	From West

Weekday Morning Peak hour

	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	21	150	1		172	4	77	32		113	9	46	43		98					0
2nd 15 min	25	148	2		175	7	76	37		120	16	69	38		123					0
3rd 15 min	20	168	5		193	4	75	36		115	22	72	32		126					0
4th 15 min	20	173	2		195	5	61	27		93	16	55	25		96					0
HV Vol		12			12		2			2		7	2		9					0
	86	639	10	0	735	20	289	132	0	441	63	242	138	0	443	0	0	0	0	0

23 :: Medford St at Walnut St

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min		126	4		130	1			1	8	37		45	4	43	12	59
2nd 15 min		132	3		135				0	2	44		46	0	44	22	66
3rd 15 min		126	0		126				0	2	36		38	2	44	15	61
4th 15 min		125	0		125				0	6	27		33	1	45	18	64
HV Vol		6			6				0		4		4		3		3
	0	509	7	0	516	1	0	0	0	1	18	144	0	0	162	7	176	67	0	250

24 :: Medford St at Highland Ave

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	8	139			147	1	11	125	137	39	96	5	140	6	0	0	6
2nd 15 min	4	128			132	1	11	121	133	46	101	6	153	1	0	1	2
3rd 15 min	7	148			155	3	4	115	122	34	79	8	121	1	0	2	3
4th 15 min	3	156			159	0	3	123	126	32	77	10	119	9	0	0	9
HV Vol	1	19			20	1	1	10	12	6	17	2	25	1			1
	22	571	0	0	593	5	29	484	0	518	151	353	29	0	533	17	0	3	0	20

25 :: McGrath Hwy at Somerville Ave

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	29	241	30		300				0	9	48	8	65	13	80	22	115
2nd 15 min	32	269	53		354				0	5	45	7	57	31	65	20	116
3rd 15 min	27	296	37		360				0	4	44	10	58	18	73	22	113
4th 15 min	31	251	51		333				0	6	38	14	58	34	75	17	126
HV Vol	10	21	21		52				0	3	3	1	7	3	13	5	21
	119	1057	171	0	1347	0	0	0	0	0	24	175	39	0	238	96	293	81	0	470

26 :: Highland Ave at Lowell St

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	31	0	37		68	8	83	0	91	12	10	3	25	0	101	3	104
2nd 15 min	38	0	39		77	9	139	0	148	10	16	8	34	0	77	5	82
3rd 15 min	44	0	37		81	6	118	0	124	7	14	4	25	0	86	8	94
4th 15 min	27	0	55		82	2	87	0	89	10	27	9	46	0	103	12	115
HV Vol	4		2		6		17		17		3		3		14		14
	140	0	168	0	308	25	427	0	0	452	39	67	24	0	130	0	367	28	0	395

27 :: Highland Ave and Central St

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	15	73	8		96	7	66	7	80	6	55	5	66	7	106	5	118
2nd 15 min	12	54	6		72	10	90	12	112	12	43	12	67	8	109	8	125
3rd 15 min	12	43	4		59	2	67	2	71	11	45	3	59	9	83	7	99
4th 15 min	8	49	8		65	3	59	5	67	13	47	16	76	9	81	5	95
HV Vol	3	1	1		5	1	12	1	14	2	3	3	8		13	1	14
	47	219	26	0	292	22	282	26	0	330	42	190	36	0	268	33	379	25	0	437

28 :: Highland Ave and School St

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	29	54	59		142	0	88	9	97				0	0	115	0	115
2nd 15 min	27	58	56		141	0	103	11	114				0	2	120	0	122
3rd 15 min	18	78	46		142	0	97	7	104				0	5	110	0	115
4th 15 min	15	59	32		106	0	69	11	80				0	8	136	0	144
HV Vol	2	2	1		5		15	2	17				0		15		15
	89	249	193	0	531	0	357	38	0	395	0	0	0	0	0	15	481	0	0	496

29 :: Washington St at Mt Vernon Rd/Innerbelt Rd

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	3	0	2		5	0	207	52	259	20	0	12	32	12	64	0	76
2nd 15 min	3	0	1		4	0	213	68	281	19	0	19	38	15	82	0	97
3rd 15 min	7	0	2		9	0	226	53	279	31	0	14	45	28	79	0	107
4th 15 min	6	1	4		11	0	144	72	216	15	0	14	29	26	92	0	118
HV Vol					0		42	18	60	19		15	34	1	35		36
	19	1	9	0	29	0	790	245	0	1035	85	0	59	0	144	81	317	0	0	398

30 :: McGrath Hwy at Washinton St (west side north)

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min	100	32			132		152		152				0		121		121
2nd 15 min	101	24			125		134		134				0		112		112
3rd 15 min	104	42			146		140		140				0		107		107
4th 15 min	88	25			113		106		106				0		105		105
HV Vol	20	6			26		31		31				0		20		20
	393	123	0	0	516	0	532	0	0	532	0	0	0	0	0	0	445	0	0	445

31 :: McGrath Hwy at Washinton St (west side south)

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min		27	4		31			120	120				0	7	52		59
2nd 15 min		12	11		23			119	119				0	2	71		73
3rd 15 min		32	10		42			103	103				0	10	68		78
4th 15 min		17	9		26			110	110				0	7	62		69
HV Vol		6	1		7			23	23				0	1	26		27
	0	88	34	0	122	0	0	452	0	452	0	0	0	0	0	0	26	253	0	0	279

32 :: McGrath Hwy at Washinton St (east side)

	From North				From East				From South				From West				
	R	T	L	U	R	T	L	U	R	T	L	U	R	T	L	U	
1st 15 min					0	16	267	0	283	88	44	4	136				0
2nd 15 min					0	32	257	0	289	127	47	3	177				0
3rd 15 min					0	19	229	0	248	103	44	8	155				0
4th 15 min					0	13	213	0	226	99	43	5	147				0
HV Vol					0	8	48		56	34	18	5	57				0

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0 0 0 0 0 80 966 0 0 1046 417 178 20 0 615 0 0 0 0 0

33:: Union Square

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	14	79	69		162	91	112	108		311					0	14	67	8		89
2nd 15 min	10	74	74		158	94	114	125		333					0	11	65	8		84
3rd 15 min	14	76	82		172	91	99	117		307					0	21	65	11		97
4th 15 min	17	73	68		158	93	67	107		267					0	15	71	6		92
HV Vol	8	6	15		29	26	33	16		75					0	5	28			33
	55	302	293	0	650	369	392	457	0	1218	0	0	0	0	0	61	268	33	0	362

34 :: Beacon St at Washington St/Kirkland St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	35	125	8		168	9	93	12		114	6	55	7		68	11	48	7		66
2nd 15 min	28	105	13		146	11	73	15		99	7	61	2		70	8	46	8		62
3rd 15 min	36	101	6		143	18	83	9		110	2	69	8		79	10	59	16		85
4th 15 min	26	117	7		150	17	65	7		89	11	56	7		74	4	35	18		57
HV Vol	4	13	4		21	4	26	6		36	3	20	1		24	1	15	1		17
	125	448	34	0	607	55	314	43	0	412	26	241	24	0	291	33	188	49	0	270

35 :: Prospect St at Somerville Ave

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	242				242	4	42			46	12	117	25		154		102	52		154
2nd 15 min	276				276	12	43			55	16	116	28		160		103	63		166
3rd 15 min	268				268	7	41			48	16	114	31		161		112	54		166
4th 15 min	193				193	14	32			46	17	121	43		181		90	42		132
HV Vol	61				61	1	14			15	1	28	7		36		24	20		44
	979	0	0	0	979	37	158	0	0	195	61	468	127	0	656	0	407	211	0	618

36 :: Prosepect St at Webster St

	From North					From East					From South					From SouthWest					From West				
	HR	R	T	L		R	T	L	HL		R	T	L	HL		HR	R	L	HL		HR	R	T	L	
1st 15 min					0	35	0	18		53	2	68	0	7	77					0	0	86	89	34	209
2nd 15 min					0	37	0	11		48	6	65	0	2	73					0	1	76	95	22	194
3rd 15 min					0	48	0	9		57	6	83	0	5	94					0	1	77	112	20	210
4th 15 min					0	39	0	22		61	5	78	0	5	88					0	2	69	114	18	203
HV Vol					0	14		2		16	1	2		1	4					0		5	10	9	24
	0	0	0	0	0	159	0	60	0	219	19	294	0	19	332	0	0	0	0	0	4	308	410	94	816

37 :: Prosepct St at Cambridge St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	3	79	4		86	2	66	23		91	12	55	4		71	5	68	12		85
2nd 15 min	12	62	6		80	2	83	17		102	17	50	10		77	2	63	15		80
3rd 15 min	15	76	7		98	5	75	17		97	13	64	5		82	1	75	12		88
4th 15 min	6	71	5		82	3	80	20		103	25	65	11		101	4	65	8		77
HV Vol	1	8	2		11		30	4		34	5	7	1		13	1	16	1		18
	36	288	22	0	346	12	304	77	0	393	67	234	30	0	331	12	271	47	0	330

38 :: Prospect St at Hampshire St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	2	87	4		93	1	54	8		63	3	57	18		78	17	98	2		117
2nd 15 min	2	74	4		80	5	58	13		76	4	61	22		87	19	101	4		124
3rd 15 min	2	75	3		80	7	64	10		81	12	68	28		108	17	106	4		127
4th 15 min	2	81	3		86	3	55	4		62	9	80	25		114	19	110	5		134
HV Vol	2	7	1		10	2	9	1		12	1	5	12		18	5	4	2		11
	8	317	14	0	339	16	231	35	0	282	28	266	93	0	387	72	415	15	0	502

39 :: Mystic Valley Pkwy at Auburn St (East)

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	42	0	4		46	1	247	0		248					0	0	223	12		235
2nd 15 min	31	0	3		34	6	255	0		261					0	0	215	7		222
3rd 15 min	34	0	4		38	7	245	0		252					0	0	196	13		209
4th 15 min	33	0	2		35	9	249	0		258					0	0	193	14		207
HV Vol	0	0	0		0	1	4	0		5					0	0	1	0		1
	140	0	13	0	153	23	996	0	0	1019	0	0	0	0	0	0	827	46	0	873

40 :: Main St at Clipper Ship Dr

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	0	344	2		346					0	87	15	0	0	102	18	0	0		18
2nd 15 min	0	372	2		374					0	102	24	0	0	126	64	3	0		67
3rd 15 min	0	354	6		360					0	103	18	0	0	121	75	2	0		77
4th 15 min	0	364	4		368					0	100	19	0	1	120	56	2	0		58
HV Vol	0	35	3		38					0	22	12	0	0	34	12	0	0		12
	0	1434	14	0	1448	0	0	0	0	0	392	76	0	1	469	213	7	0	0	220

41 :: Main St at George St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	100	125	0		225					0	0	128	25		153	29	0	38		67
2nd 15 min	108	116	0		224					0	0	86	23		109	36	0	35		71
3rd 15 min	104	108	0		212					0	0	77	16		93	33	0	41		74
4th 15 min	97	112	0		209					0	0	80	19		99	24	0	45		69
HV Vol	16	30	0		46					0	0	19	7	0	26	4	0	4		8
	409	461	0	0	870	0	0	0	0	0	0	371	83	0	454	122	0	159	0	281

42 :: College Ave at George St

	From North					From East					From South					From West				
	R	T	L	U		R	T	L	U		R	T	L	U		R	T	L	U	
1st 15 min	3	7	1		11	1	48	78		127	28	6	13		47	30	49	4		83
2nd 15 min	0	0	1		1	0	46	83		129	23	4	5		32	39	41	3		83
3rd 15 min	0	0	0		0	2	47	72		121	23	5	11		39	28	43	5		76
4th 15 min	0	3	1		4	1	34	77		112	30	0	11		41	29	48	3		80
HV Vol	0	0	0		0	0	12	6		18	1	0	0	0	1	0	7	0		7
	3	10	3	0	16	4	175	310	0	489	104	15	40	0	159	126	181	15	0	322

Roadway and Traffic Signal Inventory

Existing Conditions

Evaluation of the transportation impacts associated with the Project requires a thorough understanding of the existing transportation conditions in the study area. Existing transportation conditions in the study area include roadway geometry and traffic controls. Each of these elements is described in detail below.

Roadways

Interstate 93

Interstate 93 is the only interstate highway near the study area, running from the Massachusetts/New Hampshire border near Methuen to Canton where it terminates at I-95. I-93 forms the southeastern boundary of the study area and serves as a major commuting route from the northern suburbs to downtown Boston. The only access to I-93 inbound near the study area is at the Route 28/38 intersection, adjacent to the Assembly Square Mall. Access from I-93 northbound is also possible at the Route 28/38 intersection and at a recently completed exit ramp to Cambridge Street/Washington Street near Sullivan Square on the Boston/Somerville city line. Access to and from I-93 north of the study area is available at the Mystic Avenue interchange on the Somerville/Medford city line. Supplemental connections between the study area and I-93 are also possible via Rutherford Avenue in Charlestown and via Leverett Circle in Boston. In the study area, I-93 carries nearly 150,000 vehicles per day with an average of 125 auto accidents per year.

Route 28/McGrath-O'Brien Highway

Route 28/McGrath-O'Brien Highway is a major multilane arterial that provides alternative connections from I-93 to Cambridge and downtown Boston. To the north of the study area, Route 28 is known as the Fellsway, which traverses Medford. To the south of the study area, Route 28 travels though Leverett Circle where connections are possible to the interstate system and Storrow Drive. Route 28 also provides important circulation functions within the study area linking Medford and the Assembly Square neighborhood to Winter Hill, East Somerville, and East Cambridge. Near Lechmere Station, Route 28 carries over 40,000 vehicles per day with 65,000 vehicles per day between Medford/Highland and Washington Streets. Approximately 170 auto accidents occur along this corridor annually. Observed truck volumes on Route 28 south of Medford Street are between 500 and 1000.

Route 38/Mystic Avenue

Route 38/Mystic Avenue parallels I-93 offering access to commercial areas in Somerville and Medford and providing links to I-93 entrance and exit ramps. Mystic Avenue begins near Medford Square and ends near Sullivan Square in Charlestown. Mystic Avenue is generally a four-lane arterial carrying approximately 35,000 vehicles per day. Approximately 205 auto accidents occur annually along this corridor.

Route 16/Mystic Valley Parkway

Route 16/Mystic Valley Parkway travels through the northern section of the study area in an east-west direction linking Wellington Station and Alewife Station. Route 16 is generally a four-lane arterial roadway carrying approximately 20,000 vehicles per day. The corridor averages 236 auto accidents annually.

Route 60/High Street

Route 60/High Street travels through the northern section of the study area in an east-west direction linking Medford Square and Winthrop Square to West Medford. Route 60 is two-lane arterial roadway carrying approximately 18,000 vehicles per day with approximately 90 auto accidents a year.

Broadway

Broadway crosses the study area in a northwest-southeast direction linking Powderhouse Square near Tufts University to East Somerville and Sullivan Square via the Winter Hill neighborhood. Between Powderhouse Square and Sullivan Square, Broadway is generally a four-lane arterial roadway carrying between 20,000 and 30,000 vehicles per day. The corridor averages approximately 195 auto accidents a year. Truck volumes on sections of Broadway can be up to 499 trucks per day.

Washington Street

Washington Street runs in an east-west direction across the southern portion of the study area, linking Union Square to Sullivan Square. In general, Washington Street is two-lane arterial roadway carrying approximately 11,000 vehicles per day and averaging 120 auto accidents a year. East of Route 28, there are 29,000 vehicles per day on this segment of Washington Street. Observed truck volumes on Washington Street range between 1000 and 2500 trucks per day.

Medford Street

Medford Street crosses the study area in a north-south direction beginning in Medford Square as Main Street and crosses Harvard Street where it becomes Medford Street. Medford Street then enters Somerville as it crosses Broadway at Magoun Square and continues behind the Somerville City Hall/High School

complex where it crosses the MBTA's Lowell Line at Gilman Square. Medford Street continues to the south and runs parallel with Route 28 to the east of Union Square. South of Somerville Avenue, Medford Avenue separates from Route 28, crossing the MBTA's Fitchburg Line and the Grand Junction Branch where it enters Cambridge and becomes Gore Street behind the Twin City Shopping Plaza. Gore Street terminates at Route 28 and the northwest corner of the existing Lechmere Station. In general, Medford Street is a two-lane arterial roadway carrying approximately 21,000 vehicles per day. On an annual average, 80 auto accidents occur along the Medford Street corridor through the City of Somerville. Observed truck volumes on sections of Medford Street can range from 0 to 499 trucks per day.

Highland Avenue

Highland Avenue crosses the study area in an east-west direction, beginning at Davis Square, passing by Somerville Hospital and the Somerville City Hall/ High School complex and ending at Medford Street near its intersection with Route 28. Highland Avenue serves a critical function in connecting the primary commercial district of Somerville (Davis Square) with its government and medical centers. In many ways, Highland Avenue is a symbolic "Main Street" for Somerville. Highland Avenue is a two-lane roadway carrying approximately 13,000 vehicles per day, with approximately 90 auto accidents a year. Observed truck volumes on sections of Highland Avenue can range from 1000 to 1499 trucks per day.

Somerville Avenue

Somerville Avenue runs in an east-west direction along the MBTA's Fitchburg Commuter Rail Line, beginning at Porter Square and continuing through Union Square. The land uses fronting Somerville Avenue are generally commercial or light industrial with residential neighborhoods located to the north of the roadway. Somerville Avenue ends at Route 28, approximately one mile west of Lechmere Station. Somerville Avenue is a two-lane roadway carrying approximately 8,000 vehicles per day, with approximately 18,000 vehicles per day at Bow Street and Somerville Avenue. Approximately 140 auto accidents occur annually on Somerville Avenue. Observed truck volumes on Somerville Avenue can range from 1000 to 2499 trucks per day in the vicinity of Union Square, and range from 1000 to 1999 trucks per day near Davis Square.

Elm Street

Elm Street begins at Davis Square and connects to Somerville Avenue just to the east of Porter Square. Elm Street provides an important connection between Davis Square and Union Square via Somerville Avenue. Elm Street generally forms the southwestern edge of the study area and is a two-lane arterial carrying approximately 11,000 vehicles per day, with approximately 40 auto accidents a year. In the vicinity of Porter Square, there are approximately 15,900 vehicles per day.

Observed truck volumes on Elm Street in the vicinity of Porter Square can range between 0 and 499 trucks per day.

College Avenue

College Avenue begins at Davis Square and traverses the study area in a southwest-northeast direction. Approximately one-half mile northeast of Davis Square, College Avenue enters Powderhouse Square and turns to the north, traveling through the Tufts University campus crossing Boston Street and ending at Summer Street in the Medford Hillside neighborhood in Medford. College Avenue is generally a two-lane arterial carrying 11,000 vehicles per day. The auto accident rate along this corridor in Somerville is approximately 40 accidents per year.

Boston Avenue

Boston Avenue enters the study area from West Medford and continues across Somerville and Medford in a northwest-southeast direction. Boston Avenue parallels the MBTA's Lowell Commuter Rail Line and passes near Tufts University at its intersection with College Avenue. Boston Avenue then continues to an intersection with Broadway at Ball Square, where its character changes to that of a neighborhood residential street. Boston Avenue is generally two lanes and carries between 11,000 and 18,000 vehicles per day. Approximately 20 auto accidents occur along the Boston Street corridor within the City of Somerville.

Curtis Street/Winthrop Street

Curtis Street/Winthrop Street begins with Curtis Street at Teele Square to the northwest of Davis Square in Somerville and continues in a north-south direction to the Somerville/Medford City Line on the west side of the Tufts University campus. In Medford the roadway is named Winthrop Street and continues across the Mystic River into West Medford. Curtis Street/Winthrop Street is a two-lane roadway that carries between 8,000 and 10,000 vehicles per day. Approximately 15 auto accidents occur along this corridor annually. Curtis and Winthrop Streets generally form the northwestern boundary of the study area.

Intersections

Mystic Valley Parkway/Alewife Brook Parkway

The intersection of Mystic Valley Parkway/Alewife Brook Parkway is an unsignalized roundabout. Mystic Valley travels into the roundabout from the west and the north while the Alewife Brook Parkway approach from the south. The Mystic Valley Parkway eastbound approach consists of one lane entering and exiting the roundabout. The Mystic Valley Parkway southbound approach consists of two striped lanes just prior to and two lanes exiting the roundabout. The Alewife Brook

Parkway northbound approach consists of two lanes entering and exiting the roundabout. The roundabout has delta islands to separate the approach lanes from the departure lanes on each leg while in the center of the roundabout has a raised circular island to enforce the flow direction. All of these approaches are under "YIELD" control. In addition, there is a side street, Capen Street, consisting of one general-purpose lane entering from the east into the roundabout. This approach does not have a delta island separating the approach from the departure and is under "STOP" control.

There are sidewalks present on all approaches, with the exception being that there is only sidewalk present on the north side of Capen Street. However, there are no crosswalks located at this intersection. Land use in the area consists of commercial uses in the vicinity of the intersection.

Mystic Valley Parkway/Auburn Street

The intersection of Mystic Valley Parkway and Auburn Street is an off-set signalized intersection. Mystic Valley Parkway runs in an east-west direction while Auburn Street intersects from the north-south. The Mystic Valley Parkway eastbound approach consists of a through lane and a shared through/right-turn lane. There is a delta island channelizing the right-turn movement, but it is close to the intersection and does get blocked by the through movement. The Mystic Valley Parkway westbound approach consists of two general-purpose lanes. The Auburn Street northbound and southbound approaches consist of one general-purpose lane. A raised median island separates the northbound approach lane from the departure lane while another raised island channelize the eastbound right turn.

There are sidewalks and crosswalks present on all approaches. The intersection operates as a four phase fully-actuated signal which includes an exclusive pedestrian phase and split phasing for Auburn Street. Land use in the area consists of Retail uses on the southeast corner of the intersection while residential uses are to the northwest of the intersection.

Mystic Valley Parkway/Winthrop Street

The intersection of Mystic Valley Parkway and Winthrop Street is a four-way signalized intersection. Mystic Valley Parkway runs in an east-west direction while Winthrop Street intersects from the north-south. The Mystic Valley Parkway eastbound approach consists of two general-purpose lanes. The Mystic Valley Parkway westbound approach consists of a through lane and an exclusive right-turn lane. The Winthrop Street northbound and southbound approaches consist of one general-purpose lane.

Sidewalks are present on all approaches, with the exception of on the south side of Mystic Valley Parkway. Crosswalk is located across each leg of the intersection. The intersection operates as a four phase fully-actuated signal which includes an

exclusive pedestrian phase and a southbound lead phase. Land use in the area consists of residential uses north of the intersection while parkway is present south of the intersection.

Boston Avenue/High Street/Sagamore Avenue

The intersection of Boston Avenue and High Street/Sagamore Avenue is a four-way unsignalized intersection. High Street runs in an east-west direction with Sagamore Avenue approaching from the north and Boston Avenue approaching from the south. The High Street eastbound and westbound approaches consist of a general purpose lane. Both the Sagamore Avenue southbound approach and the Boston Avenue northbound approach consist of a gerenal purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection is under flashing control, with High Street under flashing yellow control and Boston Avenue under flashing red (STOP) control. However, it was observed in the field that this flashing unit was not working presently. Land use in the area consists mainly of residential use in the immediate vicinity of the intersection.

Mystic Valley Parkway/Boston Avenue

The intersection of Mystic Valley Parkway and Boston Avenue forms a four-way signalized intersection. Mystic Valley Parkway runs in an east-west direction, and Boston Avenue approaches from the north and south. The Mystic Valley Parkway eastbound and westbound approaches consist of two general purpose lanes. The Boston Avenue northbound and southbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase fully-actuated signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses south of the intersection while parkway is present north of the intersection.

Boston Avenue/North Street

The intersection of Boston Avenue and North Street forms a four-way signalized intersection. Boston Avenue runs in a north-south direction, and North Street approaches from the east and west. The Boston Avenue northbound and southbound approaches consist of a general purpose lane. The North Street eastbound and westbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Boston Avenue/Winthrop Street

The intersection of Boston Avenue and Winthrop Street forms a four-way signalized intersection. Boston Avenue runs in a north-south direction, and Winthrop Street approaches from the east and west. The Boston Avenue northbound and southbound approaches consist of a general purpose lane. The Winthrop Street eastbound and westbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Boston Avenue/College Avenue

The intersection of Boston Avenue and College Avenue forms a four-way signalized intersection. Boston Avenue runs in a north-south direction, and College Avenue approaches from the east and west. The Boston Avenue northbound approach consists of a general purpose lane and the southbound approach consists of a shared left/through lane and an exclusive right-turn lane. The College Avenue eastbound approach consists of an exclusive left-turn lane and a shared through/right-turn lane and the westbound approach consists of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a four phase fully-actuated signal which includes an exclusive pedestrian phase and split phasing for the side streets. Land use in the area consists mainly of Tufts University buildings in the immediate vicinity of the intersection.

Boston Avenue/Harvard Street/Warner Street

The intersection of Boston Avenue and Harvard Street/Warner Street forms a four-way signalized intersection. Boston Avenue runs in a north-south direction, Harvard Street approaches from the east and Warner Street approaches from the west. The Boston Avenue northbound and southbound approaches consist of a general purpose lane. The Harvard Street westbound approach consists of a shared left/through lane and an exclusive right-turn lane. The Warner Street eastbound approach consists of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a five phase fully-actuated signal which includes an exclusive pedestrian phase and lead phasing for the Harvard Street westbound approach and the Boston Street southbound approach. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Boston Avenue/Broadway

Broadway intersects Boston Avenue from the east and west, and Rodgers Street intersections Boston Avenue from the southwest to form this 5-legged, signalized intersection. Rodgers is one-way away from the intersection. Boston Avenue runs in a north-south direction. Rodgers approaches the intersection from the southwest and Broadway runs in an east-west direction. Boston Avenue northbound consists of a shared left-turn/through lane, and a right-turn lane. The Boston Avenue southbound approach consists of one lane allowing all movements and an exclusive right-turn lane. The Broadway eastbound approach consists of a shared left-turn/through lane, and the westbound approach consists of a single lane allowing all movements.

The intersection operates as a two phase signal which includes an exclusive pedestrian phase. Land use in the area consists of residential, retail and commercial uses.

Broadway/Winchester Street/Albion Street

Winchester Street intersects Broadway from the north, and Albion Street intersects Broadway from the northeast to form this four-legged, unsignalized intersection. Albion Street operates in a one-way direction towards the intersection. All approaches to this intersection consist of a single lane allowing all movements. Winchester Street and Albion Street operate under STOP control. Land use in the vicinity of this intersection consists of residential, retail and commercial uses.

Powder House Blvd/College Avenue/Broadway/Warner Street

The intersection of Powder House Boulevard and College Avenue/Broadway/Warner Street forms a six-legged partially signalized rotary. College Avenue runs in a north-south direction, Broadway approaches from the east and west, Powder House Boulevard approaches from the northwest and Warner Street approaches from the northeast. Each approach consists of a general purpose lane entering and exiting the rotary. Each leg has a raised delta island separating the approach traffic from the departing. At the center of the rotary is a raised circular island to enforce flow direction.

Sidewalks and crosswalks are present on all approaches. In addition, there are also three crossings to the center island of the rotary. The intersection operates under flashing operation unless a pedestrian actuated one of the four crossings under signal control. These crossing are the three to the central island and the crossing on the Broadway eastbound approach. When the pedestrian phase is actuated, the signal

goes from flashing operation to the exclusive pedestrian phase. Once the exclusive pedestrian phase is serviced, the signal reverts back to flashing operation again. Land use in the area consists of residential, retail and park land uses in the immediate vicinity of the intersection.

Main Street/High Street/Salem Street/Forest Avenue/Riverside Avenue

The intersection of Main Street and High Street/Salem Street/Forest Avenue/Riverside Avenue/Clipper Ship Road forms a six-leg signalized intersection. Main Street/Forest Street runs in a north-south direction, High Street approaches from the west, Riverside Avenue approaches from the east and Salem Street approaches from the northeast. Clipper Ship Road runs parallel with Riverside Avenue and intersects Main Street just south on the main intersection. The Main Street northbound approach consists of a through land and a channelized right-tune lane at Clipper Ship Road and as it continues northbound is becomes a right-turn only land onto Riverside Avenue. The Forest Street southbound approaches consist of a general purpose lane. Salem Street is a one-way street entering the intersection for the northeast and consists of two left-turn lanes and a shared through/right-turn lane. The High Street eastbound approach consists of a through lane and a channelized right-turn lane. Both Riverside Avenue and Clipper Ship Road are one-way street exiting the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a interval based pre-timed signal with concurrent pedestrian movements. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Main Street/South Street/Mystic Valley Parkway EB Ramps

The intersection of Main Street and South Street/Mystic Valley EB Ramps forms a four-legged unsignalized intersection. Main Street runs in a north-south direction, both South Street and Mystic Valley Parkway EB Off-Ramp merge just west of the intersection and the Mystic Valley Parkway EB On-Ramp exiting the intersection to the east. The Main Street northbound consists of a shared through/right-turn lane and the southbound approach consists of a shared left/through lane. The South Street/Mystic Valley Parkway EB Off-Ramp eastbound approach consists of a general purpose lane.

Sidewalks are present along all approaches. Crosswalks are present on the Main Street northbound approach and the South Street/Mystic Valley Parkway EB Ramps eastbound and westbound approaches. The intersection operates under flashing operation, with Main Street getting a flashing yellow indication and South Street/Mystic Valley Parkway EB Off-Ramps getting a flashing red indication. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Main Street/Mystic Valley Parkway WB Ramps

The intersection of Main Street and Mystic Valley WB Ramps forms a four-legged unsignalized intersection. Main Street runs in a north-south direction and the Mystic Valley Parkway WB Ramp intersect form the east and west. The Main Street northbound consists of a shared left/through lane and the southbound approach consists of a shared through/right-turn lane. Mystic Valley Parkway WB Off-Ramp westbound approach consists of a general purpose lane.

Sidewalks are present along all approaches. Crosswalks are present on the Main Street southbound approach and the Mystic Valley Parkway WB Ramps eastbound and westbound approaches. The intersection operates under flashing operation, with Main Street getting a flashing yellow indication and Mystic Valley Parkway WB Off-Ramps getting a flashing red indication. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Main Street/Mystic Avenue

The intersection of Main Street and Mystic Avenue/Fire Station Driveway forms a four-legged unsignalized intersection. Main Street enters from the north and west of the intersection, Mystic Avenue enters from the south and the Fire Station Driveway enters from the east. The Main Street northbound consists of a shared left/through lane and a channelized right-turn lane. The Main Street eastbound approach consists of a general purpose lane. The Mystic Avenue northbound approach consists of a general purpose lane and the Fire Station westbound approach consists of a general purpose lane.

Sidewalks are present along all approaches. Crosswalks are present on the Main Street southbound approach and the Mystic Avenue northbound approach. The intersection operates under flashing operation, with Main Street southbound and Mystic Avenue northbound getting a flashing yellow indication and Main Street and the Fire Station Driveway getting a flashing red indication. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Main Street/George Street

The intersection of Main Street and George Street forms a three-legged unsignalized intersection. Main Street runs in a north-south direction and George Street approaches from the west. The Main Street northbound and southbound approaches consist of a general purpose lane. The George Street eastbound approach consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates under flashing operation, with Main Street northbound and southbound getting a flashing yellow indication and George Street getting a flashing red indication. Land use in the area consists of residential uses in the immediate vicinity of the

intersection.

College Avenue/George Street

The intersection of College Avenue and George Street forms a four-way unsignalized intersection. College Avenue runs in a north-south direction and George Street approaches from the east and west. The College Avenue northbound and southbound approaches consist of a general purpose lane. The George Street eastbound and westbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection is under "STOP" control for all approaches. Land use in the area consists of residential uses in the immediate vicinity of the intersection.

Main Street/Harvard Street

The intersection of Main Street and Harvard Street forms a four-way signalized intersection. Main Street runs in a north-south direction and Harvard Street approaches from the east and west. The Main Street northbound and southbound approaches consist of a general purpose lane. The Main Street southbound approach also has angled parking ending just prior to the intersection. The Harvard Street eastbound and westbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase fully-actuated signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Medford Street/Broadway

The intersection of Medford Street and Broadway/Dexter Street/CVS & Dunkin Donuts Driveway forms a six-legged signalized intersection. Medford Street runs in a north-south direction, Broadway runs east-west, Dexter Street approaches from the northeast and the CVS/Dunkin Donuts Driveway approaches from the southwest. The Medford Street northbound and southbound approaches consist of a general purpose lane. The Broadway eastbound approach consists of two un-striped general purpose lanes. The Broadway westbound approach consists of a shared left/through lane, a through lane and an exclusive right-turn lane. The Dexter Street southwest approach consists of a general purpose lane. The CVS/Dunkin Donuts Driveway northeast approach consists of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a five phase fully-actuated signal which includes an exclusive pedestrian phase and split phasing for the Medford Street approaches. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Medford Street/Lowell Street

The intersection of Medford Street and Lowell Street forms an unsignalized T-intersection. Medford Street runs in a north-south direction and Lowell Street intersects from the west. The Medford Street northbound and southbound approaches consist of a general purpose lane. The Lowell Street eastbound approach consists of a general purpose lane.

Sidewalks are present on all approaches. Crosswalks are present on the Medford Street southbound approach and the Lowell Street approach. The intersection is unsignalized with the Lowell Street under "STOP" sign control. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Medford Street/Central Street

The intersection of Medford Street and Central Street forms a four-way signalized intersection. Medford Street runs in a north-south direction while Central Street runs east-west. The Medford Street northbound and southbound approaches consist of a general purpose lane. The Central Street eastbound and westbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Medford Street/School Street

The intersection of Medford Street and School Street forms a four-legged signalized intersection. Medford Street runs in a north-south direction while School Street runs east-west. The Medford Street northbound and southbound approaches consist of a general purpose lane. The School Street westbound approaches consist of a general purpose lane. The School Street west leg is a one-way street away from the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Medford Street/Pearl Street

Pearl Street intersects Medford Street from the east to form this three-legged, unsignalized intersection. Medford Street runs in a north-south direction, while Pearl Street runs northwest-southwest. The Medford Street northbound and southbound approaches consist of

a single shared lane allowing all movements, and the Pearl Street approach consist of a single lane allowing all movements. Pearl Street is under STOP control. Land use in the area consists of residential and commercial uses along with a park in the southeast corner of the intersection.

Medford Street/Walnut Street

The intersection of Medford Street and Walnut Street forms a four-legged signalized intersection. Medford Street runs in a north-south direction while Walnut Street runs east-west. The Medford Street northbound approach consists of a shared through/right-turn lane and the southbound approach consist of a shared left/through lane. The Walnut Street eastbound approach consists of a general purpose lane. The Walnut Street east leg is a one-way street away from the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Medford Street/Highland Avenue/Hamlet Street

The intersection of Medford Street and Highland Avenue forms a four-legged signalized intersection. Medford Street runs in a north-south direction while Highland Avenue enters from the northwest and Hamlet Street enters from the west. The Medford Street northbound approach consists of a shared left/through lane and a channelized right-turn lane. The Medford Street southbound approach consists of a general purpose lane. The Highland Avenue southeast approach consists of a general purpose lane. The Hamlet Street eastbound approach consists of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Medford Street/Somerville Avenue/McGrath Highway

The intersection of Medford Street and Somerville Avenue/McGrath Highway forms a four-legged signalized intersection. Medford Street runs in a north-south direction while Somerville Avenue enters from the west. McGrath Highway enters from the north and exits to the east. The Medford Street northbound approach consists of a shared left/through lane, a through lane and a channelized right-turn lane. The Medford Street/McGrath Highway southbound approach consists of a channelized left-turn lane, a through lane and a shared through/right-turn lane. The Somerville Avenue eastbound approach consists of two un-striped general purpose lane. The

McGrath Highway east leg is a one-way street away from the intersection.

Sidewalks are present on all approaches. Crosswalks are present on Medford Street northbound and southbound approaches and the Somerville Avenue eastbound approach. The intersection operates as a three phase pre-timed signal which includes split phasing for Medford Street and unsignalized concurrent pedestrian movements. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Highland Avenue/Lowell Street

The intersection of Highland Avenue and Lowell Street forms a four-legged signalized intersection. Highland Avenue runs in an east-west direction while Lowell Street runs north-south. The Highland Avenue eastbound and westbound approaches consist of a general purpose lane. The Lowell Street northbound and southbound approaches consist of a general purpose lane. Lowell Avenue northbound approach is a one-way street entering the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase fully-actuated signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Highland Avenue/Central Street

The intersection of Highland Avenue and Central Street forms a four-way signalized intersection. Highland Avenue runs in an east-west direction while Central Street runs north-south. The Highland Avenue eastbound and westbound approaches consist of a general purpose lane. The Central Street northbound and southbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase fully-actuated signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail uses in the immediate vicinity of the intersection.

Highland Avenue/School Street

The intersection of Highland Avenue and School Street forms a four-legged signalized intersection. Highland Avenue runs in an east-west direction while School Street runs north-south. The Highland Avenue eastbound and westbound approaches consist of a general purpose lane. The School Street southbound approach is a one-way street consists of a general purpose lane. The School Street west leg is a one-way street exiting the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as

a three phase fully-actuated signal which includes an exclusive pedestrian phase. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Washington Street/Innerbelt Road

The intersection of Washington Street and Innerbelt Road forms a three-way signalized T-intersection. Washington Street runs in an east-west direction while Innerbelt Road intersects from the south. The Washington Street eastbound consists of a through lane and an exclusive right-turn lane and the westbound approach consists of an exclusive left-turn lane and a through lane. The Innerbelt Road northbound approach consists of two un-striped lane.

Sidewalks are present on all approaches. Crosswalks are present on the Washington Street eastbound approach and the Innerbelt Road approach. The intersection operates as a three phase fully-actuated signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail/commercial uses in the immediate vicinity of the intersection.

Washington Street/McGrath Highway

The intersection of Washington Street and McGrath Highway forms a four-legged signalized intersection. Washington Street runs in an east-west direction while McGrath Highway runs north-south. The Washington Street eastbound approach consists of two un-striped channelized left-turn lanes, a through lane and a shared through/right-turn lane. The Washington Street westbound approach consists of three general purpose lanes. The McGrath Highway southbound approach, is divided from the departure by approximately 150 feet of bridge abutments, consists of two un-striped general purpose lane and a channelized left-turn lane. The McGrath Highway northbound approach, is also divided from the departure by approximately 150 feet of bridge abutments, consists of two general purpose lanes.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a five phase pre-timed signal with concurrent pedestrian movements. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Washington Street/Somerville Avenue/Webster Street

The intersection of Washington Street and Somerville Avenue/Webster Street forms a four-legged signalized intersection. Washington Street enters from the west, while Somerville Avenue enters from both the north and the east, and Webster Street exits to the south. The Washington Street eastbound approach consists of two general purpose lanes. The Somerville Avenue westbound approach consists of an exclusive left-turn lane, a through lane and an exclusive right-turn lane. The Somerville Avenue southbound approach consists of an exclusive left-turn lane, a shared left/through lane and a shared through/right-turn lane. Webster Street is a one-way

street away from the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a four phase pre-timed signal, with time-of-day programming, which includes an exclusive pedestrian phase. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Washington Street/Beacon Street/Kirkland Street

The intersection of Washington Street and Beacon Street/Kirkland Street forms a four-way signalized intersection. Washington Street enters from the east, while Kirkland Street enters west, and Beacon Street runs north-south. The Washington Street westbound approach consists of a general purpose lane. The Kirkland Street eastbound approach consists of a general purpose lane. The Beacon Street northbound and southbound approach consists of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Somerville Avenue/ Prospect Street /Washington Street

The intersection of Somerville Avenue and Prospect Street/Washington Street forms a four-legged signalized intersection. Somerville Avenue runs east-west, while Prospect Street enters from the south, and Washington Street enters from the north. The Somerville Avenue eastbound approach consists of a shared left/through land and a through lane. The Somerville Avenue westbound approach consists of a through lane and a shared through/right-turn lane. The Washington Street southbound approach consists of two exclusive left-turn lanes. Prospect Street is a one-way street consisting of an exclusive left-turn lane, a shared left/through lane and a share through/right-turn lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a four phase pre-timed signal, with time-of-day programming, which includes an exclusive pedestrian phase. Land use in the area consists of retail/commercial uses in the immediate vicinity of the intersection.

Prospect Street /Webster Street/Concord Avenue

The intersection of Prospect Street and Webster Street/Concord Avenue forms a five-legged signalized intersection. Prospect Street runs southwest-northeast, while Webster Street runs north-south, and Concord Avenue enters from the west. The Prospect Street northeast approach consists of a general purpose lane. Prospect Street to the northeast is a one-way street away from the intersection. The Webster Street southbound approach is a one-way street consists of a channelize left-turn lane and a

shared through/right-turn lane. The Webster Street northbound approach consists of a general purpose lane. Concord Avenue is a one-way street away from the intersection.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a three phase pre-timed signal which includes an exclusive pedestrian phase. Land use in the area consists of residential and retail/commercial uses in the immediate vicinity of the intersection.

Prospect Street /Cambridge Street

The intersection of Prospect Street and Cambridge Street forms a four-way signalized intersection. Prospect Street runs north-south, while Cambridge Street runs east-west. The Prospect Street northbound and southbound approaches consist of a general purpose lane. The Cambridge Street eastbound and westbound approach consists of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as an interval-based, pre-timed signal, with time-of-day programming, concurrent pedestrian movements and lead-pedestrian intervals. Land use in the area consists of residential and retail/commercial uses in the immediate vicinity of the intersection.

Prospect Street /Hampshire Street

The intersection of Prospect Street and Hampshire Street forms a four-way signalized intersection. Prospect Street runs north-south, while Hampshire Street runs east-west. The Prospect Street northbound approach consists of two general purpose lanes. The Prospect Street southbound approach consists of a general purpose lane. The Hampshire Street eastbound and westbound approaches consist of a general purpose lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as an interval-based, pre-timed signal, with time-of-day programming, concurrent pedestrian movements and lead-pedestrian intervals. Land use in the area consists of residential and retail/commercial uses in the immediate vicinity of the intersection.

O'Brien Highway/Third Street

The intersection of Monsignor O'Brien Highway and Third Street forms a three-legged signalized intersection. O'Brien Highway runs east-west, while Third Street intersects from the south. The O'Brien Highway eastbound and westbound approaches consist of three through lanes. Left and right turns are permitted to Third Street from O'Brien Highway. The Third Street northbound approach consists of a left-turn lane and a second undefined lane (operating often as a left-turn and shared left/right-turn lane during peak periods).

Sidewalks are present on all approaches. Crosswalks are provided for the O'Brien Highway east leg and for Third Street. The intersection operates as a pre-timed signal, with concurrent pedestrian movements. Land use in the area consists of retail and commercial uses in the immediate vicinity of the intersection.

O'Brien Highway/Land Boulevard/Charlestown Avenue

The intersection of Monsignor O'Brien Highway and Land Boulevard/Charlestown Avenue forms a four-way signalized intersection. O'Brien Highway runs east-west, while Land Boulevard intersects from the south and Charlestown Avenue (Gilmore Bridge) intersects from the north. The O'Brien Highway eastbound approach consists of an exclusive left-turn lane, three through lanes, and an exclusive right-turn lane. The O'Brien Highway westbound approach consists of an exclusive left-turn lane, two through lanes and an exclusive right-turn lane. The Land Boulevard northbound approach consists of an exclusive left-turn lane, two through lanes and an exclusive right-turn lane. The Charlestown Avenue (Gilmore Bridge) southbound approach consists of two general purpose lanes.

Sidewalks are present on all approaches. Crosswalks are provided for both legs of O'Brien Highway and for Land Boulevard. The intersection operates as a pre-timed signal, with protected left-turn movements for O'Brien Highway and split phasing for Land Boulevard and Charlestown Avenue. Land use in the area consists of retail and commercial uses in the immediate vicinity of the intersection.

O'Brien Highway/Museum Way

The intersection of Monsignor O'Brien Highway and Museum Way forms a three-legged signalized intersection. O'Brien Highway runs east-west, while Museum Way intersects from the north. The O'Brien Highway eastbound approach consists of a shared left/through lane and two through lanes. The O'Brien Highway westbound approach consists of two through lanes and a shared through/right-turn lane. The Museum Way southbound approach consists of an exclusive left-turn lane and an exclusive right-turn lane.

Sidewalks and crosswalks are present on all approaches. The intersection operates as a four phases actuated signal, with a protected left-turn phase for O'Brien Highway eastbound and an exclusive pedestrian phase. Land use in the area consists of retail and commercial uses in the immediate vicinity of the intersection.

Cambridge Street/First Street

The intersection of Cambridge Street and First Street forms a four-legged signalized intersection. Cambridge Street runs east-west, while First Street intersects from the south and busway exit from the station intersects from the north. The Cambridge Street eastbound and westbound approaches consist of two general purpose lanes, allowing for turning movements from Cambridge Street onto First Street. The First

Street northbound approach consists of an exclusive left-turn lane and an exclusive right-turn lane. The busway exit southbound approach consists of one general purpose lane allowing left-turns to Cambridge Street.

Sidewalks are present on all approaches. Crosswalks are provided for both legs of Cambridge Street and for First Street. The intersection operates as an interval-based, pre-timed signal. Land use in the area consists of retail and commercial uses in the immediate vicinity of the intersection.

O'Brien Highway at Third Street

Third Street intersects Monsignor O'Brien Highway from the south to form a three-legged, T-type, signalized intersection. The Third Street approach consists of a left turn lane and a second undefined lane (operating often as a left-turn and shared left/right-turn lane during peak periods). The Monsignor O'Brien Highway eastbound and westbound approaches each consist of three through lanes. Left and right turns are permitted to Third Street from Monsignor O'Brien Highway.

O'Brien Highway at Water Street

Water Street intersects Monsignor O'Brien Highway from the north to form a three-legged, T-type, unsignalized intersection. Given the center median along O'Brien Highway at this location, Water Street allows for right-turn in/right-turn out movements only. Monsignor O'Brien Highway consists of three lanes in each direction.

O'Brien Highway / North First Street

This intersection does not exist under current conditions

O'Brien Highway / Land Boulevard/Charlestown Avenue

Land Boulevard intersects Monsignor O'Brien Highway from the north and the south to form a four-legged, signalized intersection. The Land Boulevard northbound approach consists of one left-turn lane, two through lanes and one right-turn lane. The Charlestown Avenue (Gilmore Bridge) southbound approach consists of two shared lanes. The Monsignor O'Brien Highway eastbound approach consists of an exclusive left-turn lane, three through lanes, and an exclusive right-turn lane. The Monsignor O'Brien Highway westbound approach consists of an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane. This intersection experiences poor level of service and lengthy queuing during both the morning and evening peak hours.

O'Brien Highway/ Museum Way

Museum Way intersects Monsignor O'Brien Highway from the north to form a three-legged, T-type, signalized intersection. The Museum Way approach consists of one left-turn lane and one right-turn lane. The Monsignor O'Brien Highway eastbound approach consists of a shared left-through lane and two through lanes. The Monsignor O'Brien Highway westbound approach consist of two through lanes and one shared through/right-turn lane.

Cambridge Street /First Street

First Street intersects Cambridge Street from the south to form a four-legged, signalized intersection. The First Street northbound approach consists of one left-turn lane and one right-turn lane. The busway exit from the station on the southbound approach is one-way and consists of a one lane allowing left-turns to Cambridge Street. The Cambridge Street eastbound and westbound approaches consist of two lanes allowing turns into the south leg of First Street and through movements.

O'Brien Highway / East Street

East Street intersects Monsignor O'Brien Highway from the north and Cambridge Street intersects Monsignor O'Brien Highway from the south to form a four-legged, signalized intersection. The East Street southbound approach consists of a single multi-purpose lane. The Cambridge Street northbound approach consists of a shared left-turn/through lane, and two right turn lanes. The Monsignor O'Brien Highway eastbound approach consists of one left-turn lane, three through lanes and an exclusive right-turn lane. The Monsignor O'Brien Highway westbound approach consists of two left-turn lanes, a through lane and one shared through/right-turn lane.

Greenline Extension Roadway Speed Limits

Roadway	Posted Speed Limit (mph)
Mystic Valley Parkway	30
Boston Avenue	30
Winthrop Street	25
Main Street	25
South Street	NP
College Avenue	30
harvard Street	NP
Boroadway Street	30
Medford Street	30
Dexter Street	NP
Highland Street	NP
Central Street	NP
School Street	NP
Somerville Avenue	NP
Webster Avenue	NP
McGrath Highway	35
Washington Street	NP
Monsignor O'Brien Highway	NP
Third Street	NP
Charleston Avenue	30

NP = Speed not posted in vicinity of site

Traffic Report Speed Limits

Mystic Valley Parkway: bweteen Alefwife Brook Parkway and Winthrop Street	30
Boston Avenue : High Street to Harvard Street	30
College Avenue: Powder House to George Street	30
Main Street :	
High Street to Mystic Ave	25
Harvard Street to George St	Not Posted
Medford Street:	
Broadway to Walnut Street	Not Posted
Highland Ave to McGrath Highway	30
Highland Avenue: Lowell Street to Highland Ave/School Street	30
Washington Street: McGrath Highway to Kirkland Street	Not Posted
Prospect Street Somerville Ave to Hampshire Street	Not Posted
O'Brien Highway Third Street to Museum Way	Not Posted
Cambridge Street at First Street	Not Posted

Note: All School zones are posted at 20 mph.

VHB

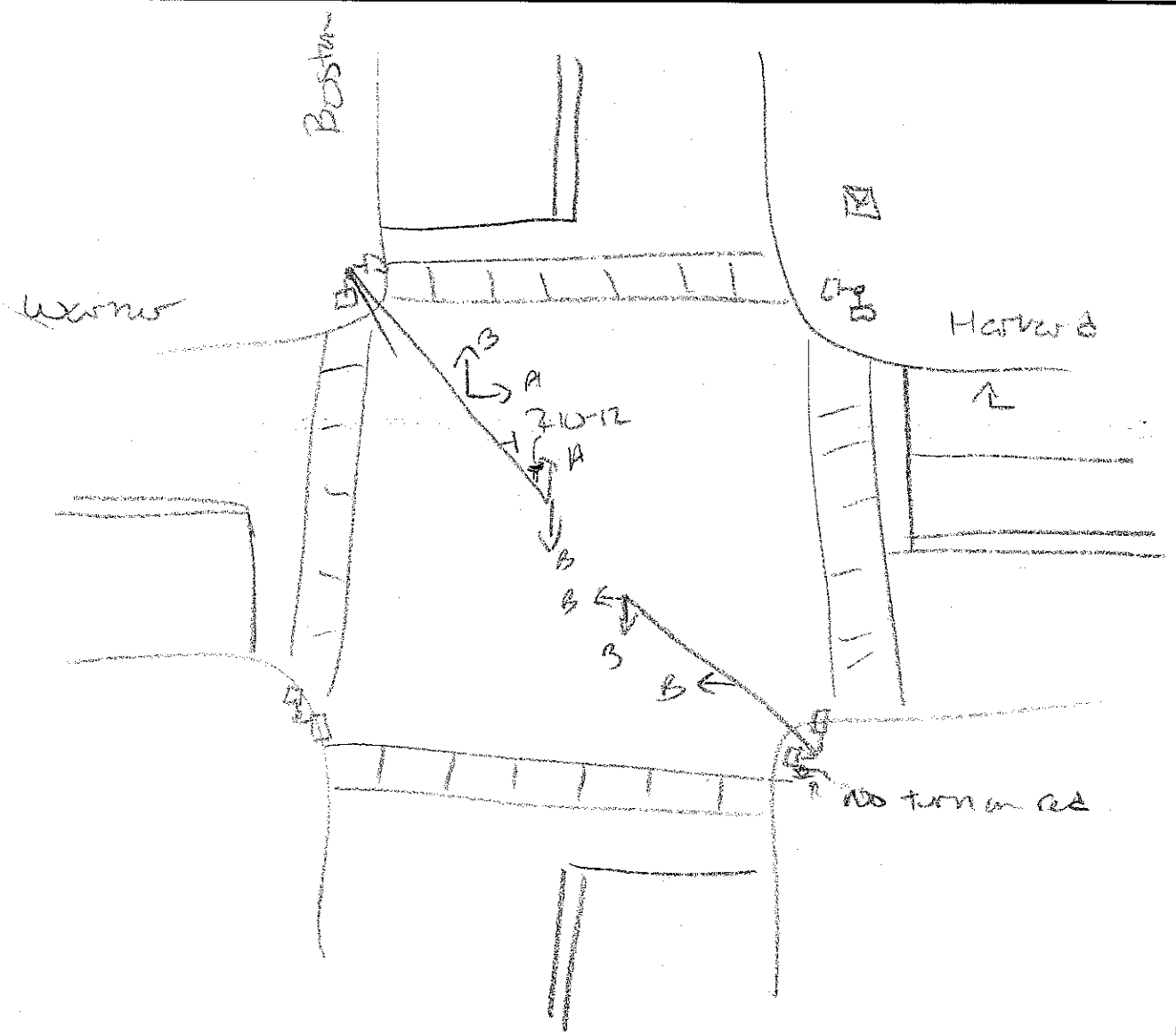
Traffic Signal Inventory

1. Intersection Location

Boston @ Harvard / Warner	Medford
Intersection Name	City or Town

Free	11/10/08	DMG / VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Eagle	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12 P	7	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI NSM-12

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
4 2-channel EDI LM926	

VHB

Traffic Signal Inventory

4. *Signal Head Data*

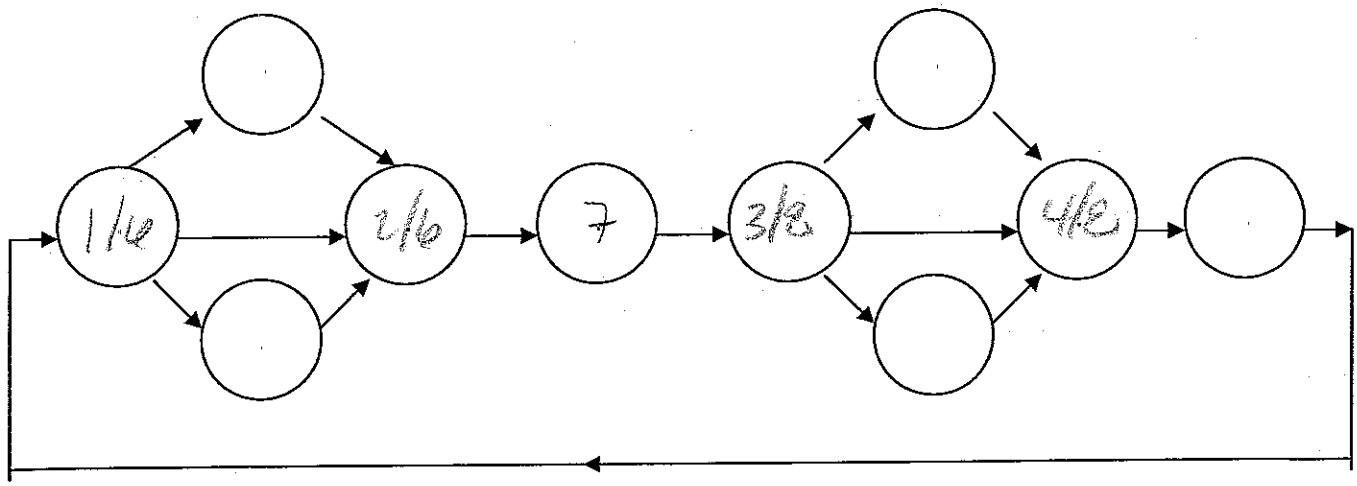
HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L.E.D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	4 sect bi-modal LT									
B	3-sect ball									
pedn	1-sect hand/man									

VHB **Traffic Signal Inventory**

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION
Opticom	3M			

6. *Traffic Signal Phasing Diagram*



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Harvard Lead	Ø2 Warner	Ø3 Boston SB
Ø4 Boston NB	Ø5	Ø6 Harvard
Ø7 Pod	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	6	10	6	6		10		6
Extension (passage) Vehicle Interval	2	2	2	2		2		2
Yellow	4	4	4	4		4		4
Red Clear	1	1	1	1		1		1
Maximum Green I	10	40	10	30		40		30
Maximum Green II	10	30	10	20		30		20
Pedestrian Walk							9	
Pedestrian Clear							10	
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall		Soft				Soft		
Memory	NL	NL	NL	NL		NL	NL	NL
Delay								

Ø1	Ø2	Ø3	Ø4
↖ ↓	→	↔	↑

Ø5	Ø6	Ø7	Ø8
	↖ ↓		↔

MAX 2 : 16-18

11. Notes

12. Recommendations

VHB

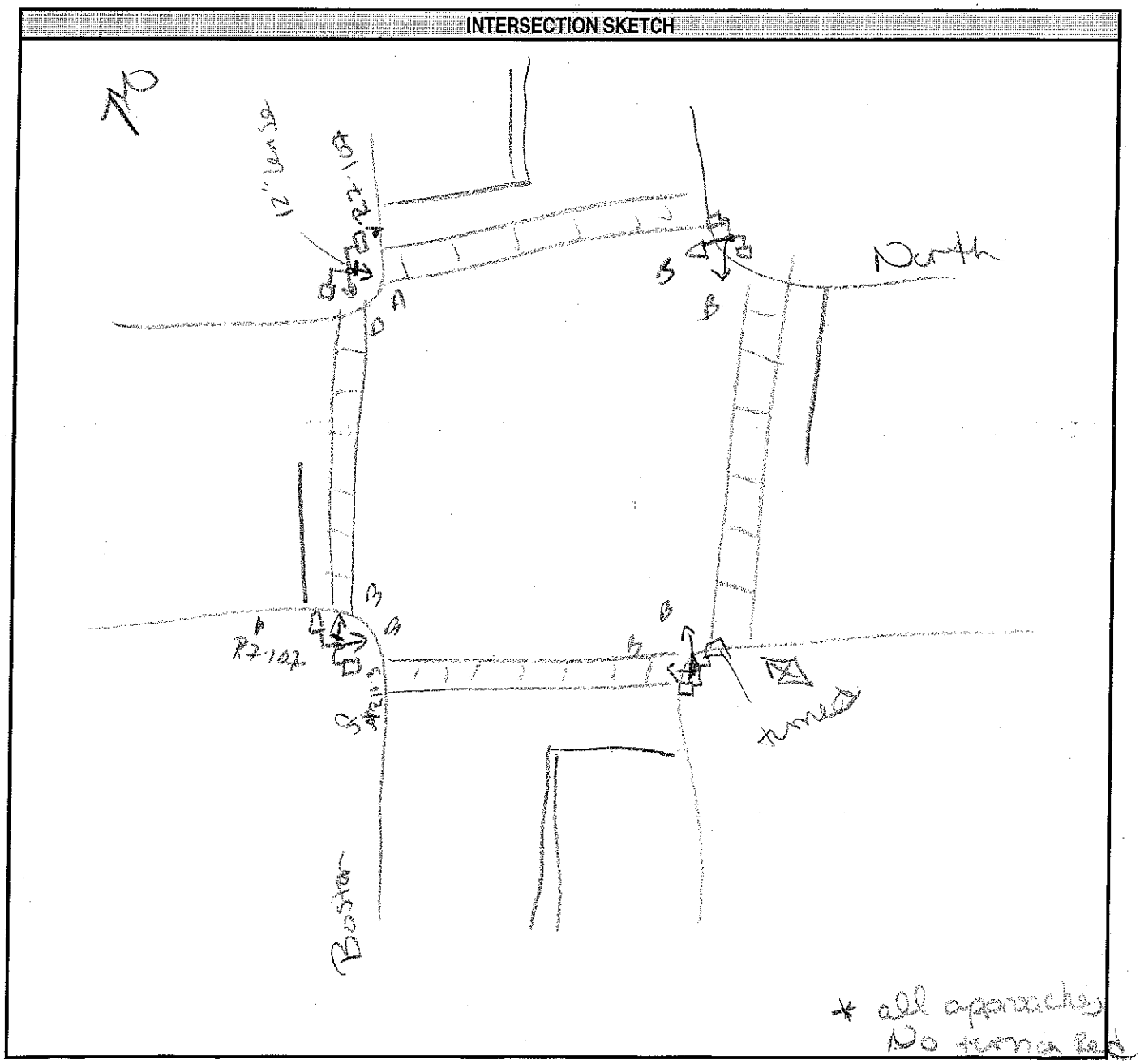
Traffic Signal Inventory

1. Intersection Location

Boston @ North	Medford
Intersection Name	City or Town

Free	1/10/08	DMG/JVL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Eagle	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☒ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	3	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI MSM-6

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
	No	

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
1	2-channel

VHB

Traffic Signal Inventory

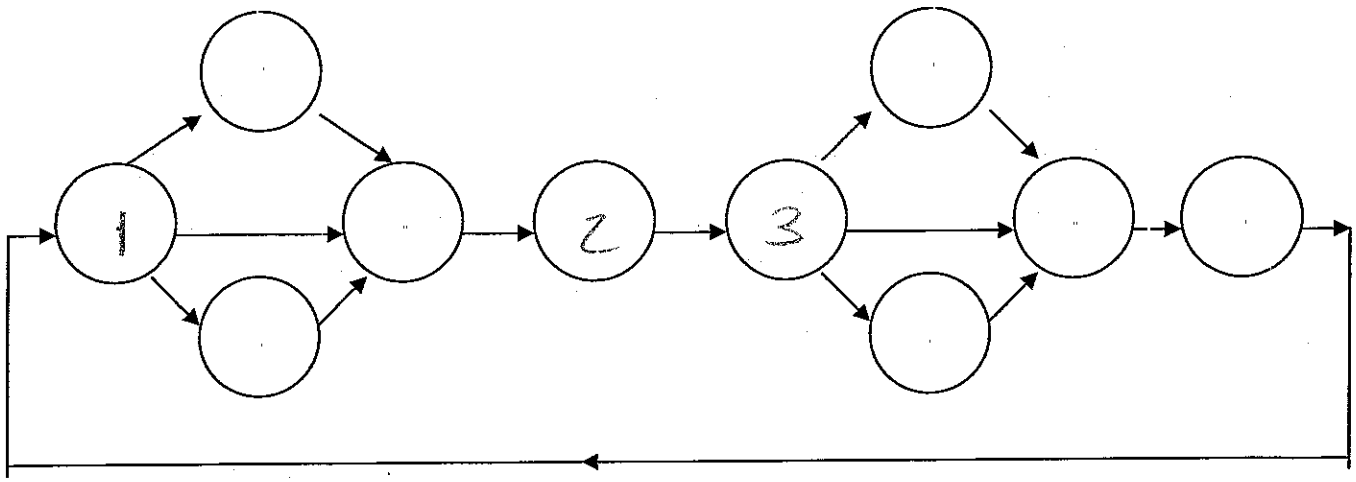
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L.E.D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	12" 3-sect	ball								
B	12" Red 8"	Y/G 3-sect	ball							
all	ped	small 2-section								
		hand/man								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Boston	Ø2 Park	Ø3 North
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	10		8					
Extension (passage) Vehicle Interval	4		4					
Yellow	4		4					
Red Clear	1		1					
Maximum Green I	35		25					
Maximum Green II	30		25					
Pedestrian Walk		7						
Pedestrian Clear		8						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	max							
Memory	L		L					
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

11. Notes

loops on ø3 open → maxing out

date right

clock off by approx hour → fixed in field

12. Recommendations

recommend replacing all ped heads

walk up w/ dnt walk → doesn't flash

ped pushes

VHB

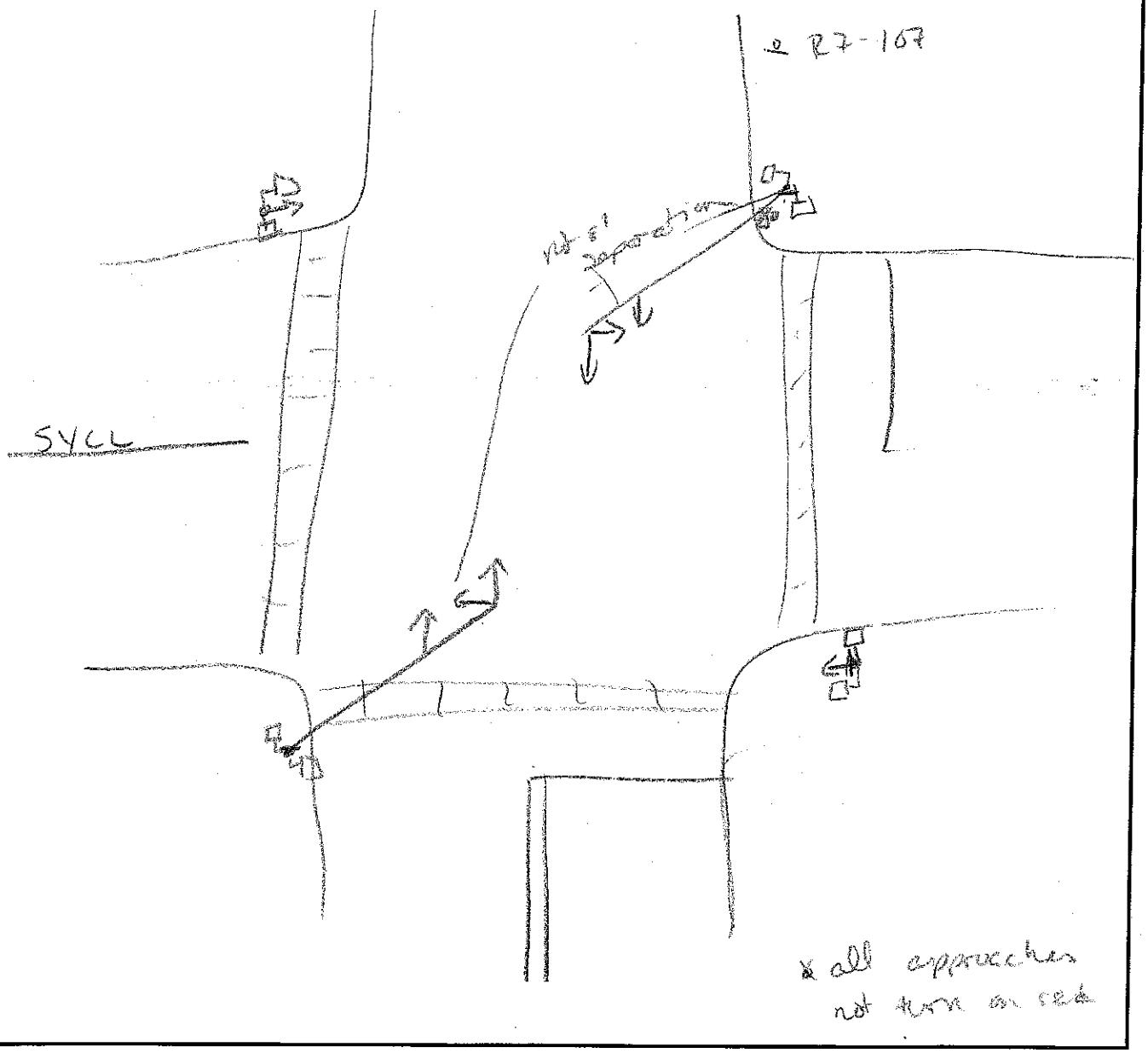
Traffic Signal Inventory

1. Intersection Location

Boston @ Winthrop	Medford
Intersection Name	City or Town

Free	11/10/08	DMG/WL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Eagle	EPAC	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☐ Fair ☒ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
4 P		

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI MSM-16L

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
	NO	

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
NO	

VHB

Traffic Signal Inventory

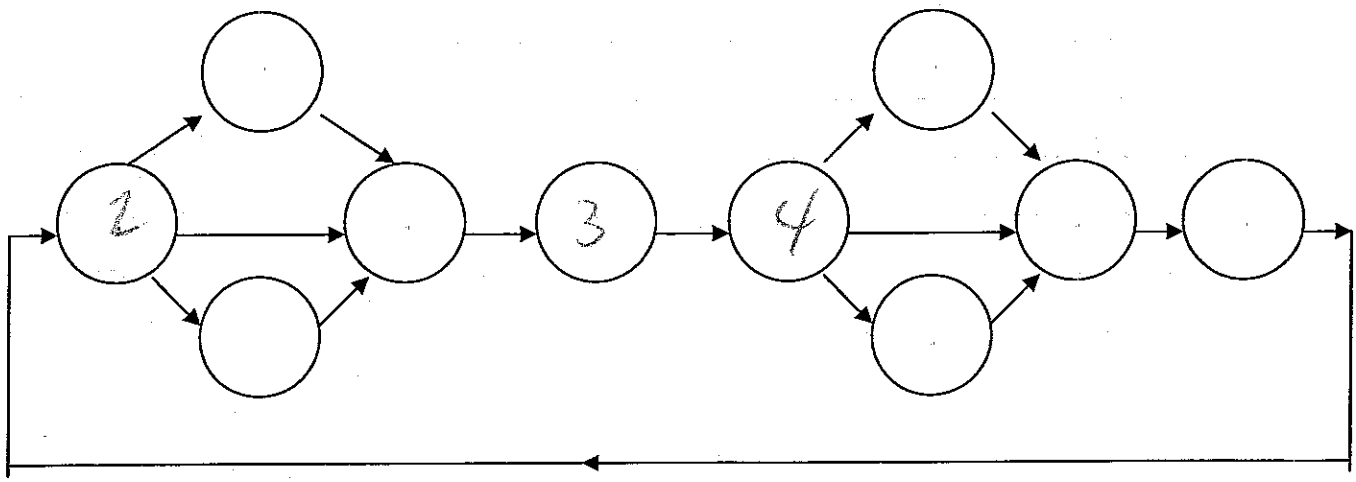
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
adl	3- Section	ball								
adl	2-section	ball								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2 Winthrop	Ø3 Ped
Ø4 Boston	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)		30		30				
Extension (passage) Vehicle Interval				4				
Yellow		4		4				
Red Clear		2.1		2				
Maximum Green I		30		38				
Maximum Green II		30		38				
Pedestrian Walk			10					
Pedestrian Clear			15					
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall		ON		ON				
Memory		L		L				
Delay								

Ø1	Ø2	Ø3	Ø4

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

date off → Valentine's Day 08 - 14
time off → fixed

12. Recommendations

new Cabinet!!

VHB **Traffic Signal Inventory**

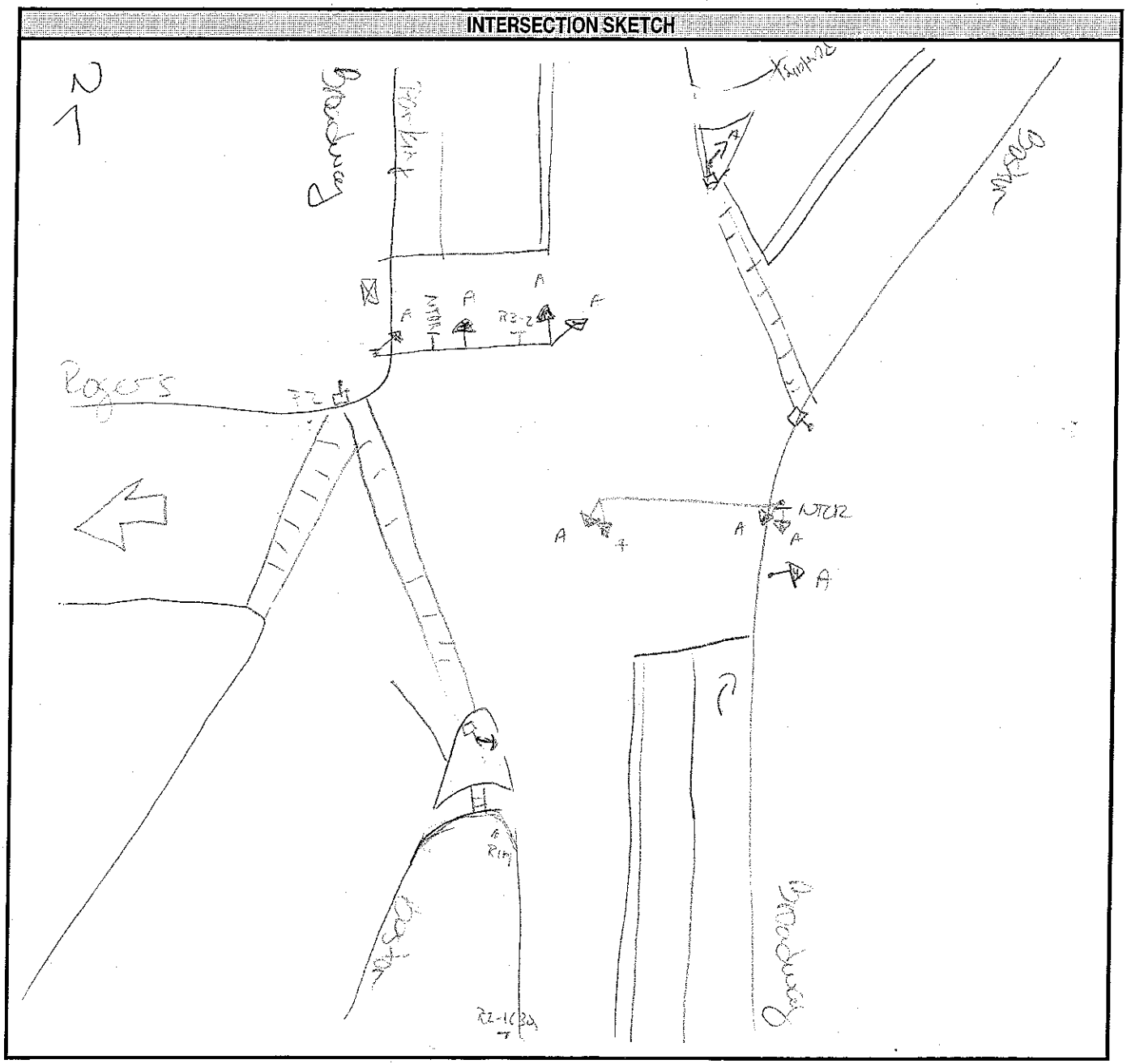
1. Intersection Location

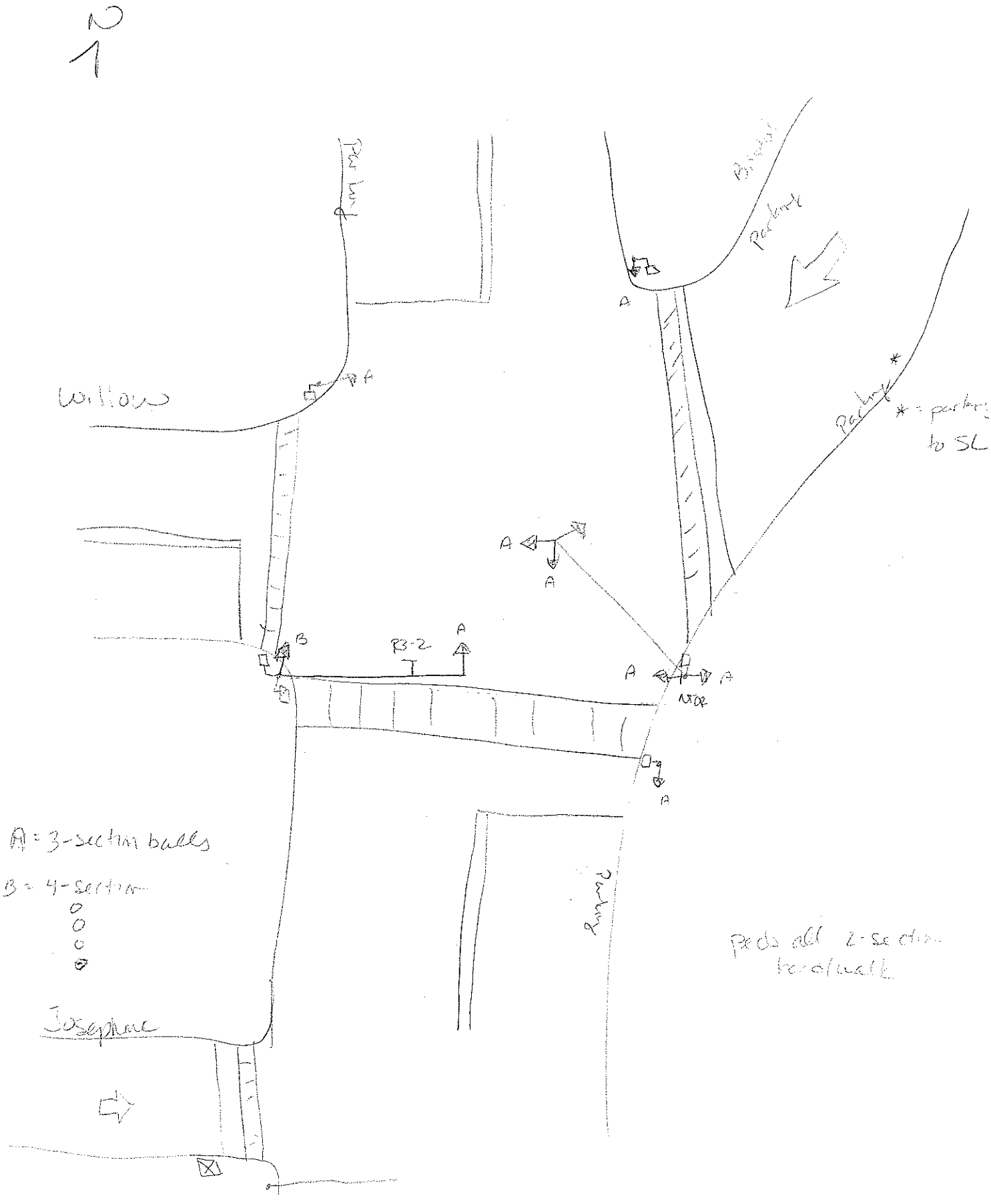
Broadway @ Willow / Boston

Broadway @ Boston Ave/Rogers	Somerville
Intersection Name	City or Town

Free	9/5/08	DMG / VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH




N
Parking
Willow
A
B
R3-2
A
A
A
A
A
A
A
Parking
Parking
* = parking to SL
A = 3-section balls
B = 4-section
Josephine
Peds all 2-section hand/walk

VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Eagle	EPAC 300	Z3375

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12P	9 - PDC 200	1 - PDC 204

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI SSM 17LE-C

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
yes	no	no

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
Sarasota 215-B	1 - 1 channel

VHB

Traffic Signal Inventory

3. *Cabinet Data*

Manufacturer	Model No.	Serial No.

OUTSIDE DIMENSIONS				TYPE OF SUPPORT	CONDITION
HEIGHT (inches)	WIDTH (inches)	DEPTH (inches)	HEIGHT OF BOTTOM OF CABINET (inches)		
P	P	P	P	☐ Side of Pole ☐ Pedestal ☒ Ground	☐ Good ☒ Fair ☐ Poor

DOOR	VENT	FAN / THERMOSTAT	MANUAL CONTROL	TEST BUTTONS (If Yes, List Type)
☒ Single ☐ Double ☒ Police ☐ Other	yes	yes	Flash / Normal Light / Aux	EV SP

POLICE DOOR SWITCHES	DOCUMENTATION IN CABINET
	same plans

VHB

Traffic Signal Inventory

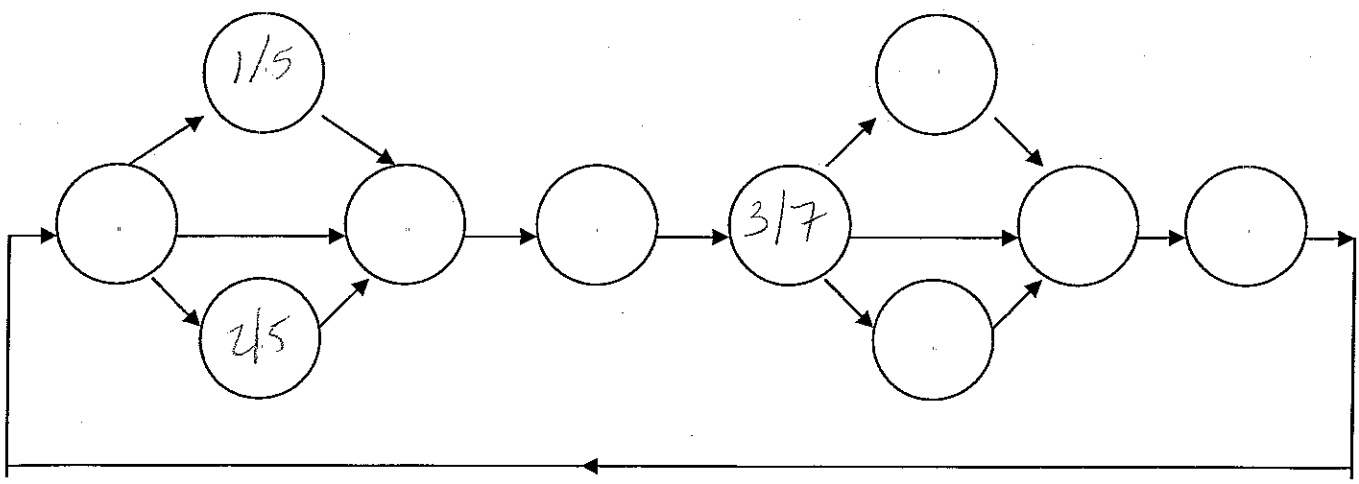
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect ball									
P1	hand/ped	2-sect								
P2	hand/man	1-sect								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



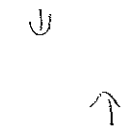
VHB

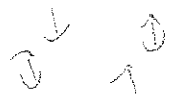
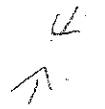
Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 NB/SB Broadway @ W. Hollow	Ø2 Exclusive @ W. Hollow	Ø3 W. Hollow / Bristol
Ø4	Ø5 NB/SB Broadway @ Boston	Ø6
Ø7 Boston EB/WB	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	14		14		14	8	14	16
Extension (passage) Vehicle Interval	4		4		4	4	4	4
Yellow	4		4		4	4	4	4
Red Clear	1		1		1	2	1	2
Maximum Green I	41		21		41	8	21	35
Maximum Green II	41		30		41	8	30	50
Pedestrian Walk	7	7			8			
Pedestrian Clear	15	15			15			
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	MAX		Min		MAX		Min	
Memory	No							
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8
			

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events

9. Coordination Data for Eagle Controllers

SET-UP	CODE	0	1	2	3
Operation		FREE	AUTO	MANUAL	---
Mode (Normal)		PERM	YIELD	PM YLD	PM OMIT
Maximum		M INH	MAX 1	MAX 2	---
Correction		DWELL	MX DW	SH WAY	SW+
Offset		BEGIN	END	---	---
Force		PLAN	CYCLE	---	---

CYCLE LENGTH	1	2	3	4
Split 1				
Split 2				
Split 3				
Split 4				

CYCLE/ OFFSET	1	2	3	4	5	6
1						
2						
3						
4						

Cycle/Split Modes: 0=Actuated; 1=Coord Phase; 2=Min Rec; 3=Max Rec; 4=Ped Rec; 5=Max+Ped Rec
6=Phase Omitted; 7=Dual Coord Phase

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

VHB

Traffic Signal Inventory

10. MUTCD Compliance Check-List

Two (2) Signal Faces Per Approach	☐ Yes	☐ No	☐ N/A
Proper Use of Turn Indications	☐ Yes	☐ No	☐ N/A
Proper Size of Vehicle Signal Displays	☐ Yes	☐ No	☐ N/A
Proper Size of Pedestrian Signal	☐ Yes	☐ No	☐ N/A
Displays	☐ Yes	☐ No	☐ N/A
Proper Vertical Clearance (vehicle)			
-- Span Wire/Mast Arm: 15' Min /19' Max	☐ Yes	☐ No	☐ N/A
-- Post or Pedestal: 8' Min /15' Max	☐ Yes	☐ No	☐ N/A
-- Non-Pedestrian Island 4½' Min	☐ Yes	☐ No	☐ N/A
Proper Vertical Clearance (pedestrian)			
-- 7' Min /10' Max On Sidewalks	☐ Yes	☐ No	☐ N/A
Proper Horizontal Placement			
-- 8' Min Separation (signals)	☐ Yes	☐ No	☐ N/A
-- Posts/Poles 2' Min Off Curb	☐ Yes	☐ No	☐ N/A
Proper Use of Pedestrian Signals	☐ Yes	☐ No	☐ N/A
Proper Timing/Clearance			
-- Vehicle Phase(s)	☐ Yes	☐ No	☐ N/A
-- Pedestrian Phase(s)	☐ Yes	☐ No	☐ N/A
Adequate Visibility			
-- (per Table 4-1; Section 4b-12)	☐ Yes	☐ No	☐ N/A
Longitudinal Head Placement			
-- At Least One Signal > 40' From Stopline	☐ Yes	☐ No	☐ N/A
-- Both Signals < 150' From Stopline	☐ Yes	☐ No	☐ N/A
MUTCD Compliance	☐ Yes	☐ No	☐ N/A

REMARKS:

VHB

Traffic Signal Inventory

11. Notes

controls two locations

was a signal @ Broad / Josephine (middle location) removed = cabinet & ma/foundations remain

12. Recommendations

full upgrade

VHB

Traffic Signal Inventory

1. Intersection Location

Broadway @ Medford/Dexter — Intersection Name

Somerville — City or Town

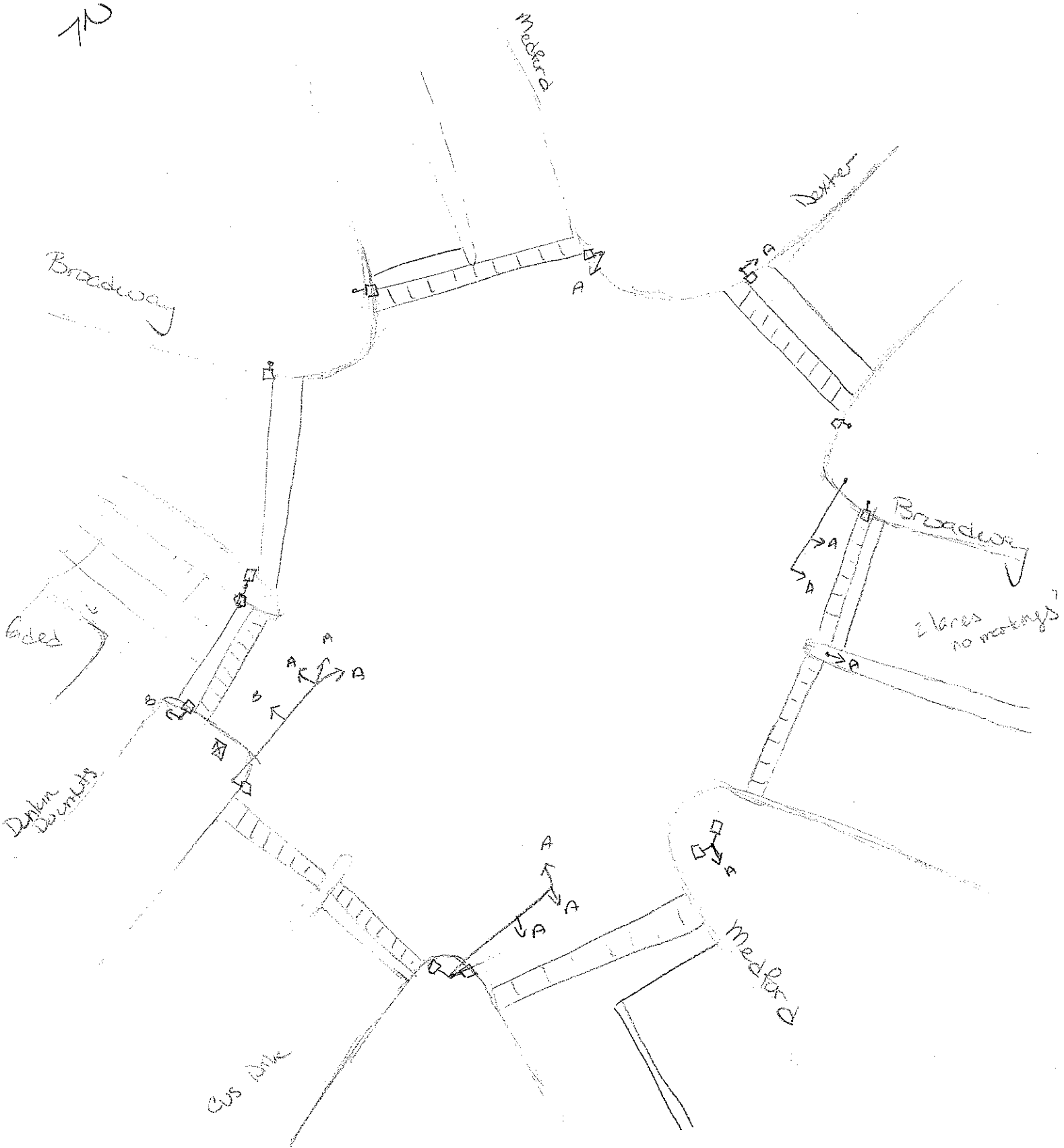
Free — Intersection Operation

1/17/08 — Date of Inventory

DMG/VL — Inventory Conducted By

INTERSECTION SKETCH

See attached



Medford
Dexter
Broadway
Broadway
2 lanes
no markings
Medford
Cus Dike

VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☒ Electromechanical	☒ Good	☐ 2 Phase
☐ Non-NEMA	☐ Fair	☐ 4 Phase
☐ NEMA-Modular	☐ Poor	☒ 8 Phase
☐ NEMA-Keyboard		

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed	☐ Pin
☒ Actuated	☐ Thumbwheel
	☐ Dial
	☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12 P	8	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI MMU-16E

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
5 2-Channel LM 101 E	

VHB

Traffic Signal Inventory

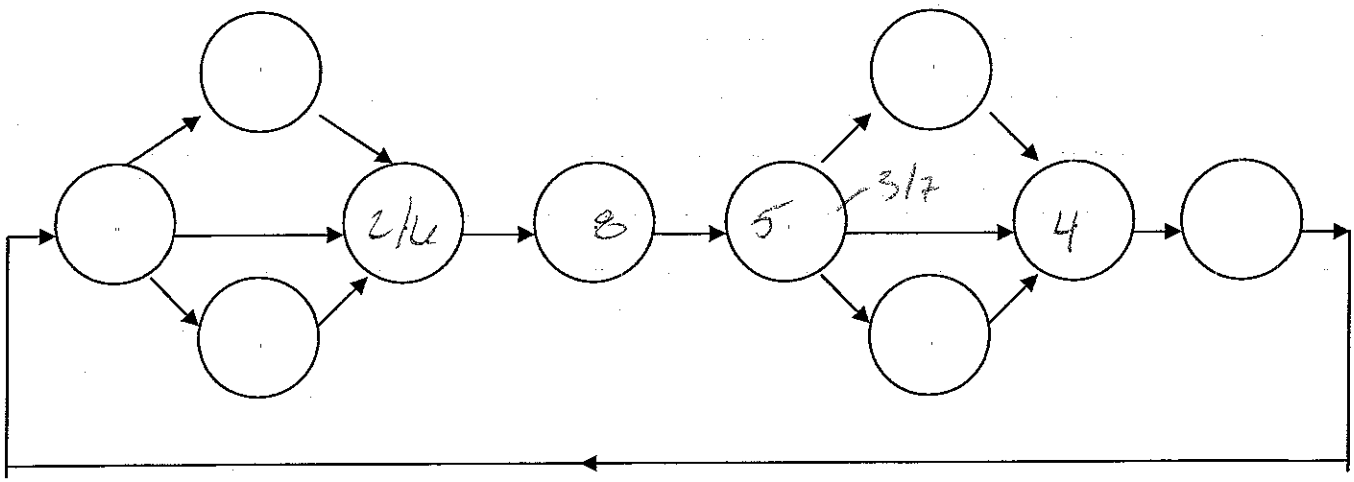
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	3-sect Ball									
B	4-sect ○○○⊖									

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2 Broadway NB	Ø3 Dexter Side Street
Ø4 Medford NB w/SB overlap	Ø5 Ped	Ø6 Broadway SB
Ø7 DD Dome	Ø8 Medford SB	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)		8	4	10		8	4	8
Extension (passage) Vehicle Interval		4	2	6		4	2	2
Yellow		4	4	4		4	4	4
Red Clear		2	2	2		2	2	2
Maximum Green I		25	8	25		25	8	20
Maximum Green II		25	8	25		25	8	20
Pedestrian Walk					5			
Pedestrian Clear					15			
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall		Soft				Soft		
Memory		NL	NL	NL		NL	NL	NL
Delay								

3/7 dual

Ø1	Ø2	Ø3	Ø4
	↙ ↖	←	↗

Ø5	Ø6	Ø7	Ø8
	↓	→	↓

VHB

Traffic Signal Inventory

11. Notes

fixed DLS Program

12. Recommendations

VHB

Traffic Signal Inventory

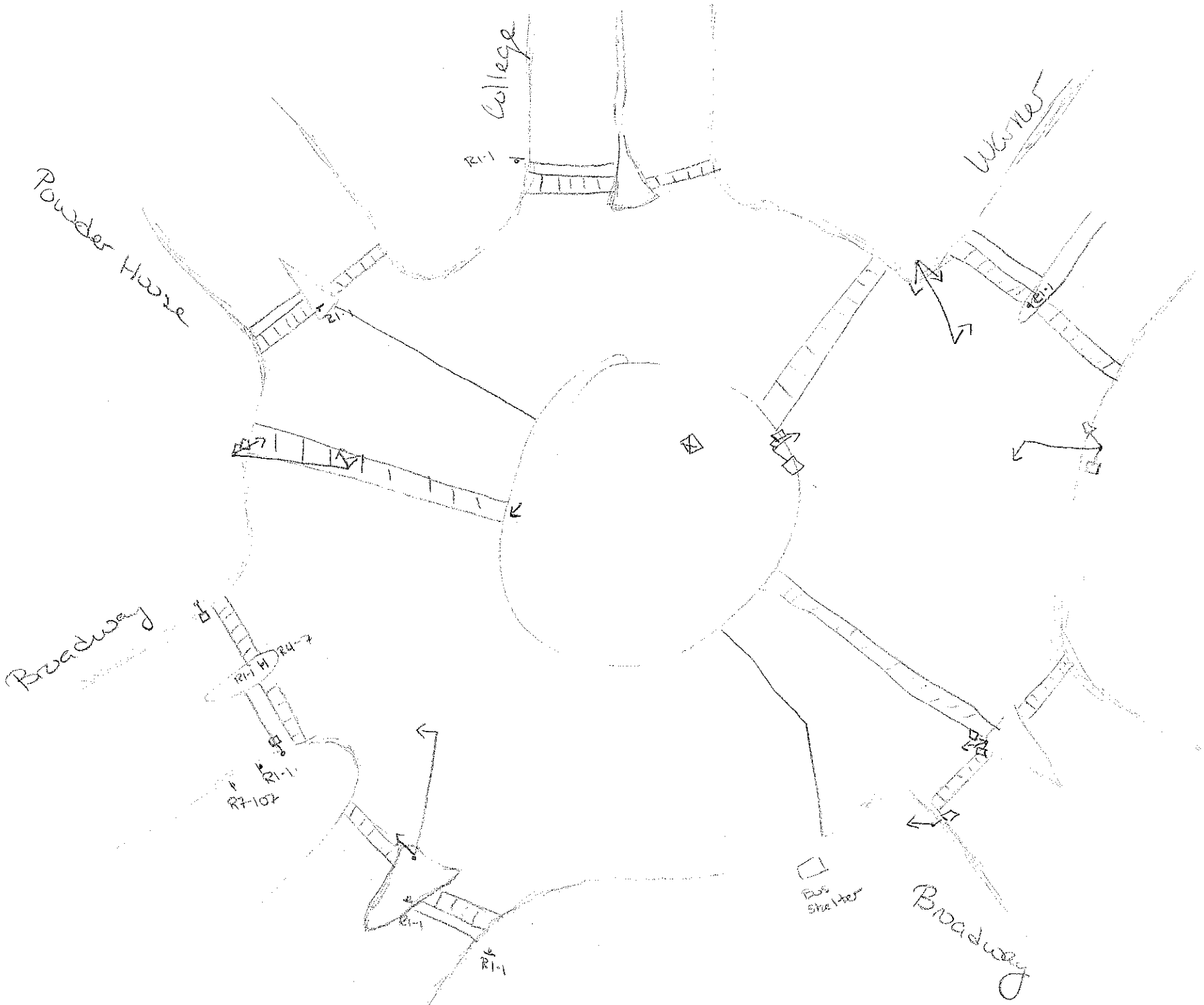
1. Intersection Location

Intersection Name	City or Town
Broadway @ Packer-Hassle / College / Warner	Somerville

Intersection Operation	Date of Inventory	Inventory Conducted By
Flash	11/17/05	DMG / VL

INTERSECTION SKETCH

See attached


College
Powder House
Broadway
R1-1
R1-1
R1-1
R1-1
R1-1
R1-1
R1-1
R7-107
R1-1
R1-1
R1-1
R1-1
R1-1
R1-1
R1-1

VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	Eagle EPAC 300 Eagle DP3250	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☐ NEMA-Keyboard	☐ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☐ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☐ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	2-3 channel conflict

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

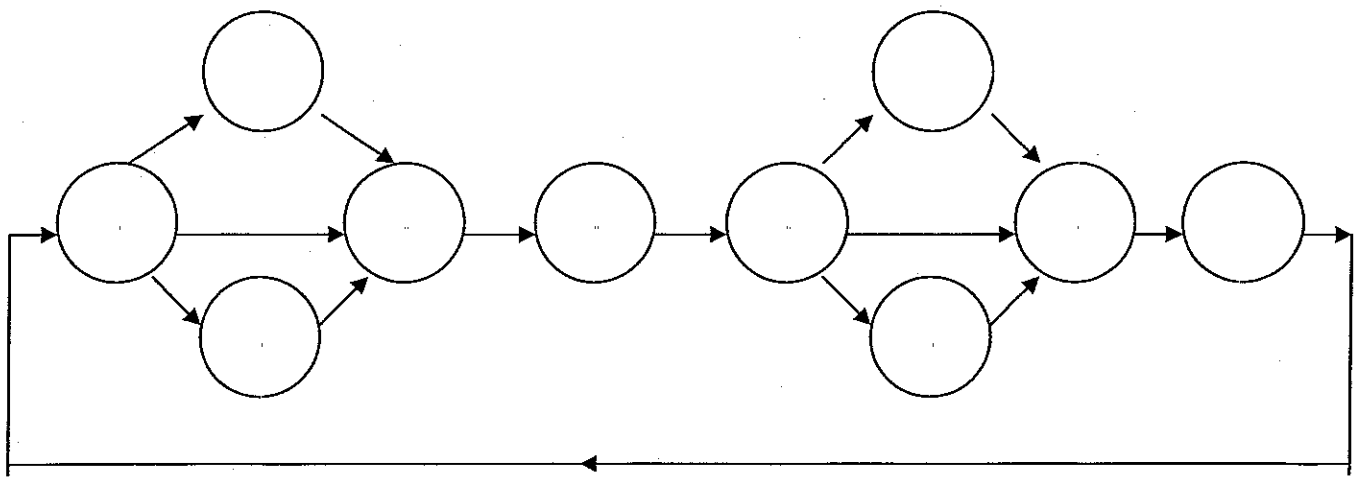
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2	Ø3
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

WB EB WB

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)								
Extension (passage) Vehicle Interval								
Yellow	3.1 4							
Red Clear	1							
Maximum Green I	40.8 30							
Maximum Green II								
Pedestrian Walk		8 6						
Pedestrian Clear		14 14						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

Controller on the east controls the signal on the west & controller on the west controls signal on the east

12. Recommendations

VHB

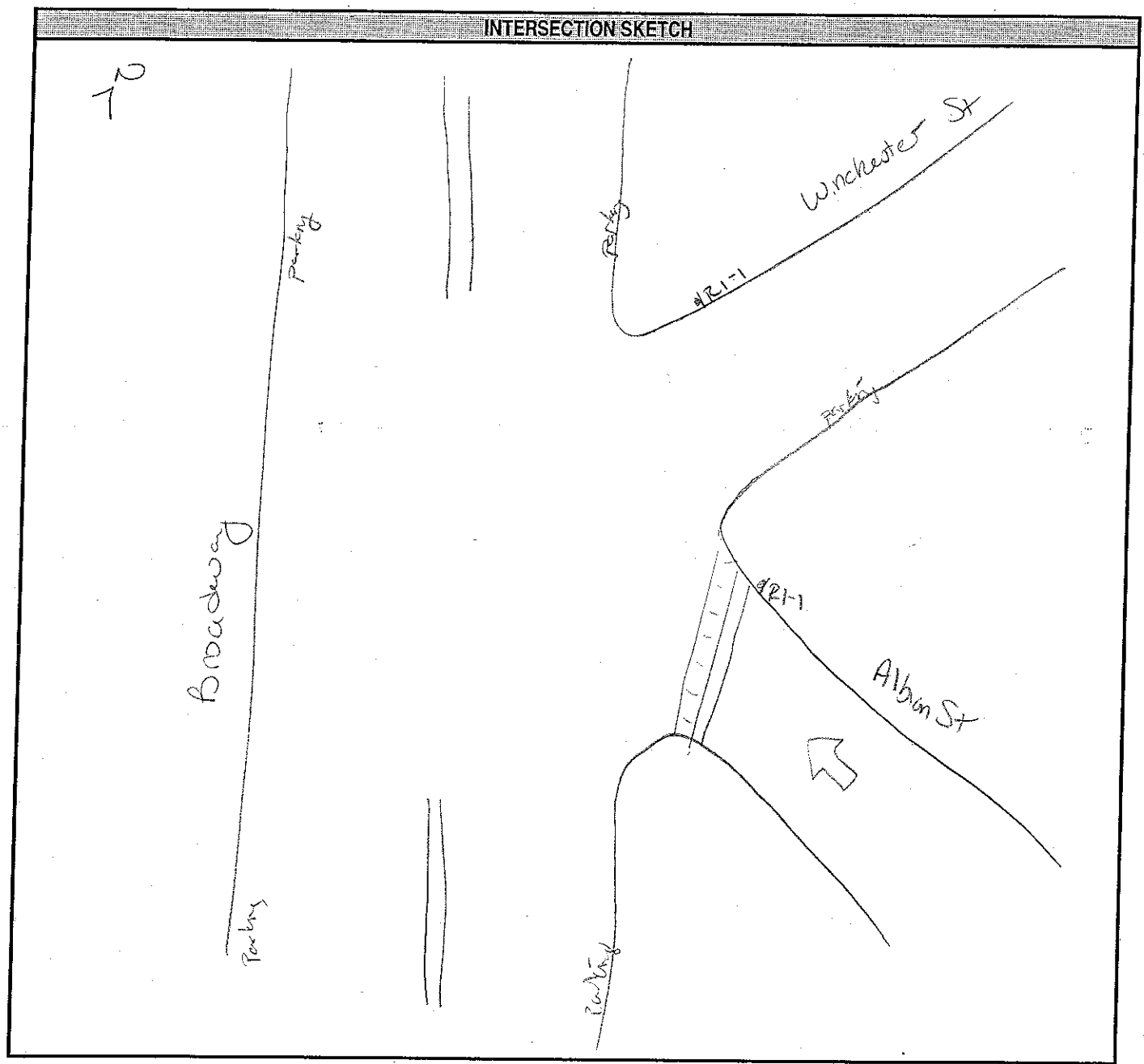
Traffic Signal Inventory

1. Intersection Location

Broadway @ Winchester St	Somerville
Intersection Name	City or Town

Stop	9/5/08	VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



\\mawatr\admin\signals\inventory\blank_inventory

Signal ~ 100' away

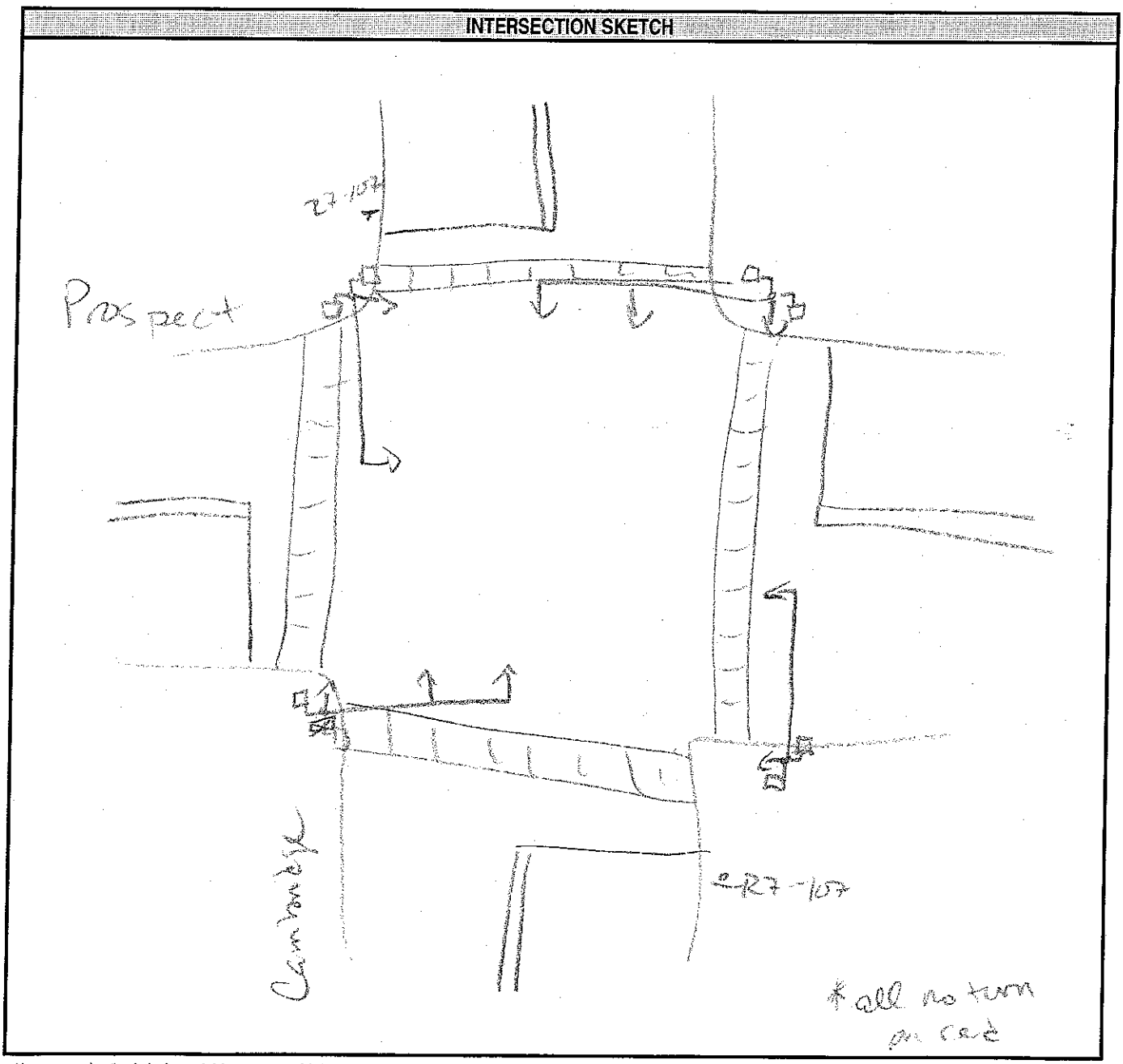
VHB

Traffic Signal Inventory

1. Intersection Location

Cambridge @ Prospect	Cambridge	
Intersection Name	City or Town	
Retimed	11/7/07	DMG/NL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	EPIC 140	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☑ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☑ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8T		

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	ADI - SSM 61 E - C

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

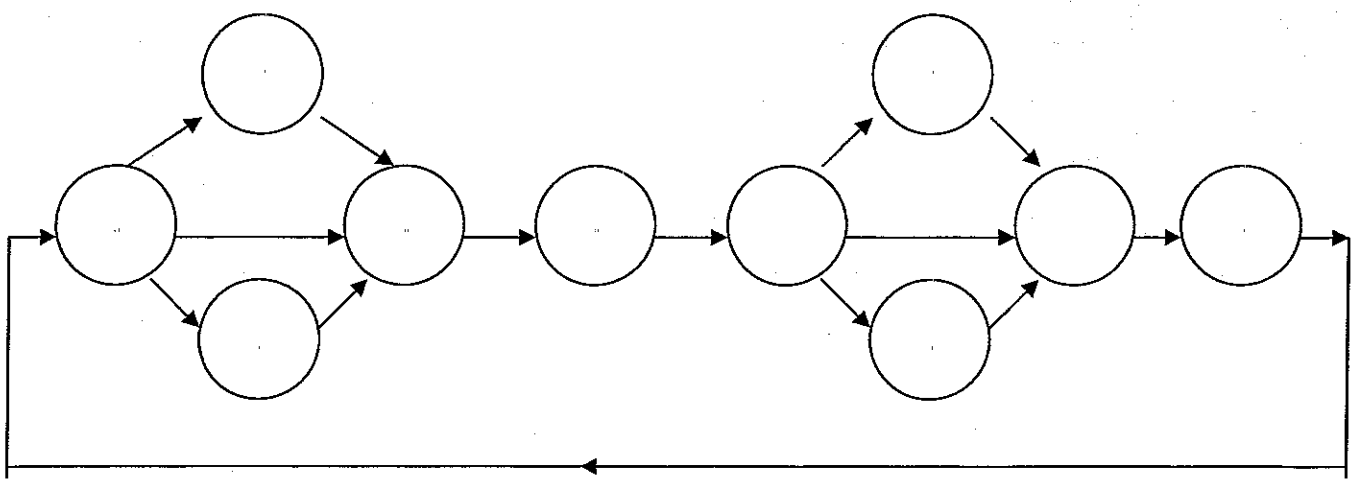
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3 - Sect all	all								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2	Ø3
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)								
Extension (passage) Vehicle Interval								
Yellow								
Red Clear								
Maximum Green I								
Maximum Green II								
Pedestrian Walk								
Pedestrian Clear								
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
→ ←	→ ← FDW FDW	Y	R

Ø5	Ø6	Ø7	Ø8
LPI	↓ ↑	FDW ↓ ↑ FDW	Y

R LPI

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
2-6a	6:30	211			
	10	111			
	15	311			
	19:30	111			

VHB

Traffic Signal Inventory

9. *Coordination Data for Eagle Controllers*

SET-UP	CODE	0	1	2	3
Operation		FREE	AUTO	MANUAL	---
Mode (Normal)		PERM	YIELD	PM YLD	PM OMIT
Maximum		M INH	MAX 1	MAX 2	---
Correction		DWELL	MX DW	SH WAY	SW+
Offset		BEGIN	END	---	---
Force		PLAN	CYCLE	---	---

CYCLE LENGTH	1	2	3	4
Split 1	90			
Split 2	90			
Split 3	90			
Split 4				

CYCLE/ OFFSET	1	2	3	4	5	6
1	54					
2	54					
3	41					
4						

Cycle/Split Modes: 0=Actuated; 1=Coord Phase; 2=Min Rec; 3=Max Rec; 4=Ped Rec; 5=Max+Ped Rec
6=Phase Omitted; 7=Dual Coord Phase

Cycle 1 /Split 1	1	2	3	4	5	6	7	8	9
Time	31	10	3	2	3	20	7	3	2
Mode									

10
3

Cycle 2 /Split 1	1	2	3	4	5	6	7	8	9
Time	30	10	3	2	3	27	7	3	2
Mode									

10
3

Cycle 3 /Split 1	1	2	3	4	5	6	7	8	9
Time	31	10	3	2	3	20	7	3	2
Mode									

10
3

Cycle /Split	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle /Split	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle /Split	1	2	3	4	5	6	7	8	9
Time									
Mode									

11. Notes

12. Recommendations

VHB

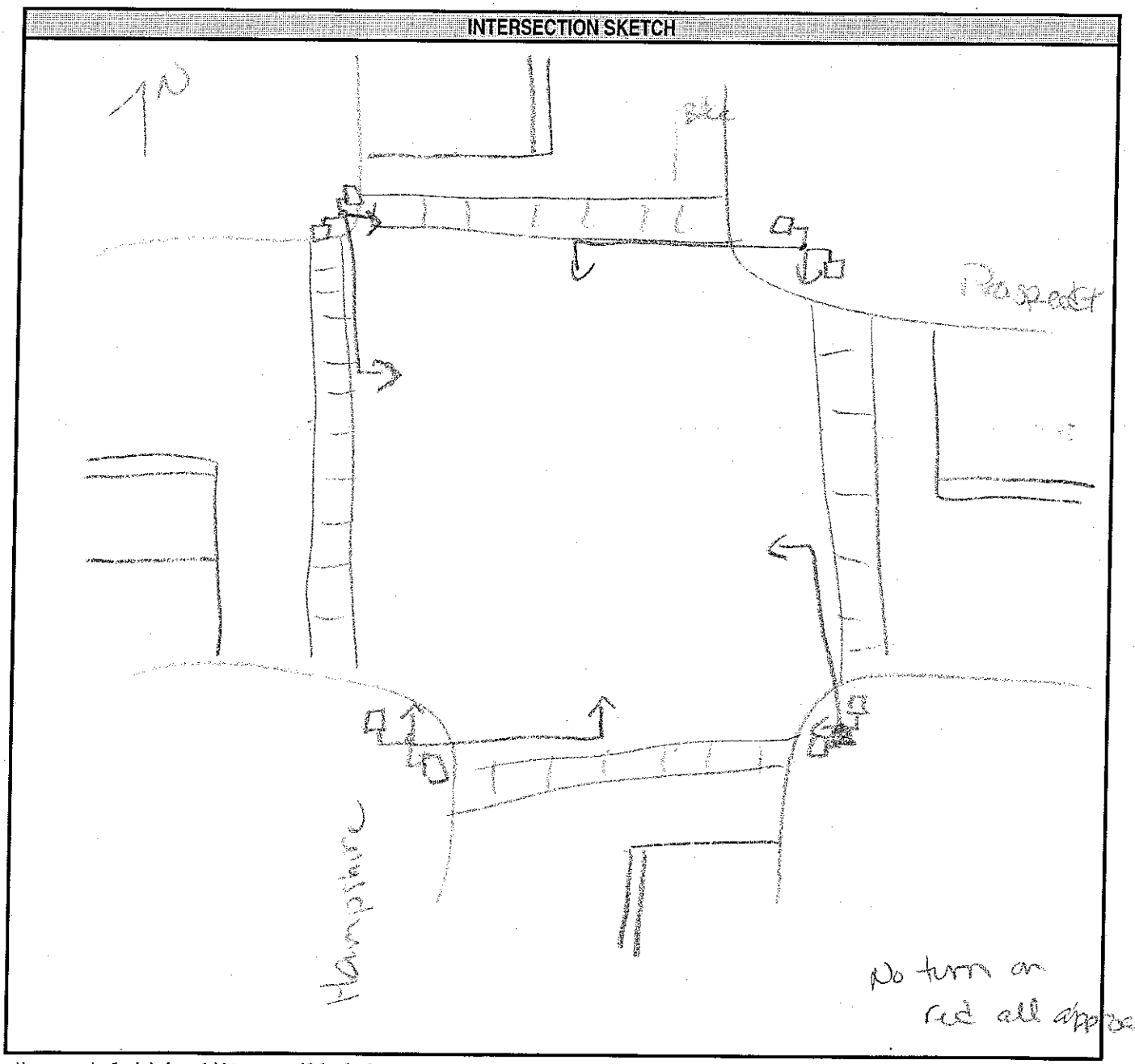
Traffic Signal Inventory

1. Intersection Location

Hampshire @ Prospect	Cambridge
Intersection Name	City or Town

Pre-timed	1/17/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	EPIC 140	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P		

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI - SSM6 LE-C

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB Traffic Signal Inventory

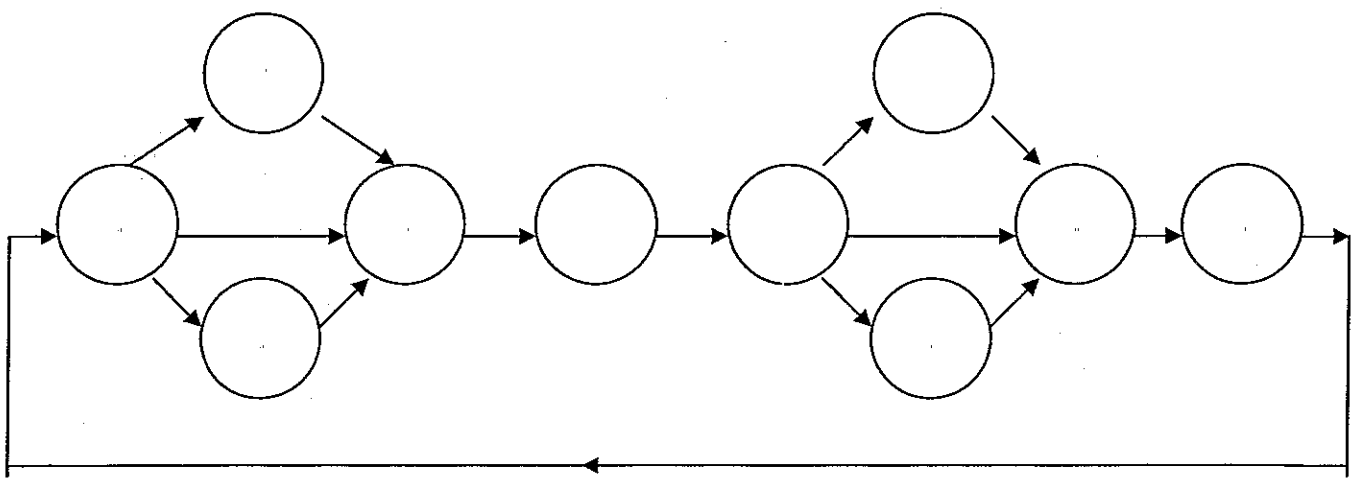
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
cl	8-Jeet	ball								

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. *Traffic Signal Phasing Diagram*



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2	Ø3
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)								
Extension (passage) Vehicle Interval								
Yellow								
Red Clear								
Maximum Green I								
Maximum Green II								
Pedestrian Walk								
Pedestrian Clear								
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
→ ←	FDW ← → FDW	Y	R

Ø5	Ø6	Ø7	Ø8
LPI	↓ ↑	FDW ↓ ↑ FDW	Y

R LPI

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
Mon-Fri	6:30	211			
	6	111			
	15	311			
	19:30	111			
1,7					

VHB

Traffic Signal Inventory

9. *Coordination Data for Eagle Controllers*

SET-UP	CODE	0	1	2	3
Operation		FREE	AUTO	MANUAL	---
Mode (Normal)		PERM	YIELD	PM YLD	PM OMIT
Maximum		M INH	MAX 1	MAX 2	---
Correction		DWELL	MX DW	SH WAY	SW+
Offset		BEGIN	END	---	---
Force		PLAN	CYCLE	---	---

CYCLE LENGTH	1	2	3	4
Split 1	90			
Split 2	90			
Split 3	90			
Split 4				

CYCLE/ OFFSET	1	2	3	4	5	6
1	100					
2	62					
3	53					
4						

Cycle/Split Modes: 0=Actuated; 1=Coord Phase; 2=Min Rec; 3=Max Rec; 4=Ped Rec; 5=Max+Ped Rec
6=Phase Omitted; 7=Dual Coord Phase

intervals

Cycle 1 /Split 1	1	2	3	4	5	6	7	8	9	10 3
Time	46	9	3	2	3	33	6	3	2	
Mode										

Cycle 1 /Split 1	1	2	3	4	5	6	7	8	9	10 3
Time	21	9	3	2	3	28	6	3	2	
Mode										

Cycle 2 /Split 1	1	2	3	4	5	6	7	8	9	10 3
Time	31	9	3	2	3	28	6	3	2	
Mode										

Cycle __/Split __	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split __	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split __	1	2	3	4	5	6	7	8	9
Time									
Mode									

VHB

Traffic Signal Inventory

11. Notes

Cabinet not secure on pole

12. Recommendations

VHB

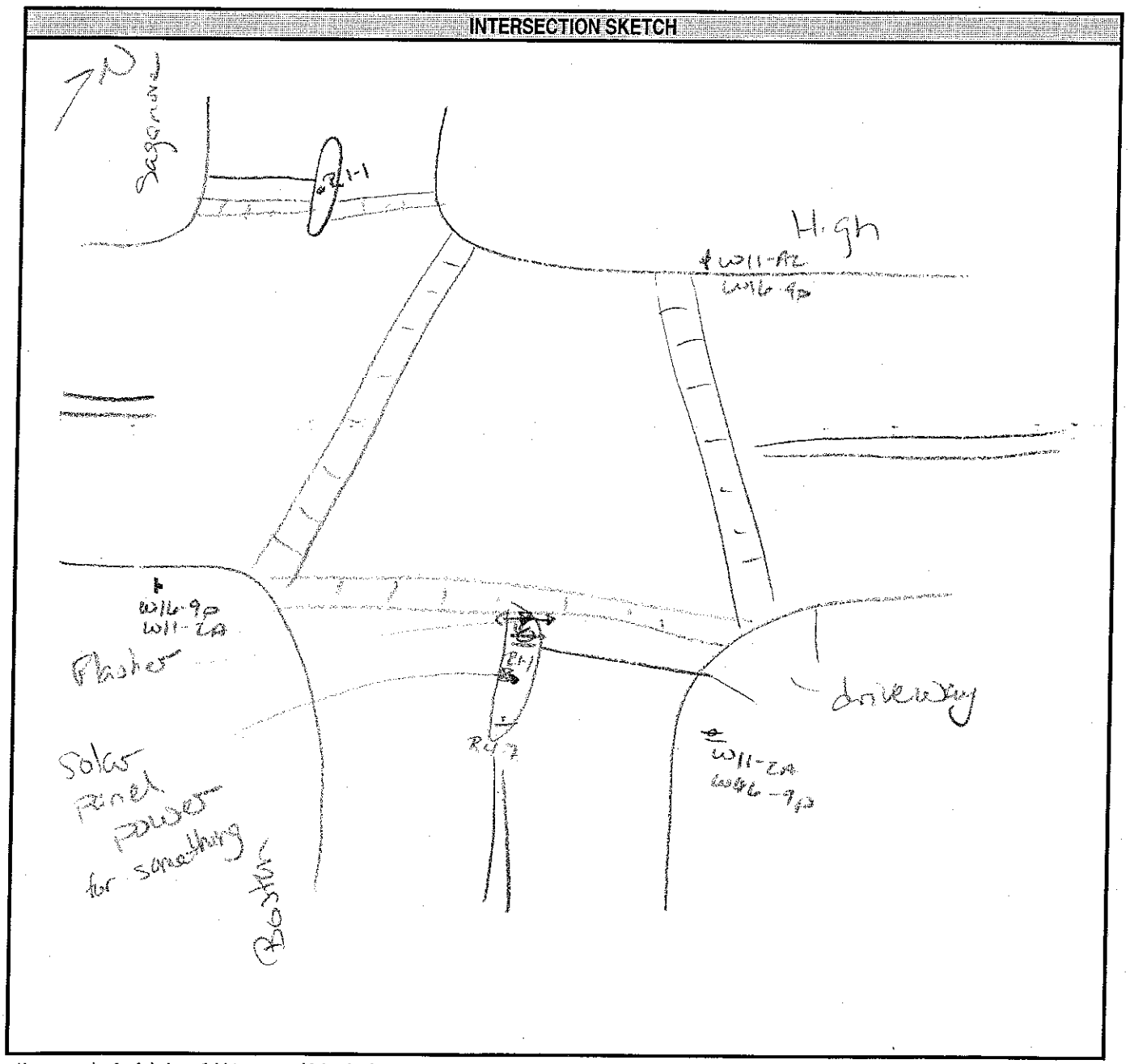
Traffic Signal Inventory

1. Intersection Location

Intersection Name	City or Town
High St @ Boston / Sagamore	Medford

Intersection Operation	Date of Inventory	Inventory Conducted By
	1/10/08	DMG/NL

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

11. Notes

Looks like the bleacher got knocked down

not working

12. Recommendations

VHB

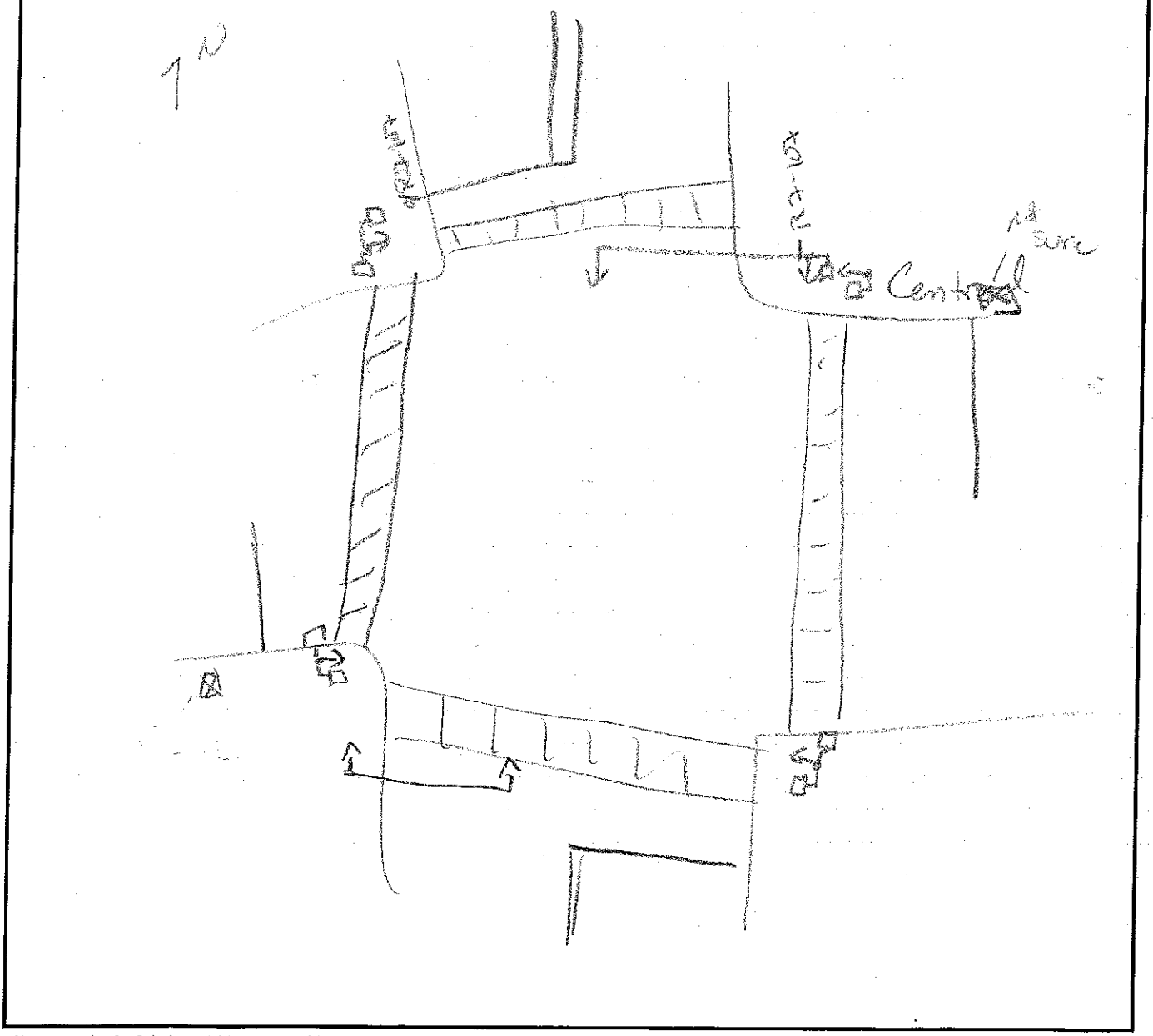
Traffic Signal Inventory

1. Intersection Location

Highland @ Central	Somerville
Intersection Name	City or Town

Free	11/7/06	DMG/NL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	6PAC 3000	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8 P	3	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI MSM-16

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 - 2 channel Omega / Sensortech	

VHB

Traffic Signal Inventory

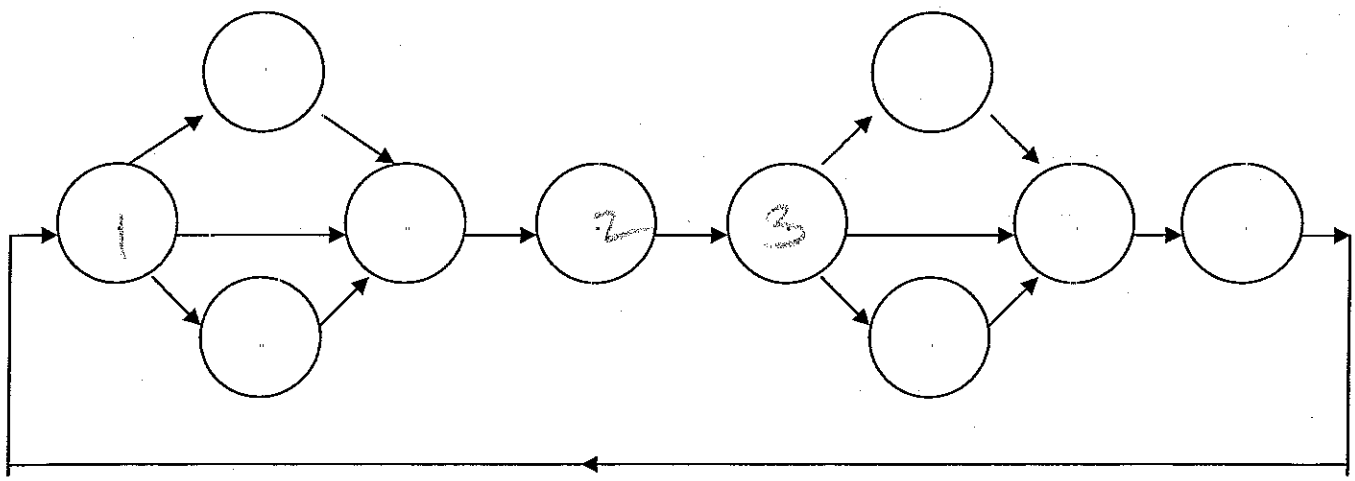
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3 - sect	wall								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



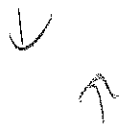
VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Highland	Ø2 Rock	Ø3 Central
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	8		10					
Extension (passage) Vehicle Interval	4		4					
Yellow	4		3					
Red Clear	2		2					
Maximum Green I	30		30					
Maximum Green II	20		30					
Pedestrian Walk		6						
Pedestrian Clear		9						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	Soft							
Memory	2		L					
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

11. Notes

12. Recommendations

VHB

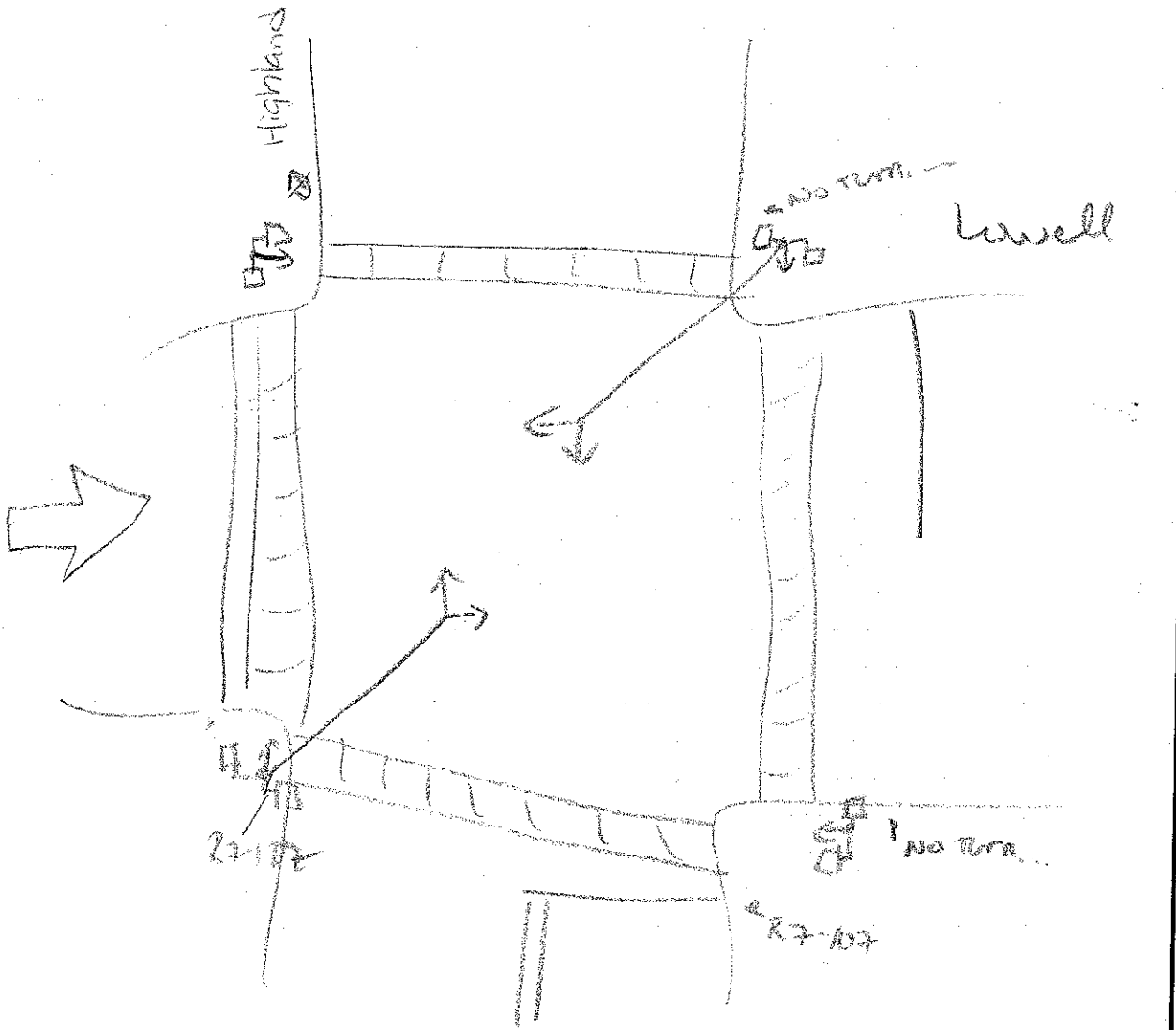
Traffic Signal Inventory

1. Intersection Location

Highland @ Lowell	Somerville
Intersection Name	City or Town

Free	1/17/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	2AC 360	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	4	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI - NSM-6

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 2-channel Sarasota	

VHB Traffic Signal Inventory

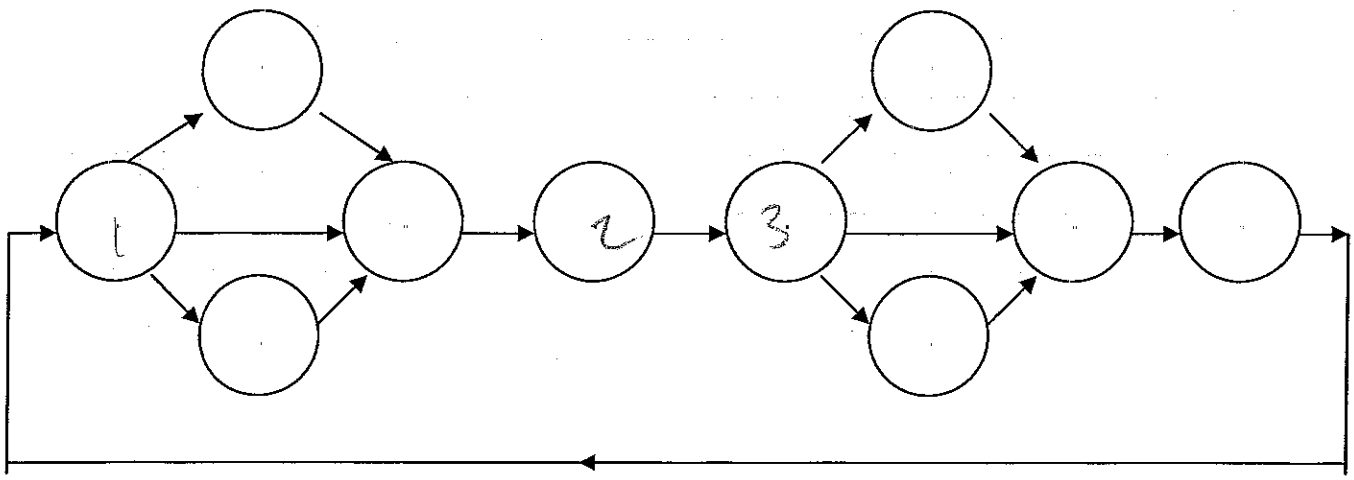
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect	ball								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Highland	Ø2 Ped	Ø3 Lowell
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	8		6					
Extension (passage) Vehicle Interval	4		4					
Yellow	4		3					
Red Clear	1		1					
Maximum Green I	30		40					
Maximum Green II	20		20					
Pedestrian Walk		6						
Pedestrian Clear		9						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	min							
Memory	L		L					
Delay								

Ø1	Ø2	Ø3	Ø4
↓ ↑	|—|	→ ←	

Ø5	Ø6	Ø7	Ø8

11. Notes

Highland SB loop open > Max

12. Recommendations

VHB

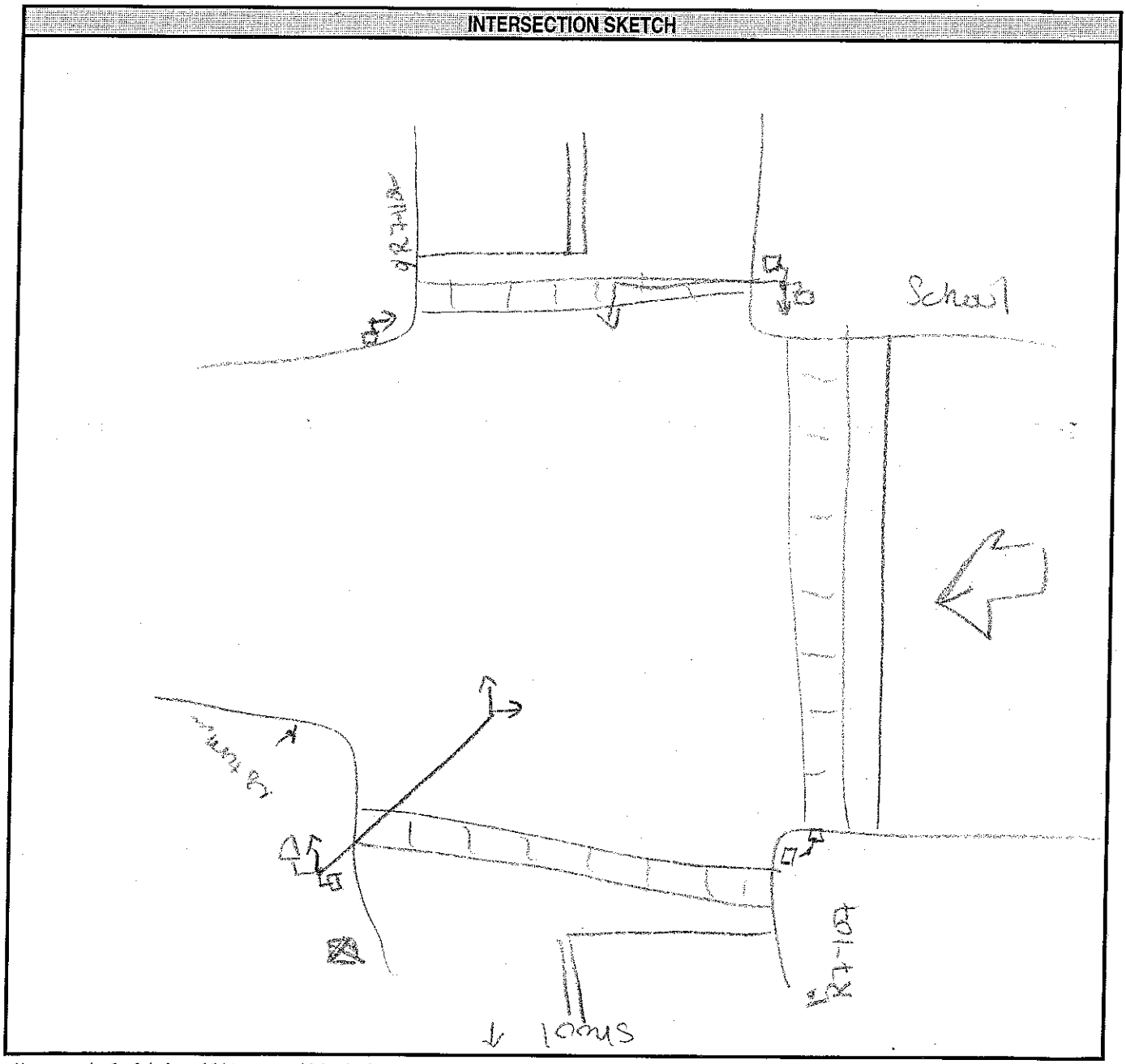
Traffic Signal Inventory

1. Intersection Location

Highland @ School	Somerville
Intersection Name	City or Town

Free	1/17/07	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	4	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI - MMU6

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 - 2-channel Sensys	

VHB

Traffic Signal Inventory

4. *Signal Head Data*

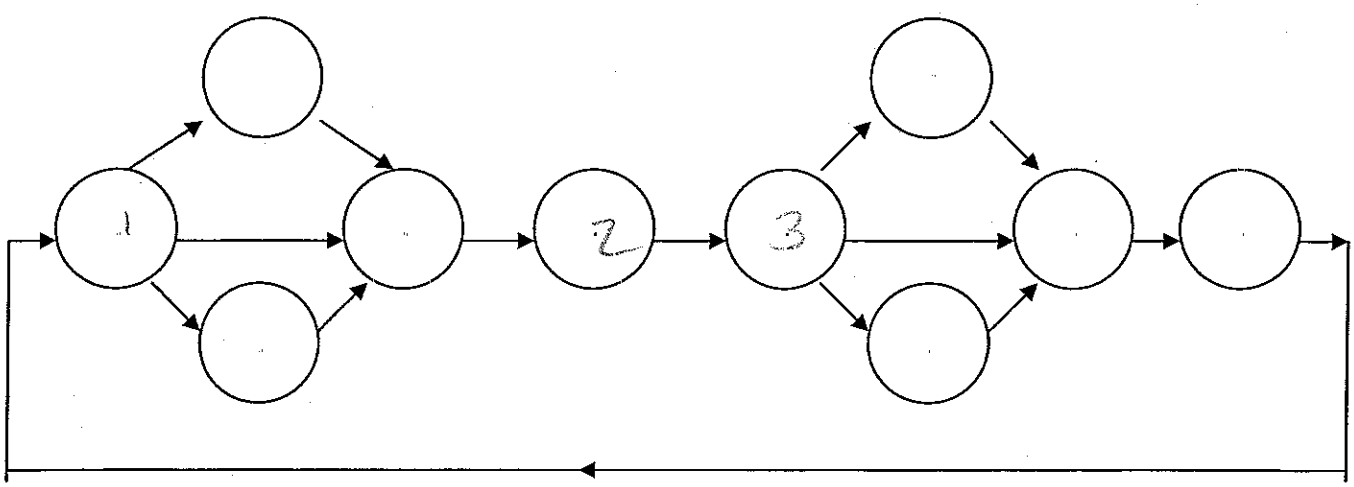
HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
001	3-sect	12in								

\\mawatr\admin\signals\inventory\blank_inventory

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION
Optram	Zoz			

6. *Traffic Signal Phasing Diagram*



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Highland	Ø2 Rd	Ø3 Sch only
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	5		10					
Extension (passage) Vehicle Interval	3		4					
Yellow	4		4					
Red Clear	2		2					
Maximum Green I	40		30					
Maximum Green II	20		20					
Pedestrian Walk		6						
Pedestrian Clear		15						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	Std		Min					
Memory	2		2					
Delay								

Ø1	Ø2	Ø3	Ø4
↓ ↑	□	←	

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

ϕ3 making out

12. Recommendations

VHB

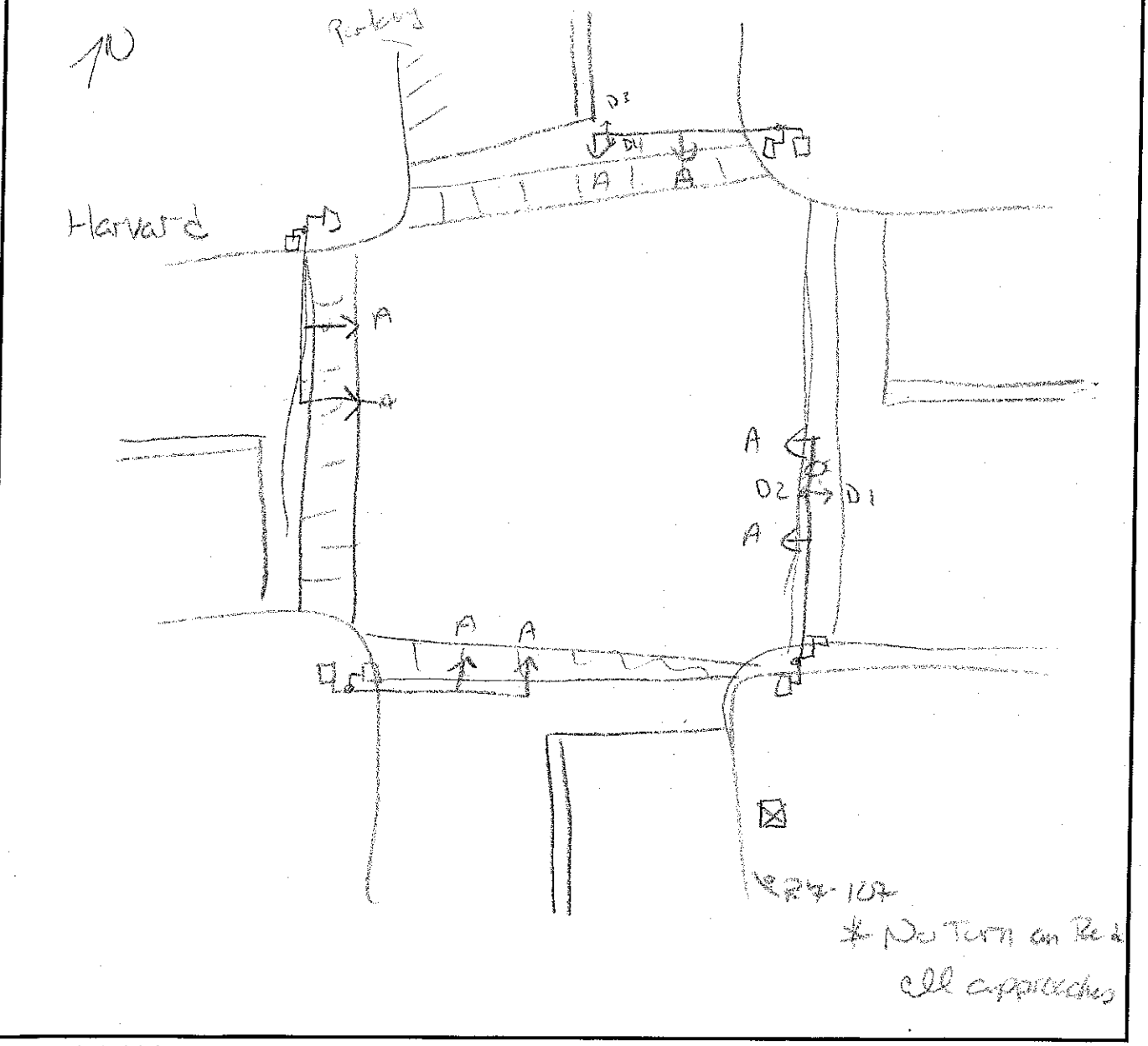
Traffic Signal Inventory

1. Intersection Location

Main St @ Harvard	Medford
Intersection Name	City or Town

Free	11/17/08	DMS/IVL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
Eagle	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☒ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12 P	5	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI MSM-12

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
	no	

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
3- 2 channel LM 302+	

VHB

Traffic Signal Inventory

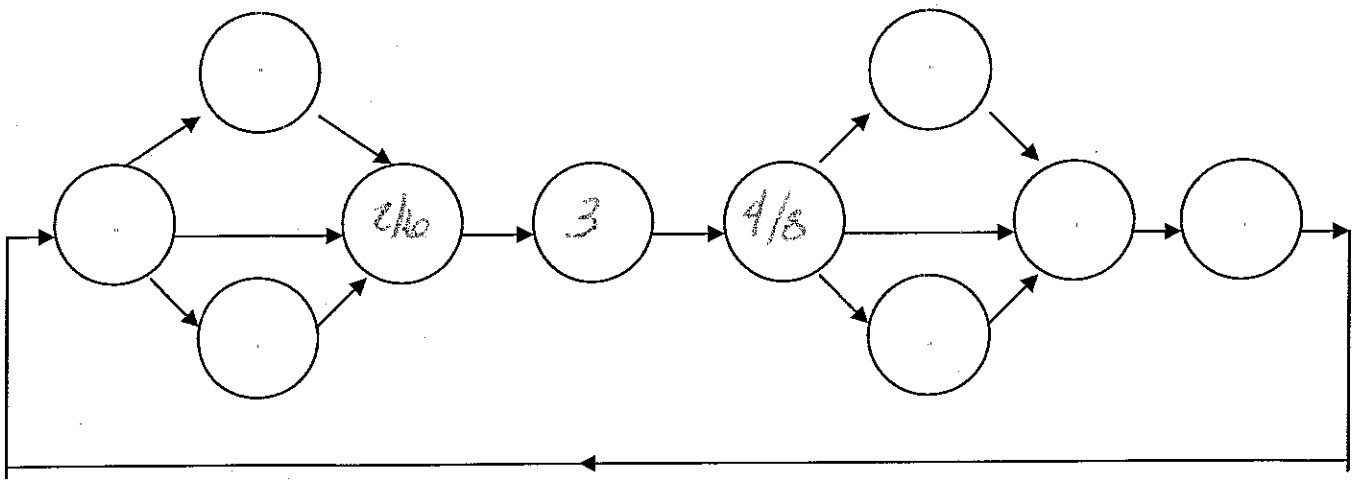
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L.E.D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect full									
all	peds 1-sect	hand/man								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION
emergency receipt	opticom	752		

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2 Main SB	Ø3 Ped
Ø4 Harvard EB	Ø5	Ø6 Main NB
Ø7	Ø8 Harvard WB	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)		10		10		10		10
Extension (passage) Vehicle Interval		2		2		2		2
Yellow		4		4		4		4
Red Clear		2		2		2		2
Maximum Green I		22		31		27		31
Maximum Green II		47		31		27		31
Pedestrian Walk			7					
Pedestrian Clear			15					
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall		Soft				Soft		
Memory		NL		NL		NL		NL
Delay								

Ø1	Ø2	Ø3	Ø4
	↓		→

Ø5	Ø6	Ø7	Ø8
	↑		←

VHB **Traffic Signal Inventory**

11. Notes

date correct
time off → fixed
programmed DLS

NB Right lane loops/amp not working → MBX

12. Recommendations

VHB

Traffic Signal Inventory

1. Intersection Location

Main/High/Salem/Forest	Medford
Intersection Name	City or Town

Free	1/10/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH

See attached

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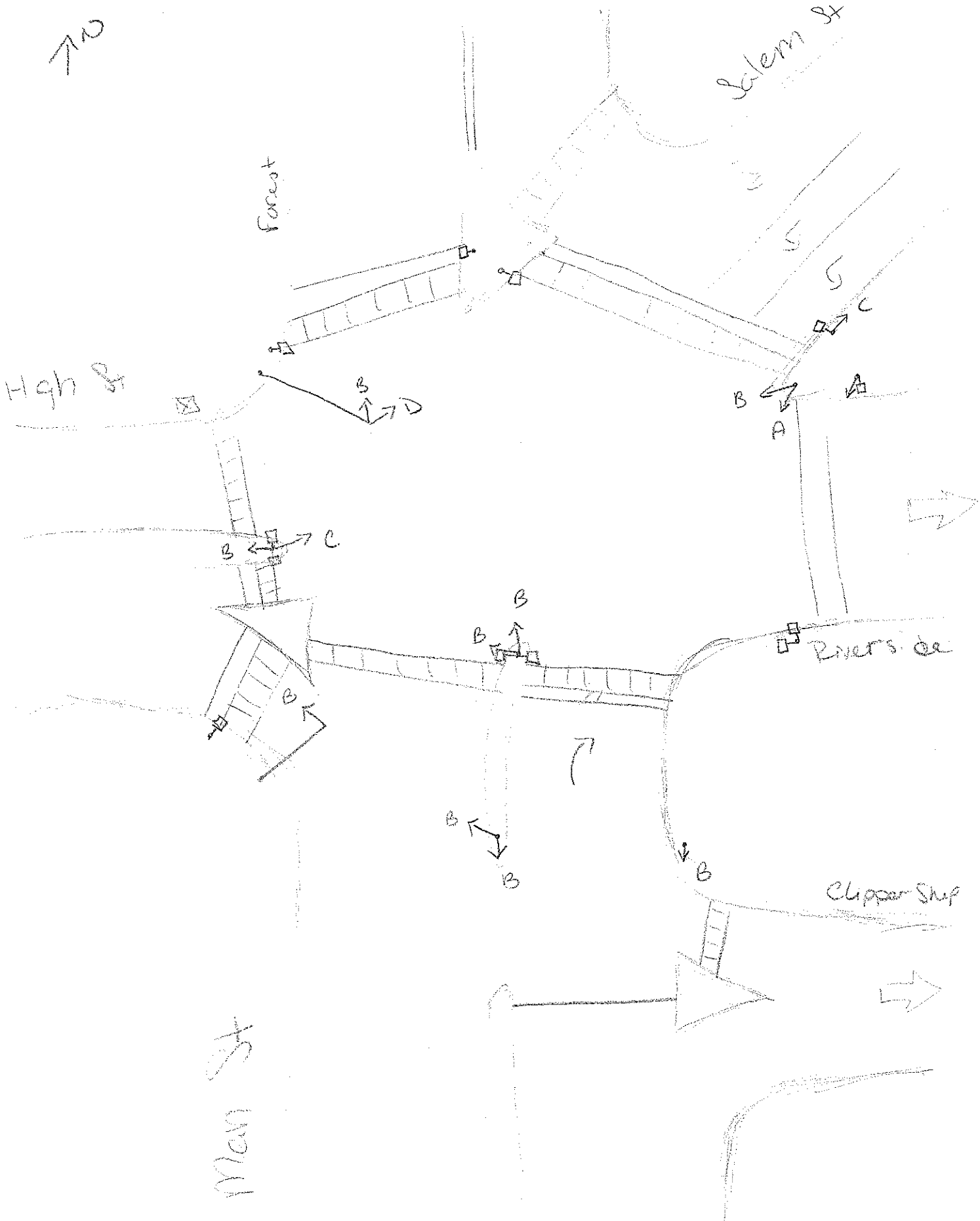

Salem St
Forest
High St
Rivers Ed
Clipper Ship
Main St

VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
EF 140 Eagle		

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☐ NEMA-Keyboard	☐ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☐ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☐ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L.E.D./Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	R→ Y→ G→									
B	3-sect Hall									
C	4-sect R Y G G→									
D	R Y G→									

Main St/High St/Salem St/Forest St Timings

Interval	1	2	3	4	5	6	7	8	9	10	15	16	17	18
Cycle time	0	26	34	37	39	55	64	67	68	71	72	88	95	98
	Salem Green	FDW	Clearance		Forest & Main Green	FDW	Clearance				Salem & High Green	FDW	Clearance	
	High St Walk				Walk						Walk			

Salem / walk High

FDW ~~Forest~~ clear

Forest / Main

clear

1 2 3 4 5 6 7 8 9 10 ~~11 12 13 14~~

0 26 34 37 39 55 64 67 68 71

High/Salem ok / walk Main

Don't walk main

15 16 17 18

72 88 95 98

VHB

Traffic Signal Inventory

11. Notes

conflict monitor has 2nd black on bottom.

12. Recommendations

VHB

Traffic Signal Inventory

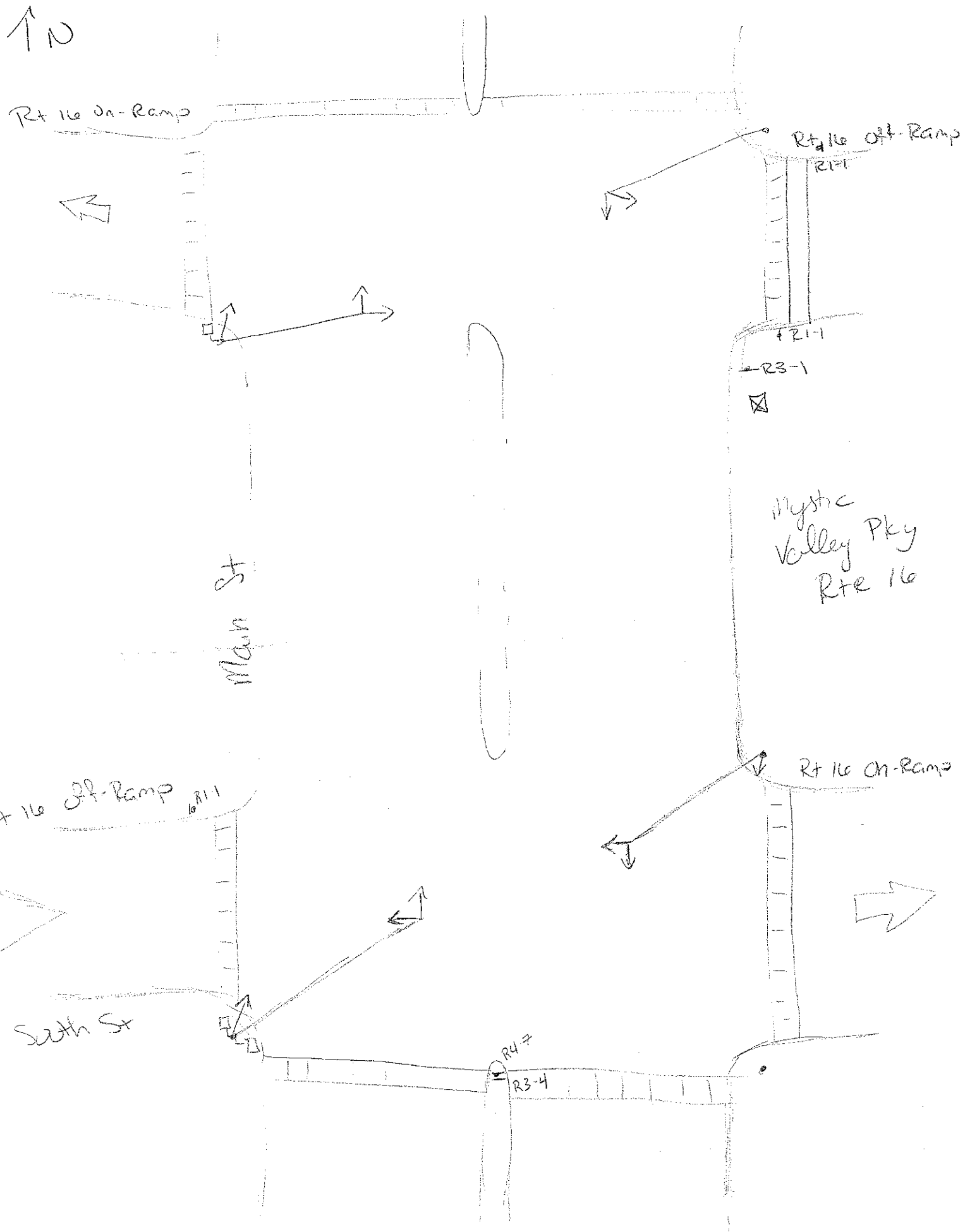
1. Intersection Location

Intersection Name	City or Town
Main @ South / WB Off-Ramp	Medford

Intersection Operation	Date of Inventory	Inventory Conducted By
Flash	1/10/08	DMG / VL

INTERSECTION SKETCH

See attached


N
Rt 16 On-Ramp
Rt 16 Off-Ramp
R1-1
R1-1
R3-1
Mystic Valley Pky Rte 16
Main St
Rt 16 Off-Ramp
R1-1
Rt 16 On-Ramp
South St
R4-7
R3-4

VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☐ NEMA-Keyboard	☐ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☐ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☐ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

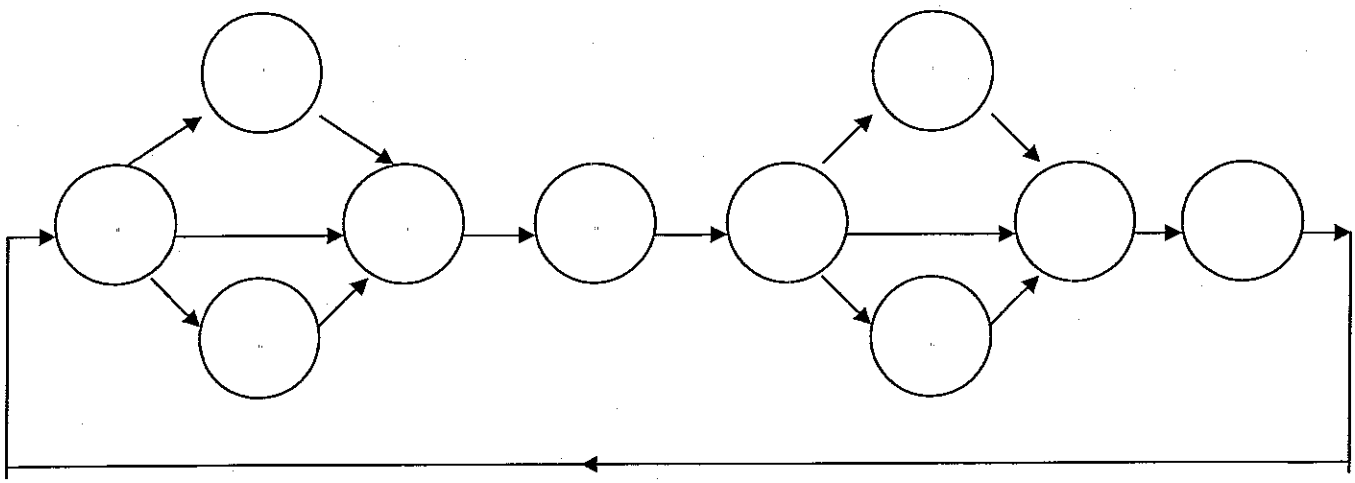
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
	all 3-sect hallo									

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. *Traffic Signal Phasing Diagram*



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2	Ø3
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)								
Extension (passage) Vehicle Interval								
Yellow								
Red Clear								
Maximum Green I								
Maximum Green II								
Pedestrian Walk								
Pedestrian Clear								
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

10. MUTCD Compliance Check-List

Two (2) Signal Faces Per Approach	☐ Yes	☐ No	☐ N/A
Proper Use of Turn Indications	☐ Yes	☐ No	☐ N/A
Proper Size of Vehicle Signal Displays	☐ Yes	☐ No	☐ N/A
Proper Size of Pedestrian Signal	☐ Yes	☐ No	☐ N/A
Displays	☐ Yes	☐ No	☐ N/A
Proper Vertical Clearance (vehicle)			
-- Span Wire/Mast Arm: 15' Min /19' Max.	☐ Yes	☐ No	☐ N/A
-- Post or Pedestal: 8' Min /15' Max.	☐ Yes	☐ No	☐ N/A
-- Non-Pedestrian Island 4½' Min.	☐ Yes	☐ No	☐ N/A
Proper Vertical Clearance (pedestrian)			
-- 7' Min /10' Max. On Sidewalks	☐ Yes	☐ No	☐ N/A
Proper Horizontal Placement			
-- 8' Min. Separation (signals)	☐ Yes	☐ No	☐ N/A
-- Posts/Poles 2' Min. Off Curb	☐ Yes	☐ No	☐ N/A
Proper Use of Pedestrian Signals	☐ Yes	☐ No	☐ N/A
Proper Timing/Clearance			
-- Vehicle Phase(s)	☐ Yes	☐ No	☐ N/A
-- Pedestrian Phase(s)	☐ Yes	☐ No	☐ N/A
Adequate Visibility			
-- (per Table 4-1; Section 4b-12)	☐ Yes	☐ No	☐ N/A
Longitudinal Head Placement			
-- At Least One Signal > 40' From Stopline	☐ Yes	☐ No	☐ N/A
-- Both Signals < 150' From Stopline	☐ Yes	☐ No	☐ N/A
MUTCD Compliance	☐ Yes	☐ No	☐ N/A

REMARKS:

VHB **Traffic Signal Inventory**

11. Notes

Cabinet door bent inward

could not open

appears to only be capable of flashing

12. Recommendations

VHB

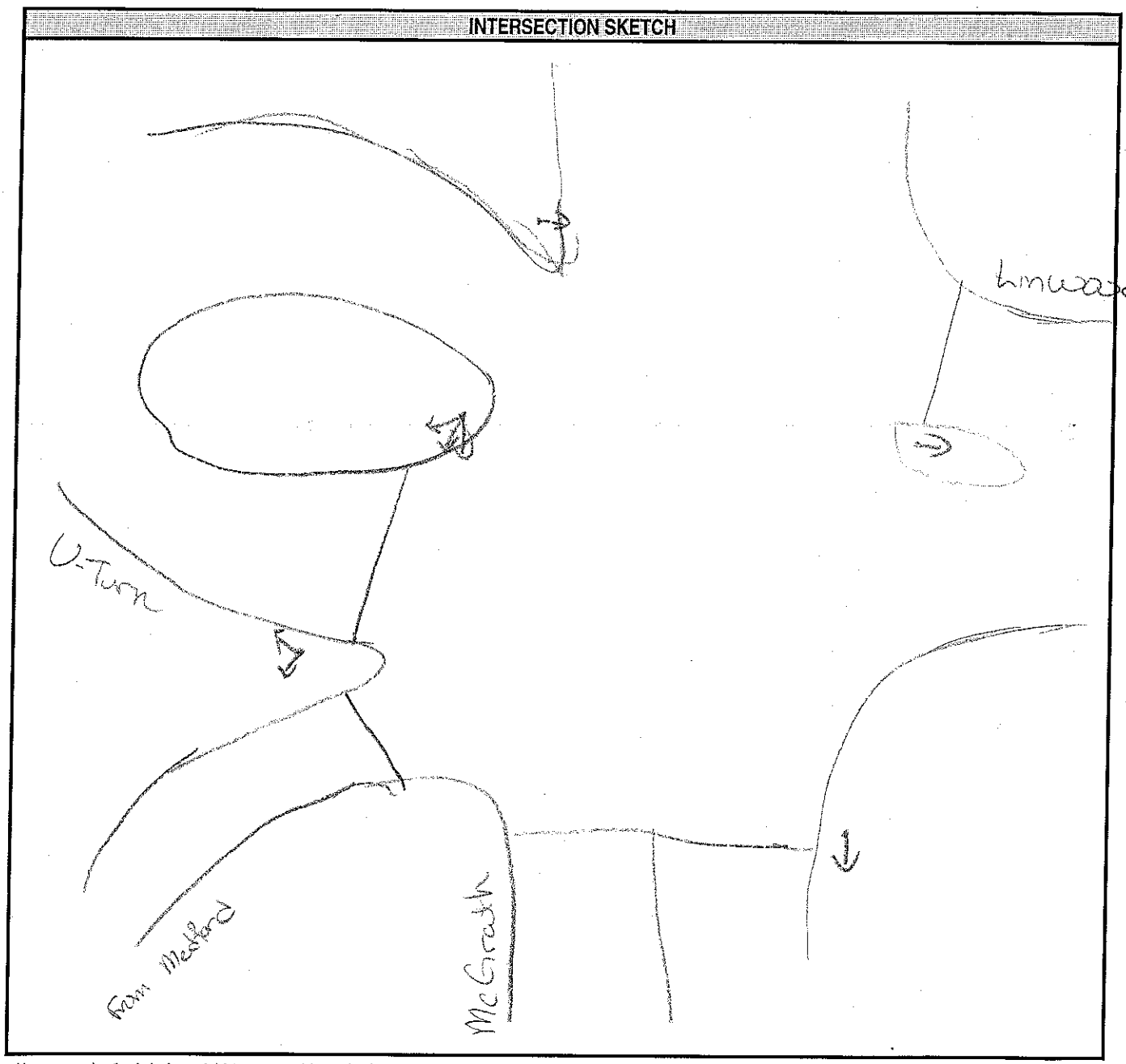
Traffic Signal Inventory

1. Intersection Location

McGrath @ Linwood	Somerville
Intersection Name	City or Town

Free	1/21/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Peek	3206	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☑ NEMA-Keyboard	☐ Good ☑ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☑ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☑ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☑ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	3	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	Peek 6ELFB

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

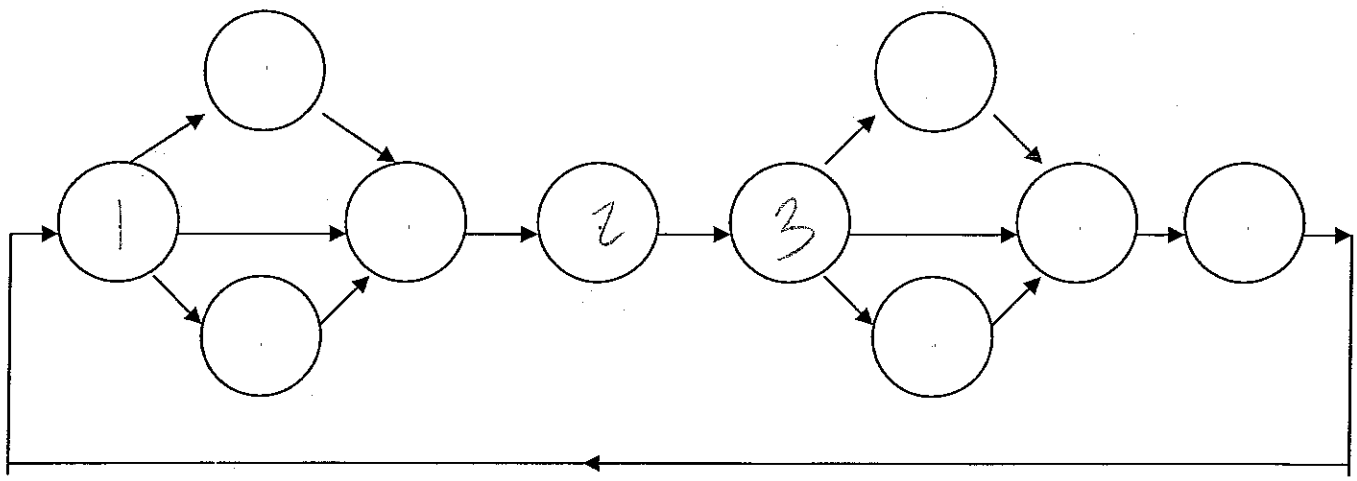
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect ball								D C R G R A Y	

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Medford	Ø2 U-Turn / Linwood	Ø3 McGrath NB
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	6	6	6					
Extension (passage) Vehicle Interval	—	—	—					
Yellow	4	4	4					
Red Clear	1	1	1					
Maximum Green I	22	18	12					
Maximum Green II	28	18	18					
Pedestrian Walk								
Pedestrian Clear								
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
↗	← ↑	↑	

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
____ =	_____
____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
	7-9	31			
	9-15:30	11			
	15:30-19	21			

9. *Coordination Data for Eagle Controllers*

SET-UP	CODE	0	1	2	3
Operation		FREE	AUTO	MANUAL	---
Mode (Normal)		PERM	YIELD	PM YLD	PM OMIT
Maximum		M INH	MAX 1	MAX 2	---
Correction		DWELL	MX DW	SH WAY	SW+
Offset		BEGIN	END	---	---
Force		PLAN	CYCLE	---	---

CYCLE LENGTH	1	2	3	4
Split 1	65			
Split 2	70			
Split 3	65			
Split 4				

CYCLE/ OFFSET	1	2	3	4	5	6
1	51					
2	42					
3	52					
4						

Cycle/Split Modes: 0=Actuated; 1=Coord Phase; 2=Min Rec; 3=Max Rec; 4=Ped Rec; 5=Max+Ped Rec
6=Phase Omitted; 7=Dual Coord Phase

Cycle__/Split__	1	2	3	4	5	6	7	8	9
Time	24	19	22						
Mode	1								

Cycle 1 /Split 5	1	2	3	4	5	6	7	8	9
Time	33	17	20						
Mode									

Cycle 1 /Split 9	1	2	3	4	5	6	7	8	9
Time	25	21	19						
Mode									

Cycle__/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle__/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle__/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

11. Notes

12. Recommendations

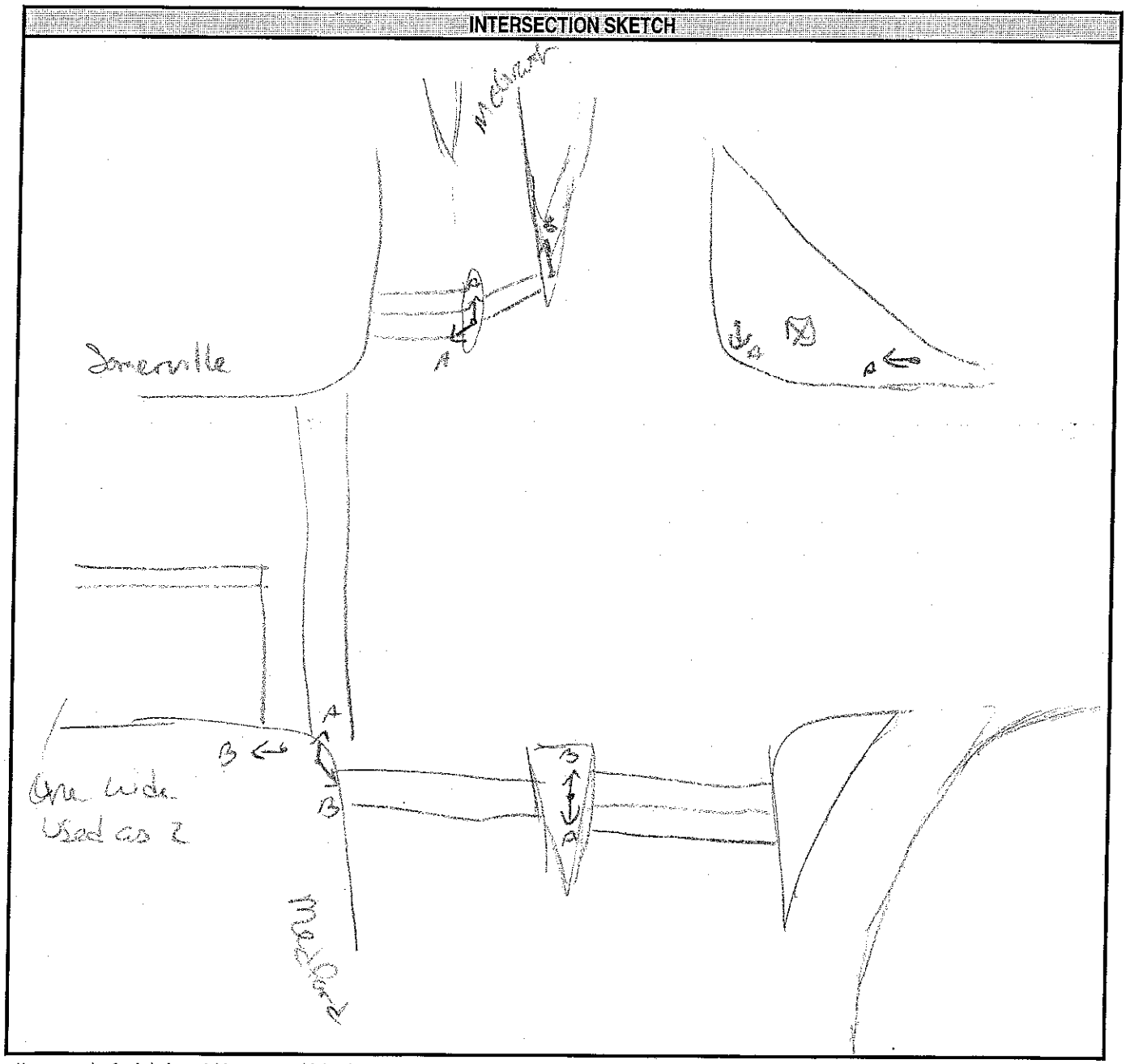
VHB

Traffic Signal Inventory

1. Intersection Location

Somerville @ Medford	Somerville	Pre-timed	11/17/06	DMG / VL
Intersection Name	City or Town	Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Transyt	1880 EL	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☒ Non-NEMA ☐ NEMA-Modular ☐ NEMA-Keyboard	☐ Good ☐ Fair ☒ Poor	☐ 2 Phase ☒ 4 Phase ☐ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☐ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	4	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	transyt 12 EL

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

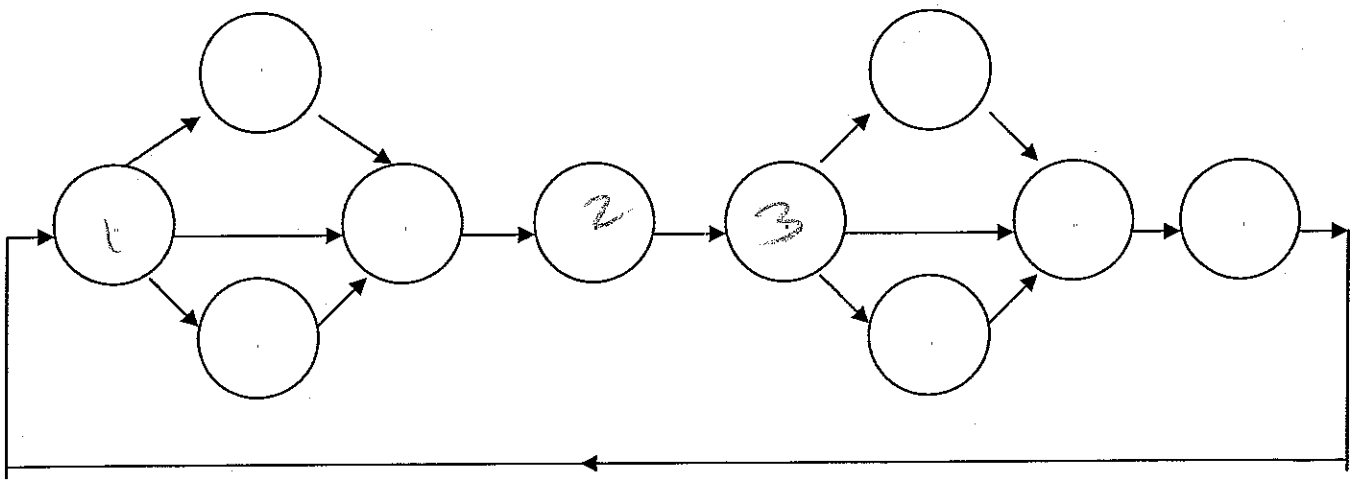
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	3- sect 8"	ball							D C 12	
B	3- sect 12"	ball							GRAY	

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Medford NB	Ø2 Medford SB	Ø3 Somerville
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	26	22	20					
Extension (passage) Vehicle Interval								
Yellow	4	4	4					
Red Clear	2	2	2					
Maximum Green I	15	40	15					
Maximum Green II	20	45	15					
Pedestrian Walk								
Pedestrian Clear								
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

initial overrides max

Ø1	Ø2	Ø3	Ø4
↑	↓	→	

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
	7-9:30		X		
	15:30-18:30		X		

11. Notes

12. Recommendations

VHB

Traffic Signal Inventory

1. Intersection Location

McGrath @ Washington
Intersection Name

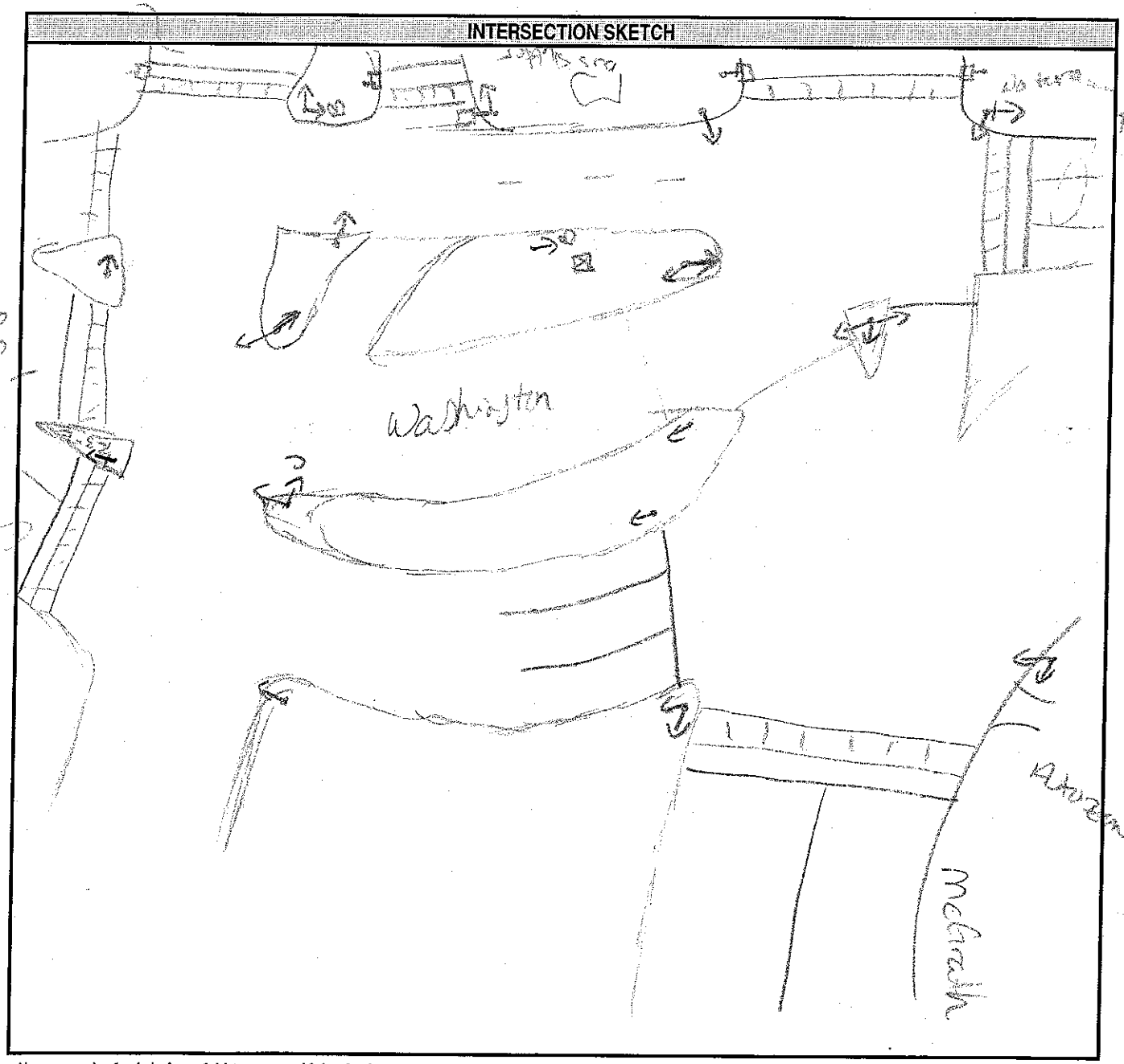
Somerville
City or Town

Pre-timed
Intersection Operation

1/21/08
Date of Inventory

DMG IVL
Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
TCT	LMD 9200	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12 P	11	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	LNM12

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
NONE	

VHB Traffic Signal Inventory

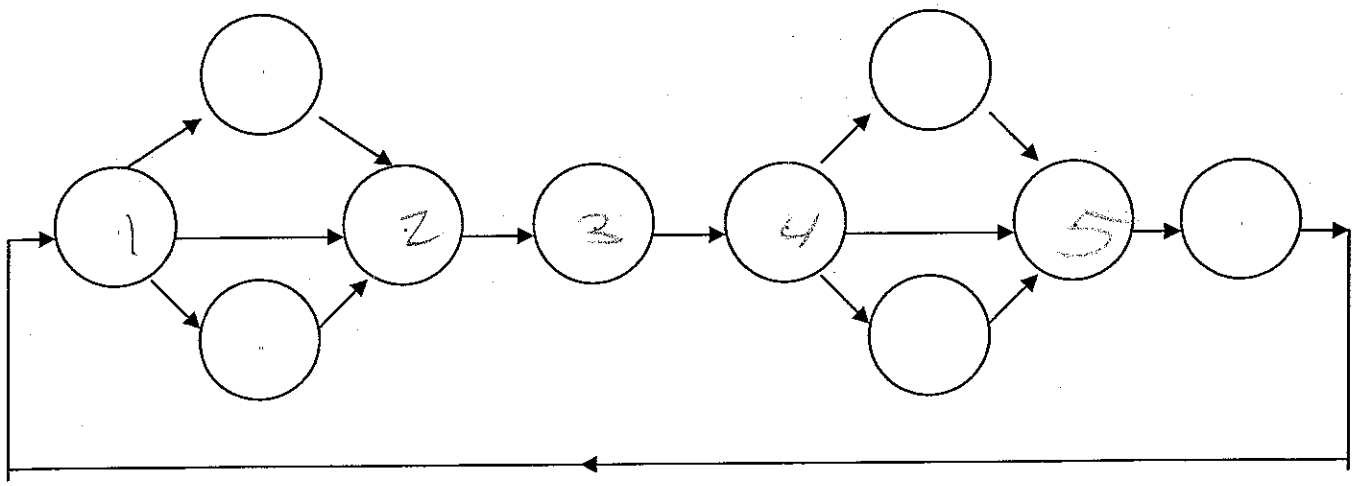
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect ball								D	
B	3-sect optically ball								C R	
C	O O O									
									G F A Y	

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB **Traffic Signal Inventory**

7. *Signal Timing Sheet*

Ø1 Washington WB ← Ø2 ↓ Ø3 SB McGrath

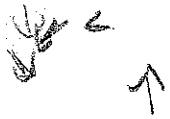
Ø4 Washington WB Ø5 NB McGrath Ø6

Ø7 Ø8 OLA

OLB OLC OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	6	10	5	15	5			
Extension (passage) Vehicle Interval	3	3	3	3				
Yellow	4	4	3	4	3			
Red Clear	1	2	2	2	2			
Maximum Green I	5	25	10	30	15			
Maximum Green II	35	15	20	30	20			
Pedestrian Walk		5		5				
Pedestrian Clear		10		11				
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	MAX							
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8
			

11. Notes

12. Recommendations

VHB

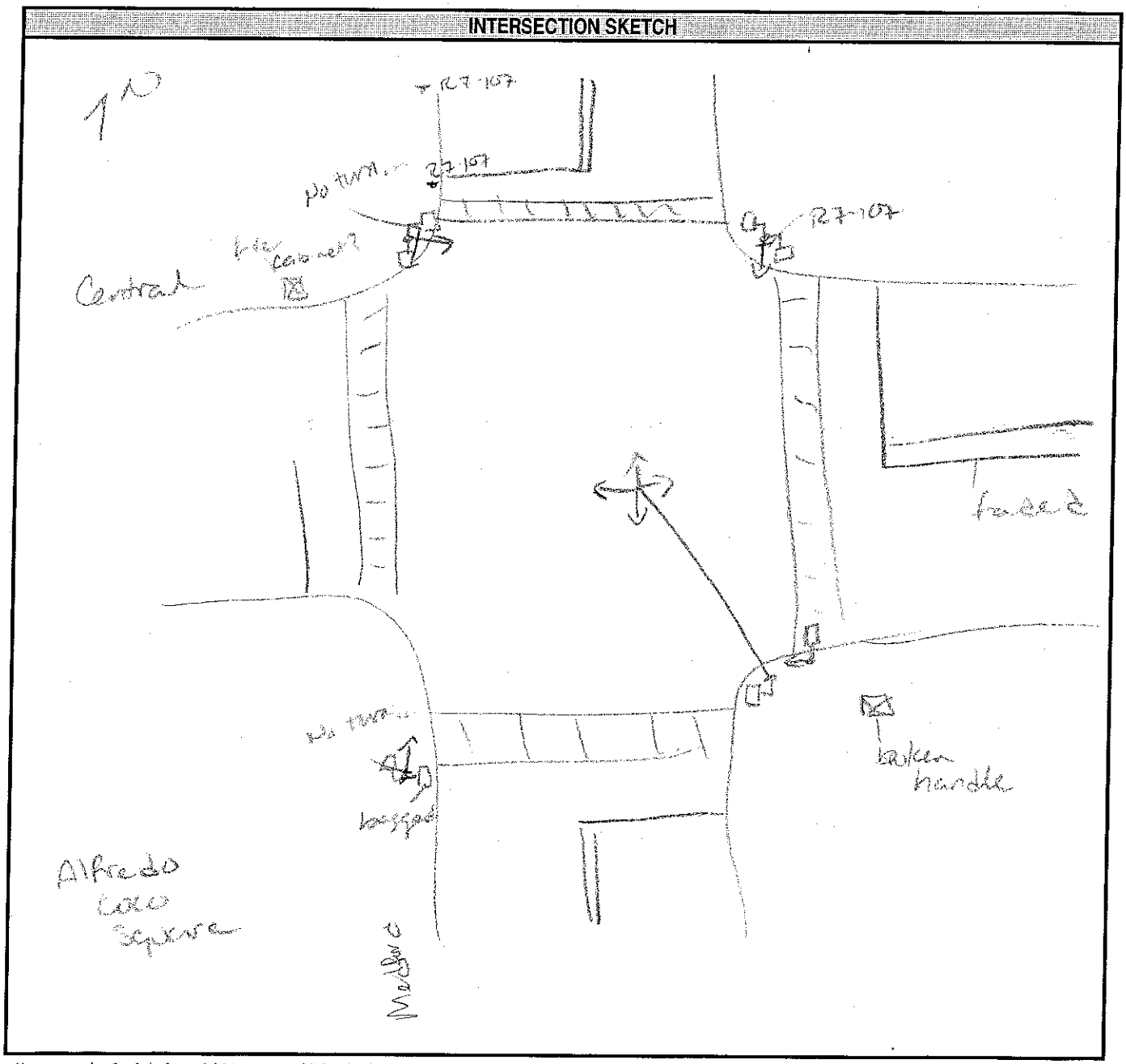
Traffic Signal Inventory

1. Intersection Location

Medford @ Central	Somerville
Intersection Name	City or Town

Pre-timed	1/17/06	DMG / VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB **Traffic Signal Inventory**

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	Gpac 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☒ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P		

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	LT - 216

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
don't work	DD100

VHB

Traffic Signal Inventory

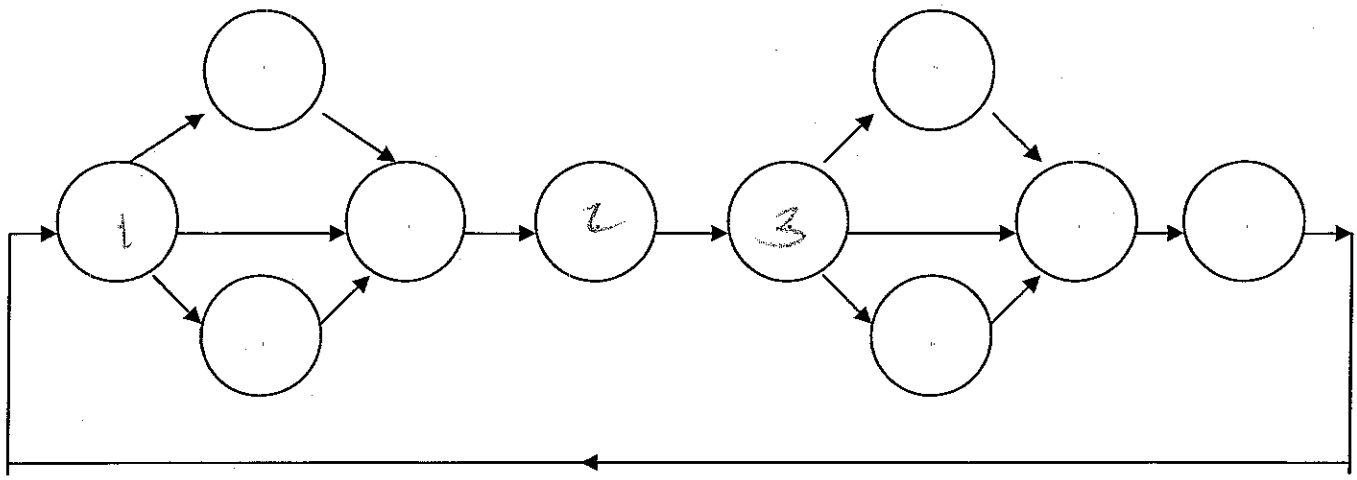
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect ball									
mv	reds of w/ 2-sect Don't walk		#							
	1-sect hand/man									

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Medford	Ø2 Rod	Ø3 Central
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	10		10					
Extension (passage) Vehicle Interval	4		4					
Yellow	3		3					
Red Clear	1		1					
Maximum Green I	35		22					
Maximum Green II	20		29					
Pedestrian Walk		7						
Pedestrian Clear		8						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	MAX		MAX					
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
↓ ↑	□	→ ←	

Ø5	Ø6	Ø7	Ø8

11. Notes

12. Recommendations

VHB

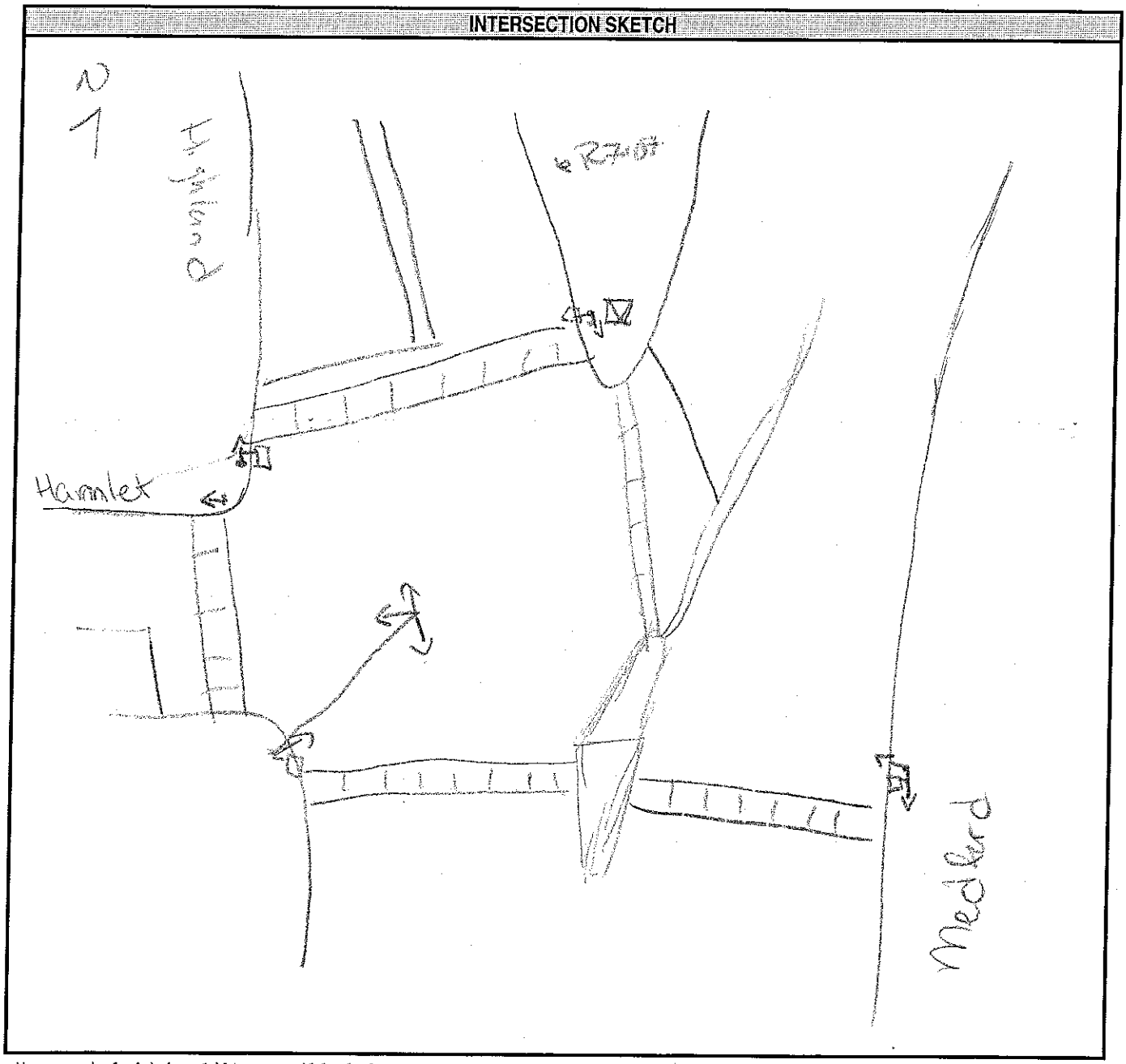
Traffic Signal Inventory

1. Intersection Location

Medford @ Highland	Somerville
Intersection Name	City or Town

Pre-timed	11/21/08	DMG/MC
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	Epac 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	4	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	LT-216

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 - Sarasota	1 Channel

VHB

Traffic Signal Inventory

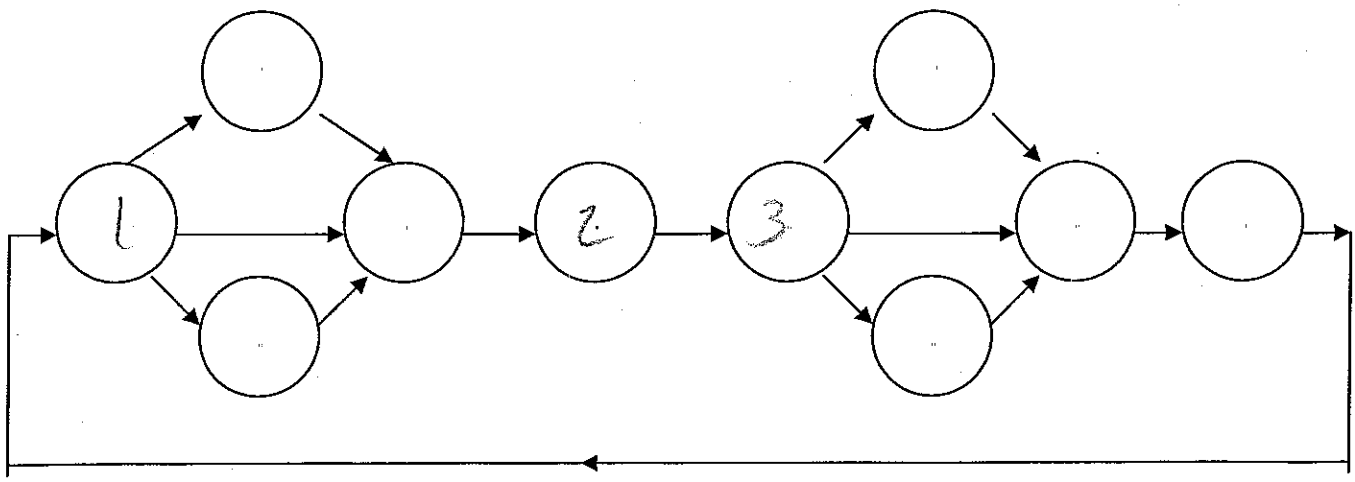
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-12 ct	all								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Medford SB	Ø2 Ped	Ø3 Medford NB/ Highland
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	8		8					
Extension (passage) Vehicle Interval	3		3					
Yellow	4		4					
Red Clear	1		1					
Maximum Green I	20		25					
Maximum Green II	20		20					
Pedestrian Walk		6						
Pedestrian Clear		9						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	MAX		MAX					
Memory	C	NC	C					
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

rusty Cabinet

12. Recommendations

VHB

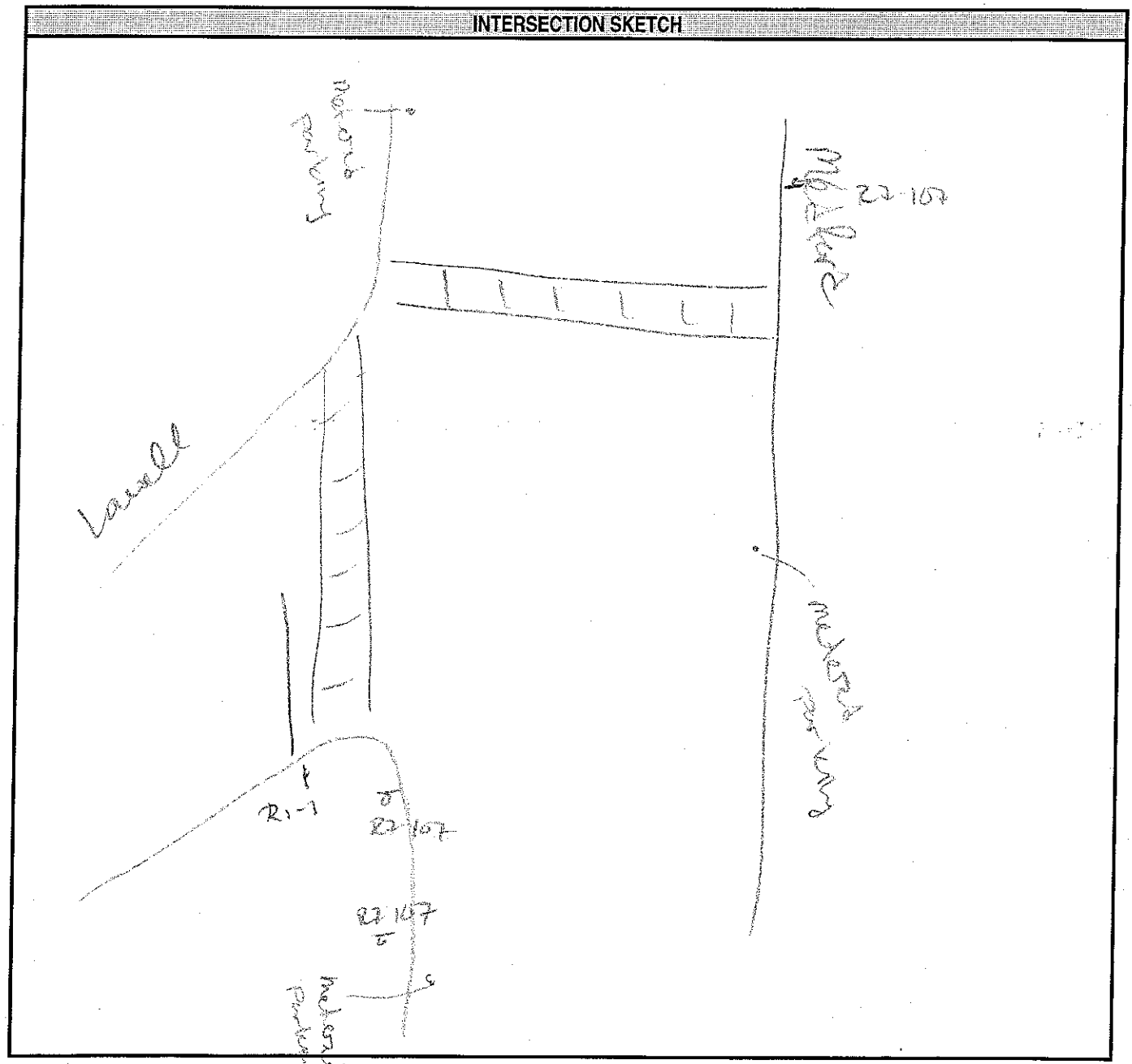
Traffic Signal Inventory

1. Intersection Location

Intersection Name	City or Town
Medford @ Lowell	Somerville

Intersection Operation	Date of Inventory	Inventory Conducted By
	11/14/08	DMG / VL

INTERSECTION SKETCH



11. Notes

12. Recommendations

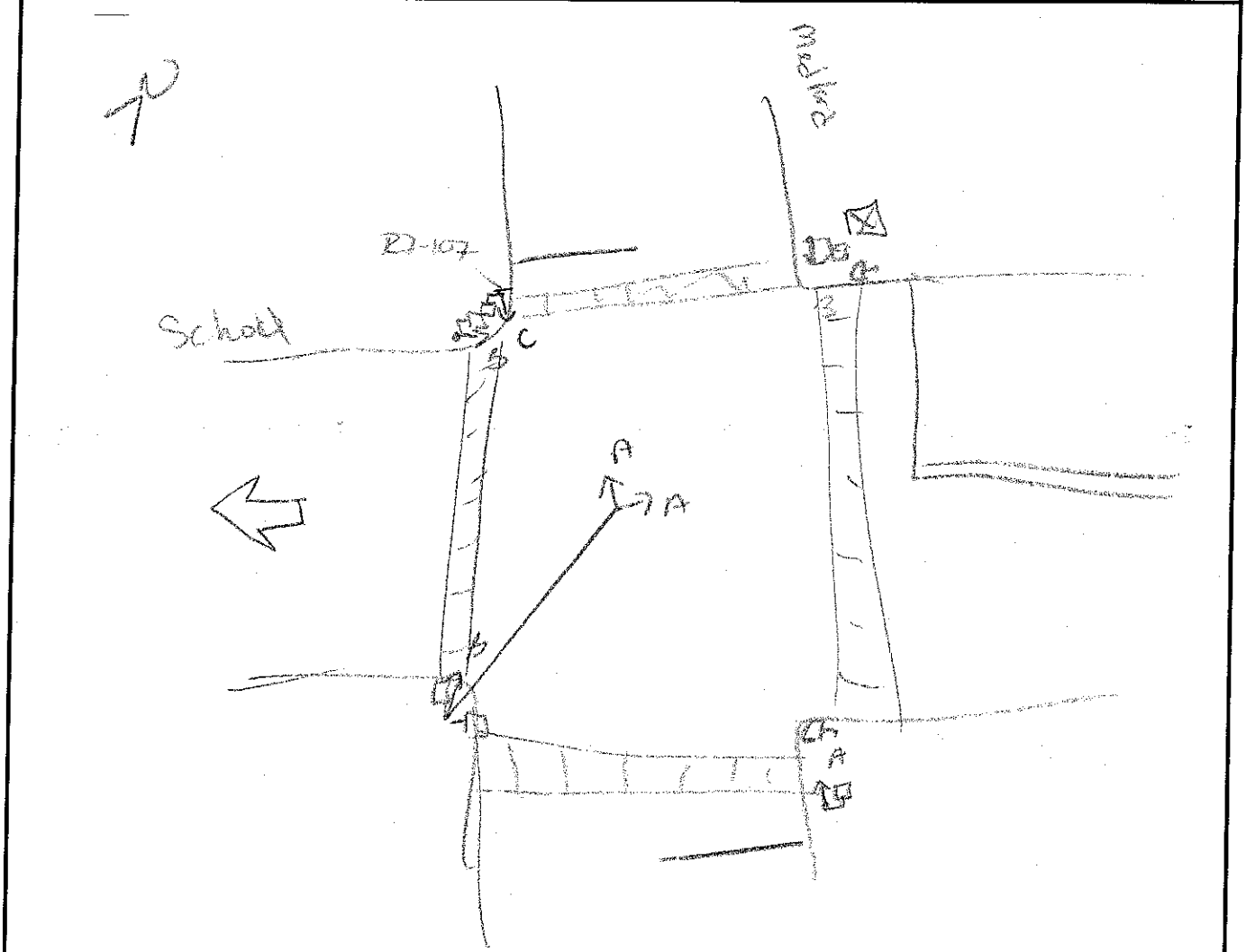
VHB **Traffic Signal Inventory**

1. *Intersection Location*

Medford @ School	Somerville
Intersection Name	City or Town

Pre-timed	1/17/00	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☒ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8D	3 2S - 216	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
none	

VHB

Traffic Signal Inventory

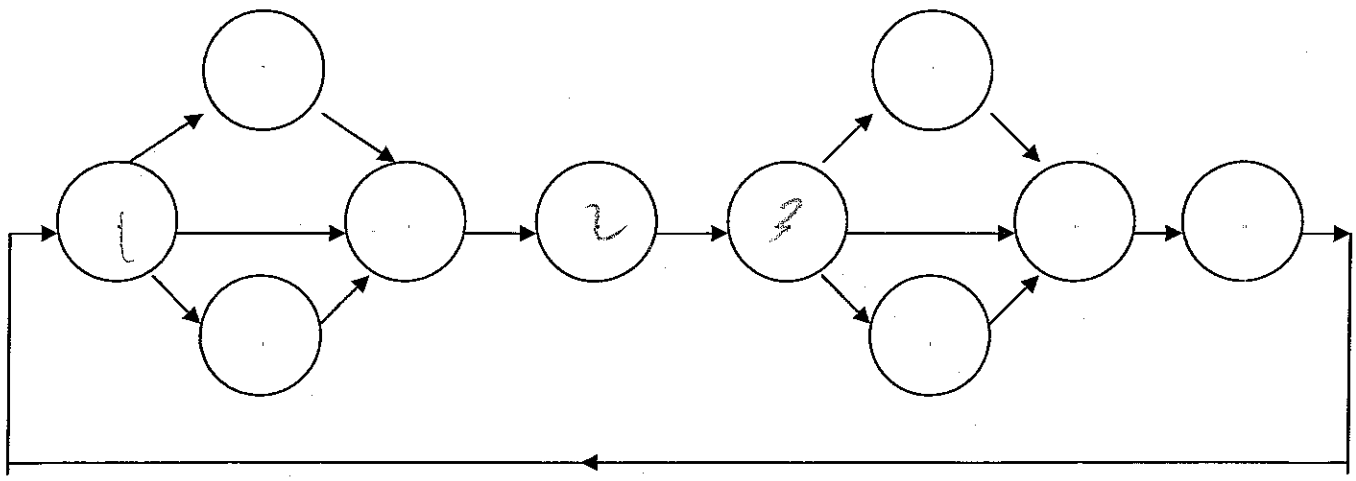
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	3-sect ball 12" R/8" Y & G									
B	12" 3-sect ball									
C	8" 3-sect ball									

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



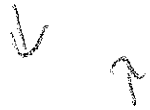
VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Medford	Ø2 Pond	Ø3 School
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	10		10					
Extension (passage) Vehicle Interval	4		4					
Yellow	3		3					
Red Clear	1		1					
Maximum Green I	28		17					
Maximum Green II	20		22					
Pedestrian Walk		7						
Pedestrian Clear		10						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	MAX		MAX					
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

fixed DLS project

12. Recommendations

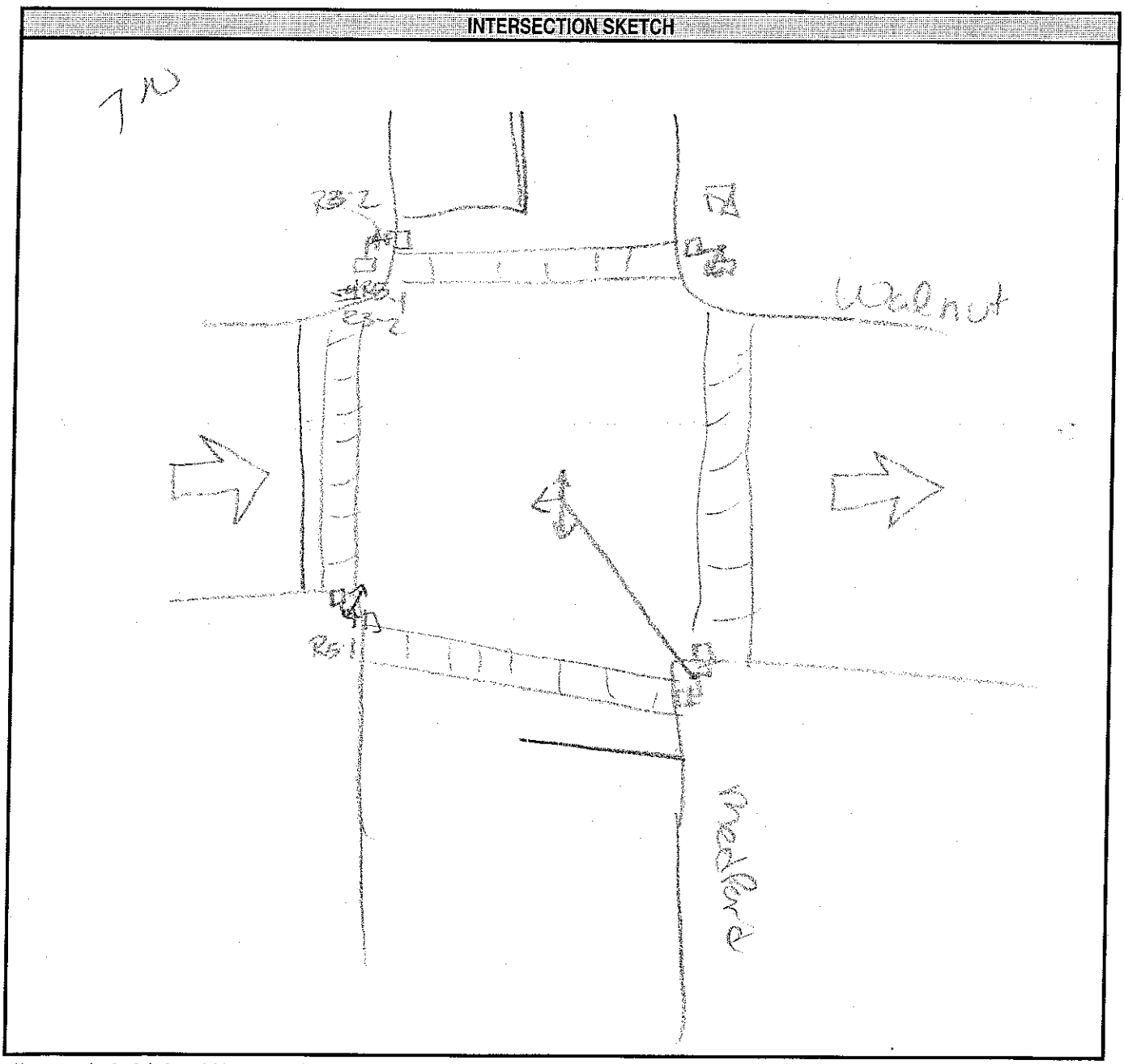
VHB

Traffic Signal Inventory

1. Intersection Location

Medford @ Walnut	Somerville	
Intersection Name	City or Town	
Pre-timed	1/21/09	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	2	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI - SSMALE-C

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
1 - channel sensys	

VHB

Traffic Signal Inventory

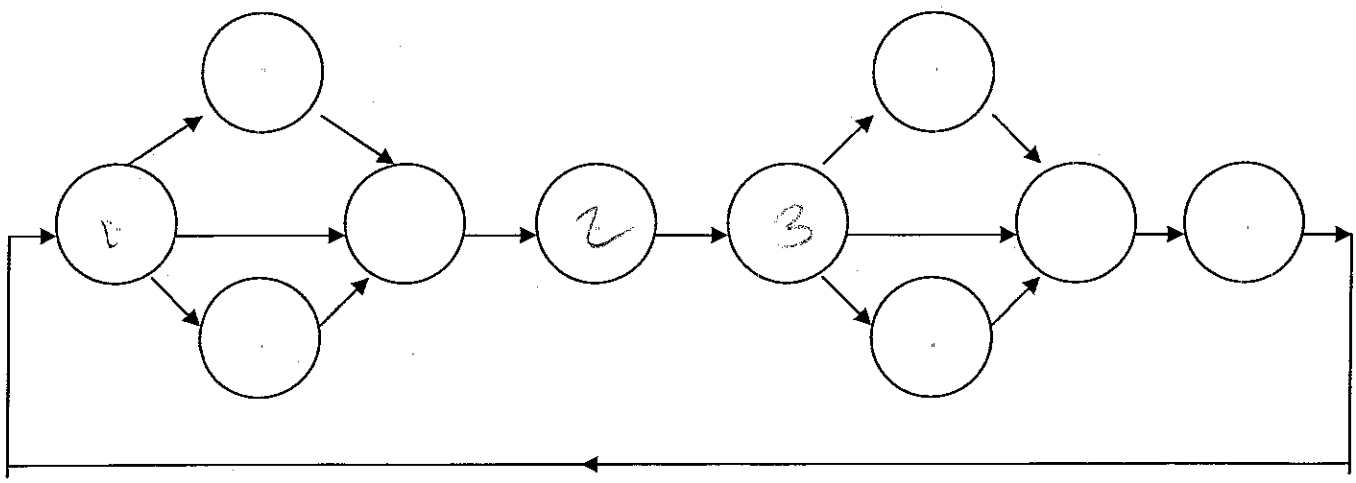
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3 - 3ect	ball								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Medford	Ø2 Park	Ø3 Walnut
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	25		25					
Extension (passage) Vehicle Interval	4		4					
Yellow	4		4					
Red Clear	2		2					
Maximum Green I	25		25					
Maximum Green II	30		30					
Pedestrian Walk		7						
Pedestrian Clear		9						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	Min		Min					
Memory	Ln		Ln					
Delay								

Ø1	Ø2	Ø3	Ø4
↓ ↑		→	

Ø5	Ø6	Ø7	Ø8

11. Notes

12. Recommendations

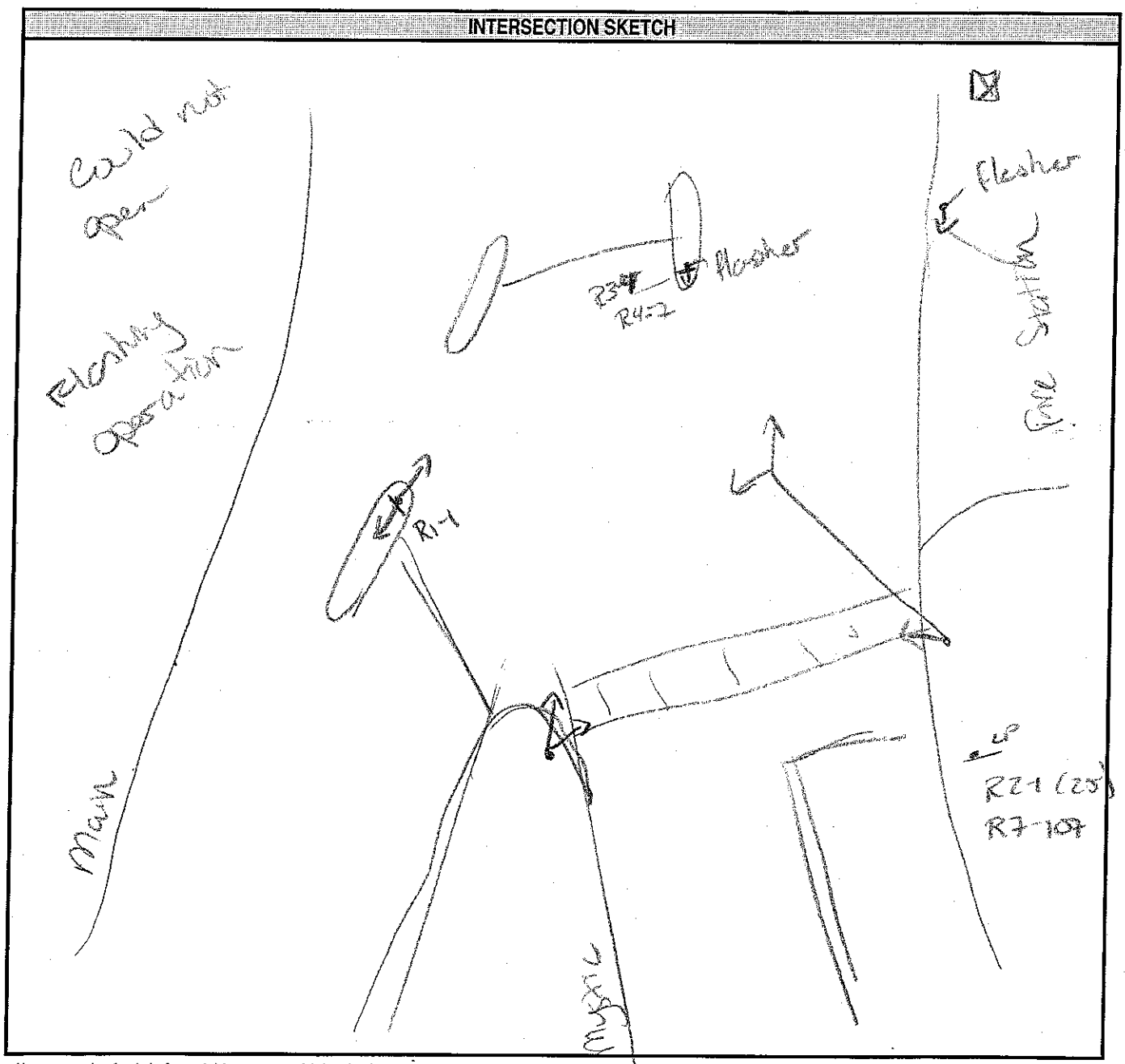
VHB **Traffic Signal Inventory**

1. Intersection Location

Intersection Name	City or Town
Mystic Valley @ Main	Medford

Intersection Operation	Date of Inventory	Inventory Conducted By
Flash	1/10/08	DMG / VL

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☐ NEMA-Keyboard	☐ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☐ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☐ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

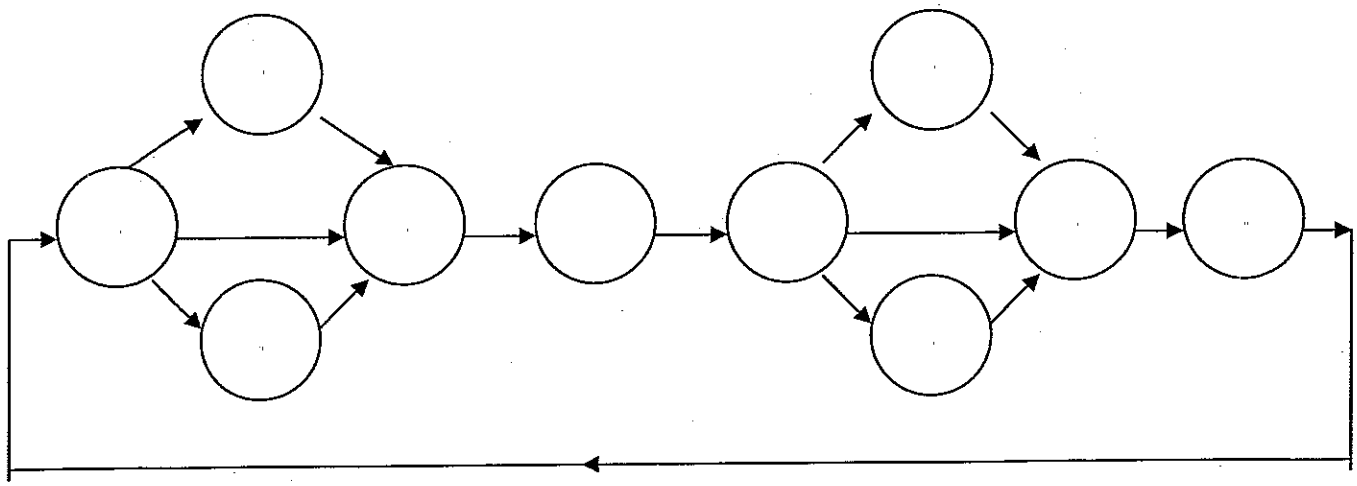
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L.E.D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect	heads								

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2	Ø3
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)								
Extension (passage) Vehicle Interval								
Yellow								
Red Clear								
Maximum Green I								
Maximum Green II								
Pedestrian Walk								
Pedestrian Clear								
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

Could not open

does not pre-empt for fire station

12. Recommendations

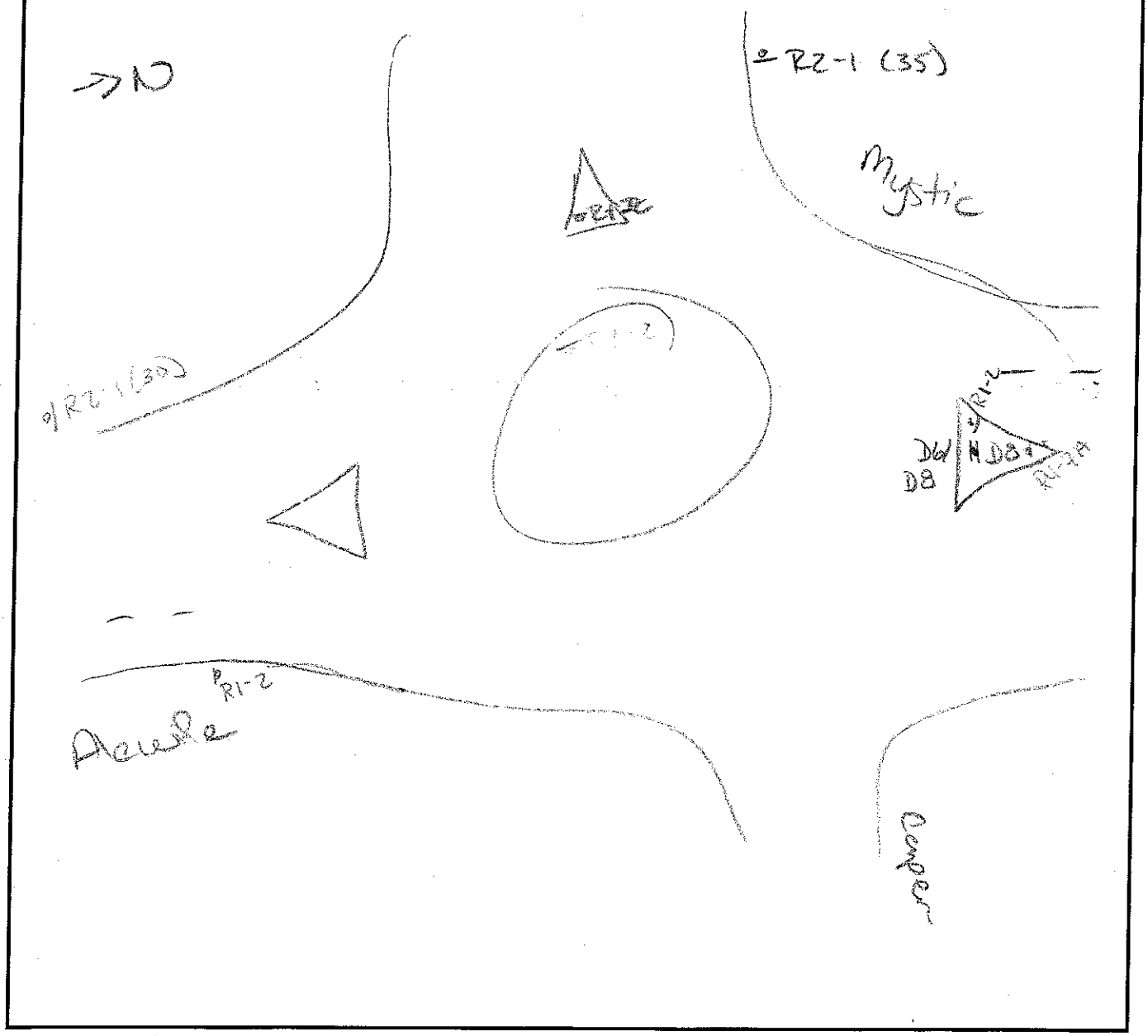
VHB **Traffic Signal Inventory**

1. *Intersection Location*

Alewife Brook @ Mystic Valley	Somerville
Intersection Name	City or Town

	1/10/08	DMG / VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

11. Notes

12. Recommendations

Stage for two lane roundabout

VHB

Traffic Signal Inventory

1. Intersection Location

Mystic Valley @ Auburn — Intersection Name

Medford — City or Town

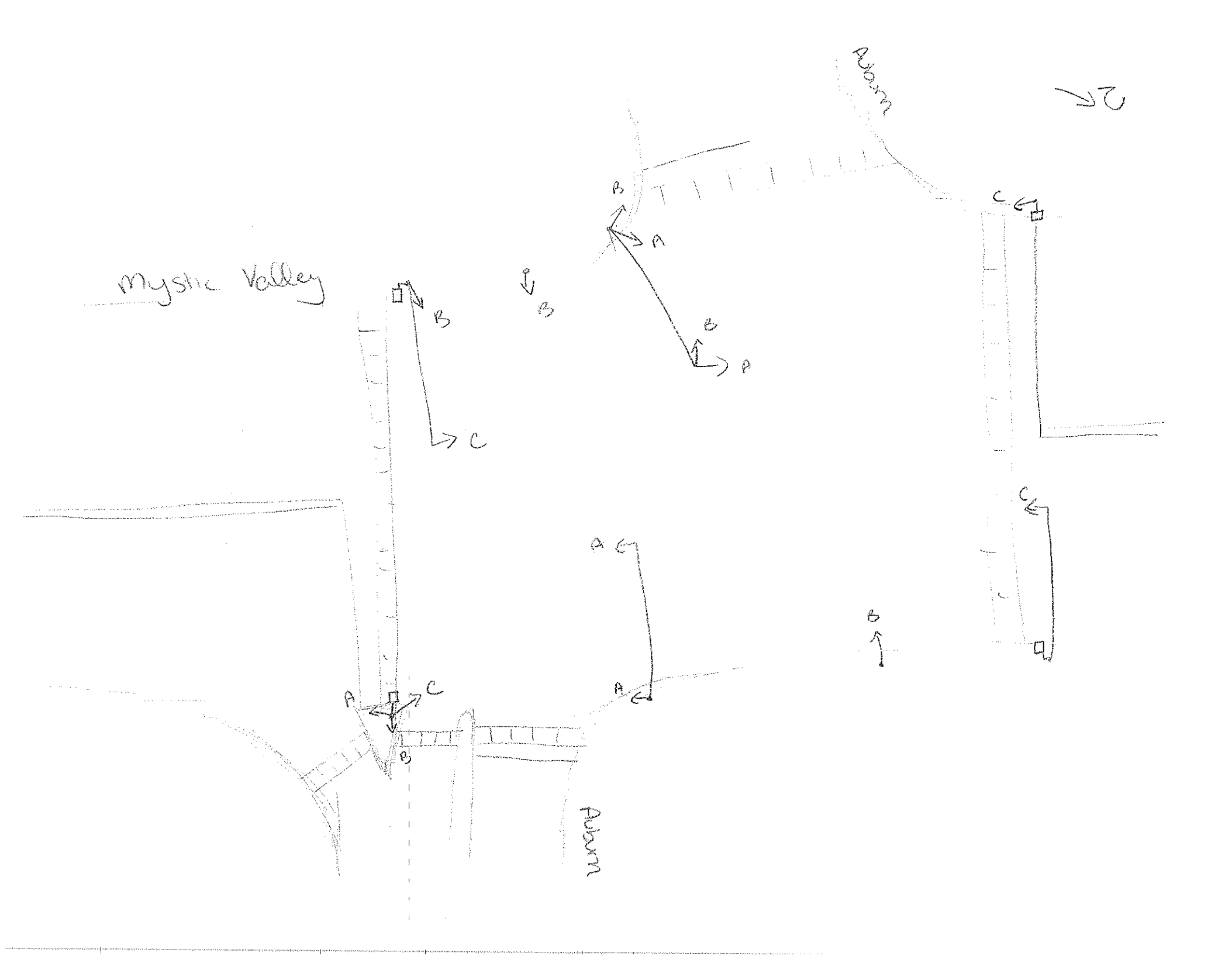
Free — Intersection Operation

1/10/08 — Date of Inventory

DMG/IVL — Inventory Conducted By

INTERSECTION SKETCH

See attached


Mystic Valley
Auburn
Auburn
A
B
C

VHB **Traffic Signal Inventory**

2. *Controller Data*

Manufacturer	Model No.	Serial No.
TCT	LMD 2000	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	6	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	LNM6

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
	no	

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 - 2 channel	

VHB

Traffic Signal Inventory

3. *Cabinet Data*

Manufacturer	Model No.	Serial No.

OUTSIDE DIMENSIONS				TYPE OF SUPPORT	CONDITION
HEIGHT (inches)	WIDTH (inches)	DEPTH (inches)	HEIGHT OF BOTTOM OF CABINET (inches)		
				☐ Side of Pole ☐ Pedestal ☐ Ground	☐ Good ☐ Fair ☐ Poor

DOOR	VENT	FAN / THERMOSTAT	MANUAL CONTROL	TEST BUTTONS (If Yes, List Type)
☐ Single ☐ Double ☐ Police ☐ Other				

POLICE DOOR SWITCHES	DOCUMENTATION IN CABINET

VHB

Traffic Signal Inventory

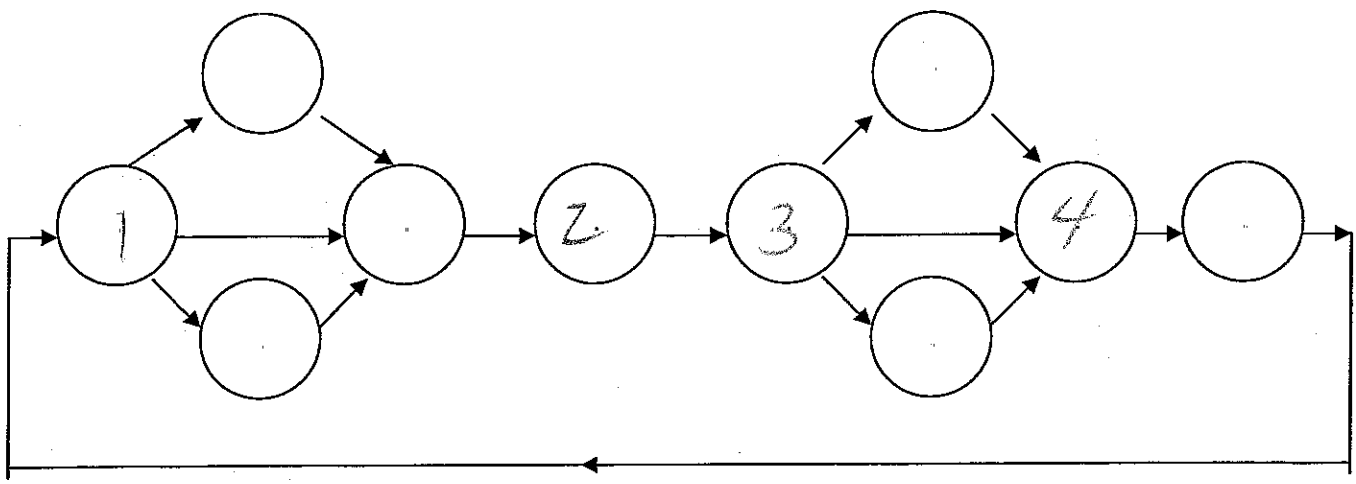
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L.E.D./Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	3-section	ball								
B	4-section	R Y G G-							D	
C	3-section	ball optically							C	
									R	
									G	
									r	
									a	
peds	are 2-section	hand/man							y	

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



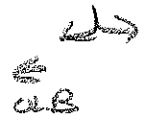
VHB **Traffic Signal Inventory**

7. *Signal Timing Sheet*

Ø1 Mystic	Ø2 Pod	Ø3 Auburn WB
Ø4 Auburn EB	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	8		8	8				
Extension (passage) Vehicle Interval	4		4	4				
Yellow	4		4	4				
Red Clear	1		1	1				
Maximum Green I	60		15	15				
Maximum Green II								
Pedestrian Walk		7						
Pedestrian Clear		8						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	On		On	On				
Memory								
Delay								

check in red

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

date correct

time off 2 am @ 10

12. Recommendations

install R4-7

VHB

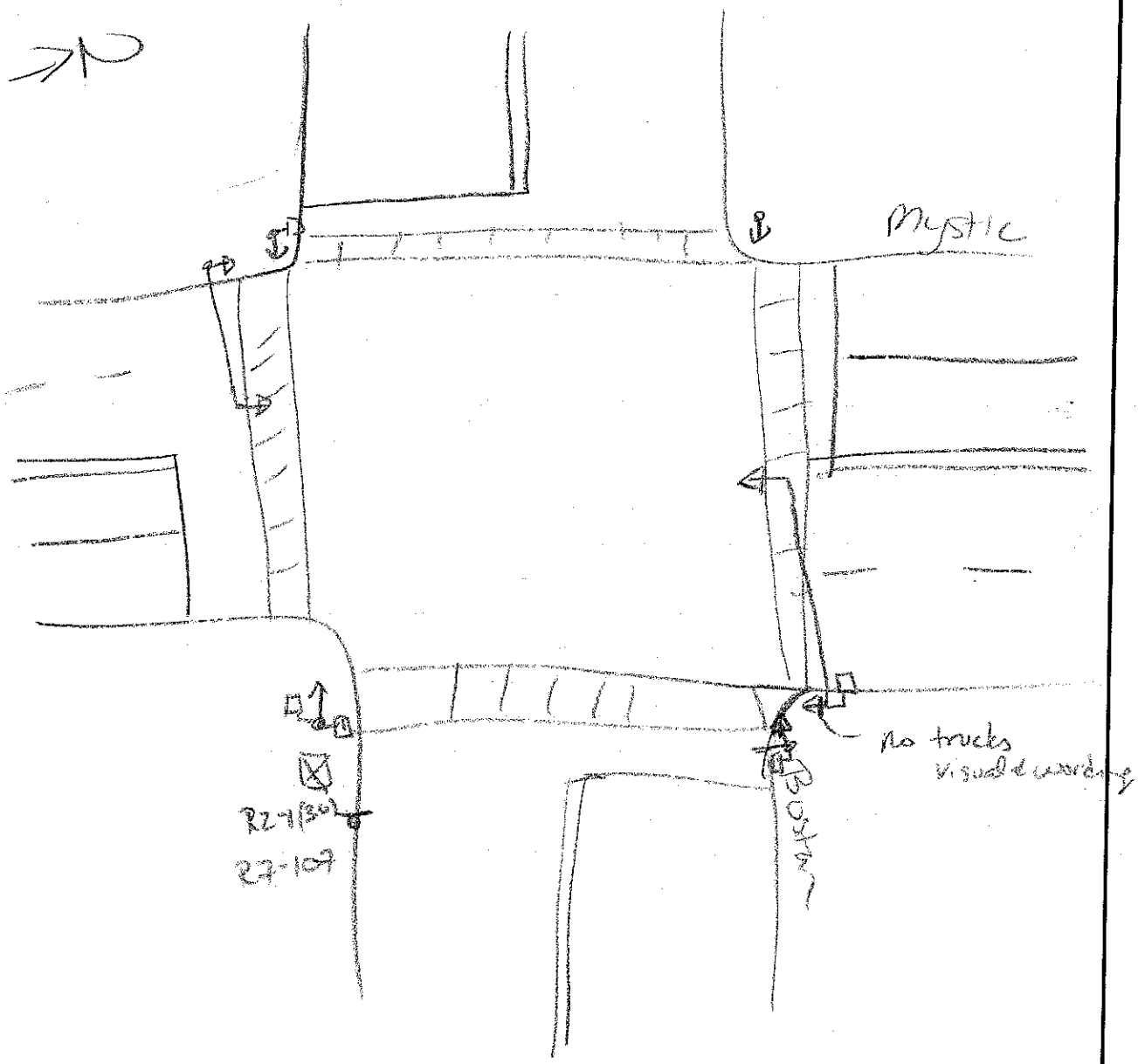
Traffic Signal Inventory

1. Intersection Location

Mystic Valley @ Boston	Medford
Intersection Name	City or Town

Free	1/10/08	DMG/NL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
TCT	LMD 8050	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	3	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	LNM 6

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
	NO	

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 - 2 channel	

VHB

Traffic Signal Inventory

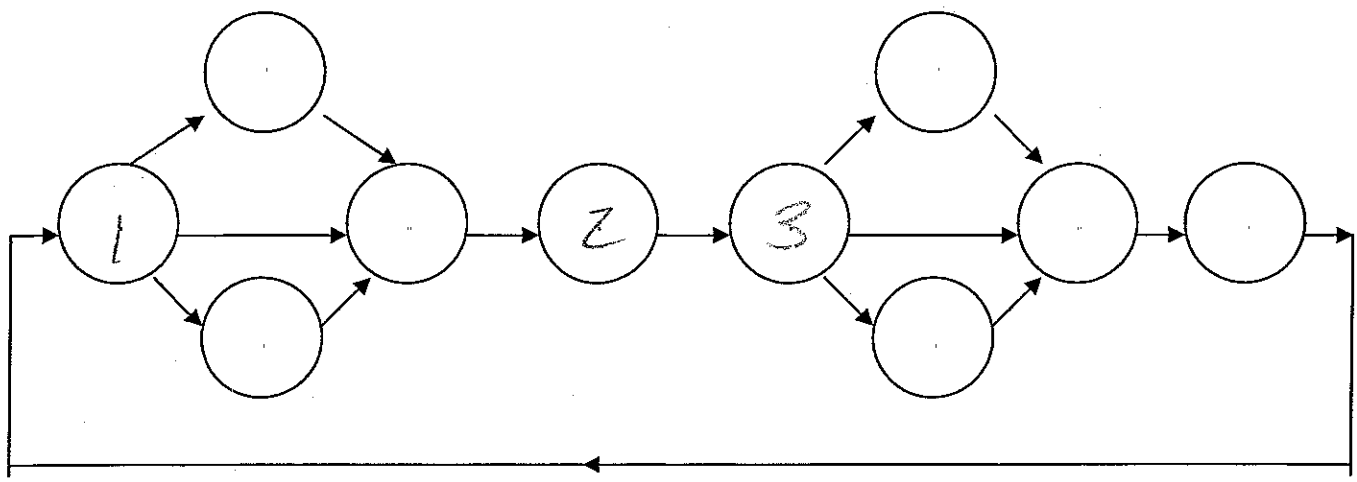
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-sect ball									
ped mx & single display										
	2-sections of									
	1-section ahead display									

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB **Traffic Signal Inventory**

7. *Signal Timing Sheet*

Ø1 Mystic Valley	Ø2 PCA	Ø3 Boston
Ø4	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	8		8					
Extension (passage) Vehicle Interval	4		4					
Yellow	3		3					
Red Clear	1		1					
Maximum Green I	60		30					
Maximum Green II	0		0					
Pedestrian Walk		8						
Pedestrian Clear		7						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	EXT							
Memory			ON					
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

10. MUTCD Compliance Check-List

Two (2) Signal Faces Per Approach	☐ Yes	☐ No	☐ N/A
Proper Use of Turn Indications	☐ Yes	☐ No	☐ N/A
Proper Size of Vehicle Signal Displays	☐ Yes	☐ No	☐ N/A
Proper Size of Pedestrian Signal	☐ Yes	☐ No	☐ N/A
Displays	☐ Yes	☐ No	☐ N/A
Proper Vertical Clearance (vehicle)			
-- Span Wire/Mast Arm: 15' Min./19' Max.	☐ Yes	☐ No	☐ N/A
-- Post or Pedestal: 8' Min./15' Max.	☐ Yes	☐ No	☐ N/A
-- Non-Pedestrian Island 4½' Min.	☐ Yes	☐ No	☐ N/A
Proper Vertical Clearance (pedestrian)			
-- 7' Min./10' Max. On Sidewalks	☐ Yes	☐ No	☐ N/A
Proper Horizontal Placement			
-- 8' Min. Separation (signals)	☐ Yes	☐ No	☐ N/A
-- Posts/Poles 2' Min. Off Curb	☐ Yes	☐ No	☐ N/A
Proper Use of Pedestrian Signals	☐ Yes	☐ No	☐ N/A
Proper Timing/Clearance			
-- Vehicle Phase(s)	☐ Yes	☐ No	☐ N/A
-- Pedestrian Phase(s)	☐ Yes	☐ No	☐ N/A
Adequate Visibility			
-- (per Table 4-1; Section 4b-12)	☐ Yes	☐ No	☐ N/A
Longitudinal Head Placement			
-- At Least One Signal > 40' From Stopline	☐ Yes	☐ No	☐ N/A
-- Both Signals < 150' From Stopline	☐ Yes	☐ No	☐ N/A
MUTCD Compliance	☐ Yes	☐ No	☐ N/A

REMARKS:

VHB

Traffic Signal Inventory

11. Notes

some red/greens have LEDs

time/date way [illegible] 5/23/86
Week 21
11:45 pm

12. Recommendations

VHB

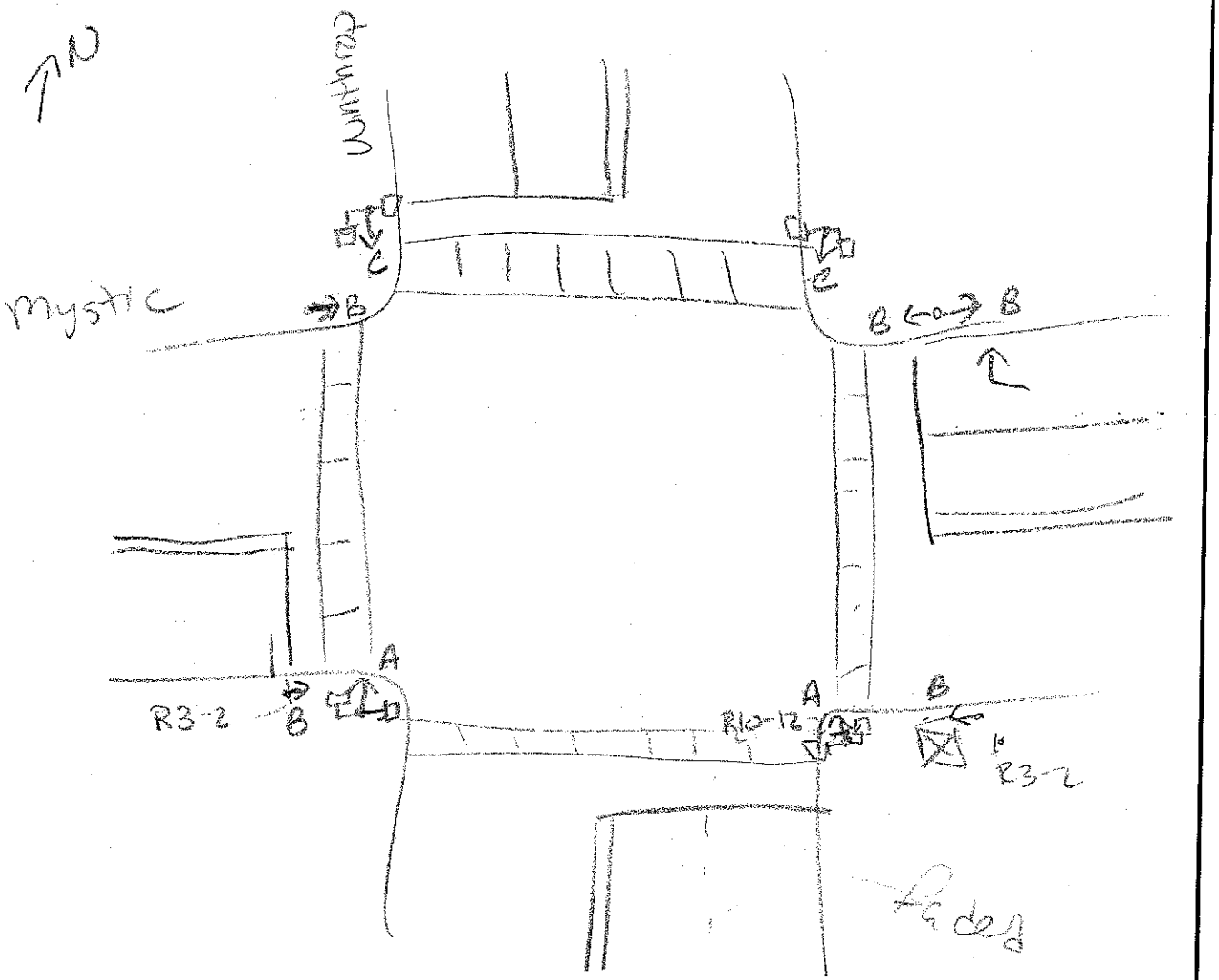
Traffic Signal Inventory

1. Intersection Location

Mystic Valley @ Winthrop	Medford
Intersection Name	City or Town

	1/10/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Eagle	EPAC 330	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☒ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☑ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12P	6	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
May 'do 3.33E	EDI MMD-16E

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)
	no	

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
3 2-channel	LMD 622E

VHB

Traffic Signal Inventory

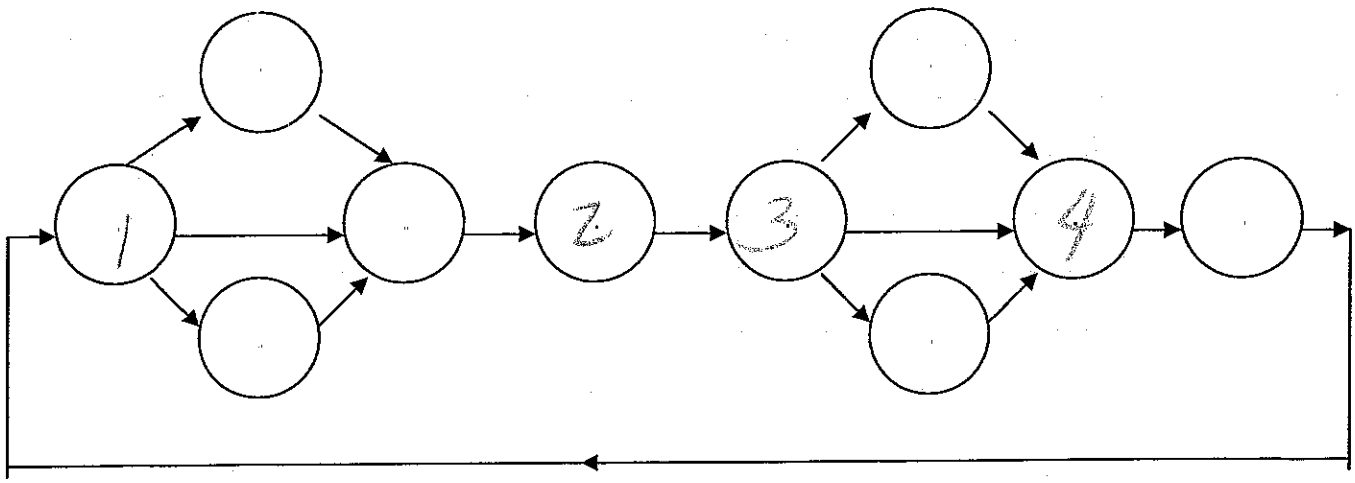
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	5-Sect Vehicle LT								D	
B	R Y G G→								C	
C	3 Sect Ped								K	
									Gray	
Ped	2 Sect	Wand/Mar								

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. *Traffic Signal Phasing Diagram*



VHB **Traffic Signal Inventory**

7. *Signal Timing Sheet*

Ø1 Mystic Valley	Ø2 Ped	Ø3 Winthrop SB Local
Ø4 Winthrop NB/SB	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	12		8	8				
Extension (passage) Vehicle Interval	1		1	1				
Yellow	4		3	4				
Red Clear	2		1	2				
Maximum Green I	30		25	12				
Maximum Green II	60		20	20				
Pedestrian Walk		7						
Pedestrian Clear		12						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	Max	Max						
Memory	NL	NL	NL	NL				
Delay								

Ø1	Ø2	Ø3	Ø4
← →	| |	↓ ↑	↓ ↑

Ø5	Ø6	Ø7	Ø8

6 - 9:30 Max 2
9:30 - 15 Max 1
15 - 19 Max 2

11. Notes

Recent upgrade

12. Recommendations

VHB

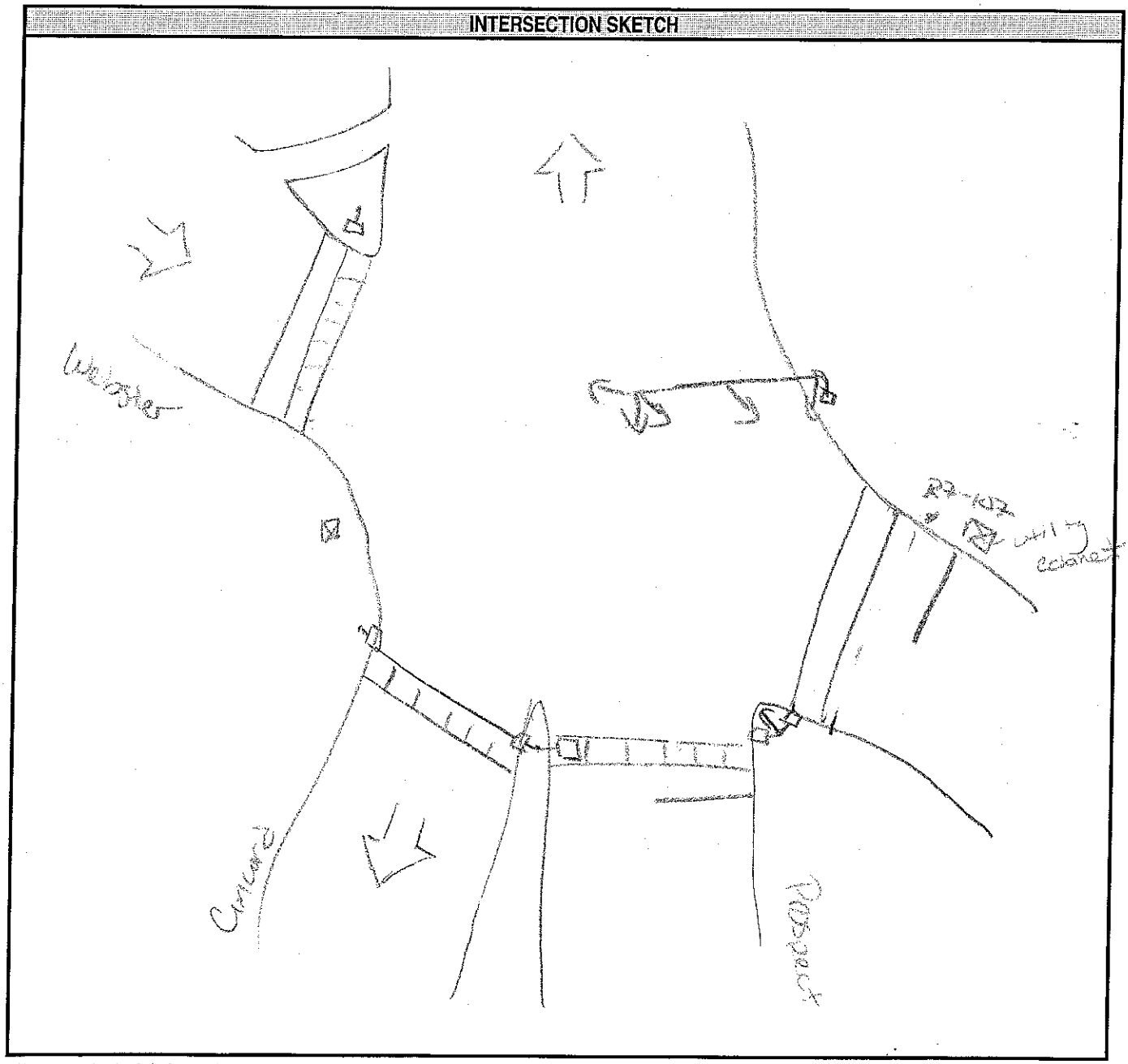
Traffic Signal Inventory

1. Intersection Location

Webster @ Prospect	Somerville
Intersection Name	City or Town

Pre-timed	12/1/03	DMG / VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P		

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
2 - 2 channel → not doing anything	

VHB

Traffic Signal Inventory

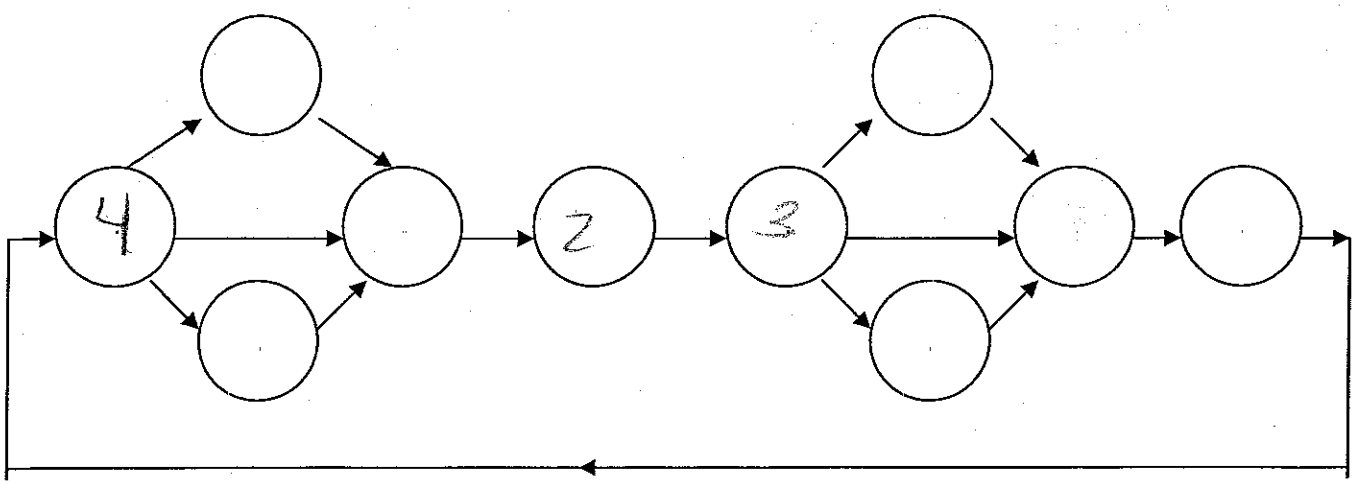
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
all	3-Sect bulbs									

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2 Red	Ø3 Webster
Ø4 Prospect	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)			30	30				
Extension (passage) Vehicle Interval			—	—				
Yellow			4	3				
Red Clear			1	1				
Maximum Green I			30	30				
Maximum Green II			30	30				
Pedestrian Walk		7						
Pedestrian Clear		18						
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall			Min	Min				
Memory			L	L				
Delay								

Ø1	Ø2	Ø3	Ø4

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
	16:30		X 1-3		
	7:00:30		X 01-3		

VHB

Traffic Signal Inventory

11. Notes

clock on bar aboard

12. Recommendations

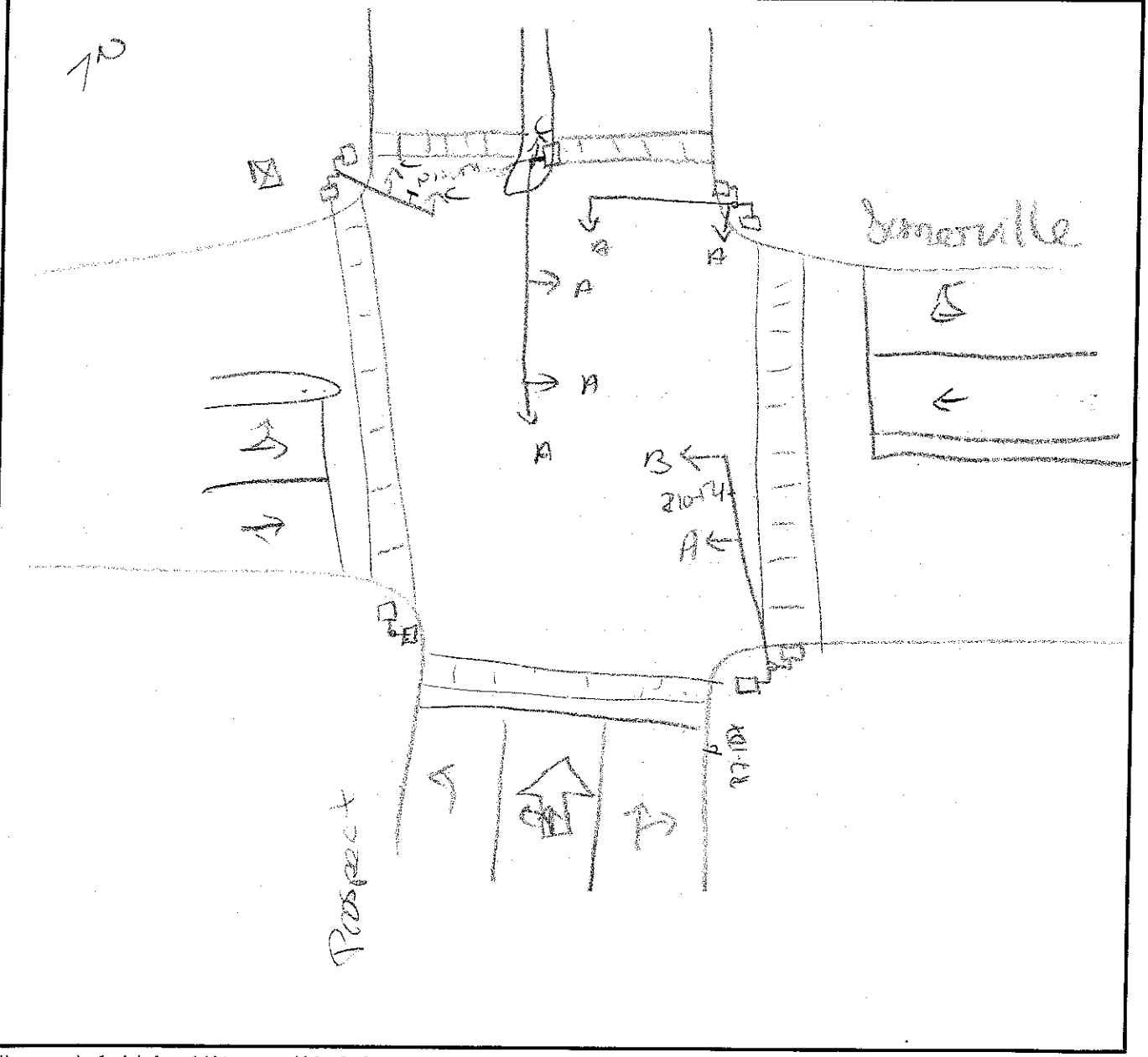
VHB

Traffic Signal Inventory

1. Intersection Location

Somerville @ Prospect	Somerville	
Intersection Name	City or Town	
System	11/7/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☑ NEMA-Keyboard	☐ Good ☑ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☑ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12P	5	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	LDM 12

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB

Traffic Signal Inventory

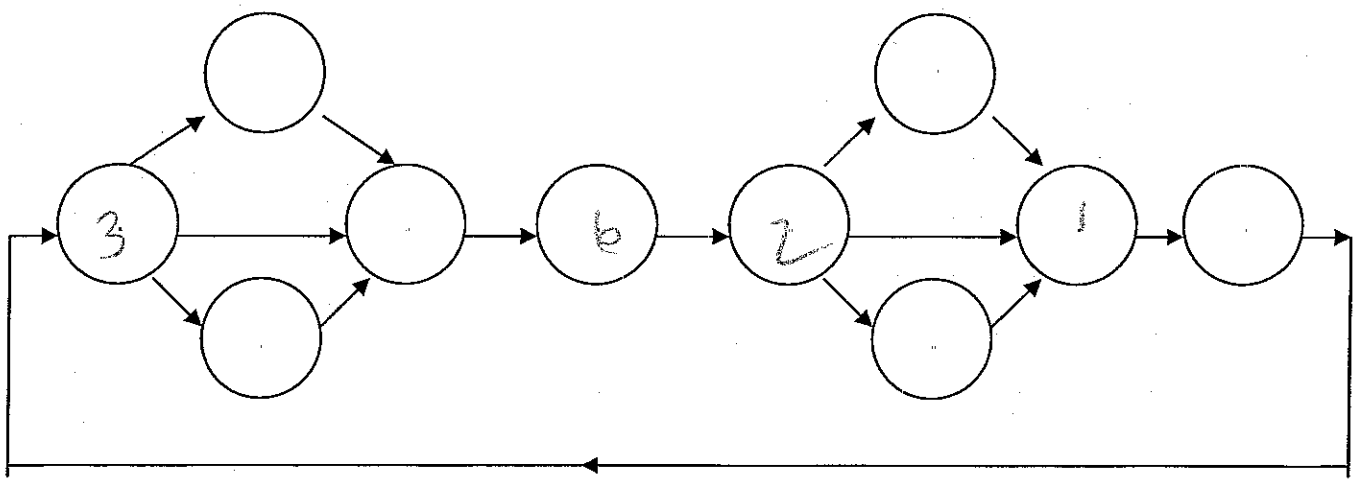
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	3-Sect Ball									
B	4-Sect ○○○◎									
C	3-Sect ○○◎									

5. Cabinet Accessories

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. Traffic Signal Phasing Diagram



VHB **Traffic Signal Inventory**

7. *Signal Timing Sheet*

Ø1 Lay o/ Rt	Ø2 Sommerville	Ø3
Ø4	Ø5	Ø6 PoA
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	5	5	5					
Extension (passage) Vehicle Interval	4	4	4					
Yellow	3	3	3					
Red Clear	1	1	1					
Maximum Green I	35	27	22					
Maximum Green II	30	10	25					
Pedestrian Walk						4		
Pedestrian Clear						17		
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	MAX	—	—					
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
↓ →	← →	↑	

Ø5	Ø6	Ø7	Ø8

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
1-6	5	1 1 1			
	10	3 1 1			
	14	2 1 1			
	20	3 1 1			
7		3 1 1 all day			

VHB

Traffic Signal Inventory

9. *Coordination Data for Eagle Controllers*

SET-UP	CODE	0	1	2	3
Operation	1	FREE	AUTO	MANUAL	---
Mode (Normal)	0	PERM	YIELD	PM YLD	PM OMIT
Maximum	0	M INH	MAX 1	MAX 2	---
Correction	2	DWELL	MX DW	SH WAY	SW+
Offset	0	BEGIN	END	---	---
Force	0	PLAN	CYCLE	---	---

CYCLE LENGTH	1	2	3	4
Split 1	107			
Split 2	109			
Split 3	97			
Split 4				

CYCLE/ OFFSET	1	2	3	4	5	6
1	0					
2	0					
3	0					
4						

Cycle/Split Modes: 0=Actuated; 1=Coord Phase; 2=Min Rec; 3=Max Rec; 4=Ped Rec; 5=Max+Ped Rec
6=Phase Omitted; 7=Dual Coord Phase

Cycle 1/Split	1	2	3	4	5	6	7	8	9
Time	46	18	22			21			
Mode	1								

Cycle 2/Split	1	2	3	4	5	6	7	8	9
Time	34	17	37			21			
Mode	1								

Cycle 3/Split	1	2	3	4	5	6	7	8	9
Time	37	16	23			31			
Mode	1								

Cycle /Split	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle /Split	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle /Split	1	2	3	4	5	6	7	8	9
Time									
Mode									

11. Notes

12. Recommendations

VHB

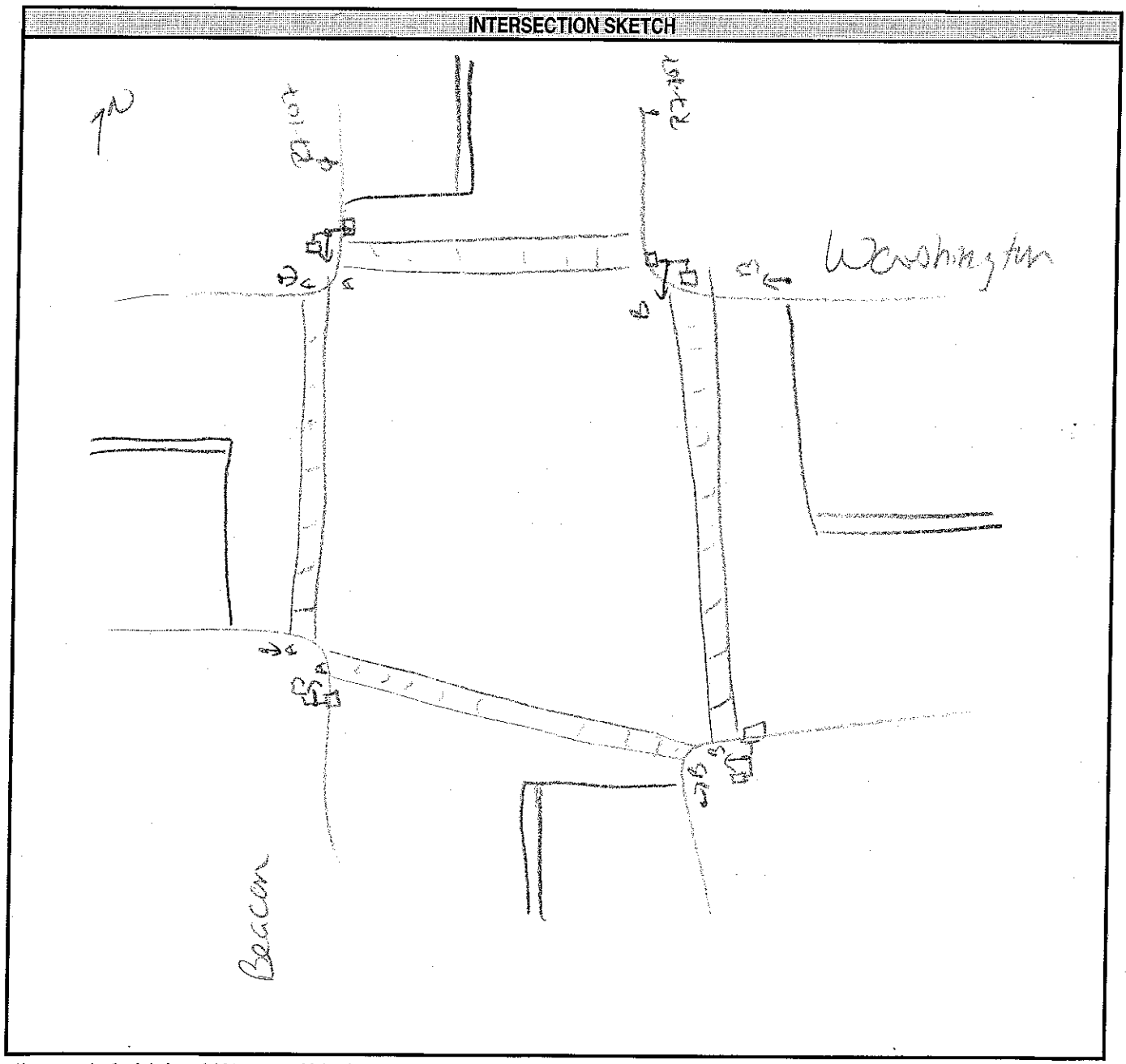
Traffic Signal Inventory

1. Intersection Location

Washington @ Beacon	Somerville
Intersection Name	City or Town

Pre-timed	11/7/06	DMG / VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
	6PAK 340	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☑ NEMA-Keyboard	☑ Good ☐ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☑ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☑ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☑ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12P	13	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EPI MMU 16E

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
none	

VHB

Traffic Signal Inventory

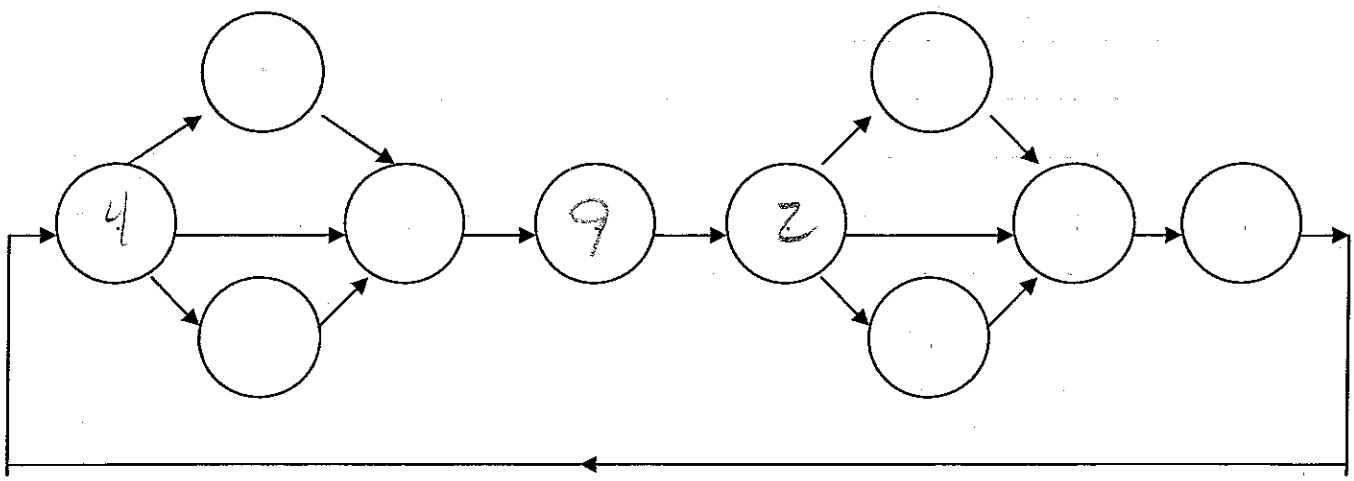
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES • 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	TYPE • Vehicle • Pedestrian	TYPE OF MOUNTING • Span • Bracket • Mast Arm • Mast Arm Shaft • Post	VISOR TYPE • Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					COLOR • Yellow • Green • Black • Gray	CONDITION • Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	3-Sect ball	12" R / 8" Y/G								
B	12" 3-Sect ball									
PED	2-Sect	Hand/Man								
		bottom walk								

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. *Traffic Signal Phasing Diagram*



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1	Ø2 Washington	Ø3 & RCA
Ø4 Beach	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)		10		8				
Extension (passage) Vehicle Interval		3		3				
Yellow		4		4				
Red Clear		1		1				
Maximum Green I		30		30				
Maximum Green II		35		35				
Pedestrian Walk			6					
Pedestrian Clear			10					
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall		Min		MAX				
Memory		NL		NL				
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

11. Notes

right turn on red ignored peds

12. Recommendations

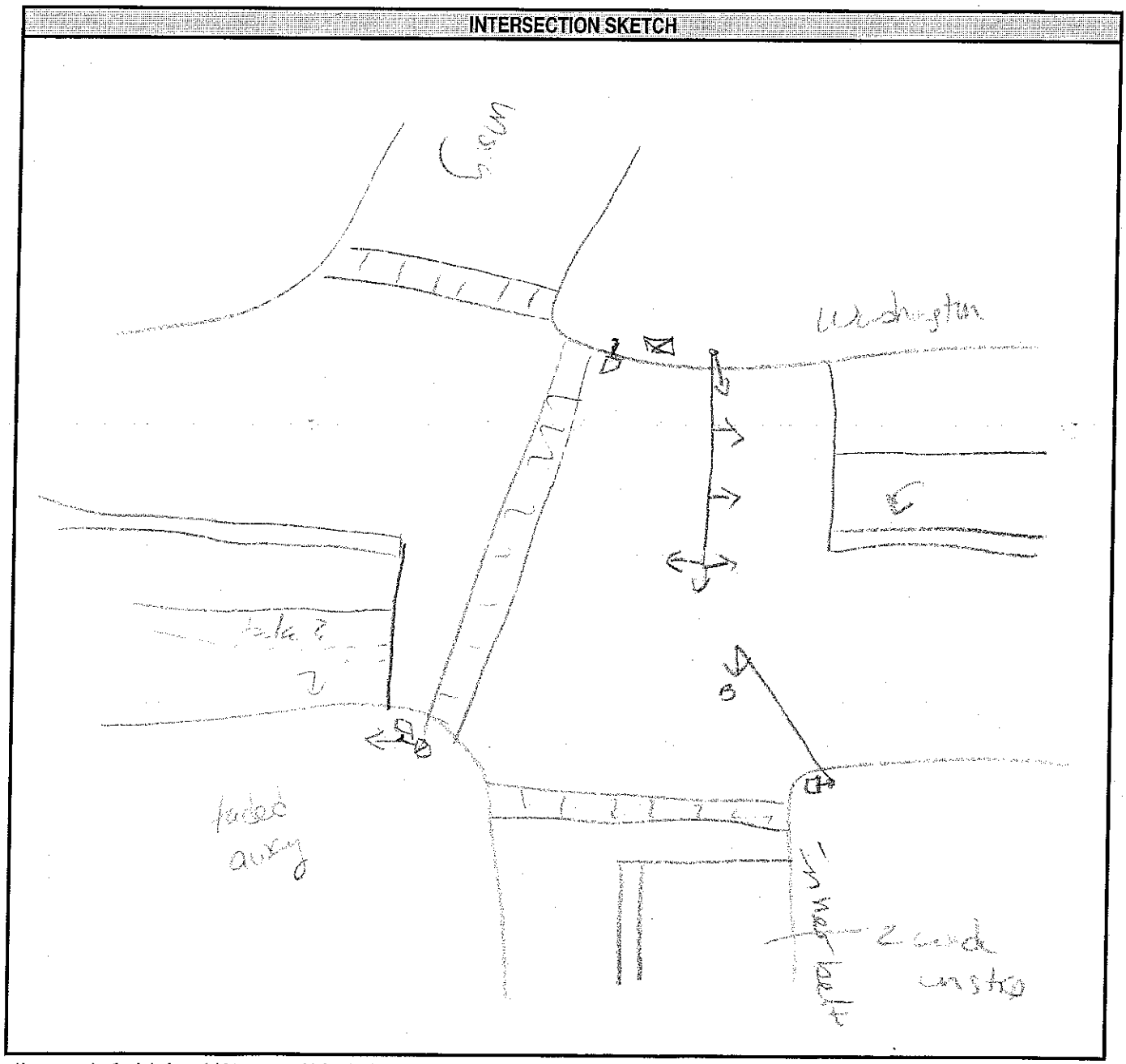
VHB **Traffic Signal Inventory**

1. Intersection Location

Washington @ Inner Belt	Somerville
Intersection Name	City or Town

Free	1/21/08	DMG/VL
Intersection Operation	Date of Inventory	Inventory Conducted By

INTERSECTION SKETCH



VHB **Traffic Signal Inventory**

2. *Controller Data*

Manufacturer	Model No.	Serial No.
	Epac 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☐ Pretimed ☒ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
8P	4	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	EDI - NSM-6L

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE
Sarasota	

VHB Traffic Signal Inventory

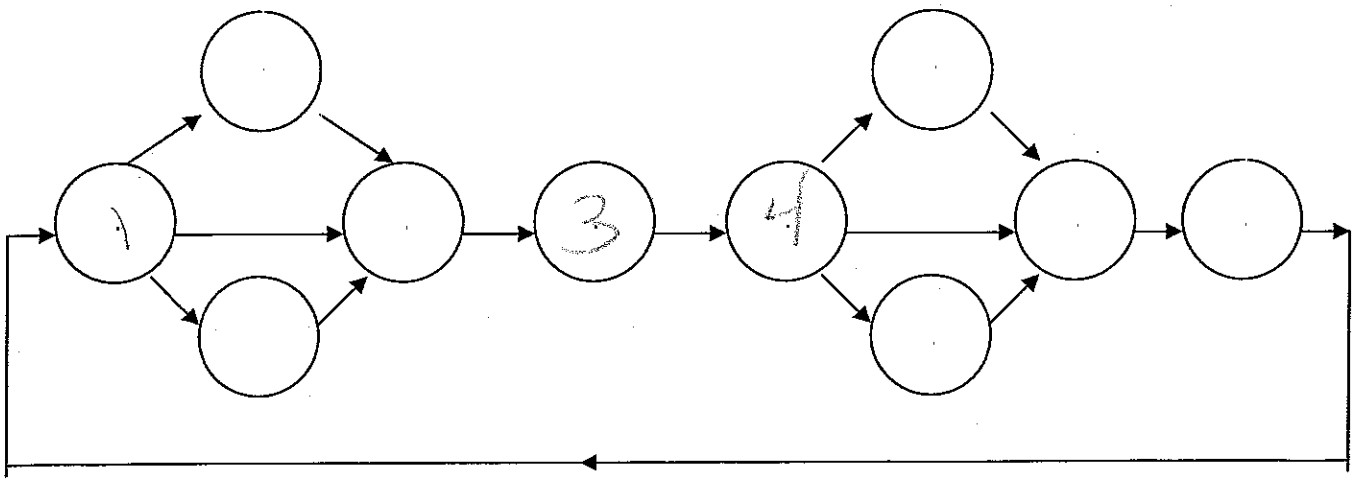
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D. /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
B	○ ○ ○ ⊖									
all	3-sect balls									

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. *Traffic Signal Phasing Diagram*



VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 Washington	Ø2	Ø3 Rail
Ø4 Innerkeit	Ø5	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	32	5		8				
Extension (passage) Vehicle Interval	1	4		4				
Yellow	4	4	4	4				
Red Clear	1	1	1	1				
Maximum Green I	35	2		10				
Maximum Green II	42	2		18				
Pedestrian Walk			7					
Pedestrian Clear			19					
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall	Min							
Memory				L				
Delay								

Ø1	Ø2	Ø3	Ø4
→ ←			↑

Ø5	Ø6	Ø7	Ø8

VHB

Traffic Signal Inventory

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
	6-8a		1&4		
2-6	6:30-9:00		1&4		
2-6	16-18		1&4		

VHB

Traffic Signal Inventory

11. Notes

Clock approx 7 hours ahead
on DLS

12. Recommendations

VHB

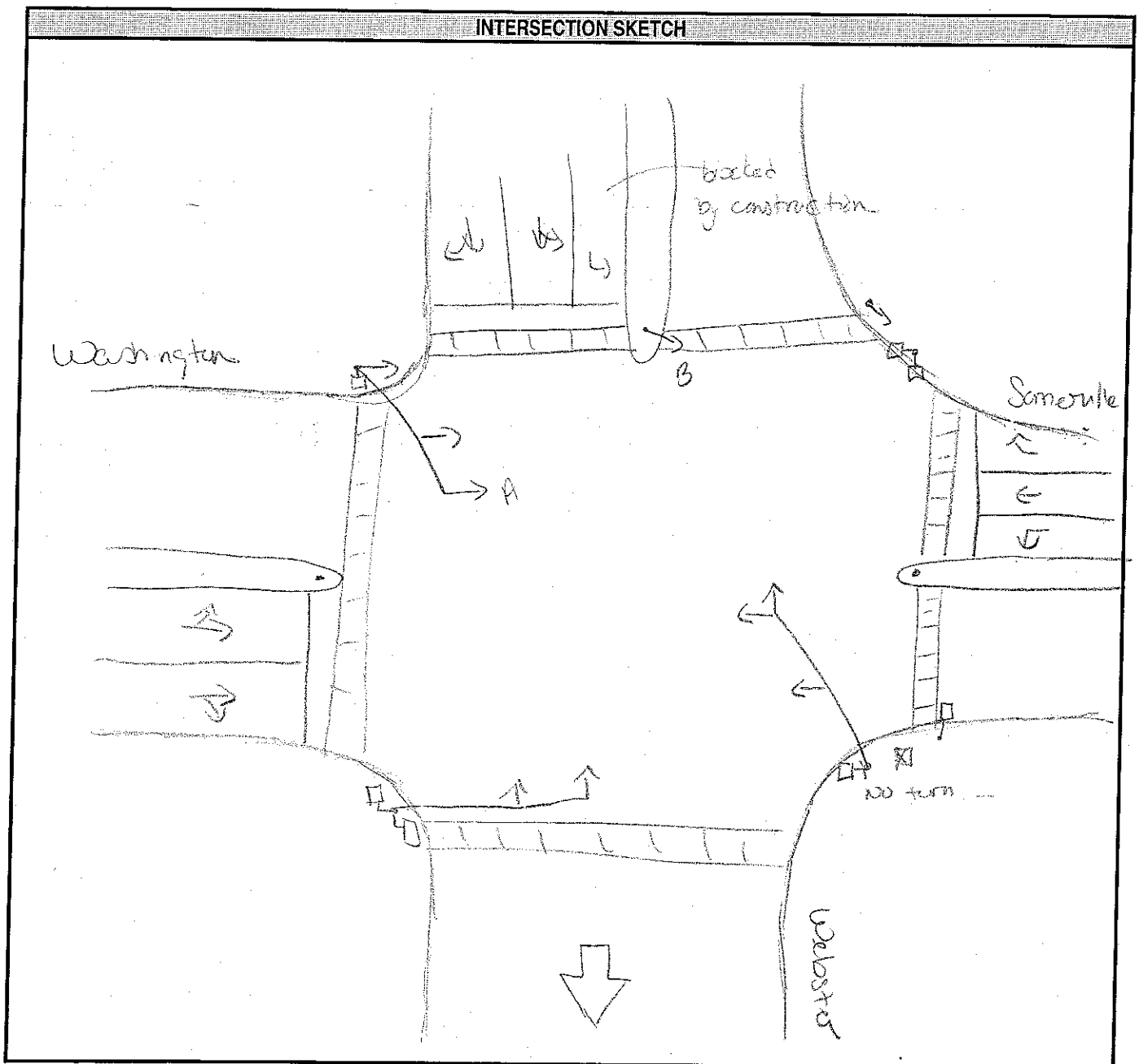
Traffic Signal Inventory

1. Intersection Location

Intersection Name	City or Town
Washington @ Somerville	Somerville

Intersection Operation	Date of Inventory	Inventory Conducted By
System	11/21/08	DMG/MC

INTERSECTION SKETCH



VHB

Traffic Signal Inventory

2. Controller Data

Manufacturer	Model No.	Serial No.
Eagle	EPAC 300	

TYPE	CONDITION	CONTROLLER PHASE CAPABILITY
☐ Electromechanical ☐ Non-NEMA ☐ NEMA-Modular ☒ NEMA-Keyboard	☐ Good ☒ Fair ☐ Poor	☐ 2 Phase ☐ 4 Phase ☒ 8 Phase

CONTROLLER TYPE	SETTING TYPE
☒ Pretimed ☐ Actuated	☐ Pin ☐ Thumbwheel ☐ Dial ☒ Keyboard

BACKPANEL SIZE	LOAD SWITCHES INSTALLED/TYPE	FLASH TRANSFER RELAYS INSTALLED
12P	5	

SOFTWARE LEVEL SIZE	CONFLICT MONITOR MODEL/SIZE
	4D1 MSM 12

FLASHER	INTERCONNECT CABLE (If Yes, List Size)	COORDINATED (If Yes, complete section 9)

DETECTOR/AMPLIFIERS	QUANTITY/TYPE

VHB Traffic Signal Inventory

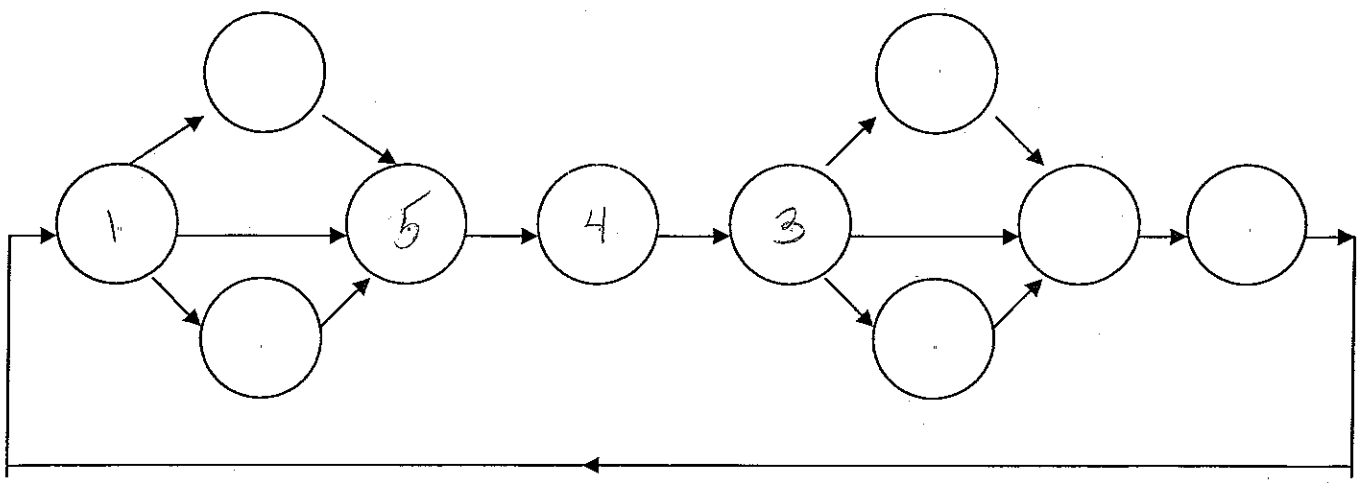
4. *Signal Head Data*

HEAD NO.	NO. OF LENSES SIZE OF LENSES	TYPE	TYPE OF MOUNTING	VISOR TYPE					COLOR	CONDITION
	• 8"/12" • Incand/L E D /Fiber • # of Sections • Arrows	• Vehicle • Pedestrian	• Span • Bracket • Mast Arm • Mast Arm Shaft • Post	• Tunnel (T) • Cut (C) • Full (F) • Crate (Cr) • Damaged (D) • Missing (M)					• Yellow • Green • Black • Gray	• Good • Fair • Poor
				R	Y	G	WALK	DONT WALK		
A	5-Sect dr house 4									
B	4-Sect 0 0 0									
all	others 3-sect ball									

5. *Cabinet Accessories*

DEVICE	MANUFACTURER	MODEL	SER. NO.	FUNCTION

6. *Traffic Signal Phasing Diagram*



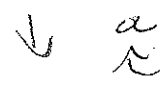
VHB

Traffic Signal Inventory

7. *Signal Timing Sheet*

Ø1 ~~Somerville~~ Washington WB	Ø2	Ø3 Washington ~~Somerville~~ EB
Ø4 SB ~~Washington~~ Somerville	Ø5 Ped	Ø6
Ø7	Ø8	OLA
OLB	OLC	OLD

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Minimum Green (initial)	9		9	9				
Extension (passage) Vehicle Interval	4		4	4				
Yellow	4		4	4				
Red Clear	2		1	1				
Maximum Green I	37		15	28				
Maximum Green II	30		18	20				
Pedestrian Walk					13			
Pedestrian Clear					15			
Seconds Per Act								
Time to Reduce								
Before Reduction								
Minimum Gap								
Pedestrian Gap								
Walk (flash/steady)								
Recall								
Memory								
Delay								

Ø1	Ø2	Ø3	Ø4
			

Ø5	Ø6	Ø7	Ø8
			

VHB

Traffic Signal Inventory

8. *Time of Day Plans*

Daylight Savings / Equate Days				
DST Begin:	Month	_____	Week	_____
DST End:	Month	_____	Week	_____

Equate Days	
_____ =	_____
_____ =	_____

DAY	TIME HH:MM	Coord Pattern	MAX 2 Phases	OMITS Phases	Aux Events
	5	1 1			
	10	2 1			
	14	2 1			
	23	3 1			

9. Coordination Data for Eagle Controllers

SET-UP	CODE	0	1	2	3
Operation		FREE	AUTO	MANUAL	---
Mode (Normal)		PERM	YIELD	PM YLD	PM OMIT
Maximum		M INH	MAX 1	MAX 2	---
Correction		DWELL	MX DW	SH WAY	SW+
Offset		BEGIN	END	---	---
Force		PLAN	CYCLE	---	---

CYCLE LENGTH	1	2	3	4
Split 1	107			
Split 2	105			
Split 3	105			
Split 4				

CYCLE/ OFFSET	1	2	3	4	5	6
1	0					
2	89					
3	0					
4						

Cycle/Split Modes: 0=Actuated; 1=Coord Phase; 2=Min Rec; 3=Max Rec; 4=Ped Rec; 5=Max+Ped Rec
6=Phase Omitted; 7=Dual Coord Phase

Cycle 1 /Split 1	1	2	3	4	5	6	7	8	9
Time	40		30	26	21				
Mode	1								

Cycle 2 /Split 1	1	2	3	4	5	6	7	8	9
Time	40		18	26	21				
Mode	1								

Cycle 3 /Split 1	1	2	3	4	5	6	7	8	9
Time	34		24	26	21				
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

Cycle __/Split__	1	2	3	4	5	6	7	8	9
Time									
Mode									

VHB

Traffic Signal Inventory

11. Notes

Two other signals maybe 1000' away

12. Recommendations

Safety Analysis Data

*Seperated by intersection and ordered by date

Intersections In Somerville
Intersections In Medford
Intersections in Cambridge

SOMERVILLE	12:00:00 AM	12/31/2005	Intersection: Mystic Valley Pkwy @ Alewife Br										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
2/3/2003	4:50:00 PM	Not Reported	2	0	0	Angle	Dry	Dusk	Clear	MYSTIC VALLEY PARKWAY	ALEWIFE BROOK PARKWAY / DILBOY ROTARY		
4/5/2003	10:15:00 PM	Non-fatal injury	2	1	0	Sideswipe, opposite direction	Dry	Dark - lighte	Cloudy			ALEWIFE BROOK PARKWAY Rte 16 / from Intersection ALEWIFE BROOK PARKWAY Rte 16 / Rte 16	
6/15/2003	12:30:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	ALEWIFE BROOK PARKWAY Rte 16	MYSTIC VALLEY-ALEWIFE BROOK ROTARY		
6/1/2004	9:00:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	ALEWFE BROOK PARKWAY	YSTIC VALLEY-ALEWIFE BROOK ROTARY / Rte 16		
10/15/2004	8:08:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Cloudy/Cloudy	MYSTIC VALLEY PARKWAY Rte 16 E	EWIFE BROOK PARKWAY Rte 16 W / CAPEN STREET		
1/18/2005	8:19:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear			MYSTIC VALLEY PARKWAY Rte 16 / Rte 16	
6/23/2005	4:01:00 PM	Not Reported	2	0	0	Rear-end	Other	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	ROTARY		
7/21/2005	7:30:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dark - unkno	Clear			MYSTIC VALLEY-ALEWIFE BROOK ROTARY Rte 16 / ALEWIFE BROOK PARKWAY	
10/26/2005	10:08:00 AM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Cloudy	MYSTIC VALLEY PARKWAY Rte 16 E	ALEWIFE BROOK PARKWAY		
MEDFORD	1/1/2003	12/31/2005	Intersection: Mystic Valley Pkwy @ Auburn St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
6/13/2003	11:10:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain	Rte 16 W	AUBURN STREET		
7/13/2003	7:15:00 AM	Property damage on	3	0	0	Angle	Dry	Daylight	Clear	Rte 16 E	MYSTIC VALLEY PARKWAY / AUBURN STREET		
12/16/2003	4:46:00 PM	Non-fatal injury	2	1	0	Sideswipe, same direction	Unknown	Dark - lighte	Clear	MYSTIC VALLEY PARKWAY Rte 16	AUBURN STREET		
2/7/2004	1:00:00 AM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear	Rte 16 E	AUBURN STREET		
6/9/2004	11:16:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear			16 MYSTIC VALLEY PARKWAY	16 MYSTIC VALLEY PARKWAY / AUBURN STREET
1/29/2005	4:00:00 AM	Property damage on	2	0	0	Not reported	Dry	Dusk	Clear				AUBURN STREET / Rte 16
3/15/2005	9:30:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear/Clear				Rte 16 W / AUBURN STREET
4/23/2005	1:05:00 AM	Non-fatal injury	2	1	0	Angle	Wet	Daylight	Rain				Rte 16 / AUBURN STREET
4/30/2005	8:00:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Wet	Dark - lighte	Rain				MYSTIC VALLEY PARKWAY Rte 16 / AUBURN STREET
6/15/2005	7:45:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Cloudy	MYSTIC VALLEY PARKWAY Rte 16	JBURN STREET / MYSTIC VALLEY PARKWAY Rte 16		
10/11/2005	6:00:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Cloudy/Clear	AUBURN STREET	Rte 16		
MEDFORD	1/1/2003	12/31/2005	Intersection: Mystic Valley Pkwy @ Winthrop St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
2/24/2003	8:45:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	WINTHROP STREET	WINTHROP STREET Rte 16	WINTHROP STREET Rte 16 / WINTHROP STREET
3/7/2003	6:00:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear			MYSTIC VALLEY PARKWAY Rte 16	YSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET
5/12/2003	5:40:00 PM	Not Reported	3	0	0	Rear-end	Wet	Daylight	Rain			MYSTIC VALLEY PARKWAY Rte 16 \ntersection	MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET
7/3/2003	8:10:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	WINTHROP STREET		
7/23/2003	9:30:00 PM	Non-fatal injury	3	1	0	Angle	Dry	Dark - lighte	Cloudy	MYSTIC VALLEY PARKWAY Rte 16	WINTHROP STREET		
9/25/2003	5:35:00 PM	Non-fatal injury	1	1	0	Not reported	Dry	Daylight	Clear	WINTHROP STREET	MYSTIC VALLEY PARKWAY Rte 16 E		
9/29/2003	6:50:00 AM	Property damage on	1	0	0	Single vehicle crash	Dry	Daylight	Clear	Rte 16 E	WINTHROP STREET		
10/5/2003	12:44:00 PM	Not Reported	2	0	0	Sideswipe, opposite direction	Dry	Daylight	Clear			2500 MYSTIC VALLEY PARKWAY Rte	MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET
10/17/2003	3:25:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear			MYSTIC VALLEY PARKWAY Rte 16 \ntersection	MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET
10/22/2003	7:00:00 PM	Unknown	3	0	0	Angle	Wet	Dark - lighte	Rain			MYSTIC VALLEY PARKWAY Rte 38 S (CONDON S	YSTIC VALLEY PARKWAY Rte 38 / WINTHROP STREET
11/8/2003	7:15:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY	WINTHROP STREET		
11/21/2003	11:05:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Cloudy	MYSTIC VALLEY PARKWAY Rte 16 E	WINTHROP STREET		
11/22/2003	4:30:00 PM	Not Reported	2	0	0	Rear-end	Dry	Dark - lighte	Clear	MYSTIC VALLEY PARKWAY Rte 16 W	WINTHROP STREET		
2/3/2004	10:15:00 PM	Not Reported	1	0	0	Single vehicle crash	Wet	Dark - lighte	Rain	WINTHROP STREET	Rte 16		
2/23/2004	9:15:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear/Clear	MYSTIC VALLEY PARKWAY Rte 16 W	WINTHROP STREET		
3/13/2004	4:55:00 AM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear			MYSTIC VALLEY PARKWAY Rte 16 \ntersection	MYSTIC VALLEY PARKWAY Rte 16 W / WINTHROP STREET
3/29/2004	3:15:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear			MYSTIC VALLEY PARKWAY Rte 16 IC	VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 16
6/26/2004	12:00:00 PM	Not Reported	2	0	0	Rear-end	Wet	Daylight	Cloudy/Rain	WINTHROP STREET	Rte 16		
7/22/2004	11:50:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	MYSTIC VALLEY PARKWAY Rte 16	WINTHROP STREET		
9/5/2004	7:00:00 PM	Not Reported	2	0	0	Not reported	Wet	Not reported	Rain	WINTHROP STREET Rte 16 E			
11/5/2004	7:38:00 AM	Non-fatal injury	2	2	0	Angle	Wet	Daylight	Clear/Clear	Rte 16 W	WINTHROP STREET		
1/29/2005	5:05:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Cloudy/Cloudy			EAST OF WINTHROP ST. - MYSTIC VALLEY PARISTIC VALLEY PARKWAY Rte 16 E / WINTHROP STREET	
5/2/2005	8:15:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear				MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET
5/7/2005	5:30:00 PM	Non-fatal injury	2	2	0	Angle	Wet	Daylight	Rain/Rain	Rte 16 W	WINTHROP STREET		
5/14/2005	9:15:00 PM	Property damage on	2	0	0	Not reported	Dry	Dark - lighte	Clear	MYSTIC VALLEY PARKWAY Rte 16	WINTHROP STREET Rte 38		
8/7/2005	6:30:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear				WINTHROP STREET Rte 38 / MYSTIC VALLEY PARKWAY Rte 16
8/22/2005	10:30:00 AM	Property damage on	1	0	0	Single vehicle crash	Dry	Daylight	Cloudy	MYSTIC VALLEY PARKWAY Rte 16	WINTHROP STREET		
9/27/2005	9:00:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	Rte 16 E	WINTHROP STREET		
MEDFORD	1/1/2003	12/31/2005	Intersection: High St @ Boston Ave/Sagamore Ave										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
2/17/2003	11:58:00 AM	Non-fatal injury	2	2	0	Rear-end	Snow	Daylight	Snow	HIGH STREET	SAGAMORE AVENUE / BOSTON AVENUE		
5/12/2003	8:18:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Cloudy/Rain	HIGH STREET Rte 60	BOSTON AVENUE		
8/3/2004	2:00:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Daylight	Clear	BOSTON AVENUE	HIGH STREET		
11/4/2004	4:30:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear/Cloudy	HIGH STREET Rte 60 E	BOSTON AVENUE		
12/9/2004	12:50:00 PM	Property damage on	1	0	0	Not reported	Not reporte	Not reported	Not Reported	HIGH STREET Rte 60 E	BOSTON AVENUE		
1/25/2005	8:15:00 PM	Property damage on	3	0	0	Rear-end	Snow	Dark - lighte	Clear/Clear			U-HAUL BUILDING - 1 BOSTON AVENUE F	1 BOSTON AVENUE Rte 16 E / Rte 16
2/21/2005	8:10:00 AM	Not Reported	1	0	0	Not reported	Snow	Not reported	Snow				550 HIGH STREET Rte 60
3/14/2005	3:45:00 AM	Non-fatal injury	2	1	0	Not reported	Dry	Daylight	Clear	Rte 60	BOSTON AVENUE		
8/9/2005	3:00:00 PM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear				BOSTON AVENUE Rte 60 / HIGH STREET

MEDFORD	1/1/2003	12/31/2005	Intersection: Mystic Valley Pkwy @ Boston Ave										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/7/2003	6:44:00 PM	Property damage on	4	0	0	Angle	Dry	Dusk	Clear	Rte 16	BOSTON AVENUE		
1/8/2003	10:30:00 PM	Non-fatal injury	2	3	0	Angle	Wet	Dark - lighte	Cloudy	MYSTIC VALLEY PARKWAY Rte 16	BOSTON AVENUE		
4/26/2003	12:30:00 PM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Rain	Rte 16	BOSTON AVENUE		
5/1/2003	9:50:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	MYSTIC VALLEY PARKWAY Rte 16 W	BOSTON AVENUE		
5/26/2003	11:05:00 AM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Rain			Rte 16	Rte 16 / BOSTON AVENUE
8/27/2003	9:25:00 PM	Property damage on	3	0	0	Not reported	Dry	Dark - lighte	Clear	BOSTON AVENUE	MYSTIC VALLEY PARKWAY Rte 16		
9/20/2003	6:30:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	BOSTON AVENUE		
9/26/2003	7:10:00 AM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Cloudy			MYSTIC VALLEY PARKWAY Rte 16	MYSTIC VALLEY PARKWAY Rte 16 / BOSTON AVENUE
11/25/2003	11:00:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	Rte 16 W	Rte 16 E / BOSTON AVENUE		
12/19/2003	11:30:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear	BOSTON AVENUE	MYSTIC VALLEY PARKWAY		
2/6/2004	5:45:00 PM	Not Reported	2	0	0	Angle	Wet	Dark - lighte	Rain			Rte 16	Rte 16 / BOSTON AVENUE
4/23/2004	5:30:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear/Clear			BOSTON AVENUE Rte 16 N	BOSTON AVENUE Rte 16 N
9/28/2004	10:00:00 AM	Property damage on	3	0	0	Sideswipe, same direction	Wet	Daylight	Rain			Rte 16 W	30 feet E from Intersection Rte 16 W / BOSTON AVENUE
9/30/2004	9:10:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY	Rte 16 / BOSTON AVENUE		
10/16/2004	7:45:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Cloudy/Cloudy	MYSTIC VALLEY PARKWAY Rte 16	BOSTON AVENUE		
12/13/2004	1:15:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	BOSTON ST Rte 16			
3/6/2005	2:50:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - unknc	Clear	MYSTIC VALLEY PARKWAY Rte 16	BOSTON AVENUE		
3/25/2005	3:30:00 AM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear	MYSTIC VALLEY PARKWAY Rte 16 W	BOSTON AVENUE		
6/22/2005	8:10:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	BOSTON AVENUE Rte 16 E			
9/25/2005	6:00:00 PM	Property damage on	3	0	0	Angle	Dry	Daylight	Cloudy	MYSTIC VALLEY PARKWAY Rte 16	BOSTON AVENUE		
10/26/2005	5:40:00 PM	Not Reported	2	0	0	Sideswipe, opposite direction	Dry	Dark - lighte	Clear/Clear				BOSTON AVENUE Rte 16 / Rte 16

MEDFORD	1/1/2003	12/31/2005	Intersection: Boston Ave @ North St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/27/2004	2:15:00 AM	Not Reported	2	0	0	Head-on	Dry	Dark - lighte	Clear/Clear			NORTH STREET	et S from Intersection NORTH STREET / BOSTON AVENUE
11/27/2004	10:28:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Clear/Rain	BOSTON AVENUE	NORTH STREET		
8/19/2005	5:48:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Cloudy	BOSTON AVENUE	NORTH STREET		

MEDFORD	1/1/2003	12/31/2005	Intersection: Boston Ave @ Winthrop St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/9/2004	4:36:00 PM	Not Reported	2	0	0	Angle	Dry	Dusk	Clear/Clear	BOSTON AVENUE	WINTHROP STREET		
1/20/2004	4:11:00 PM	Not Reported	2	0	0	Angle	Mud, dirt, oil	Daylight	Clear/Clear	BOSTON AVENUE	WINTHROP STREET		
3/26/2004	2:36:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear			323 BOSTON AVENUE	from Intersection 323 BOSTON AVENUE / WINTHROP STREET
7/2/2004	11:10:00 PM	Non-fatal injury	2	3	0	Angle	Dry	Dark - lighte	Clear/Clear	WINTHROP STREET	BOSTON AVENUE		
7/21/2004	4:39:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	BOSTON AVENUE	WINTHROP STREET		
8/28/2004	10:45:00 PM	Not Reported	1	0	0	Rear-end	Dry	Dark - lighte	Clear			338 BOSTON AVENUE	338 BOSTON AVENUE / WINTHROP STREET
8/28/2004	10:45:00 PM	Not Reported	2	0	0	Unknown	Dry	Dark - lighte	Clear	BOSTON AVENUE	WINTHROP STREET		
9/18/2004	1:20:00 AM	Not Reported	1	0	0	Single vehicle crash	Wet	Daylight	Rain	WINTHROP STREET	BOSTON AVENUE		
11/26/2004	5:40:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dusk	Clear	WINTHROP STREET	BOSTON AVENUE		
12/16/2004	5:15:00 AM	Not Reported	2	0	0	Not reported	Dry	Dark - lighte	Clear	BOSTON AVENUE	WINTHROP STREET		
1/16/2005	10:00:00 AM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Not Reported				340 BOSTON AVENUE
2/15/2005	6:30:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear/Clear	WINTHROP STREET	BOSTON AVENUE		
3/7/2005	8:30:00 AM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear/Clear			WINTHROP ST - BOSTON AVENUE	BOSTON AVENUE / WINTHROP STREET
3/8/2005	7:10:00 PM	Property damage on	2	0	0	Angle	Snow	Dark - lightet	hail (freezing rain or drizzle)				50 feet E from Intersection 348 BOSTON AVENUE / WINTHROP STREET
4/8/2005	2:45:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear				50 feet W from Intersection 323 BOSTON AVENUE / WINTHROP STREET
5/13/2005	3:30:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Daylight	Clear	WINTHROP STREET	BOSTON AVENUE		
5/13/2005	3:32:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Daylight	Clear	BOSTON AVENUE	WINTHROP STREET		
6/10/2005	10:00:00 AM	Non-fatal injury	2	2	0	Sideswipe, opposite direction	Dry	Daylight	Clear	BOSTON AVENUE	WINTHROP STREET		
7/15/2005	5:30:00 PM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Dusk	Clear/Clear				328 BOSTON AVENUE
8/11/2005	12:05:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear				25 feet W from Intersection 329 BOSTON AVENUE / WINTHROP STREET
8/17/2005	12:55:00 PM	Not Reported	3	0	0	Angle	Dry	Daylight	Clear				330 BOSTON AVENUE
9/22/2005	9:20:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	WINTHROP STREET	BOSTON AVENUE		
9/22/2005	10:30:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	BOSTON AVENUE	WINTHROP STREET		

MEDFORD	1/1/2003	12/31/2005	Intersection: Boston Ave @ College Ave										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
11/5/2003	7:00:00 AM	Property damage on	2	0	0	Rear-end	Wet	Dark - lighte	Rain	BOSTON AVENUE	BOSTON AVENUE / COLLEGE AVENUE		
1/19/2004	3:30:00 PM	Not Reported	2	0	0	Angle	Ice	Daylight	Clear	COLLEGE AVENUE	BOSTON AVENUE		
3/14/2004	8:36:00 PM	Property damage on	3	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear			COUSINS GYM - COLLEGE AVENUE	N from Intersection COLLEGE AVENUE / BOSTON AVENUE
3/29/2004	9:46:00 PM	Not Reported	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear	BOSTON AVENUE	COLLEGE AVENUE		
2/23/2005	8:30:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	BOSTON AVENUE	COLLEGE AVENUE		
3/11/2005	2:56:00 PM	Not Reported	4	0	0	Angle	Dry	Daylight	Clear			WRR BRIDGE - 179 COLLEGE AVEN	179 COLLEGE AVENUE
4/2/2005	8:00:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	COLLEGE AVENUE	BOSTON AVENUE		
4/22/2005	4:35:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	BOSTON AVENUE	COLLEGE AVENUE		
5/26/2005	11:00:00 AM	Non-fatal injury	2	1	0	Sideswipe, same direction	Wet	Daylight	Rain	COLLEGE AVENUE	BOSTON AVENUE		
8/6/2005	9:19:00 PM	Non-fatal injury	2	1	0	Head-on	Dry	Dark - lighte	Clear	BOSTON AVENUE	COLLEGE AVENUE		
9/13/2005	3:10:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear/Clear	COLLEGE AVENUE	BOSTON AVENUE		
9/26/2005	9:05:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain/Rain	BOSTON AVENUE	COLLEGE AVENUE		
10/25/2005	8:50:00 AM	Property damage on	2	0	0	Not reported	Not reporte	Not reported	Not Reported			COUSINS GUM TUFTS - 177 COLLEGE AV	177 COLLEGE AVENUE / BOSTON AVENUE

MEDFORD	1/1/2003	12/31/2005	Intersection: Boston Ave @ Harvard St/Warner St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
3/9/2003	4:00:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Daylight	Clear	HARVARD STREET	BOSTON AVENUE		
1/13/2004	6:30:00 AM	Not Reported	2	0	0	Angle	Ice	Dawn	Cloudy	HARVARD STREET	BOSTON AVENUE		
3/24/2004	2:22:00 PM	Non-fatal injury	2	1	0	Sideswipe, same direction	Dry	Daylight	Clear			ST CLEMENTS CHURCH - WARNER STI	WARNER STREET / BOSTON AVENUE
6/17/2004	4:44:00 PM	Not Reported	3	0	0	Rear-end	Dry	Daylight	Cloudy	HARVARD STREET	BOSTON AVENUE		
7/17/2004	12:10:00 PM	Not Reported	2	0	0	Rear-end	Dry	Dark - lighte	Clear/Clear	BOSTON AVENUE	HARVARD STREET		
8/11/2004	7:10:00 AM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	HARVARD STREET	BOSTON AVENUE		
12/3/2004	7:00:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear/Clear	HARVARD STREET	BOSTON AVENUE		
1/1/2005	11:00:00 AM	Property damage on	2	0	0	Rear-to-rear	Dry	Daylight	Clear	BOSTON AVENUE	HARVARD STREET / WARNER STREET		
1/13/2005	8:30:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear			TUFTS SCIENCE CENTER - 293 HARVARD	from Intersection 293 HARVARD STREET / BOSTON AVENUE
2/5/2005	3:00:00 PM	Not Reported	2	0	0	Not reported	Dry	Daylight	Clear	HARVARD STREET	BOSTON AVENUE		
2/18/2005	8:20:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear	HARVARD STREET	BOSTON AVENUE		
4/19/2005	4:23:00 PM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear/Clear	HARVARD STREET	BOSTON AVENUE		
7/18/2005	11:58:00 AM	Not Reported	2	0	0	Head-on	Wet	Daylight	Cloudy	HARVARD STREET	BOSTON AVENUE		
7/25/2005	5:15:00 PM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear				WARNER STREET Rte 16 / HARVARD STREET
9/3/2005	2:30:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Dark - lighte	Clear				100 feet S from Intersection 600 BOSTON AVENUE / HARVARD STREET

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Broadway @ Warner St/College Ave/ Powerder House Rotary										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/15/2003	3:30:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	COLLEGE AVENUE	BROADWAY		
2/1/2003	11:35:00 AM	Property damage on	2	0	0	Single vehicle crash	Snow	Dark - unknce	t, hail (freezing rain or drizz			POWDER HOUSE BOULEVARD (NEAR R	WDER HOUSE BOULEVARD / POWDER HOUSE SQUARE
3/28/2003	8:30:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	BROADWAY	OLLEGE AVENUE / POWDER HOUSE BOULEVARD		
6/7/2003	3:30:00 PM	Non-fatal injury	2	1	0	Angle	Wet	Daylight	Rain	POWDERHOUSE SQ ROTARY	BROADWAY / WARREN STREET		
6/27/2003	1:00:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	BROADWAY	COLLEGE AVENUE / WARNER STREET		
9/22/2003	12:30:00 PM	Non-fatal injury	1	1	0	Angle	Dry	Daylight	Clear	BROADWAY	COLLEGE AVENUE / WARNER STREET		
9/30/2003	9:13:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	BROADWAY	COLLEGE AVENUE		
12/23/2003	8:00:00 AM	Property damage on	2	0	0	Not reported	Dry	Daylight	Cloudy	WARNER STREET	COLLEGE AVENUE	(POWDERHOUSE CIRCLE)	
1/22/2004	12:00:00 PM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Cloudy	BROADWAY	WARNER STREET		
1/28/2004	5:00:00 PM	Non-fatal injury	2	1	0	Angle	Snow	Dark - lighte	Snow	BROADWAY	WARNER STREET		
1/31/2004	4:04:00 PM	Property damage on	2	0	0	Angle	Dry	Dusk	Clear	BROADWAY	COLLEGE AVENUE		
3/9/2004	2:45:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Cloudy	BROADWAY	WARNER STREET		
7/28/2004	6:52:00 AM	Property damage on	2	0	0	Sideswipe, same direction	ud, dirt, oil	Dawn	Rain			ROTARY - 126 COLLEGE AVENUE'n	Intersection 126 COLLEGE AVENUE / POWDER HOUSE SQUARE
11/17/2004	8:25:00 AM	Not Reported	2	0	0	Not reported	Dry	Daylight	Clear	POWDERHOUSE TERRACE	BROADWAY		
12/10/2004	10:30:00 AM	Not Reported	1	0	0	Not reported	Wet	Dark - lighte	Rain	BROADWAY	WARNER STREET		
1/20/2005	6:20:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	BROADWAY	POWDER HOUSE BOULEVARD		
3/18/2005	5:21:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Daylight	Clear	BROADWAY	POWDER HOUSE BOULEVARD		
5/12/2005	8:20:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear	BROADWAY	WARNER STREET		
5/13/2005	12:00:00 PM	Non-fatal injury	2	1	0	Not reported	Dry	Daylight	Clear	POWDER HOUSE BOULEVARD	COLLEGE AVENUE / WARNER STREET		
5/19/2005	7:20:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	POWDER HOUSE BOULEVARD	BROADWAY 700S / WARREN STREET		
8/15/2005	9:55:00 AM	Not Reported	1	0	0	Not reported	ot reporte	Not reported	Not Reported			WARNER ST - BROADWAY	BROADWAY / POWDER HOUSE SQUARE
12/7/2005	7:50:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	POWDER HOUSE BOULEVARD	POWDER HOUSE SQUARE		
MEDFORD	1/1/2003	12/31/2005	Intersection: High St @ Main St/Forest St/Salem St/Riverside										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
3/29/2003	11:05:00 AM	Property damage on	3	0	0	Rear-end	Dry	Daylight	Clear			MAIN STREET	MAIN STREET / HARVARD AVENUE Rte 60
6/25/2003	8:15:00 AM	Non-fatal injury	3	1	0	Rear-end	Dry	Daylight	Clear	SALEM STREET Rte 60	FOREST STREET / HIGH STREET		
7/14/2003	10:35:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Clear	SALEM STREET	HIGH STREET / FOREST STREET		
8/25/2003	1:10:00 AM	Property damage on	2	0	0	Not reported	Dry	Daylight	Clear			1 RIVERSIDE AVENUE	1 RIVERSIDE AVENUE
1/4/2004	9:50:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Wet	Daylight	Cloudy	SALEM STREET	FOREST STREET / HIGH STREET		
2/7/2004	9:21:00 PM	Not Reported	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear/Clear	RIVERSIDE AVENUE	SALEM STREET		
6/17/2004	11:35:00 PM	Property damage on	2	0	0	Rear-end	Wet	Dark - lighte	Rain	MAIN STREET	HIGH STREET		
10/6/2004	2:15:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	SALEM STREET	MAIN STREET		
1/12/2005	12:45:00 PM	Non-fatal injury	2	1	0	Not reported	ot reporte	Not reported	Not Reported	HIGH STREET Rte 60 E	MAIN STREET / SALEM STREET		
1/17/2005	9:00:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear	SALEM STREET	MAIN STREET		
1/26/2005	4:17:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Slush	Daylight	Snow	SALEM STREET	MAIN STREET		
1/29/2005	3:30:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Slush	Daylight	Clear/Snow	SALEM STREET	FOREST STREET		
3/1/2005	9:45:00 AM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear/Clear			DUNKIN DONUTS - SALEM STREE'	SALEM STREET / FOREST STREET
4/30/2005	11:00:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Rain				MAIN STREET / Rte 60
8/11/2005	3:15:00 PM	Non-fatal injury	2	2	0	Rear-end	Dry	Daylight	Clear	Rte 60	FOREST STREET		
8/16/2005	5:30:00 PM	Unknown	2	0	0	Not reported	ot reporte	Not reported	Not Reported	SALEM STREET	FOREST STREET		
11/16/2005	5:00:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear			MEDFORD SQUARE - SALEM STREE	SALEM STREET / MAIN STREET
12/12/2005	9:25:00 AM	Not Reported	2	0	0	Head-on	Wet	Daylight	Cloudy				10 HIGH STREET / MAIN STREET

MEDFORD	1/1/2003	12/31/2005	Intersections, Combinations of: Main St @ Mystic Valley Pkwy/South St										
Crash_Date	Crash_Time	Crash_Type	otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/9/2003	12:30:00 PM	Non-fatal injury	2	1	0	Not reported	Wet	Dark - unkno	Clear	Rte 16	MAIN STREET		
1/21/2003	12:30:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	MAIN STREET		
1/22/2003	8:00:00 AM	Property damage on	2	0	0	Single vehicle crash	Dry	Daylight	Clear	MAIN STREET	SOUTH STREET		
2/9/2003	12:10:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	MAIN STREET Rte 16 W	MAIN STREET		
2/11/2003	8:00:00 AM	Not Reported	2	0	0	Rear-end	Slush	Daylight	Clear	MAIN STREET	Rte 16		
2/14/2003	4:20:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	SOUTH ST COURT	MAIN STREET		
3/12/2003	7:45:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	Rte 16 E	MAIN STREET		
5/25/2003	1:49:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Cloudy	MAIN STREET Rte 38 S	SOUTH STREET		
7/20/2003	6:10:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	MAIN STREET		
8/2/2003	5:00:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	SOUTH ST COURT	MAIN STREET Rte 38		
8/5/2003	7:00:00 AM	Property damage on	1	0	0	Single vehicle crash	Wet	Daylight	Cloudy/Rain	MYSTIC VALLEY PARKWAY Rte 16 W	MAIN STREET		
9/7/2003	10:04:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	SOUTH STREET	MAIN STREET		
9/15/2003	6:00:00 AM	Not Reported	2	0	0	Angle	Wet	Daylight	Cloudy	MAIN STREET	ALEWIFE BROOKWAY Rte 16 W		
9/27/2003	2:20:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear			MAIN STREET Rte 16	MAIN STREET Rte 16 / Rte 16
10/22/2003	9:30:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Dark - lighte	Cloudy	MYSTIC VALLEY PARKWAY Rte 16 W	MAIN STREET Rte 38 S		
10/23/2003	5:30:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Wet	Daylight	Cloudy	AMP-RT 16 WB TO MAIN STREET Rte 16	MAIN STREET		
11/28/2003	11:05:00 AM	Non-fatal injury	2	3	0	Rear-end	Wet	Daylight	Rain/Cloudy	MYSTIC VALLEY PARKWAY Rte 16 W	ON RAMP FROM MAIN ST / CRADDOCK BRIDGE		
12/24/2003	4:30:00 PM	Property damage on	2	0	0	Unknown	Wet	Dark - lighte	Rain	MAIN STREET	SOUTH STREET	(MEFORD POLICE STATION)	
1/9/2004	4:00:00 PM	Property damage on	2	0	0	Not reported	Snow	Daylight	Clear	MYSTIC AVENUE Rte 38	SOUTH STREET		
1/22/2004	1:23:00 AM	Property damage on	2	0	0	Angle	Snow	Dark - lighte	Clear	MAIN STREET	SOUTH STREET		
1/23/2004	7:59:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	ROUTE 16 W OFFRAMP Rte 16	MAIN STREET		
2/22/2004	4:00:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	Rte 16 W		
3/20/2004	1:43:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	Rte 16 W		
4/8/2004	5:45:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16 W	MAIN STREET		
5/8/2004	7:20:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	Rte 16 N	MAIN STREET		
5/9/2004	12:30:00 PM	Property damage on	2	0	0	Unknown	Wet	Daylight	Cloudy			SOUTH STREET	SOUTH STREET / MYSTIC AVENUE
5/14/2004	11:40:00 AM	Not Reported	3	0	0	Angle	Dry	Daylight	Clear			MAIN STREET Rte 16 W	N STREET Rte 16 W / RAMP-RT 16 WB TO MAIN STREET
6/10/2004	6:30:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	SOUTH STREET		
6/10/2004	8:10:00 AM	Non-fatal injury	2	1	0	Rear-end	Wet	Daylight	Rain	MAIN STREET	Rte 16		
6/29/2004	4:30:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	RAMP-MAIN STREET TO RT 16 WB		
7/21/2004	6:20:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	MAIN STREET	SOUTH STREET		
8/22/2004	1:20:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET Rte 38 N	SOUTH STREET		
8/22/2004	3:16:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear			RT 16 ON RAMP - 80 MAIN STREET	80 MAIN STREET / SOUTH STREET Rte 16
9/16/2004	8:00:00 AM	Not Reported	2	0	0	Not reported	Wet	Daylight	Cloudy	SOUTH ST COURT	MAIN STREET / Rte 16		
10/6/2004	7:30:00 AM	Not Reported	2	0	0	Not reported	Not reporte	Not reported	Not Reported			24 SOUTH STREET	24 SOUTH STREET / MAIN STREET
10/12/2004	11:45:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MAIN STREET Rte 16			
10/30/2004	7:45:00 AM	Property damage on	2	0	0	Not reported	Not reporte	Not reported	Not Reported			ALBION STREET Rte 16	ALBION STREET Rte 16 / MAIN STREET Rte 16
11/3/2004	9:25:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	SOUTH STREET	MAIN STREET		
11/12/2004	6:47:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	Rte 16 E	MAIN STREET		
11/23/2004	10:40:00 AM	Not Reported	2	0	0	Not reported	Not reporte	Not reported	Not Reported	SOUTH STREET	MAIN STREET		
12/7/2004	7:35:00 AM	Not Reported	2	0	0	Angle	Wet	Daylight	Rain	MAIN STREET	Rte 16		
12/8/2004	7:53:00 AM	Property damage on	1	0	0	Single vehicle crash	Wet	Daylight	Cloudy			MYSTIC VALLEY PARKWAY Rte 16 \n Intersection MYSTIC VALLEY PARKWAY Rte 16 W / MAIN STREET	
12/23/2004	9:55:00 AM	Non-fatal injury	2	2	0	Rear-end	Wet	Daylight	Cloudy			MYSTIC VALLEY PARKWAY Rte 16m Intersection MYSTIC VALLEY PARKWAY Rte 16 / MAIN STREET	
2/10/2005	10:30:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MAIN STREET	SOUTH STREET		
2/14/2005	7:52:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	SOUTH STREET		
3/10/2005	5:15:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	SOUTH STREET		
4/1/2005	10:15:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy			UNDER BRIDGE - MAIN STREET	MAIN STREET / Rte 16
4/10/2005	11:30:00 AM	Not Reported	2	0	0	Not reported	Not reporte	Not reported	Not Reported				MAIN STREET Rte 16 / Rte 16
5/24/2005	8:30:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain				38 MAIN STREET
5/29/2005	1:20:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear/Clear	MAIN STREET Rte 38 S	Rte 16 E		
6/7/2005	11:51:00 AM	Property damage on	2	0	0	Sideswipe, opposite direction	Dry	Daylight	Clear/Clear	Rte 16 S	MAIN STREET		
6/10/2005	12:25:00 PM	Non-fatal injury	3	1	0	Sideswipe, opposite direction	Dry	Daylight	Clear/Clear	MAIN STREET	SOUTH STREET		
6/13/2005	11:06:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear				MYSTIC VALLEY PARKWAY Rte 16 / MAIN STREET
6/14/2005	4:00:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Cloudy/Cloudy	Rte 16 E	MAIN STREET		
6/16/2005	5:00:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear	MAIN STREET	MYSTIC VALLEY PARKWAY		
6/20/2005	9:07:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Daylight	Clear/Clear				MYSTIC VALLEY PARKWAY Rte 16 W / MAIN STREET
7/13/2005	7:17:00 PM	Non-fatal injury	2	1	0	Single vehicle crash	Dry	Daylight	Clear/Clear			MAIN STREET - Rte 16 E	Rte 16 E
7/27/2005	6:00:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Dusk	Clear	MAIN STREET Rte 38 S	MYSTIC VALLEY PARKWAY Rte 16 W		
8/9/2005	3:10:00 PM	Property damage on	2	0	0	Not reported	Wet	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16	MAIN STREET		
8/14/2005	4:23:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MAIN STREET	Rte 16		
10/18/2005	9:32:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Wet	Daylight	Cloudy/Cloudy			200 feet E from Intersection MYSTIC VALLEY PARKWAY Rte 16 W / MAIN STREET Rte 38 E	
11/5/2005	2:30:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear				MAIN STREET Rte 16 / Rte 16
11/20/2005	2:25:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear/Clear				MAIN STREET Rte 16 / Rte 16
11/20/2005	3:45:00 AM	Not Reported	1	0	0	Single vehicle crash	Dry	Dawn	Clear/Clear			TUFTS BANK - MAIN STREET Rte 1	MAIN STREET Rte 16 / Rte 16
11/21/2005	7:57:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear/Clear	Rte 16 E	MAIN STREET Rte 38 N		
12/14/2005	7:49:00 AM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear/Clear	SOUTH STREET	MAIN STREET		
12/19/2005	3:15:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	MAIN STREET	Rte 16 W		
12/29/2005	5:10:00 PM	Non-fatal injury	2	2	0	Rear-end	Wet	Dark - lighte	Rain				WESTBOUND Rte 16 / WEST MAIN STREET

Main St @ Mystic Valley WB Ramp (17)

Main St @ Mystic Valley EB Ramp (7)

Main St @ Unspecified Mystic Valley Ramp (22)

Main St @ South St/Mystic Valley EB Ramp (4)

Main St @ South St (18)

MEDFORD	1/1/2003	12/31/2005	Intersection: Main St @ Mystic Ave										
Crash_Date	Crash_Time	Crash_Type	'otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
6/2/2003	4:30:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	MYSTIC AVENUE	MYSTIC AVENUE / MAIN STREET		
6/12/2003	9:45:00 PM	Unknown	2	0	0	Head-on	Dry	Dark - lighte	Clear	MAIN STREET	MYSTIC AVENUE Rte 38		
7/31/2003	9:30:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	MYSTIC AVENUE		
12/2/2003	9:40:00 AM	Property damage on	2	0	0	Angle	Ice	Daylight	Snow/Other			MYSTIC AVENUE Rte 38 (BLOCKBUSTER	MYSTIC AVENUE Rte 38
12/8/2003	2:25:00 PM	Property damage on	2	0	0	Single vehicle crash	Wet	Daylight	Clear			MYSTIC AVENUE Rte 38 (50 feet S from BLOCKBL	MYSTIC AVENUE Rte 38
1/5/2004	3:45:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Cloudy/Rain	MAIN STREET	MYSTIC AVENUE		
1/14/2004	8:30:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear	MAIN STREET	MYSTIC AVENUE		
2/2/2004	1:40:00 AM	Unknown	2	0	0	Not reported	Not reporte	Not reported	Not Reported			133 MAIN STREET	133 MAIN STREET
4/9/2004	10:50:00 AM	Not Reported	2	0	0	Head-on	Dry	Daylight	Cloudy			DUNKIN DONUTS - 132 MAIN STREE	132 MAIN STREET
5/7/2004	4:56:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear/Clear	MYSTIC AVENUE	MAIN STREET		
5/15/2004	4:30:00 PM	Not Reported	2	0	0	Not reported	Not reporte	Not reported	Not Reported	MAIN STREET	MYSTIC AVENUE		
5/19/2004	9:30:00 PM	Not Reported	1	0	0	Unknown	Dry	Dark - lighte	Clear/Clear			133 MAIN STREET	133 MAIN STREET
9/11/2004	3:30:00 AM	Not Reported	1	0	0	Not reported	Not reporte	Not reported	Not Reported	MAIN STREET	MYSTIC AVENUE		
9/28/2004	8:25:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MAIN STREET	EMERSON STREET / MYSTIC AVENUE		
10/4/2004	8:00:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MYSTIC AVENUE	MAIN STREET		
11/12/2004	6:00:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain/Rain	MYSTIC AVENUE	MAIN STREET		
3/21/2005	2:20:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	MAIN STREET	MYSTIC AVENUE		
3/30/2005	7:50:00 AM	Non-fatal injury	2	2	0	Rear-end	Dry	Daylight	Clear	MAIN STREET	MYSTIC AVENUE		
6/6/2005	6:45:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dusk	Clear	MAIN STREET	MYSTIC AVENUE		
7/28/2005	3:20:00 AM	Property damage on	2	0	0	Sideswipe, opposite direction	Wet	Daylight	Clear	MAIN STREET	MYSTIC AVENUE		
8/29/2005	4:35:00 PM	Non-fatal injury	2	1	0	Angle	Wet	Daylight	Rain	MYSTIC AVENUE Rte 38 S	MAIN STREET		
10/8/2005	5:10:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MAIN STREET	MYSTIC AVENUE		
10/8/2005	6:10:00 AM	Non-fatal injury	2	3	0	Rear-end	Not reporte	Dusk	, hail (freezing rain	MAIN STREET	MYSTIC AVENUE		
10/14/2005	1:48:00 AM	Property damage on	1	0	0	Single vehicle crash	Wet	Dark - lighte	Rain	MAIN STREET	MYSTIC AVENUE		
11/15/2005	2:00:00 PM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Rain				MAIN STREET Rte 38 / MYSTIC AVENUE
12/3/2005	12:15:00 PM	Unknown	2	0	0	Head-on	Snow	Daylight	Clear	MAIN STREET	MYSTIC AVENUE		
12/8/2005	10:25:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	MAIN STREET	EMERSON STREET / MYSTIC AVENUE		
12/14/2005	4:10:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear/Clear			BLOCK BUSTER - MYSTIC AVENUE	MYSTIC AVENUE Rte 38 / MYSTIC AVENUE
12/28/2005	9:55:00 AM	Property damage on	1	0	0	Single vehicle crash	Dry	Daylight	Clear	MAIN STREET	MYSTIC AVENUE		

MEDFORD	1/1/2003	12/31/2005	Intersection: Main St @ Havard St										
Crash_Date	Crash_Time	Crash_Type	'otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
6/30/2003	7:30:00 AM	Not Reported	2	0	0	Single vehicle crash	Dry	Daylight	Clear	MAIN STREET	HARVARD STREET		
7/18/2003	11:51:00 AM	Property damage on	3	0	0	Rear-end	Dry	Daylight	Cloudy/Rain	MAIN STREET	HARVARD STREET		
8/4/2003	9:40:00 AM	Property damage on	2	0	0	Head-on	Wet	Daylight	Rain	HARVARD STREET	MAIN STREET		
3/15/2004	4:40:00 AM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	MAIN STREET	HARVARD STREET		
10/13/2004	7:09:00 AM	Non-fatal injury	2	1	0	Head-on	Dry	Daylight	Clear	MAIN STREET	HARVARD STREET		
1/27/2005	3:45:00 PM	Not Reported	2	0	0	Rear-end	Wet	Daylight	Clear			FUNERAL HOME - MAIN STREET	MAIN STREET / HARVARD AVENUE
3/26/2005	2:45:00 PM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Clear/Rain	MAIN STREET	HARVARD STREET		

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Broadway @ Medford St/Dexter S										
Crash_Date	Crash_Time	Crash_Type	'otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
6/6/2003	10:50:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Dark - lighte	Clear	BROADWAY	MEDFORD STREET		
12/4/2003	9:50:00 AM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear/Clear			509 BROADWAY	509 BROADWAY / MEDFORD STREET
1/5/2004	10:42:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Wet	Dark - lighte	Rain	BROADWAY	MEDFORD STREET		
3/28/2004	12:51:00 AM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear	BROADWAY	MEDFORD STREET		
4/17/2004	8:30:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	BROADWAY	MEDFORD STREET		
4/17/2004	8:40:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear	BROADWAY	MEDFORD STREET		
5/2/2004	1:55:00 AM	Not Reported	1	0	0	Single vehicle crash	Dry	Dark - lighte	Cloudy	BROADWAY	MEDFORD STREET		
10/2/2004	2:30:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	MEDFORD STREET	BROADWAY		
11/23/2004	5:50:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Cloudy	BROADWAY	MEDFORD STREET		
12/10/2004	12:10:00 AM	Property damage on	1	0	0	Single vehicle crash	Wet	Dark - lighte	Rain			MEDFORD STREET	¼ from Intersection MEDFORD STREET / BROADWAY STREET
12/27/2004	5:00:00 AM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear	BROADWAY	MEDFORD STREET		
1/1/2005	1:25:00 AM	Not Reported	3	0	0	Angle	Wet	Dark - lighte	Clear	MEDFORD STREET	DEXTER STREET		
5/14/2005	1:50:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	BROADWAY	MEDFORD STREET		
7/12/2005	9:18:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	BROADWAY	MEDFORD STREET		
8/13/2005	2:31:00 AM	Not Reported	2	0	0	Not reported	Dry	Dark - lighte	Cloudy	BROADWAY	MEDFORD STREET		
9/10/2005	12:00:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	BROADWAY	MEDFORD STREET		
9/22/2005	8:05:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	BROADWAY	MEDFORD STREET		
10/12/2005	12:26:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Cloudy/Cloudy	BROADWAY	MEDFORD STREET		

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Medford St @ Lowell St										
Crash_Date	Crash_Time	Crash_Type	'otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
3/12/2005	11:55:00 AM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Rain/Snow				517 MEDFORD STREET
8/29/2005	1:48:00 PM	Unknown	1	0	0	Angle	Wet	Daylight	Rain				503 MEDFORD STREET

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Medford St @ Central St										
Crash_Date	Crash_Time	Crash_Type	'otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
9/5/2003	11:16:00 AM	Non-fatal injury	2	4	0	Head-on	Dry	Daylight	Clear	MEDFORD STREET	CENTRAL STREET		
2/2/2004	6:10:00 AM	Not Reported	2	0	0	Sideswipe, opposite direction	Dry	Dawn	Clear/Clear	MEDFORD STREET	CENTRAL STREET		
4/14/2004	11:20:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Wet	Dark - lighte	Rain	CENTRAL STREET	MEDFORD STREET		
10/15/2004	8:09:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain	CENTRAL STREET	MEDFORD STREET		
11/26/2004	7:00:00 AM	Unknown	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	MEDFORD STREET	CENTRAL STREET		
6/15/2005	9:02:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Cloudy	MEDFORD STREET	CENTRAL STREET		
7/28/2005	10:58:00 AM	Not Reported	1	0	0	Single vehicle crash	Dry	Daylight	Clear/Clear	CENTRAL STREET	MEDFORD STREET		
12/24/2005	1:30:00 PM	Property damage on	2	0	0	Sideswipe, opposite direction	Dry	Daylight	Clear	CENTRAL STREET	MEDFORD STREET		

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Medford St @ School St										
Crash_Date	Crash_Time	Crash_Type	'otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
7/29/2003	5:11:00 PM	Non-fatal injury	1	1	0	Angle	Dry	Daylight	Clear	SCHOOL STREET	MEDFORD STREET		
8/20/2003	7:01:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	MEDFORD STREET	SCHOOL STREET		
9/25/2003	4:00:00 AM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Clear/Rain	SCHOOL STREET	MEDFORD STREET		
10/30/2003	5:00:00 AM	Non-fatal injury	2	2	0	Head-on	Dry	Not reported	Clear	MEDFORD STREET	SCHOOL STREET		
12/17/2003	12:00:00 PM	Property damage on	3	0	0	Angle	Wet	Daylight	Cloudy/Rain	MEDFORD STREET	SCHOOL STREET		
7/5/2004	9:13:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Cloudy	MEDFORD STREET	SCHOOL STREET		
10/30/2004	4:30:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MEDFORD STREET	SCHOOL STREET		
12/15/2004	2:45:00 PM	Non-fatal injury	2	1	0	Not reported	Not reporte	Not reported	Not Reported			176 SCHOOL STREET	176 SCHOOL STREET
4/26/2005	7:30:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	MEDFORD STREET	SCHOOL STREET		
8/18/2005	9:10:00 AM	Not Reported	3	0	0	Rear-end	Dry	Dark - lighte	Clear	MEDFORD STREET	MEDFORD STREET / SCHOOL STREET		
8/18/2005	9:10:00 PM	Not Reported	3	0	0	Rear-end	Dry	Dark - lighte	Cloudy				MEDFORD STREET / SCHOOL STREET

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Medford St @ Walnut St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
12/22/2003	2:27:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	MEDFORD STREET	WALNUT STREET		
1/10/2005	1:14:00 AM	Not Reported	2	0	0	Rear-end	Wet	Dark - lighte	Clear/Clear	WALNUT STREET	MEDFORD STREET		
3/8/2005	7:30:00 AM	Property damage on	2	0	0	Not reported	Snow	Dark - roadv	Snow	WALNUT STREET	MEDFORD STREET		
3/19/2005	12:00:00 PM	Non-fatal injury	2	1	0	Not reported	Not reporte	Not reported	Not Reported	WALNUT STREET	MEDFORD STREET		
11/23/2005	8:30:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Daylight	Clear	WALNUT STREET	MEDFORD STREET		
SOMERVILLE	1/1/2003	12/31/2005	Intersection: Medford St @ Highland Ave/Ham										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
5/18/2003	9:00:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	MEDFORD STREET	HIGHLAND AVENUE		
6/30/2003	2:20:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	HIGHLAND AVENUE	HAMLET STREET		
9/29/2003	12:01:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Dark - lighte	Clear/Clear			2 HIGHLAND AVENUE	2 HIGHLAND AVENUE / MEDFORD STREET
10/7/2003	3:30:00 PM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear/Clear	HIGHLAND AVENUE	HAMLET STREET		
10/23/2003	8:20:00 AM	Property damage on	2	0	0	Not reported	Wet	Daylight	Clear	MEDFORD STREET	HIGHLAND AVENUE		
11/15/2003	1:15:00 AM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear	MEDFORD STREET	HIGHLAND AVENUE		
4/7/2004	11:45:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear			2 HIGHLAND AVENUE	2 HIGHLAND AVENUE
2/10/2005	7:26:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Wet	Dark - lighte	Not Reported	HIGHLAND AVENUE	MEDFORD STREET / HAMLET STREET		
12/1/2005	5:49:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear/Clear	HIGHLAND AVENUE	HAMLET STREET		
SOMERVILLE	1/1/2003	12/31/2005	Intersection: Medford St @ Somerville Ave										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
2/7/2003	11:00:00 AM	Non-fatal injury	2	2	0	Head-on	Snow	Daylight	Snow			MCGRATH HIGHWAY Rte 28 S (SOMERVIL	MCGRATH HIGHWAY Rte 28
2/16/2003	2:45:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	SOMERVILLE AVENUE		
5/21/2003	10:00:00 AM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Cloudy	MCGRATH HIGHWAY Rte 28	SOMERVILLE AVENUE		
6/11/2003	8:40:00 AM	Unknown	1	0	0	Not reported	Dry	Daylight	Clear	MEDFORD STREET	:VILLE AVENUE / RAMP - RT 28 SB TO SOMERVILLE AVE		
6/20/2003	9:17:00 AM	Property damage on	1	0	0	Angle	Dry	Daylight	Clear/Clear	MCGRATH HIGHWAY	SOMERVILLE AVENUE		
7/25/2003	1:00:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Dark - lighte	Clear			MCGRATH HIGHWAY	MCGRATH HIGHWAY / SOMERVILLE AVENUE
8/14/2003	4:52:00 AM	Non-fatal injury	2	2	0	Angle	Dry	Dusk	Clear	MCGRATH HIGHWAY Rte 28 S	SOMERVILLE AVENUE		
9/29/2003	6:55:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	SOMERVILLE AVENUE		
10/25/2003	1:00:00 AM	Non-fatal injury	2	1	0	Sideswipe, same direction	Dry	Dark - lighte	Clear	MEDFORD STREET	SOMERVILLE AVENUE		
12/29/2003	1:30:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	MCGRATH HIGHWAY	SOMERVILLE AVENUE		
2/2/2004	11:47:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Other	MCGRATH HIGHWAY Rte 28	SOMERVILLE AVENUE		
4/8/2004	2:23:00 AM	Non-fatal injury	1	1	0	Angle	Dry	Dark - lighte	Clear/Cloudy	SOMERVILLE AVENUE	MCGRATH HIGHWAY		
12/10/2004	11:15:00 PM	Not Reported	1	0	0	Single vehicle crash	Wet	Dark - lighte	Rain/Rain		ACROSS FROM MERCEDEZ DEALERSHIP/ - MCGRATH	RATH HIGHWAY Rte 28 S / SOMERVILLE AVENUE Rte 28	
2/4/2005	10:30:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	SOMERVILLE AVENUE		
3/11/2005	8:00:00 AM	Non-fatal injury	3	1	0	Rear-end	Wet	Daylight	Clear	MEDFORD STREET	SOMERVILLE AVENUE		
3/22/2005	3:20:00 AM	Property damage on	2	0	0	Rear-end	Not reporte	Daylight	Clear	MCGRATH HIGHWAY Rte 28	SOMERVILLE AVENUE / MEDFORD STREET		
7/23/2005	1:41:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Clear/Clear	SOMERVILLE AVENUE	MCGRATH HIGHWAY		
8/15/2005	3:20:00 PM	Property damage on	2	0	0	Sideswipe, opposite direction	Dry	Daylight	Clear	SOMERVILLE AVENUE	MEDFORD STREET		
8/15/2005	11:45:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Cloudy	MEDFORD STREET	SOMERVILLE AVENUE		
8/22/2005	11:15:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear/Clear	MCGRATH HIGHWAY Rte 28 S	SOMERVILLE AVENUE		
8/24/2005	1:30:00 AM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear/Clear	MEDFORD STREET	SOMERVILLE AVENUE		
11/12/2005	7:55:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	MEDFORD STREET	SOMERVILLE AVENUE		
11/22/2005	5:35:00 PM	Not Reported	1	0	0	Single vehicle crash	Wet	Dark - unkno	Cloudy	MEDFORD STREET	SOMERVILLE AVENUE		
12/5/2005	2:40:00 PM	Non-fatal injury	2	1	0	Sideswipe, opposite direction	Wet	Daylight	Cloudy	MEDFORD STREET	SOMERVILLE AVENUE		
12/9/2005	9:40:00 AM	Property damage on	3	0	0	Rear-end	Snow	Daylight	Snow/Cloudy	SOMERVILLE AVENUE	MEDFORD STREET		
SOMERVILLE	1/1/2003	12/31/2005	Intersection: Highland Ave @ Lowell St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/25/2003	8:15:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Dark - lighte	Clear	HIGHLAND AVENUE	LOWELL STREET		
1/29/2003	1:09:00 PM	Property damage on	3	0	0	Rear-end	Wet	Daylight	Snow/Snow	HIGHLAND AVENUE	LOWELL STREET		
2/14/2003	7:45:00 AM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
2/26/2003	2:15:00 AM	Non-fatal injury	2	2	0	Head-on	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
4/10/2003	12:30:00 PM	Property damage on	2	0	0	Head-on	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
4/14/2003	10:15:00 AM	Non-fatal injury	1	1	0	Rear-end	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
5/8/2003	9:08:00 AM	Non-fatal injury	2	2	0	Rear-end	Wet	Daylight	Cloudy/Rain			222 HIGHLAND AVENUE Rte W	222 HIGHLAND AVENUE Rte W
9/8/2003	7:40:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
11/29/2003	1:50:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
6/26/2004	2:40:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Cloudy			216 HIGHLAND AVENUE	216 HIGHLAND AVENUE
11/1/2004	11:00:00 AM	Property damage on	2	0	0	Not reported	Dry	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
1/31/2005	5:30:00 AM	Not Reported	2	0	0	Not reported	Wet	Daylight	Clear	HIGHLAND AVENUE	LOWELL STREET		
SOMERVILLE	1/1/2003	12/31/2005	Intersection: Highland Ave @ Central St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/4/2004	3:27:00 PM	Unknown	2	0	0	Sideswipe, opposite direction	Wet	Daylight	Rain	CENTRAL STREET	HIGHLAND AVENUE		
5/7/2004	11:35:00 AM	Non-fatal injury	2	2	0	Not reported	Not reporte	Not reported	Not Reported	HIGHLAND AVENUE	CENTRAL STREET		
7/16/2004	10:17:00 AM	Non-fatal injury	1	1	0	Head-on	Dry	Daylight	Clear	HIGHLAND AVENUE	CENTRAL STREET		
10/23/2004	6:26:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Cloudy	HIGHLAND AVENUE	CENTRAL STREET		
11/4/2004	7:45:00 AM	Non-fatal injury	1	1	0	Unknown	Dry	Daylight	Clear/Clear	CENTRAL STREET	HIGHLAND AVENUE		
3/4/2005	10:15:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear				150 HIGHLAND AVENUE
8/29/2005	3:10:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Cloudy	CENTRAL STREET	HIGHLAND AVENUE		
12/4/2005	10:20:00 AM	Non-fatal injury	1	1	0	Angle	Wet	Daylight	Snow	HIGHLAND AVENUE	CENTRAL STREET		
SOMERVILLE	1/1/2003	12/31/2005	Intersection: Highland Ave @ School St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
4/20/2003	6:43:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	HIGHLAND AVENUE	SCHOOL STREET		
5/3/2003	12:15:00 PM	Not Reported	1	0	0	Single vehicle crash	Dry	Daylight	Clear/Clear	SCHOOL STREET	HIGHLAND AVENUE		
9/25/2003	6:26:00 AM	Non-fatal injury	2	1	0	Not reported	Dry	Dawn	Clear	HIGHLAND AVENUE	SCHOOL STREET		
11/1/2003	5:35:00 PM	Non-fatal injury	3	1	0	Rear-end	Dry	Dark - lighte	Clear			93 HIGHLAND AVENUE	93 HIGHLAND AVENUE / SCHOOL STREET
5/25/2004	12:10:00 PM	Non-fatal injury	3	1	0	Rear-end	Dry	Daylight	Cloudy	HIGHLAND AVENUE	SCHOOL STREET		
6/20/2004	9:45:00 PM	Not Reported	2	0	0	Not reported	Dry	Dark - lighte	Clear	HIGHLAND AVENUE	SCHOOL STREET		
8/27/2004	8:45:00 AM	Non-fatal injury	3	1	0	Rear-end	Dry	Daylight	Clear	HIGHLAND AVENUE	SCHOOL STREET		
1/22/2005	11:00:00 AM	Not Reported	2	0	0	Rear-end	Snow	Dark - lighte	Snow	SCHOOL STREET	HIGHLAND AVENUE		
3/13/2005	5:23:00 PM	Property damage on	2	0	0	Not reported	Dry	Daylight	Clear	HIGHLAND AVENUE	SCHOOL STREET		
3/17/2005	12:40:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	SCHOOL STREET	HIGHLAND AVENUE		
3/21/2005	8:10:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear/Clear	SCHOOL STREET	HIGHLAND AVENUE		
5/24/2005	10:45:00 AM	Not Reported	2	0	0	Angle	Wet	Daylight	Rain				93 HIGHLAND AVENUE
8/2/2005	4:40:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	SCHOOL STREET	HIGHLAND AVENUE		
9/9/2005	10:43:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Dark - lighte	Clear	HIGHLAND AVENUE	SCHOOL STREET		
11/2/2005	5:25:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear	SCHOOL STREET	HIGHLAND AVENUE		

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Washington St @ Inner Belt Rd										
Crash_Date	Crash_Time	Crash_Type	otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/14/2003	3:10:00 PM	Non-fatal injury	3	2	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	INNER BELT ROAD		
2/3/2003	2:30:00 PM	Property damage on	3	0	0	Rear-end	Wet	Daylight	Clear	WASHINGTON STREET	INNER BELT ROAD		
2/11/2004	1:48:00 PM	Non-fatal injury	1	1	0	Angle	Dry	Daylight	Clear	INNER BELT ROAD	WASHINGTON AVENUE		
4/20/2004	12:27:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	WASHINGTON STREET	INNER BELT ROAD		
6/15/2004	6:16:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	INNER BELT ROAD		
8/27/2004	8:00:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	INNER BELT ROAD		
1/17/2005	9:05:00 AM	Property damage on	2	0	0	Rear-end	Slush	Daylight	Cloudy	INNER BELT ROAD	WASHINGTON STREET		
6/14/2005	3:30:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	WASHINGTON STREET	INNER BELT ROAD		
12/22/2005	3:55:00 PM	Property damage on	2	0	0	Not reported	Dry	Daylight	Clear	WASHINGTON STREET	INNER BELT ROAD		
SOMERVILLE	1/1/2003	12/31/2005	Intersection: Washington St @ McGrath Hwy										
Crash_Date	Crash_Time	Crash_Type	otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/2/2003	8:00:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY Rte 28	WASHINGTON STREET		
2/28/2003	10:20:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Cloudy	MCGRATH HIGHWAY Rte 28 N	WASHINGTON STREET		
3/22/2003	1:30:00 AM	Non-fatal injury	4	1	0	Angle	Dry	Daylight	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
3/23/2003	3:20:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	MCGRATH HIGHWAY Rte 28		
3/28/2003	3:30:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	MCGRATH HIGHWAY		
5/16/2003	7:17:00 AM	Non-fatal injury	2	3	0	Rear-end	Dry	Daylight	Cloudy	WASHINGTON AVENUE	MCGRATH HIGHWAY		
5/25/2003	1:26:00 AM	Non-fatal injury	2	1	0	Angle	Wet	Dark - lighte	Rain	WASHINGTON STREET	MCGRATH HIGHWAY		
6/3/2003	8:25:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
6/16/2003	7:12:00 AM	Property damage on	3	0	0	Angle	Dry	Daylight	Clear/Clear	MCGRATH HIGHWAY	SOMERVILLE AVENUE / WASHINGTON STREET		
7/18/2003	11:30:00 PM	Unknown	2	0	0	Angle	Dry	Dark - lighte	Clear	WASHINGTON STREET	MCGRATH HIGHWAY		
7/25/2003	1:00:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
7/25/2003	11:45:00 PM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Dark - lighte	Clear			WASHINGTON STREET	WASHINGTON STREET / MCGRATH HIGHWAY
9/29/2003	2:30:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
10/16/2003	2:35:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	WASHINGTON STREET	MCGRATH HIGHWAY		
11/2/2003	3:40:00 AM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Cloudy	MCGRATH HIGHWAY	WASHINGTON STREET		
12/15/2003	5:20:00 PM	Property damage on	2	0	0	Not reported	Ice	Dark - lighte	Snow	WASHINGTON STREET	MCGRATH HIGHWAY		
1/3/2004	9:30:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	ain/Fog, smog, smo	WASHINGTON STREET	MCGRATH HIGHWAY		
1/12/2004	5:55:00 PM	Property damage on	2	0	0	Rear-end	Wet	Dark - lighte	Snow	MCGRATH HIGHWAY Rte 28	WASHINGTON STREET		
1/31/2004	10:40:00 PM	Non-fatal injury	3	3	0	Angle	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
2/28/2004	11:45:00 AM	Property damage on	2	0	0	Rear-to-rear	Dry	Daylight	Clear			318 MCGRATH HIGHWAY Rte 28 S	318 MCGRATH HIGHWAY Rte 28 S
9/27/2004	1:45:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear/Clear			MCGRATH HIGHWAY	MCGRATH HIGHWAY / WASHINGTON STREET
11/18/2004	5:45:00 PM	Not Reported	2	0	0	Angle	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	WASHINGTON AVENUE		
12/14/2004	9:10:00 AM	Non-fatal injury	2	1	0	Not reported	Dry	Daylight	Clear	WASHINGTON STREET	MCGRATH HIGHWAY / MEDFORD STREET		
1/12/2005	6:50:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Wet	Dusk	Snow	WASHINGTON STREET	MCGRATH HIGHWAY Rte 28		
1/26/2005	8:30:00 AM	Not Reported	2	0	0	Angle	Snow	Daylight	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
3/10/2005	6:55:00 AM	Property damage on	2	0	0	Not reported	Wet	Dawn	Clear				WASHINGTON STREET / RAMP - RT 28 NB TO WASHINGTON ST
3/18/2005	7:00:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Cloudy	MCGRATH HIGHWAY	WASHINGTON STREET		
4/28/2005	8:50:00 AM	Property damage on	1	0	0	Single vehicle crash	Wet	Daylight	Cloudy/Cloudy			2 feet N from WASHINGTON ST - Rte 2	set N from Intersection Rte 28 N / WASHINGTON STREET
4/29/2005	11:40:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY Rte 28 S	WASHINGTON STREET		
4/30/2005	11:15:00 AM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	MCGRATH HIGHWAY	WASHINGTON STREET		
5/26/2005	6:00:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	WASHINGTON STREET	MCGRATH HIGHWAY		
6/4/2005	12:39:00 AM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear/Clear	MCGRATH HIGHWAY Rte 38	WASHINGTON STREET		
7/6/2005	8:30:00 PM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Rain				160 WASHINGTON STREET / UNION SQUARE
7/9/2005	2:11:00 AM	Non-fatal injury	3	1	0	Rear-end	Wet	Dark - lighte	Rain/Rain			MCGRATH HIGHWAY - 182 WASHINGTON	ersection 182 WASHINGTON STREET / MCGRATH HIGHWAY Rte 28 W
8/5/2005	11:52:00 PM	Non-fatal injury	2	1	0	Sideswipe, same direction	Dry	Dark - lighte	Clear			AUTO BROKERS - 180 WASHINGTON ST	180 WASHINGTON STREET
8/26/2005	11:50:00 AM	Non-fatal injury	1	2	0	Single vehicle crash	Dry	Daylight	Clear				50 feet E from Intersection WASHINGTON STREET / Rte 28
9/2/2005	10:22:00 AM	Non-fatal injury	2	1	0	Not reported	Dry	Dark - lighte	Clear	MCGRATH HIGHWAY	WASHINGTON STREET		
10/7/2005	2:47:00 PM	Non-fatal injury	2	2	0	Angle	Dry	Daylight	Cloudy/Cloudy	MCGRATH HIGHWAY Rte 28 S	WASHINGTON STREET		
10/28/2005	12:32:00 AM	Not Reported	2	0	0	Not reported	ot reporte	Not reported	Not Reported	WASHINGTON STREET	MCGRATH HIGHWAY		
11/14/2005	6:15:00 PM	Property damage on	2	0	0	Not reported	Dry	Dark - lighte	Clear				WASHINGTON STREET Rte 16 / MCGRATH HIGHWAY Rte 16
11/15/2005	5:30:00 PM	Not Reported	2	0	0	Angle	Wet	Dusk	Cloudy/Rain				WASHINGTON STREET Rte 16 / MCGRATH HIGHWAY Rte 16
11/25/2005	12:30:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear				182 WASHINGTON STREET

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Washington St @ Somerville Ave										
Crash_Date	Crash_Time	Crash_Type	otal_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	oad_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
2/3/2003	6:12:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Ice	Dawn	Clear/Clear	WASHINGTON STREET	SOMERVILLE AVENUE		
2/20/2003	3:00:00 PM	Unknown	2	0	0	Rear-end	Wet	Daylight	Clear	WASHINGTON STREET	WEBSTER STREET		
4/18/2003	4:01:00 PM	Non-fatal injury	2	2	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	WEBSTER AVENUE		
4/29/2003	10:45:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear/Clear	SOMERVILLE AVENUE	WASHINGTON AVENUE		
5/3/2003	1:00:00 AM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain	WASHINGTON STREET	WEBSTER AVENUE		
8/1/2003	4:40:00 PM	Non-fatal injury	3	1	0	Rear-end	Wet	Daylight	Rain	SOMERVILLE AVENUE	WEBSTER AVENUE		
10/12/2003	6:30:00 PM	Non-fatal injury	4	4	0	Rear-end	Wet	Dark - lighte	Rain	SOMERVILLE AVENUE	WASHINGTON STREET		
10/29/2003	12:15:00 PM	Not Reported	1	0	0	Single vehicle crash	Wet	Dark - lighte	Rain/Rain	WASHINGTON STREET	SOMERVILLE AVENUE		
11/1/2003	10:29:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear	WASHINGTON STREET	WEBSTER AVENUE		
11/23/2003	9:30:00 AM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Clear	SOMERVILLE AVENUE	WASHINGTON STREET		
12/23/2003	7:29:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Dark - lighte	Clear	SOMERVILLE AVENUE	WASHINGTON STREET		
12/31/2003	6:00:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	SOMERVILLE AVENUE	WASHINGTON STREET		
2/7/2004	12:00:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Cloudy	WASHINGTON STREET	WEBSTER AVENUE		
5/14/2004	6:25:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	WASHINGTON STREET	WEBSTER AVENUE		
10/12/2004	11:38:00 AM	Non-fatal injury	2	1	0	Angle	Wet	Daylight	Rain/Cloudy	SOMERVILLE AVENUE	WASHINGTON STREET		
10/21/2004	6:45:00 AM	Non-fatal injury	2	1	0	Not reported	Dry	Daylight	Clear	WASHINGTON STREET	WEBSTER STREET		
10/22/2004	6:50:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear/Clear	WASHINGTON STREET	WEBSTER AVENUE		
11/1/2004	8:30:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	SOMERVILLE AVENUE	UNION SQUARE / WASHINGTON STREET		
12/20/2004	1:00:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Clear			SOMERVILLE AVENUE	SOMERVILLE AVENUE / WASHINGTON STREET
12/21/2004	4:45:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Clear	SOMERVILLE AVENUE	WASHINGTON STREET		
1/18/2005	8:10:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear				32 SOMERVILLE AVENUE / WASHINGTON STREET
5/16/2005	12:47:00 AM	Not Reported	1	0	0	Single vehicle crash	Wet	Dark - lighte	Rain/Cloudy	SOMERVILLE AVENUE	WASHINGTON STREET / UNION SQUARE		
5/28/2005	12:40:00 PM	Not Reported	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	WASHINGTON STREET	SOMERVILLE AVENUE		
9/5/2005	1:57:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	WASHINGTON STREET	WEBSTER AVENUE		
11/18/2005	6:54:00 PM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear/Clear	WASHINGTON STREET	WEBSTER AVENUE / UNION SQUARE		

SOMERVILLE	12:00:00 AM	12/31/2005	Intersection: Broadway at Winchester													
Crash_Date	Crash_Time	Crash_Type	Total_Vehicles	Non-Fatal Injuries	Fatal Injuries	Veh1_Dir	Veh2_Dir	Collision_manner	Object_hit	Collision_with	Road_Surface	Lighting	Weather	Street	Intersection	
2/9/2006	10:45:00 AM	Non-fatal injury	3	2	0			Angle		Angle	Dry	Daylight	Clear	BROADWAY	WINCHESTER STREET	
10/27/2004	7:40:00 AM	Non-fatal injury	2	1	0			Angle		Angle	Dry	Daylight	Clear	BROADWAY	WINCHESTER STREET	
10/15/2005	2:19:00 AM	Non-fatal injury	1	1	0			Rear-end		Rear-end	Wet	Dark - lighted roadway	Rain	BROADWAY	WINCHESTER STREET	
10/15/2005	2:30:00 AM	Non-fatal injury	2	1	0			Angle		Angle	Wet	Dark - lighted roadway	Rain	BROADWAY	WINCHESTER STREET	
10/4/2004	4:00:00 PM	Not Reported	3	0	0			Not reported		Not reported	Dry	Daylight	Clear	BROADWAY	WINCHESTER STREET	

SOMERVILLE	12:00:00 AM	12/31/2005	Intersection: Boston Ave at Broadway													
Crash_Date	Crash_Time	Crash_Type	Total_Vehicles	Non-Fatal Injuries	Fatal Injuries	Veh1_Dir	Veh2_Dir	Collision_manner	Object_hit	Collision_with	Road_Surface	Lighting	Weather	Street	Intersection	
10/27/2005	8:20:00 AM	Non-fatal injury	2	1	0			Rear-end		Rear-end	Dry	Daylight	Clear	BOSTON AVENUE	BROADWAY	
4/27/2006	10:38:00 PM	Non-fatal injury	1	1	0			Head-on		Head-on	Dry	Dark - roadway not lighted	Clear	BOSTON AVENUE	BROADWAY	
7/1/2005	7:00:00 AM	Property damage only (none injured)	2	0	0			Rear-end		Rear-end	Wet	Daylight	Rain	BOSTON AVENUE	BROADWAY	
10/28/2004	12:01:00 AM	Not Reported	2	0	0			Sideswipe, same direction		Sideswipe, same direction	Dry	Daylight	Clear	BROADWAY	BOSTON AVENUE / ROGERS AVENUE	
5/19/2005	3:30:00 PM	Property damage only (none injured)	2	0	0			Angle		Angle	Dry	Daylight	Clear/Clear	BROADWAY	BOSTON AVENUE	
1/2/2006	10:30:00 PM	Not Reported	2	0	0			Rear-end		Rear-end	Wet	Dark - lighted roadway	Rain	BROADWAY	BOSTON AVENUE	
10/21/2006	12:00:00 PM	Property damage only (none injured)	2	0	0			Angle		Angle	Dry	Daylight	Clear	BROADWAY	BOSTON AVENUE / ROGERS AVENUE	
11/8/2006	4:45:00 AM	Property damage only (none injured)	2	0	0			Angle		Angle	Wet	Dark - lighted roadway	Rain/Rain	BROADWAY	BOSTON AVENUE	
12/28/2006	7:14:00 PM	Not Reported	1	0	0			Single vehicle crash		Single vehicle crash	Dry	Dark - lighted roadway	Clear/Clear	BROADWAY	BOSTON AVENUE	

SOMERVILLE	12:00:00 AM	12/31/2005	Intersection: Medford Street at Pearl Street													
Crash_Date	Crash_Time	Crash_Type	Total_Vehicles	Non-Fatal Injuries	Fatal Injuries	Veh1_Dir	Veh2_Dir	Collision_manner	Object_hit	Collision_with	Road_Surface	Lighting	Weather	Street	Intersection	
5/22/2006	7:24:00 PM	Non-fatal injury	2	2	0			Single vehicle crash		Single vehicle crash	Dry	Daylight	Clear/Clear	MEDFORD STREET	PEARL STREET	
6/14/2006	11:23:00 AM	Non-fatal injury	2	2	0			Angle		Angle	Dry	Daylight	Clear	MEDFORD STREET	PEARL STREET	
1/5/2004	11:06:00 AM	Non-fatal injury	2	1	0			Angle		Angle	Wet	Daylight	Rain	MEDFORD STREET	PEARL STREET	
8/30/2006	3:55:00 AM	Non-fatal injury	2	1	0			Rear-end		Rear-end	Dry	Daylight	Clear	MEDFORD STREET	PEARL STREET	
1/8/2004	4:50:00 PM	Property damage only (none injured)	2	0	0			Angle		Angle	Dry	Dark - lighted roadway	Clear	MEDFORD STREET	PEARL STREET	
10/15/2004	9:21:00 PM	Property damage only (none injured)	2	0	0			Not reported		Not reported	Not reported	Not reported	Not Reported	MEDFORD STREET	PEARL STREET	
1/24/2006	8:39:00 AM	Property damage only (none injured)	2	0	0			Angle		Angle	Wet	Daylight	Clear	MEDFORD STREET	PEARL STREET	
4/14/2006	9:19:00 PM	Not Reported	2	0	0			Angle		Angle	Wet	Dark - lighted roadway	Rain	MEDFORD STREET	PEARL STREET	
4/15/2005	1:45:00 AM	Non-fatal injury	2	1	0			Rear-end		Rear-end	Dry	Daylight	Clear	PEARL STREET	MEDFORD STREET	
6/10/2004	9:00:00 AM	Property damage only (none injured)	2	0	0			Angle		Angle	Wet	Daylight	Cloudy/Rain	PEARL STREET	MEDFORD STREET	
2/27/2005	9:30:00 AM	Property damage only (none injured	2	0	0			Not reported		Not reported	Dry	Dark - lighted roadway	Clear	PEARL STREET	MEDFORD STREET	
8/28/2006	5:38:00 PM	Property damage only (none injured)	2	0	0			Rear-end		Rear-end	Dry	Daylight	Cloudy	PEARL STREET	MEDFORD STREET	
10/2/2006	8:00:00 AM	Property damage only (none injured)	2	0	0			Rear-end		Rear-end	Dry	Daylight	Clear/Clear	PEARL STREET	MEDFORD STREET	

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Washington St @ Beacon St/Kirk										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/11/2003	9:11:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Clear/Clear	BEACON STREET	WASHINGTON STREET		
6/3/2003	12:40:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	BEACON STREET	WASHINGTON STREET		
9/25/2003	1:20:00 AM	Not Reported	2	0	0	Angle	Dry	Dark - lighte	Clear/Clear	WASHINGTON STREET	BEACON STREET		
5/24/2004	11:15:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	BEACON STREET	WASHINGTON STREET		
7/25/2004	2:30:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear			WASHINGTON STREET	WASHINGTON STREET / BEACON STREET
11/15/2004	7:30:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear			407 WASHINGTON STREET	407 WASHINGTON STREET / BEACON STREET
12/15/2004	9:05:00 PM	Not Reported	2	0	0	Angle	Dry	Dark - lighte	Clear	BEACON STREET	WASHINGTON STREET		
1/20/2005	6:25:00 AM	Property damage on	2	0	0	Not reported	Wet	Dark - lighte	Cloudy	BEACON STREET	WASHINGTON STREET		
1/26/2005	10:15:00 AM	Not Reported	2	0	0	Rear-end	Snow	Daylight	Snow	BEACON STREET	WASHINGTON STREET		
2/4/2005	6:30:00 AM	Non-fatal injury	2	3	0	Rear-end	Ice	Dawn	Cloudy/Cloudy				435 WASHINGTON STREET / BEACON STREET
5/4/2005	6:30:00 PM	Not Reported	1	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	BEACON STREET	WASHINGTON STREET		
7/23/2005	1:52:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear/Clear	BEACON STREET	WASHINGTON STREET		
8/16/2005	12:00:00 PM	Not Reported	2	0	0	Not reported	Dry	Dark - lighte	Clear				415 WASHINGTON STREET / BEACON STREET
10/8/2005	8:40:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain	WASHINGTON STREET	BEACON STREET		
12/14/2005	3:51:00 PM	Non-fatal injury	1	1	0	Angle	Wet	Daylight	Snow/Snow	BEACON STREET	WASHINGTON STREET		

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Prospect St @ Somerville Ave										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
5/21/2003	4:40:00 PM	Non-fatal injury	2	1	0	Rear-end	Wet	Daylight	Rain	PROSPECT STREET	SOMERVILLE AVENUE		
6/19/2003	4:27:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	PROSPECT STREET	SOMERVILLE AVENUE		
9/5/2003	7:35:00 AM	Non-fatal injury	3	5	0	Rear-end	Dry	Daylight	Clear			282 SOMERVILLE AVENUE	282 SOMERVILLE AVENUE
10/26/2003	12:00:00 PM	Property damage on	2	0	0	Rear-end	Dry	Dark - lighte	Cloudy	PROSPECT STREET	SOMERVILLE AVENUE		
11/3/2003	12:00:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	SOMERVILLE AVENUE	PROSPECT STREET		
1/17/2004	12:30:00 PM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear	SOMERVILLE AVENUE	PROSPECT STREET		
2/5/2004	7:55:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	SOMERVILLE AVENUE	PROSPECT STREET		
3/9/2004	8:49:00 AM	Property damage on	3	0	0	Angle	Wet	Daylight	Snow	SOMERVILLE AVENUE	PROSPECT STREET		
8/8/2004	3:35:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear			282 SOMERVILLE AVENUE	282 SOMERVILLE AVENUE
8/21/2004	9:50:00 AM	Non-fatal injury	2	2	0	Rear-end	Wet	Daylight	Cloudy/Rain	SOMERVILLE AVENUE	PROSPECT STREET		
10/31/2004	7:31:00 PM	Property damage on	2	0	0	Not reported	Not reported	Not reported	Not Reported	SOMERVILLE AVENUE	PROSPECT STREET		
1/4/2005	6:50:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Not Reported	SOMERVILLE AVENUE	PROSPECT STREET / WASHINGTON STREET		
3/3/2005	8:20:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	PROSPECT STREET	SOMERVILLE AVENUE		
3/23/2005	11:31:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Rain	SOMERVILLE AVENUE	PROSPECT STREET		
5/27/2005	3:32:00 PM	Property damage on	2	0	0	Not reported	Dry	Daylight	Clear				282 SOMERVILLE AVENUE
9/5/2005	9:35:00 PM	Non-fatal injury	3	3	0	Rear-end	Dry	Dark - lighte	Clear	SOMERVILLE AVENUE	PROSPECT STREET		
9/23/2005	4:00:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	PROSPECT STREET	SOMERVILLE AVENUE / WASHINGTON STREET		

SOMERVILLE	1/1/2003	12/31/2005	Intersection: Prospect St @ Webster St/Concd										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
3/28/2003	6:30:00 AM	Not Reported	2	0	0	Not reported	Dry	Daylight	Clear			WEBSTER AVENUE	WEBSTER AVENUE / PROSPECT STREET
3/28/2003	6:30:00 AM	Non-fatal injury	2	2	0	Angle	Dry	Daylight	Clear	PROSPECT STREET	WEBSTER AVENUE		
8/21/2003	3:49:00 PM	Property damage on	2	0	0	Head-on	Not reported	Daylight	Clear	WEBSTER AVENUE	PROSPECT STREET		
11/27/2003	10:45:00 PM	Non-fatal injury	1	2	0	Single vehicle crash	Dry	Dark - lighte	Clear/Clear	WEBSTER AVENUE	PROSPECT STREET		
11/28/2003	10:24:00 PM	Non-fatal injury	2	3	0	Rear-end	Wet	Dark - lighte	Rain/Rain	PROSPECT STREET	WEBSTER AVENUE		
4/12/2004	7:30:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear			50 WEBSTER AVENUE	50 WEBSTER AVENUE / PROSPECT STREET
8/10/2004	4:53:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear			78 PROSPECT STREET	from Intersection 78 PROSPECT STREET / WEBSTER AVENUE
12/5/2004	11:07:00 PM	Property damage on	2	0	0	Sideswipe, opposite direction	Dry	Dark - lighte	Clear	WEBSTER AVENUE	PROSPECT STREET		
12/30/2004	9:08:00 PM	Property damage on	2	0	0	Angle	Wet	Dark - lighte	Clear/Other	WEBSTER AVENUE	PROSPECT STREET		
2/20/2005	4:45:00 AM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	WEBSTER AVENUE	PROSPECT STREET		
5/18/2005	4:12:00 PM	Property damage on	2	0	0	Head-on	Wet	Daylight	Rain	PROSPECT STREET	CONCORD AVENUE		
5/19/2005	3:45:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	WEBSTER AVENUE	PROSPECT STREET		

CAMBRIDGE	1/1/2003	12/31/2005	Intersection: Prospect St @ Cambridge St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/9/2003	9:28:00 AM	Non-fatal injury	2	1	0	Rear-end	Wet	Daylight	Cloudy	CAMBRIDGE STREET	PROSPECT STREET		
3/3/2003	1:00:00 PM	Non-fatal injury	1	2	0	Single vehicle crash	Dry	Daylight	Clear	CAMBRIDGE STREET	PROSPECT STREET		
3/5/2003	1:25:00 AM	Property damage on	2	0	0	Angle	Dry	Dark - lighte	Clear	CAMBRIDGE STREET	PROSPECT STREET		
4/25/2003	6:45:00 AM	Property damage on	2	0	0	Angle	Not reported	Daylight	Clear	CAMBRIDGE STREET	PROSPECT STREET		
5/19/2003	7:00:00 AM	Not Reported	2	0	0	Rear-end	Dry	Daylight	Clear/Clear	/WIFE BROOK- CONCORD AVE ROTARY I	PROSPECT STREET / CAMBRIDGE STREET	HAROLD PLACE	HAROLD PLACE / BROADWAY
6/19/2003	11:02:00 PM	Non-fatal injury	3	1	0	Angle	Dry	Dark - lighte	Clear			328 PROSPECT STREET	328 PROSPECT STREET
2/4/2004	9:00:00 AM	Property damage on	2	0	0	Unknown	Dry	Daylight	Clear	CAMBRIDGE STREET	PROSPECT STREET		
4/13/2004	12:30:00 PM	Property damage on	2	0	0	Head-on	Wet	Daylight	Rain/Cloudy	PROSPECT STREET	CAMBRIDGE STREET		
9/15/2004	7:22:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	CAMBRIDGE STREET	PROSPECT STREET		
9/28/2004	10:30:00 AM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Rain/Cloudy	PROSPECT STREET	CAMBRIDGE STREET		
10/28/2004	10:24:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	CAMBRIDGE STREET	PROSPECT STREET		
11/26/2004	1:27:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	PROSPECT STREET	CAMBRIDGE STREET		
12/5/2004	6:44:00 PM	Not Reported	2	0	0	Angle	Dry	Dark - lighte	Clear	CAMBRIDGE STREET	PROSPECT STREET		
1/27/2005	3:30:00 PM	Not Reported	2	0	0	Sideswipe, same direction	Wet	Daylight	Clear/Snow				1232 CAMBRIDGE STREET
2/22/2005	5:27:00 PM	Unknown	2	0	0	Rear-end	Wet	Dawn	Clear/Other	CAMBRIDGE STREET	PROSPECT STREET		
4/3/2005	12:15:00 PM	Non-fatal injury	2	2	0	Rear-end	Dry	Daylight	Clear	PROSPECT STREET	CAMBRIDGE STREET		
4/7/2005	3:45:00 PM	Non-fatal injury	1	1	0	Sideswipe, same direction	Dry	Daylight	Cloudy	PROSPECT STREET	CAMBRIDGE STREET		
4/11/2005	11:30:00 AM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear	PROSPECT STREET	CAMBRIDGE STREET		
7/20/2005	8:15:00 AM	Not Reported	2	0	0	Not reported	Dry	Daylight	Clear	CAMBRIDGE STREET Rte 1	PROSPECT STREET		
7/22/2005	5:45:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Clear	CAMBRIDGE STREET	PROSPECT STREET		
9/6/2005	1:15:00 PM	Property damage on	1	0	0	Angle	Dry	Daylight	Clear	PROSPECT STREET	CAMBRIDGE STREET		

CAMBRIDGE	1/1/2003	12/31/2005	Intersection: Prospect St @ Hampshire St										
Crash_Date	Crash_Time	Crash_Type	Total_Vehicle	Non-Fatal Injuries	Fatal Injuries	Collision_manner	Road_Surfac	Lighting	Weather	Street	Intersection	Address/Landmark	Feet_From
1/15/2003	5:45:00 PM	Property damage on	1	0	0	Unknown	Dry	Dark - lighte	Clear	PROSPECT STREET	HAMPSHIRE STREET		
1/22/2003	2:15:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	PROSPECT STREET	HAMPSHIRE STREET		
2/8/2003	2:45:00 AM	Property damage on	2	0	0	Rear-end	Snow	Dark - lighte	ar/Blowing sand, sr	PROSPECT STREET	HAMPSHIRE STREET		
3/16/2003	9:00:00 PM	Property damage on	2	0	0	Not reported	Not reported	Not reported	Not Reported			PROSPECT STREET	PROSPECT STREET / HAMPSHIRE STREET
4/14/2003	11:00:00 AM	Property damage on	2	0	0	Not reported	Dry	Daylight	Clear			PROSPECT STREET (KENTUCKY FRIED C	PROSPECT STREET / HAMPSHIRE STREET
4/25/2003	7:57:00 AM	Non-fatal injury	2	2	0	Angle	Dry	Daylight	Clear	HAMPSHIRE STREET	PROSPECT STREET		
4/28/2003	7:30:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	Dry	Daylight	Clear			PROSPECT STREET (KFC)	PROSPECT STREET / HAMPSHIRE STREET
6/12/2003	5:34:00 PM	Not Reported	2	0	0	Angle	Dry	Daylight	Cloudy	HAMPSHIRE STREET	PROSPECT STREET		
6/16/2003	5:25:00 AM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear/Rain	PROSPECT STREET	HAMPSHIRE STREET		
7/7/2003	2:50:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear/Clear	PROSPECT STREET	HAMPSHIRE STREET		
7/18/2003	11:10:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	PROSPECT STREET	HAMPSHIRE STREET		
7/23/2003	8:41:00 AM	Not Reported	2	0	0	Rear-end	Wet	Daylight	Cloudy/Cloudy	PROSPECT STREET	HAMPSHIRE STREET		
8/1/2003	5:50:00 PM	Property damage on	2	0	0	Angle	Wet	Daylight	Rain	HAMPSHIRE STREET	PROSPECT STREET		
11/5/2003	4:45:00 PM	Property damage on	2	0	0	Rear-end	Wet	Dark - lighte	Rain			HAMPSHIRE STREET (HESS STATIC	HAMPSHIRE STREET / PROSPECT STREET
1/20/2004	4:20:00 PM	Property damage on	2	0	0	Not reported	Not reported	Not reported	Not Reported	PROSPECT STREET	HAMPSHIRE STREET		
2/16/2004	3:37:00 PM	Non-fatal injury	2	1	0	Angle	Dry	Daylight	Clear	HAMPSHIRE STREET	PROSPECT STREET		
2/19/2004	12:05:00 PM	Property damage on	2	0	0	Rear-end	Dry	Daylight	Clear	PROSPECT STREET	HAMPSHIRE STREET		
6/19/2004	10:35:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	PROSPECT STREET	HAMPSHIRE STREET		
6/19/2004	12:15:00 PM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	HAMPSHIRE STREET	PROSPECT STREET		
6/24/2004	4:30:00 PM	Property damage on	2	0	0	Angle	Dry	Daylight	Clear/Clear	PROSPECT STREET	HAMPSHIRE STREET		
8/7/2004	10:56:00 AM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Cloudy			PROSPECT STREET Rte 16 N	OSPECT STREET Rte 16 N / HAMPSHIRE COURT Rte 16
8/26/2004	12:01:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Clear	HAMPSHIRE STREET	PROSPECT STREET		
10/20/2004	5:40:00 PM	Property damage on	2	0	0	Unknown	Dry	Daylight	Cloudy	HAMPSHIRE STREET	PROSPECT STREET		
10/25/2004	11:50:00 AM	Property damage on	2	0	0	Sideswipe, same direction	Dry	Daylight	Cloudy	HAMPSHIRE STREET	PROSPECT STREET		
10/28/2004	12:06:00 AM	Non-fatal injury	1	1	0	Angle	Dry	Dark - lighte	Clear	HAMPSHIRE STREET	PROSPECT STREET		
11/26/2004	3:15:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Daylight	Clear	PROSPECT STREET	HAMPSHIRE STREET		
1/6/2005	3:10:00 AM	Property damage on	2	0	0	Rear-end	Snow	Dark - lighte	Snow/Snow	PROSPECT STREET	HAMPSHIRE STREET		
1/8/2005	5:20:00 PM	Unknown	2	0	0	Not reported	Wet	Dark - lighte	Rain	PROSPECT STREET	HAMPSHIRE STREET		
4/2/2005	6:50:00 PM	Non-fatal injury	2	1	0	Rear-end	Dry	Dark - lighte	Cloudy/Cloudy			40 feet W from Intersection HAMPSHIRE STREET / PROSPECT STREET	
11/6/2005	12:30:00 PM	Property damage on	2	0	0	Rear-end	Wet	Daylight	Cloudy				HAMPSHIRE STREET / PROSPECT STREET
12/2/2005	6:00:00 PM	Property damage on	1	0	0	Single vehicle crash	Dry	Dark - lighte	Cloudy	HAMPSHIRE STREET	PROSPECT STREET		

MassHighway Crash Report for MEDFORD in the year 2006

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2014581	MEDFORD	01-Jan-2006	11:09 AM	Non-fatal injury	2	2	0	Angle	V1:Northbound / V2:Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Cloudy/Cloudy	Rte 16 W / MAIN STREET					
2100830	MEDFORD	06-Jan-2006	8:35 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Northbound / V2:Eastbound	V1: Not reported / V2: Not reported	Not reported	Daylight	Cloudy		MAIN STREET Rte 16 / Rte 16				
2083297	MEDFORD	11-Jan-2006	10:30 AM	Not Reported	2	0	0	Not reported	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	Rte 60 E / SALEM STREET					
2014489	MEDFORD	12-Jan-2006	2:25 PM	Non-fatal injury	2	2	0	Angle	V1:Southbound / V2:Westbound	V1: Collision with other movable object / V2: Collision with other movable object	Dry	Daylight	Clear/Clear	Rte 16 W / MAIN STREET					
2010063	MEDFORD	18-Jan-2006	7:59 PM	Non-fatal injury	2	1	0	Rear-end	V1:Northbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Cloudy	MAIN STREET / MYSTIC AVENUE					
2006162	MEDFORD	23-Jan-2006	8:57 AM	Not Reported	2	0	0	Rear-end	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Snow	Daylight	Snow/Sleet, hail (freezing rain or drizzle)	BOSTON AVENUE / COLLEGE AVENUE					
2003955	MEDFORD	23-Jan-2006	11:31 AM	Not Reported	1	0	0	Single vehicle crash	V1:Not reported	V1: Unknown	Snow	Daylight	Snow/Sleet, hail (freezing rain or drizzle)	HIGH STREET / BOSTON AVENUE					
2057538	MEDFORD (WEST MEDFORD)	25-Jan-2006	5:00 PM	Unknown	2	0	0	Not reported	V1:Eastbound / V2:Northbound	V1: Not reported / V2: Not reported	Wet	Dusk	Cloudy	HIGH STREET Rte 60 / BOSTON AVENUE					
2078800	MEDFORD	01-Feb-2006	6:00 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Westbound / V2:Westbound	V1: Not reported / V2: Not reported	Wet	Dark - lighted roadway	Clear		Rte 16 E / Rte 38				
2006166	MEDFORD	02-Feb-2006	5:30 PM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dusk	Clear		CLIPPERSHIP DRIVE / RIVERSIDE AVENUE				
2084498	MEDFORD	03-Feb-2006	6:45 AM	Not Reported	2	0	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Wet	Dark - lighted roadway	Rain	MAIN STREET Rte 93 S / SALEM STREET Rte 60					
2091692	MEDFORD	03-Feb-2006	12:30 PM	Non-fatal injury	2	1	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Wet	Daylight	Rain		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 38				
2004043	MEDFORD	03-Feb-2006	7:00 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Clear/Clear	BOSTON AVENUE / WARNER STREET					
2014218	MEDFORD	08-Feb-2006	8:00 AM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear/Clear	SOUTH STREET / MAIN STREET					
2105709	MEDFORD	12-Feb-2006	9:45 AM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Southbound	V1: Not reported / V2: Not reported	Snow	Daylight	Snow	RIVERSIDE AVENUE / SALEM STREET / MAIN STREET					
2104436	MEDFORD	14-Feb-2006	10:35 AM	Property damage only (none injured)	2	0	0	Single vehicle crash	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	SOUTH STREET / MAIN STREET					
2004313	MEDFORD	14-Feb-2006	5:49 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Southbound	V1: Collision with pedestrian	Wet	Dark - lighted roadway	Clear		379 MAIN STREET / HARVARD STREET				P2:Pedestrian
2007559	MEDFORD	14-Feb-2006	6:45 PM	Non-fatal injury	2	1	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Clear	MAIN STREET / SOUTH STREET					
2013992	MEDFORD	15-Feb-2006	3:05 PM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear/Clear	MAIN STREET / SOUTH STREET					
2146467	MEDFORD	27-Feb-2006	2:40 AM	Not Reported	2	0	0	Sideswipe, same direction	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		HIGHLAND AVENUE / MEDFORD STREET				
2050680	MEDFORD	27-Feb-2006	2:12 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Eastbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	Rte 16 / WINTHROP STREET					
2078276	MEDFORD	03-Mar-2006	2:45 PM	Non-fatal injury	2	1	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		30 feet W from Intersection MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 38 W				
2013872	MEDFORD	09-Mar-2006	1:15 AM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Eastbound	V1: Collision with other fixed ob	Dry	Dark - lighted roadway	Clear/Clear	Rte 16 / AUBURN STREET					
2095360	MEDFORD	09-Mar-2006	3:30 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Westbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		BOSTON AVENUE Rte 16 / NORTH STREET Rte 16				

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2082027	MEDFORD	10-Mar-2006	2:45 AM	Property damage only (none injured)	4	0	0	Head-on	V1:Eastbound / V2:Eastbound / V3:Eastbound / V4:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET				
2136671	MEDFORD	14-Mar-2006	7:21 AM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Northbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	Rte 38	720 WINTHROP STREET				
2050749	MEDFORD	15-Mar-2006	1:54 PM	Property damage only (none injured)	2	0	0	Angle	V1:Northbound / V2:Southbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	Rte 60 S / SALEM STREET					
2029636	MEDFORD	16-Mar-2006	7:30 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Not reported / V2:Not reported	V1: Collision with motor vehicle	Dry	Daylight	Clear	MAIN STREET / GEORGE STREET					
2072653	MEDFORD	17-Mar-2006	7:00 AM	Property damage only (none injured)	2	0	0	Unknown	V1:Southbound / V2:Not reported	V1: Not reported / V2: Not repo	Dry	Dusk	Clear	MAIN STREET / SOUTH STREET					
2029641	MEDFORD	18-Mar-2006	5:13 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Not reported / V2:Not reported	V1: Collision with motor vehicle	Dry	Daylight	Clear	HARVARD STREET / MAIN STREET					
2029725	MEDFORD	22-Mar-2006	8:59 AM	Not Reported	2	0	0	Angle	V1:Eastbound / V2:Southbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	MAIN STREET / GEORGE STREET					
2030316	MEDFORD	08-Apr-2006	5:10 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Southbound	V1: Collision with light pole or c	Dry	Daylight	Clear	MAIN STREET / MYSTIC AVENUE					
2151969	MEDFORD	09-Apr-2006	8:00 AM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Dark - lighted road	Clear		MCGRATH HIGHWAY / WASHINGTON STREET				
2111212	MEDFORD	24-Apr-2006	8:05 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not repo	Wet	Daylight	Cloudy	MYSTIC VALLEY PARKWAY / AUBURN STREET / Rte 16					
2140565	MEDFORD	25-Apr-2006	5:30 AM	Non-fatal injury	2	1	0	Not reported	V1:Northbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Dusk	Clear	SOUTH STREET / MAIN STREET					
2049320	MEDFORD	01-May-2006	4:20 PM	Property damage only (none injured)	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with unknown mov	Dry	Daylight	Cloudy/Cloudy	MAIN STREET / MYSTIC AVENUE					
2049328	MEDFORD	01-May-2006	4:30 PM	Property damage only (none injured)	2	0	0	Sideswipe, same directio	V1:Southbound / V2:Northbound	V1: Collision with motor vehicle	Dry	Daylight	Clear	MYSTIC AVENUE / MAIN STREET					
2118552	MEDFORD	04-May-2006	8:00 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	MCGRATH HIGHWAY / MEDFORD STREET					
2049446	MEDFORD	07-May-2006	2:30 PM	Not Reported	2	0	0	Rear-end	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Dry	Daylight	Clear	HARVARD AVENUE / BOSTON AVENUE					
2049441	MEDFORD	07-May-2006	6:30 PM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	WARNER STREET / BOSTON AVENUE					
2049659	MEDFORD	09-May-2006	6:30 PM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Wet	Daylight	Rain/Rain	MAIN STREET / MYSTIC AVENUE					
2054018	MEDFORD	13-May-2006	2:08 PM	Non-fatal injury	1	1	0	Not reported	V1:Southbound	V1: Collision with utility pole	Not reported	Not reported	Not Reported		MAIN STREET / GEORGE STREET				
2206610	MEDFORD	16-May-2006	3:40 AM	Non-fatal injury	2	3	0	Sideswipe, same directio	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MAIN STREET Rte 38 / MYSTIC AVENUE				
2144326	MEDFORD	16-May-2006	7:50 AM	Property damage only (none injured)	2	0	0	Single vehicle crash	V1:Northbound / V2:Eastbound	V1: Not reported / V2: Not repo	Wet	Daylight	Cloudy	MAIN STREET / Rte 16					
2054070	MEDFORD	19-May-2006	6:35 PM	Non-fatal injury	1	1	0	Angle	V1:Eastbound	V1: Collision with cyclist (bicycl	Dry	Daylight	Clear	BOSTON AVENUE / WINTHROP STREET					P2:Pedalcyclist (bicycle, tricycle, unicycle, pedal car)
2049788	MEDFORD	21-May-2006	1:25 PM	Not Reported	2	0	0	Angle	V1:Northbound / V2:Northbound	V1: Unknown / V2: Unknown	Dry	Daylight	Cloudy	MAIN STREET / Rte 16 E					
2074197	MEDFORD	03-Jun-2006	5:40 AM	Unknown	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Wet	Daylight	Cloudy/Rain	MAIN STREET / GEORGE STREET					
2073816	MEDFORD	04-Jun-2006	00:00 AM	Non-fatal injury	2	1	0	Angle	V1:Southbound / V2:Southbound	V1: Collision with motor vehicle	Wet	Dark - lighted road	Rain	MAIN STREET / GEORGE STREET					
2125159	MEDFORD	06-Jun-2006	1:00 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Eastbound / V2:Not reported	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC VALLEY PARKWAY Rte 16 / BOSTON AVENUE Rte 28				
2066972	MEDFORD	07-Jun-2006	8:30 AM	Property damage only (none injured)	2	0	0	Sideswipe, same directio	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Wet	Daylight	Rain	SOUTH STREET / MAIN STREET					
2073982	MEDFORD	10-Jun-2006	1:40 AM	Non-fatal injury	2	1	0	Angle	V1:Southbound / V2:Northbound	V1: Collision with motor vehicle	Wet	Dark - lighted road	Rain	WINTHROP STREET / BOSTON AVENUE					
2060661	MEDFORD	10-Jun-2006	1:45 PM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Southbound	V1: Collision with motor vehicle	Wet	Daylight	Rain/Rain	Rte 16 / MAIN STREET					
2081210	MEDFORD	12-Jun-2006	6:30 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Southbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC AVENUE Rte 38 / MAIN STREET				
2127701	MEDFORD	16-Jun-2006	6:25 PM	Non-fatal injury	2	1	0	Not reported	V1:Southbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	MAIN STREET Rte 38 S / Rte 16 W					
2082383	MEDFORD	20-Jun-2006	6:20 PM	Not Reported	1	0	0	Single vehicle crash	V1:Westbound	V1: Not reported	Dry	Dusk	Clear	VALLEY PARK STREET / MAIN STREET					

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2066704	MEDFORD	24-Jun-2006	1:00 PM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not repo	Wet	Daylight	Rain	Rte 60 / SAGAMORE AVENUE / BOSTON AVENUE	562 HIGH STREET				
2110644	MEDFORD	25-Jun-2006	9:31 AM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Westbound	V1: Not reported / V2: Not repo	Wet	Dark - roadway no	Snow	SALEM STREET Rte 60 / MAIN STREET / RIVERSIDE AVENUE					
2073922	MEDFORD	25-Jun-2006	1:05 PM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Wet	Daylight	Cloudy/Rain	CLIPPERSHIP DRIVE / MAIN STREET					
2060907	MEDFORD	26-Jun-2006	7:30 AM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Westbound	V1: Collision with motor vehicle	Wet	Daylight	Rain	AUBURN STREET Rte 16 E					
2107606	MEDFORD	26-Jun-2006	10:30 AM	Not Reported	2	0	0	Sideswipe, same directio	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	Rte 16 E / AUBURN STREET					
2085145	MEDFORD	05-Jul-2006	10:17 AM	Property damage only (none injured)	6	0	0	Angle	V1:Southbound / V2:Not reporte	V1: Collision with motor vehicle	Dry	Daylight	Clear		MAIN STREET / HIGH STREET			CITIZENS PKLOT	
2129776	MEDFORD	06-Jul-2006	9:00 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Wet	Daylight	Rain	FOREST STREET / SALEM STREET / HIGH STREET					
2128611	MEDFORD	06-Jul-2006	12:10 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	WINTHROP STREET / MYSTIC VALLEY PARKWAY					
2065905	MEDFORD	12-Jul-2006	7:30 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 38				
2074213	MEDFORD	13-Jul-2006	5:00 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	MAIN STREET / Rte 16 W					
2073738	MEDFORD	14-Jul-2006	1:50 PM	Not Reported	2	0	0	Not reported	V1:Westbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	HIGH STREET / AUBURN STREET					
2115048	MEDFORD	15-Jul-2006	2:15 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Westbound	V1: Collision with tree	Dry	Dark - lighted roac	Clear/Clear		WINTHROP STREET Rte 16 W / Rte 38			SAINT JOSEPHS SCHOOL	
2074254	MEDFORD	16-Jul-2006	2:25 PM	Property damage only (none injured)	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	MAIN STREET / GEORGE STREET					
2115059	MEDFORD	17-Jul-2006	10:50 AM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Westbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	Rte 16 W / MAIN STREET					
2115097	MEDFORD	21-Jul-2006	7:00 PM	Property damage only (none injured)	3	0	0	Rear-end	V1:Westbound / V2:Westbound /	V1: Collision with motor vehicle	Wet	Daylight	Cloudy/Cloudy		CONNECTOR MYSTIC VALLEY PARKWAY Rte 16 W / MAIN STREET			OVER MAIN ST	
2074265	MEDFORD	22-Jul-2006	12:27 PM	Property damage only (none injured)	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Wet	Daylight	Cloudy	MAIN STREET / MYSTIC AVENUE	137 MAIN STREET				
2074269	MEDFORD	22-Jul-2006	8:40 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Southbound / V2:Southbound	V1: Collision with motor vehicle	Not reported	Not reported	Not Reported	MEDFORD STREET / BROADWAY STREET / DEXTER STREET					
2115139	MEDFORD	27-Jul-2006	11:04 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle	Dry	Dark - lighted roac	Cloudy/Cloudy	Rte 16 E / WINTHROP STREET					
2133173	MEDFORD	03-Aug-2006	2:30 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 38				
2099901	MEDFORD	04-Aug-2006	11:07 AM	Property damage only (none injured)	4	0	0	Rear-end	V1:Eastbound / V2:Eastbound / V	V1: Collision with motor vehicle	Wet	Daylight	Rain/Cloudy		MYSTIC VALLEY PARKWAY Rte 16 E / WINTHROP STREET				
2084970	MEDFORD	08-Aug-2006	9:45 PM	Not Reported	1	0	0	Rear-end	V1:Not reported	V1: Collision with cyclist (bicycl	Dry	Dark - lighted roac	Clear/Clear		HARVARD AVENUE / BOSTON AVENUE				P2:Pedestrian
2144314	MEDFORD	17-Aug-2006	10:00 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 38				
2133214	MEDFORD	17-Aug-2006	5:15 PM	Property damage only (none injured)	3	0	0	Rear-end	V1:Westbound / V2:Westbound /	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET			WINTHROP ST	
2085078	MEDFORD	22-Aug-2006	7:37 AM	Not Reported	1	0	0	Unknown	V1:Not reported	V1: Collision with pedestrian	Dry	Dusk	Clear/Clear	SALEM STREET Rte 60 W / FOREST STREET					P2:Pedestrian
2165529	MEDFORD	23-Aug-2006	11:20 AM	Property damage only (none injured)	2	0	0	Unknown	V1:Northbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	MAIN STREET / Rte 16					
2085114	MEDFORD	25-Aug-2006	6:00 AM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Wet	Daylight	Rain/Rain	MAIN STREET / MYSTIC AVENUE Rte 38 S					
2197272	MEDFORD	28-Aug-2006	9:35 AM	Property damage only (none injured)	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Wet	Dark - lighted roac	Rain		Rte 16 / BOSTON AVENUE				
2086446	MEDFORD	28-Aug-2006	12:55 PM	Not Reported	2	0	0	Angle	V1:Eastbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	BOSTON AVENUE / NORTH STREET					

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2086450	MEDFORD	29-Aug-2006	1:10 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Westbound / V2:Westbound	V1: Collision with motor vehicle	Not reported	Not reported	Not Reported		100 feet E from Intersection 16 SALEM STREET Rte 60 W / FOREST STREET				
2132643	MEDFORD	01-Sep-2006	1:00 PM	Non-fatal injury	4	2	0	Rear-end	V1:Eastbound / V2:Eastbound / V	V1: Not reported / V2: Not repo	Dry	Daylight	Clear		MYSTIC VALLEY PARKWAY Rte 16 / WINTHROP STREET Rte 16				
2108603	MEDFORD	09-Sep-2006	7:21 PM	Non-fatal injury	2	1	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Wet	Dark - lighted roac	Clear/Clear	BOSTON AVENUE / HARVARD STREET					
2108596	MEDFORD	10-Sep-2006	5:25 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Westbound / V2:Eastbound	V1: Collision with motor vehicle	Dry	Daylight	Clear	MAIN STREET / GEORGE STREET					
2230808	MEDFORD	13-Sep-2006	6:15 AM	Not Reported	2	0	0	Rear-end	V1:Eastbound / V2:Not reported	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	Rte 16 / MAIN STREET					
2197309	MEDFORD	14-Sep-2006	3:00 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Westbound	V1: Collision with guardrail	Dry	Dark - lighted roac	Clear/Cloudy	Rte 16 W / AUBURN STREET					
2212437	MEDFORD	14-Sep-2006	12:15 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Eastbound / V2:Not reported	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	SALEM STREET Rte 60 E / Rte 38					
2108533	MEDFORD	16-Sep-2006	5:00 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Not reported	V1: Collision with utility pole	Dry	Dark - lighted roac	Clear		555 HIGH STREET / SAGAMORE AVENUE				
2108501	MEDFORD	21-Sep-2006	4:30 PM	Property damage only (none injured)	1	0	0	Unknown	V1:Southbound	V1: Collision with pedestrian	Dry	Daylight	Clear	RIVER STREET / SALEM STREET					P2:Pedestrian
2108491	MEDFORD	27-Sep-2006	6:57 PM	Non-fatal injury	1	1	0	Unknown	V1:Westbound	V1: Collision with pedestrian	Dry	Dark - lighted roac	Clear		60 feet E from Intersection SALEM STREET / MAIN STREET				P2:Pedestrian
2197385	MEDFORD	28-Sep-2006	9:03 AM	Property damage only (none injured)	3	0	0	Rear-end	V1:Eastbound / V2:Eastbound / V	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	Rte 16 E / WINTHROP STREET					
2108473	MEDFORD	08-Oct-2006	7:20 AM	Non-fatal injury	2	2	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Dry	Daylight	Clear	BOSTON AVENUE / HARVARD STREET / WARNER STREET					
2216012	MEDFORD	10-Oct-2006	5:45 AM	Property damage only (none injured)	2	0	0	Head-on	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Dry	Dawn	Clear	BROADWAY STREET / MEDFORD STREET					
2197406	MEDFORD	10-Oct-2006	7:17 AM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Eastbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	Rte 16 / BOSTON AVENUE					
2115587	MEDFORD	15-Oct-2006	4:00 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Westbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	Rte 16 W / MAIN STREET					
2108768	MEDFORD	15-Oct-2006	9:42 PM	Non-fatal injury	2	4	0	Head-on	V1:Westbound / V2:Eastbound	V1: Collision with motor vehicle	Dry	Dark - lighted roac	Clear/Clear	BOSTON AVENUE / HARVARD AVENUE					
2235485	MEDFORD	21-Oct-2006	10:00 AM	Property damage only (none injured)	2	0	0	Sideswipe, opposite dire	V1:Northbound / V2:Southbound	V1: Not reported / V2: Not repo	Dry	Dark - roadway no	Clear	Rte 16 / BOSTON AVENUE					
2115678	MEDFORD	22-Oct-2006	9:21 AM	Non-fatal injury	2	4	0	Angle	V1:Northbound / V2:Westbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear	MYSTIC VALLEY PARKWAY Rte 16 W / AUBURN STREET					
2108432	MEDFORD	24-Oct-2006	11:00 AM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Unknown / V2: Not reported	Dry	Daylight	Clear/Clear	BOSTON AVENUE / HARVARD STREET					
2142439	MEDFORD	29-Oct-2006	3:10 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Not reported	V1: Collision with motor vehicle	Dry	Daylight	Clear	SOUTH STREET / MAIN STREET					
2142473	MEDFORD	31-Oct-2006	4:30 PM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Collision with motor vehicle	Dry	Dusk	Clear/Clear	BOSTON AVENUE / COLLEGE AVENUE					
2142484	MEDFORD	01-Nov-2006	2:30 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Not reported	V1: Collision with motor vehicle	Wet	Dark - lighted roac	Rain	MAIN STREET / MYSTIC AVENUE					
2142494	MEDFORD	02-Nov-2006	1:00 PM	Not Reported	2	0	0	Angle	V1:Eastbound / V2:Southbound	V1: Not reported / V2: Not repo	Wet	Daylight	Cloudy	MAIN STREET / SOUTH STREET					
2173095	MEDFORD	04-Nov-2006	9:30 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Southbound / V2:Westbound	V1: Not reported / V2: Not repo	Dry	Daylight	Clear	MAIN STREET / Rte 16 W					
2130519	MEDFORD	07-Nov-2006	12:15 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear		MAIN STREET Rte 16 E				
2231613	MEDFORD	14-Nov-2006	3:30 AM	Non-fatal injury	2	1	0	Not reported	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Dry	Dusk	Clear	Rte 16 / WINTHROP STREET					
2130571	MEDFORD	14-Nov-2006	9:30 PM	Property damage only (none injured)	3	0	0	Rear-end	V1:Eastbound / V2:Eastbound / V	V1: Collision with motor vehicle	Wet	Dark - lighted roac	Clear/Cloudy		WINTHROP STREET Rte 16 E				
2130632	MEDFORD	17-Nov-2006	2:35 PM	Property damage only (none injured)	3	0	0	Rear-end	V1:Eastbound / V2:Eastbound / V	V1: Collision with motor vehicle	Dry	Daylight	Clear/Clear		MYSTIC VALLEY PARKWAY Rte 16 E / WINTHROP STREET				

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2141854	MEDFORD	17-Nov-2006	4:30 PM	Property damage only (none injured)	2	0	0	Angle	V1:Northbound / V2:Northbound	V1: Collision with motor vehicle	Dry	Dusk	Clear		50 feet N from Intersection 235 WINTHROP STREET Rte 38 N / MYSTIC VALLEY PARKWAY Rte 16 N			REGAL CONDOMINIUMS	
2142245	MEDFORD	29-Nov-2006	11:53 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Southbound	V1: Collision with motor vehicle	Wet	Dark - lighted roac	Cloudy		30 feet S from Intersection 21 MAIN STREET / HIGH STREET Rte 60 S				
2238539	MEDFORD	06-Dec-2006	9:00 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not repo	Wet	Daylight	Cloudy	MAIN STREET / SOUTH STREET					
2197530	MEDFORD	09-Dec-2006	1:00 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle	Dry	Daylight	Clear		BOSTON AVENUE / Rte 16				
2210777	MEDFORD	15-Dec-2006	1:30 AM	Property damage only (none injured)	2	0	0	Angle	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Wet	Daylight	Clear	SALEM STREET / MAIN STREET					
2202607	MEDFORD	15-Dec-2006	8:00 AM	Non-fatal injury	2	2	0	Not reported	V1:Not reported / V2:Not reporte	V1: Not reported / V2: Not repo	Not reported	Not reported	Not Reported	HARVARD STREET / BOSTON AVENUE					
2173877	MEDFORD	26-Dec-2006	5:35 AM	Non-fatal injury	2	1	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not repo	Dry	Dark - lighted roac	Clear	Rte 16 E / WINTHROP STREET					
2146599	MEDFORD	31-Dec-2006	9:10 PM	Property damage only (none injured)	2	0	0	Sideswipe, same directio	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle	Ice	Dark - lighted roac	Clear/Clear		CONNECTOR MYSTIC VALLEY PARKWAY Rte 16 E / MAIN STREET				

MassHighway Crash Report for SOMERVILLE in the year 2006

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
1995604	SOMERVILLE	03-Jan-2006	2:20 PM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Cloudy/Rain	LOWELL STREET / MEDFORD STREET					
2061869	SOMERVILLE	05-Jan-2006	8:15 AM	Property damage only (none injured)	2	0	0	Angle	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Not reported	Daylight	Cloudy		COLLEGE AVENUE / POWDER HOUSE SQUARE			POWDERHOUSE SQ	
2014525	SOMERVILLE	08-Jan-2006	2:05 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Southbound	V1: Collision with guardrail	Wet	Daylight	Cloudy/Cloudy		MCGRATH HIGHWAY Rte 28 S / WASHINGTON STREET				
1995663	SOMERVILLE	08-Jan-2006	10:48 PM	Not Reported	1	0	0	Single vehicle crash	V1:Southbound	V1: Not reported	Dry	Dark - lighted roadway	Cloudy	MEDFORD STREET / SOMERVILLE AVENUE					
2087915	SOMERVILLE	09-Jan-2006	9:14 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Not reported	V1: Not reported / V2: Not reported	Wet	Daylight	Cloudy	Rte 16 / MYSTIC VALLEY-ALEWIFE BROOK ROTARY					
2095672	SOMERVILLE	14-Jan-2006	12:15 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Eastbound	V1: Not reported	Wet	Dark - lighted roadway	Rain	MCGRATH HIGHWAY Rte 28 / WASHINGTON STREET / POPLAR STREET					
1995803	SOMERVILLE	14-Jan-2006	6:43 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Westbound	V1: Collision with median barrier	Wet	Dark - lighted roadway	Rain	SOMERVILLE AVENUE / PROSPECT STREET					
1994966	SOMERVILLE	29-Jan-2006	1:17 PM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Cloudy	BROADWAY / WARNER STREET / POWDER HOUSE SQUARE					
1994987	SOMERVILLE	31-Jan-2006	6:00 PM	Not Reported	2	0	0	Angle	V1:Eastbound / V2:Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Rain/Sleet, hail (freezing rain or drizzle)	MEDFORD STREET / BROADWAY					
2084011	SOMERVILLE	06-Feb-2006	1:45 AM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Not reported	V1: Not reported	Dry	Daylight	Clear		COLLEGE AVENUE / BROADWAY				
2101647	SOMERVILLE	08-Feb-2006	2:10 PM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY Rte 16 / BOSTON AVENUE					
2121464	SOMERVILLE	09-Feb-2006	12:45 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Not reported	Not reported	Not Reported		50 feet W from Intersection 45 WEBSTER AVENUE / PROSPECT STREET				
2004677	SOMERVILLE	15-Feb-2006	6:45 AM	Not Reported	3	0	0	Angle	V1:Northbound / V2:Eastbound / V3:Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Not reported	Wet	Daylight	Clear/Clear	BEACON STREET / WASHINGTON STREET					
2062531	SOMERVILLE	16-Feb-2006	9:20 AM	Non-fatal injury	2	1	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	UNION SQUARE					
2004674	SOMERVILLE	17-Feb-2006	4:58 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Clear	MEDFORD STREET / WALNUT STREET					
2058223	SOMERVILLE	17-Feb-2006	8:05 AM	Property damage only (none injured)	2	0	0	Sideswipe, opposite direction	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Cloudy	CENTRAL STREET / MEDFORD STREET					
2104358	SOMERVILLE	18-Feb-2006	6:30 AM	Non-fatal injury	2	2	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MCGRATH HIGHWAY Rte 28 / SOMERVILLE AVENUE / Rte 93					
2074769	SOMERVILLE	19-Feb-2006	10:15 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Westbound	V1: Not reported	Dry	Daylight	Clear		MYSTIC VALLEY-ALEWIFE BROOK ROTARY Rte 16 / ALEWIFE BROOK PARKWAY				
2152512	SOMERVILLE	01-Mar-2006	8:10 AM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		BROADWAY Rte 16 / POWDER HOUSE BOULEVARD Rte 16				
2078421	SOMERVILLE	01-Mar-2006	1:05 PM	Non-fatal injury	2	1	0	Rear-end	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		COLLEGE AVENUE / BROADWAY				
2019436	SOMERVILLE	05-Mar-2006	5:30 AM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reported	V1: Collision with parked motor vehicle / V2: Not reported	Dry	Dawn	Clear/Unknown		BEACON STREET / WASHINGTON STREET			WASHINGTON ST	
2145680	SOMERVILLE	09-Mar-2006	1:00 PM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Daylight	Cloudy	PROSPECT STREET / SOMERVILLE AVENUE					
2088981	SOMERVILLE	10-Mar-2006	9:00 PM	Unknown	2	0	0	Rear-end	V1:Westbound / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	WASHINGTON STREET / BEACON STREET					
2121795	SOMERVILLE	18-Mar-2006	12:10 PM	Non-fatal injury	2	1	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	BROADWAY / MEDFORD STREET					
2019692	SOMERVILLE	19-Mar-2006	8:41 PM	Property damage only (none injured)	3	0	0	Rear-end	V1:Northbound / V2:Northbound / V3:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	Dry	Dark - lighted roadway	Clear/Clear	MEDFORD STREET / SOMERVILLE AVENUE					

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2100716	SOMERVILLE	20-Mar-2006	00:00 AM	Not Reported	1	0	0	Unknown	V1:Not reported	V1: Not reported	Not reported	Not reported	Not Reported	CENTRAL ROAD / MEDFORD STREET					
2091269	SOMERVILLE	21-Mar-2006	10:15 AM	Non-fatal injury	2	1	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		HIGHLAND AVENUE / CENTRAL STREET					
2013812	SOMERVILLE	21-Mar-2006	4:00 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Northbound	V1: Collision with motor vehicle in traffic	Dry	Daylight	Clear/Clear		MCGRATH HIGHWAY Rte 28 N / SOMERVILLE AVENUE					
2019723	SOMERVILLE	24-Mar-2006	1:10 AM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Not reported	Not Reported	HIGHLAND AVENUE / CENTRAL STREET					
2152669	SOMERVILLE	25-Mar-2006	4:00 AM	Non-fatal injury	2	1	0	Rear-end	V1:Southbound / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dark - roadway not lighted	Clear		HIGHLAND AVENUE / MEDFORD STREET					
2121205	SOMERVILLE	25-Mar-2006	7:00 AM	Unknown	2	0	0	Rear-end	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	SOMERVILLE AVENUE / PROSPECT STREET					
2019780	SOMERVILLE	30-Mar-2006	5:23 PM	Non-fatal injury	3	3	0	Rear-end	V1:Southbound / V2:Southbound / V3:Southbound	V1: Unknown non-collision / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	Dry	Daylight	Clear		100 feet N from Intersection 136 SCHOOL STREET / HIGHLAND AVENUE					
2077370	SOMERVILLE	31-Mar-2006	12:15 PM	Unknown	2	0	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MCGRATH HIGHWAY / SOMERVILLE AVENUE					
2086181	SOMERVILLE	03-Apr-2006	4:00 PM	Non-fatal injury	2	2	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	SCHOOL STREET / HIGHLAND AVENUE					
2032254	SOMERVILLE	07-Apr-2006	7:06 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Southbound	V1: Collision with light pole or other post/support	Wet	Dusk	Rain	WASHINGTON STREET / WEBSTER AVENUE					
2092019	SOMERVILLE	08-Apr-2006	2:15 AM	Not Reported	2	0	0	Angle	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Wet	Dark - lighted roadway	Rain		59 WEBSTER AVENUE / PROSPECT STREET					
2116104	SOMERVILLE	09-Apr-2006	8:00 AM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Dark - lighted roadway	Cloudy/Cloudy	MCGRATH HIGHWAY / WASHINGTON STREET					
2086073	SOMERVILLE	09-Apr-2006	12:50 PM	Not Reported	2	0	0	Sideswipe, same direction	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Not reported	Not reported	Clear	PROSPECT STREET / SOMERVILLE AVENUE					
2032258	SOMERVILLE	13-Apr-2006	11:31 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Westbound	V1: Not reported	Not reported	Not reported	Not Reported	MEDFORD STREET / HIGHLAND AVENUE					
2113981	SOMERVILLE	18-Apr-2006	7:30 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		ALEWIFE BROOK PARKWAY Rte 16 / BOSTON AVENUE Rte 16					
2032236	SOMERVILLE	23-Apr-2006	9:26 PM	Non-fatal injury	2	2	0	Rear-end	V1:Northbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Rain	MEDFORD STREET / SCHOOL STREET					
2100796	SOMERVILLE	25-Apr-2006	11:00 AM	Not Reported	2	0	0	Sideswipe, same direction	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MEDFORD STREET / LOWELL STREET					
2032449	SOMERVILLE	27-Apr-2006	10:30 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Northbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with animal - other	Not reported	Not reported	Not Reported		MCGRATH HIGHWAY Rte 16 / MEDFORD STREET Rte 16					
2147719	SOMERVILLE	30-Apr-2006	6:00 AM	Non-fatal injury	2	3	0	Rear-end	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MEDFORD STREET / WALNUT STREET					
2073863	SOMERVILLE	03-May-2006	7:45 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Wet	Daylight	Cloudy/Rain	MCGRATH HIGHWAY / WASHINGTON STREET					
2044324	SOMERVILLE	05-May-2006	9:04 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Eastbound / V2:Eastbound	V1: Collision with parked motor vehicle / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	HIGHLAND AVENUE / SCHOOL STREET					
2044316	SOMERVILLE	06-May-2006	6:02 PM	Property damage only (none injured)	1	0	0	Head-on	V1:Southbound	V1: Collision with other fixed object (wall, building, tunnel, etc.)	Dry	Daylight	Clear		25 feet S from Intersection HAMLET STREET / HIGHLAND AVENUE					
2148082	SOMERVILLE	08-May-2006	5:05 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Dawn	Clear		MCGRATH HIGHWAY Rte 93 / SOMERVILLE AVENUE Rte 16					
2044254	SOMERVILLE	08-May-2006	3:56 PM	Non-fatal injury	2	1	0	Sideswipe, same direction	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear		60 feet W from Intersection SOMERVILLE AVENUE / WASHINGTON STREET					
2053583	SOMERVILLE	14-May-2006	2:19 AM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Southbound	V1: Other	Wet	Dark - lighted roadway	Clear		MCGRATH HIGHWAY Rte 28 S / SOMERVILLE AVENUE					
2113001	SOMERVILLE	15-May-2006	2:20 PM	Property damage only (none injured)	2	0	0	Angle	V1:Eastbound / V2:Westbound	V1: Not reported / V2: Not reported	Wet	Daylight	Rain	SOMERVILLE AVENUE / PROSPECT STREET					
2045700	SOMERVILLE	15-May-2006	2:24 PM	Non-fatal injury	3	1	0	Rear-end	V1:Northbound / V2:Northbound / V3:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	Wet	Daylight	Rain	COLLEGE AVENUE / POWDER HOUSE ROTARY					

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2044766	SOMERVILLE	16-May-2006	12:48 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Westbound / V2:Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain	SOMERVILLE AVENUE / PROSPECT STREET					
2087704	SOMERVILLE	16-May-2006	2:00 PM	Non-fatal injury	2	1	0	Angle	V1:Westbound / V2:Eastbound	V1: Not reported / V2: Not reported	Wet	Daylight	Cloudy	BOSTON AVENUE / BOSTON AVENUE / MYSTIC VALLEY PARKWAY Rte 16					
2073711	SOMERVILLE	19-May-2006	9:30 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Northbound / V2:Not reported	V1: Not reported / V2: Not reported	Wet	Dark - roadway not lighted	Rain	MEDFORD STREET / HIGHLAND AVENUE					
2044524	SOMERVILLE	28-May-2006	7:03 PM	Property damage only (none injured)	3	0	0	Rear-end	V1:Eastbound / V2:Eastbound / V3:Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	Dry	Daylight	Clear		50 feet W from Intersection 854 BROADWAY / COLLEGE AVENUE				
2060485	SOMERVILLE	30-May-2006	9:04 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Dark - lighted roadway	Clear	Rte 16 / BOSTON AVENUE					
2129013	SOMERVILLE	04-Jun-2006	2:30 AM	Property damage only (none injured)	2	0	0	Single vehicle crash	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Wet	Dark - lighted roadway	Rain	WASHINGTON STREET / MCGRATH HIGHWAY					
2133644	SOMERVILLE	04-Jun-2006	10:45 AM	Not Reported	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Cloudy	WASHINGTON STREET / SOMERVILLE AVENUE / WEBSTER AVENUE					
2063381	SOMERVILLE	06-Jun-2006	12:36 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	MEDFORD STREET / WASHINGTON STREET					
2088544	SOMERVILLE	13-Jun-2006	7:50 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dawn	Clear	MEDFORD STREET / SCHOOL STREET					
2123535	SOMERVILLE	16-Jun-2006	8:30 AM	Not Reported	2	0	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Not reported	Daylight	Clear	WASHINGTON STREET / BEACON STREET					
2127418	SOMERVILLE	17-Jun-2006	2:45 PM	Non-fatal injury	2	2	0	Sideswipe, opposite direction	V1:Northbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	BOSTON AVENUE / MYSTIC VALLEY PARKWAY Rte 16					
2125843	SOMERVILLE	19-Jun-2006	11:40 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Wet	Daylight	Clear	LOWELL STREET / HIGHLAND AVENUE					
2063077	SOMERVILLE	21-Jun-2006	9:36 PM	Non-fatal injury	2	1	0	Angle	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	MEDFORD STREET / WASHINGTON STREET					
2062907	SOMERVILLE	30-Jun-2006	6:18 PM	Property damage only (none injured)	3	0	0	Angle	V1:Northbound / V2:Westbound / V3:Not reported	V1: Collision with parked motor vehicle / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic	Not reported	Daylight	Clear	CENTRAL STREET / MEDFORD STREET					
2074429	SOMERVILLE	04-Jul-2006	2:51 PM	Not Reported	3	0	0	Sideswipe, opposite direction	V1:Not reported / V2:Not reported / V3:Not reported	V1: Not reported / V2: Not reported / V3: Not reported	Wet	Daylight	Rain	CENTRAL STREET / HIGHLAND AVENUE					
2074423	SOMERVILLE	05-Jul-2006	4:11 PM	Non-fatal injury	2	1	0	Rear-end	V1:Westbound / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Not reported	Dry	Daylight	Clear		30 feet E from Intersection 505 MEDFORD STREET / LOWELL STREET				
2102164	SOMERVILLE	07-Jul-2006	2:30 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1:Not reported	V1: Not reported	Dry	Daylight	Clear		61 MEDFORD STREET Rte 28 / MCGRATH HIGHWAY Rte 28				
2104766	SOMERVILLE	10-Jul-2006	9:15 AM	Not Reported	2	0	0	Rear-end	V1:Westbound / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		SOMERVILLE AVENUE / PROSPECT STREET				
2131813	SOMERVILLE	13-Jul-2006	11:15 AM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Westbound	V1: Not reported / V2: Not reported	Wet	Daylight	Rain	WASHINGTON STREET / MCGRATH HIGHWAY					
2074646	SOMERVILLE	14-Jul-2006	8:33 AM	Non-fatal injury	2	1	0	Angle	V1:Eastbound / V2:Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	BROADWAY / COLLEGE AVENUE					
2074553	SOMERVILLE	23-Jul-2006	3:53 PM	Non-fatal injury	2	1	0	Not reported	V1:Not reported / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with moped	Not reported	Not reported	Not Reported		25 feet E from Intersection HIGHLAND AVENUE / LOWELL STREET				
2071520	SOMERVILLE	28-Jul-2006	9:30 AM	Non-fatal injury	2	1	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	HIGHLAND AVENUE / HAMLET STREET					
2118026	SOMERVILLE	02-Aug-2006	12:30 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		WASHINGTON STREET / BEACON STREET				
2083559	SOMERVILLE	19-Aug-2006	10:20 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Not reported	V1: Collision with parked motor vehicle / V2: Collision with motor vehicle in traffic	Dry	Dark - lighted roadway	Clear		257 WASHINGTON STREET / SOMERVILLE AVENUE				

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2083548	SOMERVILLE	20-Aug-2006	6:57 AM	Non-fatal injury	2	4	0	Angle	V1:Northbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain	PROSPECT STREET / UNION SQUARE / SOMERVILLE AVENUE					
2095345	SOMERVILLE	21-Aug-2006	1:55 AM	Non-fatal injury	2	3	0	Angle	V1:Eastbound / V2:Southbound	V1: Collision with other movable object / V2: Collision with other movable object	Dry	Dark - lighted roadway	Cloudy/Cloudy	WASHINGTON STREET / MCGRATH HIGHWAY					
2082897	SOMERVILLE	21-Aug-2006	5:00 PM	Not Reported	2	0	0	Single vehicle crash	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear/Clear		POWDER HOUSE BOULEVARD / COLLEGE AVENUE				
2181940	SOMERVILLE	27-Aug-2006	10:20 AM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Wet	Dark - lighted roadway	Rain	MCGRATH HIGHWAY / SOMERVILLE AVENUE					
2082602	SOMERVILLE	30-Aug-2006	9:15 AM	Property damage only (none injured)	1	0	0	Angle	V1:Northbound	V1: Collision with motor vehicle in traffic	Dry	Daylight	Clear	HIGHLAND AVENUE / CENTRAL STREET					
2096969	SOMERVILLE	03-Sep-2006	5:27 PM	Non-fatal injury	1	1	0	Angle	V1:Northbound	V1: Collision with motor vehicle in traffic	Wet	Daylight	Rain	POWDER HOUSE SQUARE / COLLEGE AVENUE					
2096957	SOMERVILLE	04-Sep-2006	3:44 PM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Westbound / V2:Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Cloudy		50 feet E from Intersection 59 UNION SQUARE / SOMERVILLE AVENUE				
2215048	SOMERVILLE	07-Sep-2006	9:20 AM	Non-fatal injury	2	1	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MEDFORD STREET / HIGHLAND AVENUE					
2165317	SOMERVILLE	08-Sep-2006	4:35 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	WALNUT STREET / MEFORD ST					
2219033	SOMERVILLE	09-Sep-2006	4:30 AM	Non-fatal injury	2	2	0	Rear-end	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MCGRATH HIGHWAY Rte 28 / MEDFORD STREET					
2205629	SOMERVILLE	09-Sep-2006	12:10 PM	Unknown	2	0	0	Not reported	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		SOMERVILLE AVENUE / UNION SQUARE				
2218447	SOMERVILLE	12-Sep-2006	7:00 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MEDFORD STREET / SOMERVILLE AVENUE					
2165285	SOMERVILLE	13-Sep-2006	11:30 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	PROSPECT STREET / SOMERVILLE AVENUE					
2096808	SOMERVILLE	14-Sep-2006	9:30 PM	Not Reported	2	0	0	Rear-end	V1:Northbound / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Not reported	Wet	Dark - lighted roadway	Rain	PROSPECT STREET / SOMERVILLE AVENUE					
2096788	SOMERVILLE	14-Sep-2006	10:53 PM	Not Reported	1	0	0	Single vehicle crash	V1:Not reported	V1: Collision with fence	Wet	Dark - lighted roadway	Rain		255 MEDFORD STREET / MCGRATH HIGHWAY				
2110473	SOMERVILLE	16-Sep-2006	9:20 AM	Non-fatal injury	1	1	0	Angle	V1:Westbound	V1: Collision with cyclist (bicycle, tricycle, unicycle, pedal car)	Dry	Daylight	Clear	HIGHLAND AVENUE / LOWELL STREET					
2165201	SOMERVILLE	20-Sep-2006	10:20 AM	Not Reported	2	0	0	Angle	V1:Westbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	CENTRAL STREET / MEDFORD STREET					
2228612	SOMERVILLE	29-Sep-2006	11:30 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Wet	Daylight	Rain		WEBSTER STREET Rte 16 / PROSPECT STREET Rte 16				
2110557	SOMERVILLE	03-Oct-2006	12:51 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	MEDFORD STREET / SOMERVILLE AVENUE					
2110568	SOMERVILLE	04-Oct-2006	3:52 PM	Non-fatal injury	2	1	0	Rear-end	V1:Not reported / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear		200 feet S from Intersection 28 WASHINGTON STREET / INNER BELT ROAD				
2214387	SOMERVILLE	09-Oct-2006	12:10 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	WASHINGTON STREET / Rte 28					
2110514	SOMERVILLE	11-Oct-2006	7:00 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Southbound	V1: Not reported	Wet	Dark - lighted roadway	Rain	CENTRAL ROAD Rte 93 E / HIGHLAND AVENUE					P2:Pedestrian
2211889	SOMERVILLE	12-Oct-2006	5:15 AM	Property damage only (none injured)	2	0	0	Angle	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MYSTIC VALLEY PARKWAY / ALEWFE BROOK PARKWAY					
2204362	SOMERVILLE	16-Oct-2006	10:30 AM	Non-fatal injury	2	1	0	Sideswipe, same direction	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		UNION SQUARE / WASHINGTON STREET				
2205353	SOMERVILLE	17-Oct-2006	3:00 AM	Not Reported	2	0	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear		SCHOOL STREET Rte 28 / MEDFORD STREET				
2204418	SOMERVILLE	19-Oct-2006	11:00 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	WASHINGTON STREET / MCGRATH HIGHWAY					
2136507	SOMERVILLE	21-Oct-2006	11:15 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Unknown	Daylight	Clear		MEDFORD STREET / SOMERVILLE AVENUE				

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
2110654	SOMERVILLE	21-Oct-2006	10:52 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Eastbound	V1: Collision with pedestrian	Not reported	Dark - lighted roadway	Clear		30 feet E from Intersection WASHINGTON STREET / WEBSTER AVENUE				P2:Pedestrian
2178300	SOMERVILLE	28-Oct-2006	5:00 AM	Property damage only (none injured)	2	0	0	Angle	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Wet	Dusk	Rain	MCGRATH HIGHWAY / MEDFORD STREET					
2124083	SOMERVILLE	05-Nov-2006	1:02 PM	Non-fatal injury	1	1	0	Single vehicle crash	V1:Northbound	V1: Collision with pedestrian	Dry	Daylight	Clear/Clear	PROSPECT STREET / WEBSTER AVENUE					P2:Pedestrian
2122966	SOMERVILLE	10-Nov-2006	10:15 AM	Non-fatal injury	1	1	0	Angle	V1:Southbound	V1: Collision with cyclist (bicycle, tricycle, unicycle, pedal car)	Dry	Daylight	Cloudy	MEDFORD STREET / CENTRAL STREET					P2:Pedalcyclist (bicycle, tricycle, unicycle, pedal car)
2123017	SOMERVILLE	13-Nov-2006	9:52 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Westbound / V2:Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain	WASHINGTON STREET / INNER BELT ROAD					
2122949	SOMERVILLE	16-Nov-2006	8:28 AM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Cloudy	BROADWAY / WARNER STREET					
2176601	SOMERVILLE	19-Nov-2006	3:20 AM	Non-fatal injury	2	1	0	Angle	V1:Northbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Daylight	Cloudy	SOMERVILLE AVENUE / PROSPECT STREET					
2123566	SOMERVILLE	19-Nov-2006	7:50 AM	Property damage only (none injured)	2	0	0	Angle	V1:Northbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear/Clear		50 feet S from Intersection PROSPECT STREET / SOMERVILLE AVENUE				
2123548	SOMERVILLE	22-Nov-2006	1:35 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Cloudy	LOWELL STREET / MEDFORD STREET					
2134016	SOMERVILLE	30-Nov-2006	8:15 AM	Non-fatal injury	2	1	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Cloudy	BROADWAY / WARNER STREET					
2191262	SOMERVILLE	30-Nov-2006	8:50 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Not reported	Daylight	Cloudy	BROADWAY / JAQUES STREET / MEDFORD STREET					
2235452	SOMERVILLE	30-Nov-2006	11:20 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	WASHINGTON STREET / SOMERVILLE AVENUE / SANBORN COURT					
2194639	SOMERVILLE	01-Dec-2006	11:30 AM	Not Reported	1	0	0	Not reported	V1:Southbound	V1: Not reported	Dry	Not reported	Clear	MCGRATH HIGHWAY / BOW STREET / SOMERVILLE AVENUE					
2132887	SOMERVILLE	04-Dec-2006	1:50 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Northbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	WASHINGTON STREET / SOMERVILLE AVENUE					
2132743	SOMERVILLE	13-Dec-2006	6:54 PM	Non-fatal injury	2	1	0	Angle	V1:Eastbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Dark - lighted roadway	Rain	HIGHLAND AVENUE / SCHOOL STREET					
2202571	SOMERVILLE	14-Dec-2006	9:45 PM	Property damage only (none injured)	2	0	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	MEDFORD STREET / CENTRAL STREET					
2138964	SOMERVILLE	15-Dec-2006	10:59 AM	Non-fatal injury	2	2	0	Head-on	V1:Northbound / V2:Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Cloudy	CENTRAL STREET / MEDFORD STREET					
2130906	SOMERVILLE	23-Dec-2006	11:27 AM	Property damage only (none injured)	2	0	0	Sideswipe, same direction	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain/Cloudy	MCGRATH HIGHWAY Rte 28 S / WASHINGTON STREET					

MassHighway Crash Report for CAMBRIDGE in the year 2006

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection	Distance from Nearest Milemarker	Distance from Nearest Exit	Distance from Nearest Landmark	Non Motorist Type
1991175	CAMBRIDGE	01-Jan-2006	1:55 AM	Property damage only (none injured)	6	0	0	Sideswipe, same direction	V1:Eastbound / V2:Not reported / V3:Not reported / V4:Not reported / V5:Not reported / V6:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic / V3: Collision with motor vehicle in traffic / V4: Collision with motor vehicle in traffic / V5: Collision with motor vehicle in traffic / V6: Collision with motor	Snow	Dark - lighted roadway	Snow	PROSPECT STREET / CAMBRIDGE STREET					
1997979	CAMBRIDGE	11-Jan-2006	1:20 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Cloudy	PROSPECT STREET / CAMBRIDGE STREET					
2011175	CAMBRIDGE	10-Mar-2006	12:50 PM	Not Reported	2	0	0	Sideswipe, same direction	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Unknown	Daylight	Clear		PROSPECT STREET / HAMPSHIRE STREET				
2036031	CAMBRIDGE	27-Apr-2006	10:20 AM	Not Reported	2	0	0	Rear-end	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear/Clear	HAMPSHIRE STREET / PROSPECT STREET					
2069568	CAMBRIDGE	13-May-2006	12:00 PM	Non-fatal injury	2	2	0	Rear-end	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Wet	Dark - lighted roadway	Rain	HAMPSHIRE STREET / PROSPECT STREET					
2129652	CAMBRIDGE	02-Jun-2006	7:00 PM	Property damage only (none injured)	2	0	0	Rear-end	V1:Westbound / V2:Westbound	V1: Not reported / V2: Not reported	Wet	Daylight	Cloudy	CAMBRIDGE STREET / PROSPECT STREET					
2049169	CAMBRIDGE	07-Jun-2006	6:25 AM	Property damage only (none injured)	2	0	0	Head-on	V1:Northbound / V2:Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain/Cloudy	CAMBRIDGE STREET / PROSPECT STREET					
2061441	CAMBRIDGE	01-Jul-2006	1:30 AM	Non-fatal injury	2	2	0	Angle	V1:Eastbound / V2:Northbound	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	CAMBRIDGE STREET / PROSPECT STREET					
2061658	CAMBRIDGE	02-Jul-2006	1:20 AM	Non-fatal injury	2	1	0	Angle	V1:Northbound / V2:Westbound	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	HAMPSHIRE STREET / PROSPECT STREET					
2078621	CAMBRIDGE	08-Aug-2006	8:12 AM	Non-fatal injury	2	3	0	Angle	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear		BROADWAY / HAMPSHIRE STREET			TECH SQ GARAGE	
2085353	CAMBRIDGE	09-Sep-2006	8:00 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Not reported / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear/Clear	PROSPECT STREET / HAMPSHIRE STREET					
2213034	CAMBRIDGE	12-Sep-2006	6:00 AM	Property damage only (none injured)	2	0	0	Not reported	V1:Eastbound / V2:Eastbound	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	HAMPSHIRE STREET / PROSPECT STREET					
2226320	CAMBRIDGE	19-Sep-2006	9:15 AM	Non-fatal injury	2	1	0	Not reported	V1:Not reported / V2:Not reported	V1: Not reported / V2: Not reported	Dry	Dark - lighted roadway	Clear	PROSPECT STREET / CAMBRIDGE STREET					
2092142	CAMBRIDGE	25-Sep-2006	8:50 AM	Property damage only (none injured)	2	0	0	Sideswipe, same directio	V1:Northbound / V2:Northbound	V1: Collision with parked motor vehicle / V2: Collision with motor vehicle in traffic	Dry	Daylight	Cloudy		50 feet S from Intersection 258 PROSPECT STREET / HAMPSHIRE STREET				
2120105	CAMBRIDGE	21-Nov-2006	12:15 PM	Property damage only (none injured)	2	0	0	Angle	V1:Southbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	CAMBRIDGE STREET / PROSPECT STREET					
2178782	CAMBRIDGE	24-Nov-2006	1:30 AM	Property damage only (none injured)	1	0	0	Angle	V1:Not reported	V1: Not reported	Dry	Daylight	Clear	PROSPECT STREET / CAMBRIDGE STREET					
2128398	CAMBRIDGE	03-Dec-2006	2:37 AM	Property damage only (none injured)	2	0	0	Angle	V1:Westbound / V2:Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Dry	Dark - lighted roadway	Clear	HAMPSHIRE STREET / PROSPECT STREET					
2147666	CAMBRIDGE	14-Dec-2006	6:50 AM	Not Reported	2	0	0	Angle	V1:Northbound / V2:Not reported	V1: Collision with motor vehicle in traffic / V2: Not reported	Unknown	Dark - lighted roadway	Unknown	PROSPECT STREET / HAMPSHIRE STREET					

Background Developments

North Point

Somerville

Cambridge

Boston

Site

Cambridge St

Springfield St

Prospect St

Webster St

Warren St

Lambert St

Twin City Plaza

Walker St

East St

Msgr. O'Brien Hwy.

Charlestown Ave (Gilmore Bridge)

North Point Blvd

Museum Way

Industrial Way

Hampshire St

Cardinal Medeiros Ave

Columbia St

Fulkerson St

Sixth St

Third St

Second St

First St

Land Blvd

Cherriss St

Binney St

Broadway

Portland St

Main St

Vassar St

28

N

Not to Scale

Full Build Mitigated Project Generated Trips
Morning Peak Hour
Traffic Volumes

Figure 4.16

\\maewald\checkit\07712\graphics\FIGURES\FEIR\77128fm.dwg

Union Sq. - rezoning - Washington St business

Assembly Sq - rider-ship numbers that CTPS has taking into consideration

future study for Prospect / Webster to become 2-way

innerbelt -> desireable 7 mil sf bussiness

Max Part - Lowell St & Cedar St access
2/3 1/3 splits
65 units

bike & ped friendly

.75 cars per dwelling 196 units near Alewife

80 units Assisted Living on Parker

Computations

Project: Green Line GT Project # 10303
Location: Somerville Sheet of
Calculated by: VL Date: 4/11/08
Checked by: Date:
Title

Lowell St Background

199 units

AM Peak		-20% transit	Net New
Entering	15	-3	12
Exit	75	-15	60
Total	90	-18	72

PM Peak		-20% transit	
Entering	71	-14	57
Exit	35	-7	28
Total	106	-21	85

ITE TRIP GENERATION WORKSHEET
(7th Edition, Updated January 2004)

LANDUSE: Residential Condominium/Townhouse
LANDUSE CODE: 230 Independent Variable --- Number of Units

JOB NAME:
JOB NUMBER:

UNITS (#): 199

WEEKDAY

RATES:

	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	54	0.83	5.86	1.83	11.79	183	20	1,250	50%	50%
AM PEAK (ADJACENT ST)	59	0.76	0.44	0.15	1.61	213	20	1,250	17%	83%
PM PEAK (ADJACENT ST)	62	0.80	0.52	0.18	1.24	205	20	1,250	67%	33%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	1,166	583	583	1152	576	576
AM PEAK (ADJACENT ST)	88	15	73	90	15	74
PM PEAK (ADJACENT ST)	103	69	34	106	71	35

SATURDAY

RATES:

	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	30	0.84	5.67	1.17	11.40	209	20	1,250	50%	50%
PEAK OF GENERATOR	27	0.84	0.47	0.14	0.93	228	50	1,250	54%	46%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	1,128	564	564	1,148	574	574
PEAK OF GENERATOR	94	51	43	100	54	46

SUNDAY

RATES:

	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	30	0.88	4.84	1.36	8.56	209	20	1,250	50%	50%
PEAK OF GENERATOR	27	0.78	0.45	0.16	1.07	228	50	1,250	49%	51%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	963	482	482	980	490	490
PEAK OF GENERATOR	90	44	46	96	47	49

Traffic Impact and Access Study

PROPOSED RESIDENTIAL DEVELOPMENT

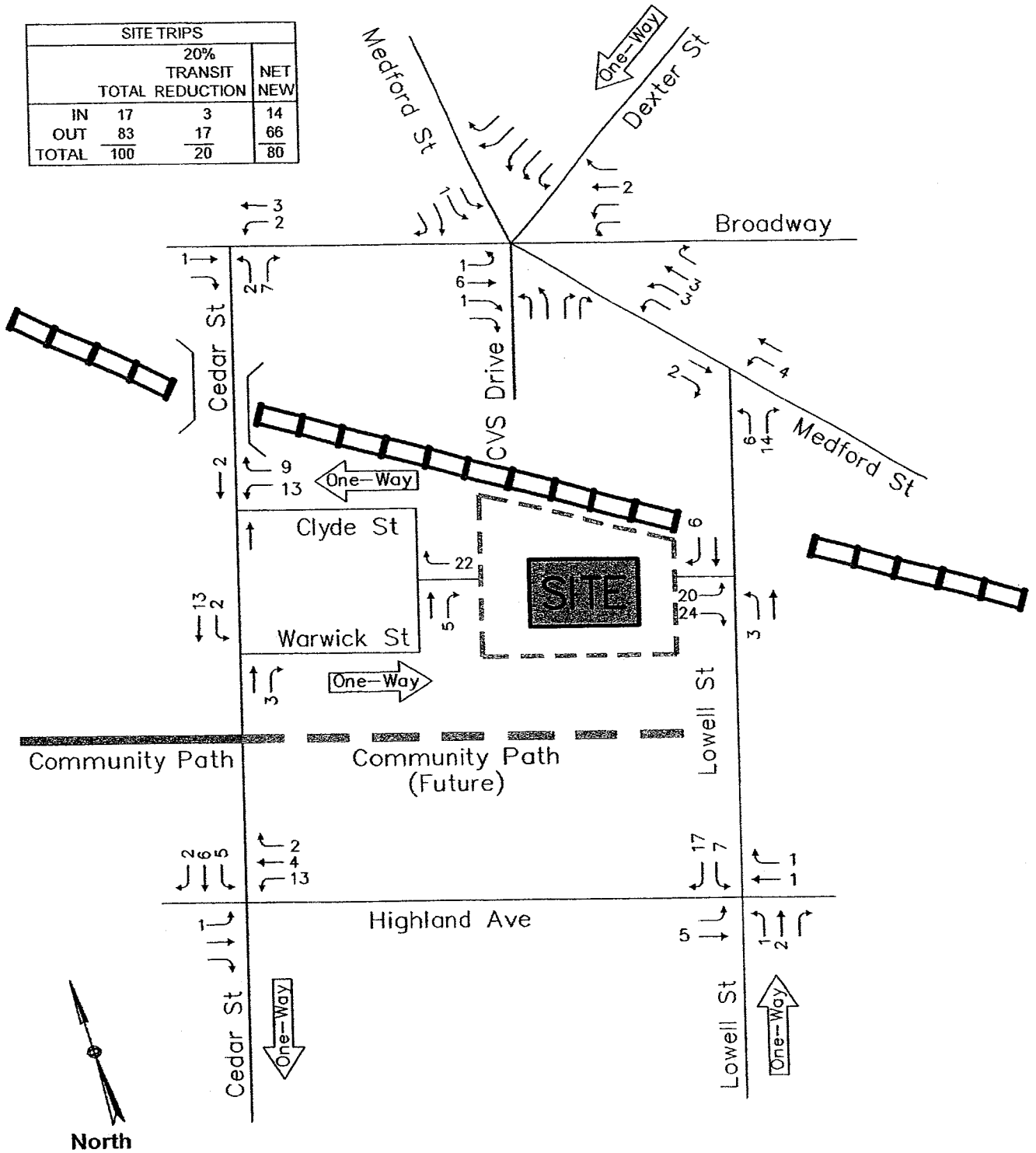
Lowell Street and Warwick Street
Somerville, Massachusetts

Prepared for:
K.S.S. Realty Partners, Inc.
20 Park Plaza
Boston, Massachusetts 02116

Prepared by:
MDM Transportation Consultants, Inc.
5 Mount Royal Avenue
Marlborough, Massachusetts 01752
Phone: (508) 303-0370
Fax: (508) 303-0371

July 2005
(Updated March 2006)

SITE TRIPS			
	TOTAL	20% TRANSIT REDUCTION	NET NEW
IN	17	3	14
OUT	83	17	66
TOTAL	100	20	80



Scale: Not to Scale

Figure 8

Site Generated AM Peak Hour Traffic Volumes

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Date: March 2006
Dwg No. 175TIAS-CITY.dwg

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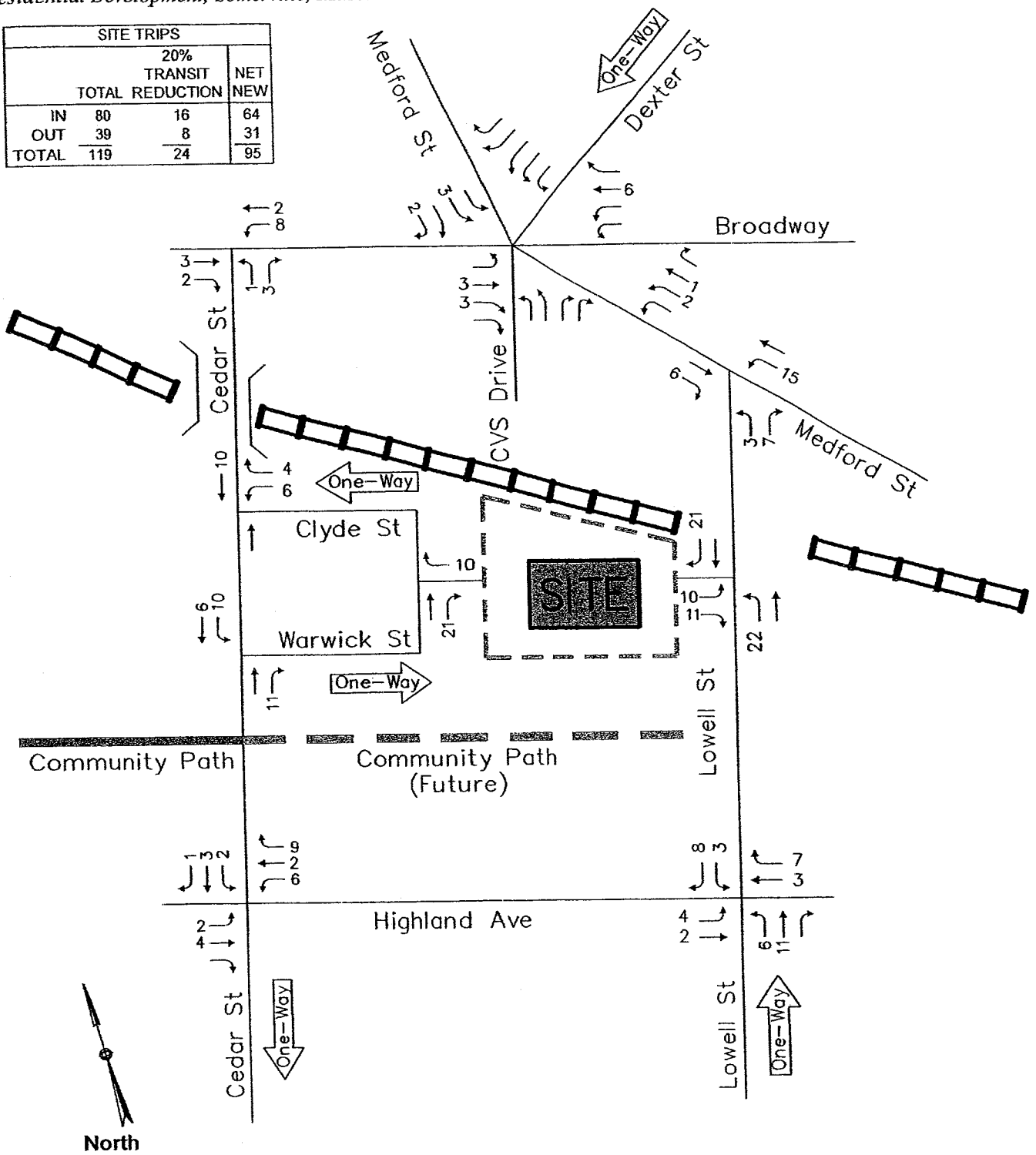
SITE TRIPS			
	TOTAL	20% TRANSIT REDUCTION	NET NEW
IN	80	16	64
OUT	39	8	31
TOTAL	119	24	95



Scale: Not to Scale

Figure 9

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Site Generated PM Peak Hour Traffic Volumes

Date: March 2006
Dwg No. 175TIAS-CITY.dwg
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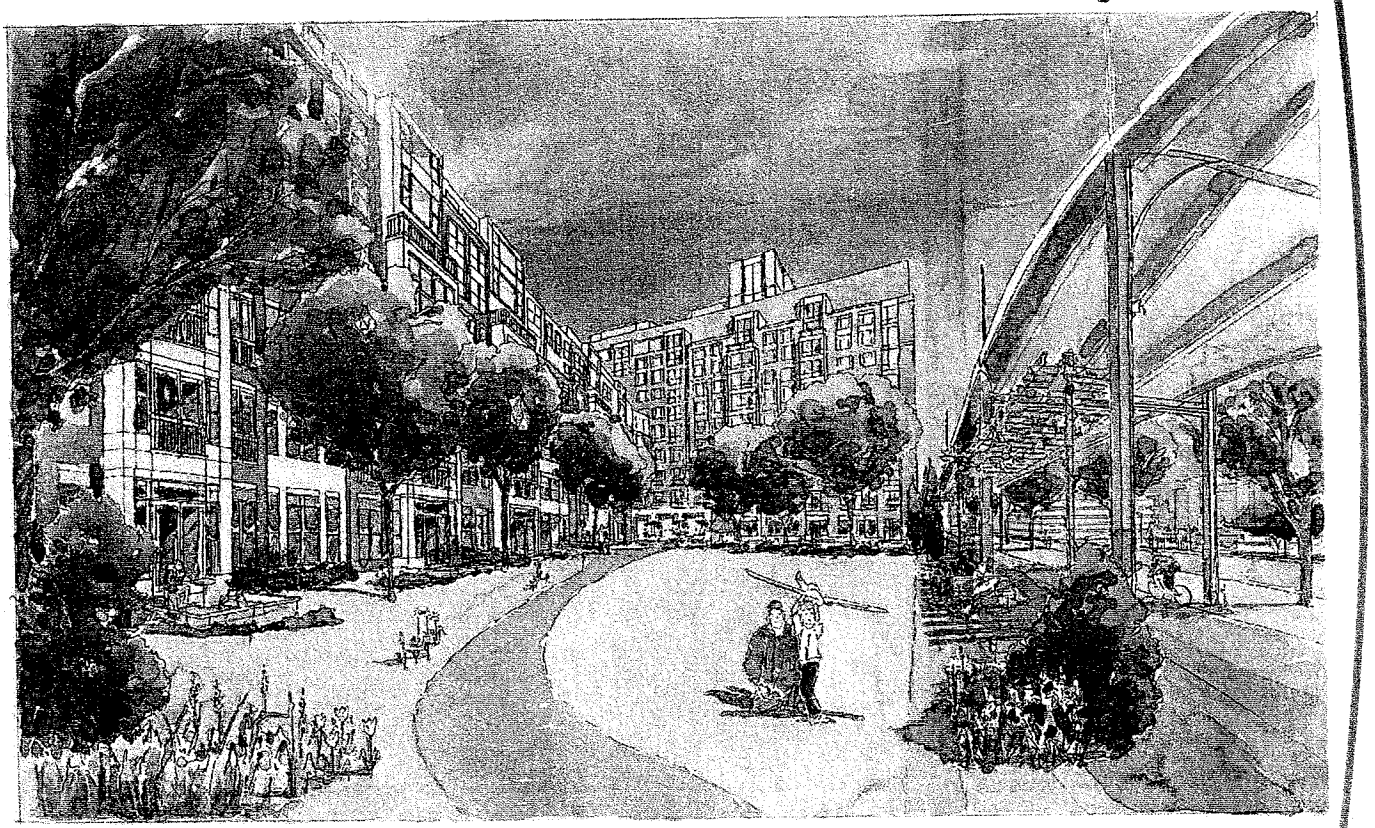
Final Environmental Impact Report
EOEA No. 12651

Charles E. Smith Residential - Cambridge

Proposed Residential Development

East Cambridge, MA

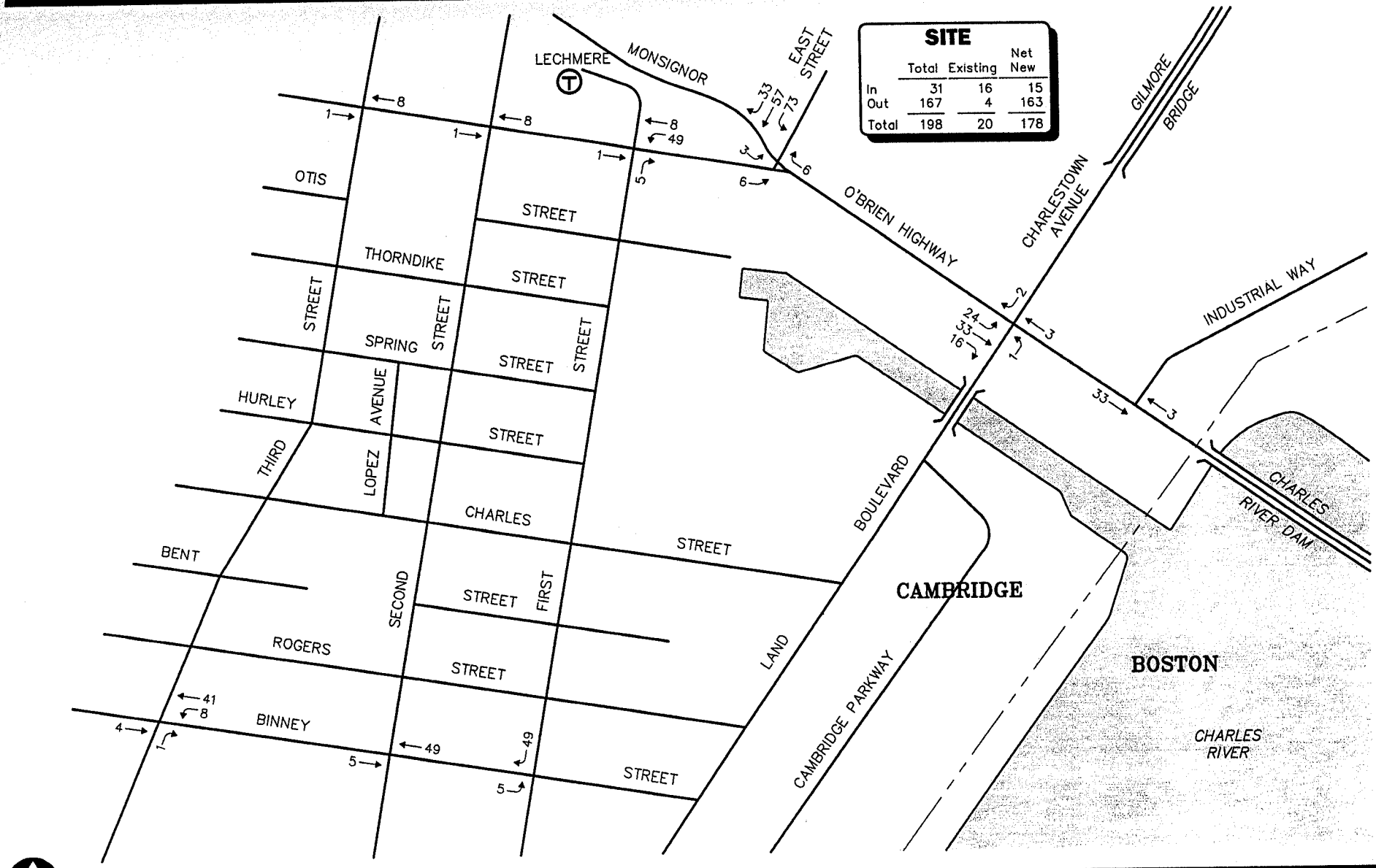


Prepared for

Charles E. Smith Residential
Newton, MA

Vanasse & Associates, Inc.
Transportation Engineers & Planners
10 New England Business Center Drive
Andover, Massachusetts 01810

October 15, 2002



Not To Scale

Figure 13

Site Generated Weekday Morning Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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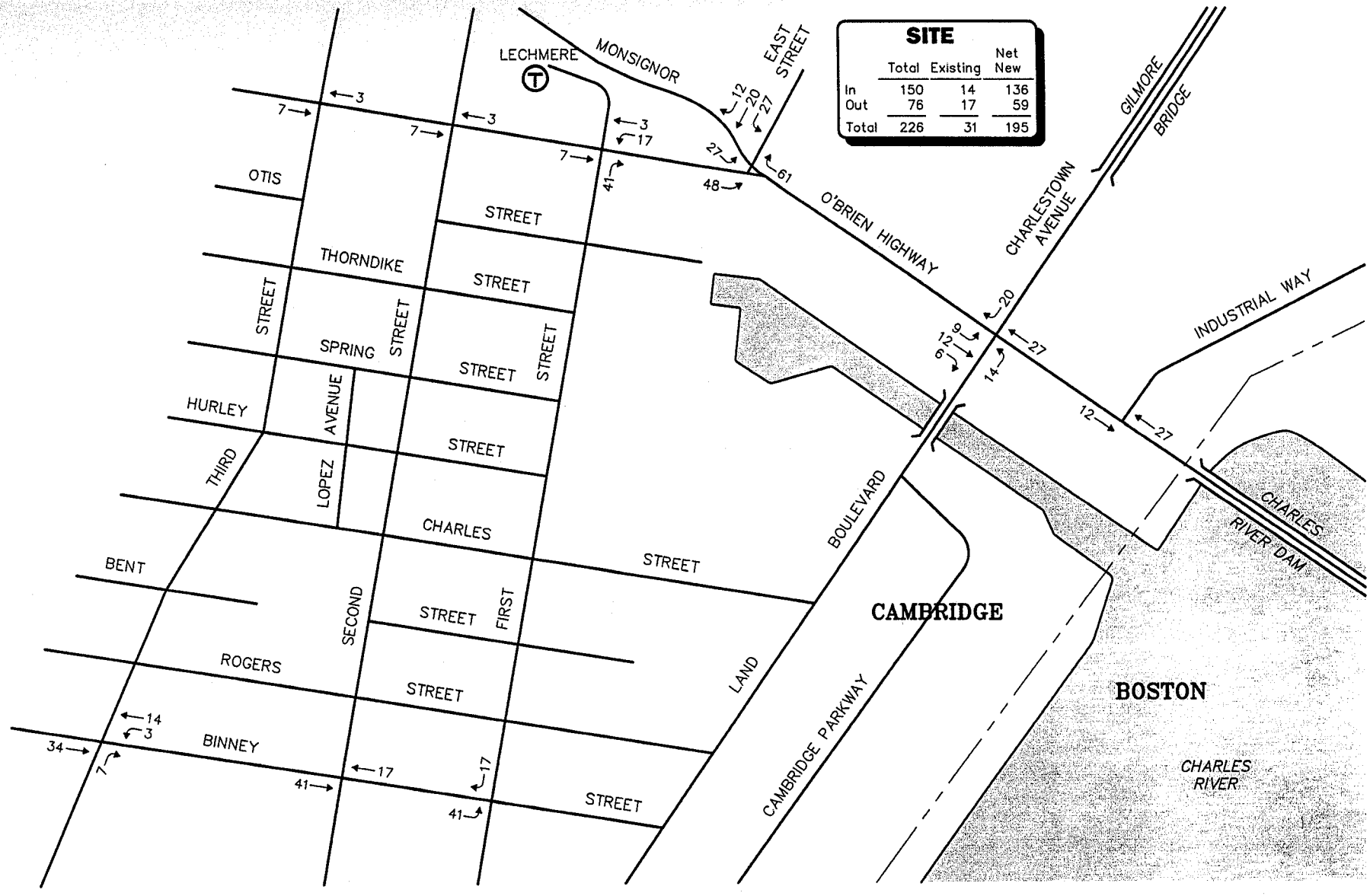

Not To Scale

Figure 14

Site Generated
Weekday Evening
Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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Transportation Impact Study/ Special Permit Criteria Analysis

Proposed Residential Development One First Street

Cambridge, MA

Prepared for:

Leggat McCall Properties LLC

October 2003

Vanasse & Associates, Inc.
Transportation Engineers & Planners
10 New England Business Center Drive
Suite 314
Andover, MA 01810-1066

Table 11
TRIP GENERATION SUMMARY

Time Period/Direction	ITE Vehicle Trips[b]	Person Trips[a] Total[c]	Drive Alone Trips[d]	Ridesharing Trips[e]	Transit Trips[f]	Pedestrian Trips[g]	Bicycle Trips[h]	Automobile Trips Automobile Trips[i]
Average Weekday Daily:								
Entering	1,253	1,327	624	80	305	252	66	664
Exiting	1,253	1,327	624	80	305	252	66	664
Total	2,506	2,654	1,248	160	610	504	132	1,328
Weekday Morning Peak Hour:								
Entering	39	41	19	2	10	8	2	21
Exiting	157	166	78	10	38	32	8	83
Total	196	207	97	12	48	40	10	104
Weekday Evening Peak Hour:								
Entering	151	160	75	10	37	30	8	80
Exiting	82	87	41	5	20	17	4	43
Total	233	247	116	15	57	47	12	123

[a]Mode splits based on 1990 U.S. Census Data and Statistics for Tract No. 3521 published by the CTPS for the Metropolitan Planning Organization in the 1997 Transportation Plan for the Boston region, approved April 29, 1997.
[b]Based on ITE LUC 220 – Apartment; 392 units.
[c]Multiply ITE vehicle trips by vehicle occupancy ratio of 1.06 persons/vehicle per census tract data.
[d]Assume 47 percent of total person trips.
[e]Assume 6 percent of total person trips.
[f]Assume 23 percent of total person trips.
[g]Assume 19 percent of total person trips.
[h]Assume 5 percent of total person trips.
[i]Drive-alone plus rideshare person trips divided by vehicle occupancy ratio of 1.06 persons per vehicle.

Bicycle trips are estimated to be 132 (66 in and 66 out) on a daily basis, 10 trips (2 in and 8 out), and 12 trips (8 in and 4 out) during the morning and evening peak hours, respectively.

The proposed development is expected to generate an average of 2 truck trips per day, based on anticipated trash and recycling schedules and other deliveries. The vehicle-trip estimates include truck trips, as these are implicitly contained in trip-generation formulae.

TRAFFIC DISTRIBUTION AND ASSIGNMENT

Directional distribution of generated trips to and from the proposed development is expected to follow existing traffic patterns which, in turn, are a function of population densities and available travel routes. In developing the travel route, the following was completed:

- Review of existing trip patterns of site
- Review of other available traffic studies
- Review of 1990 and 2000 Journey-To-Work (JTW) Census Data

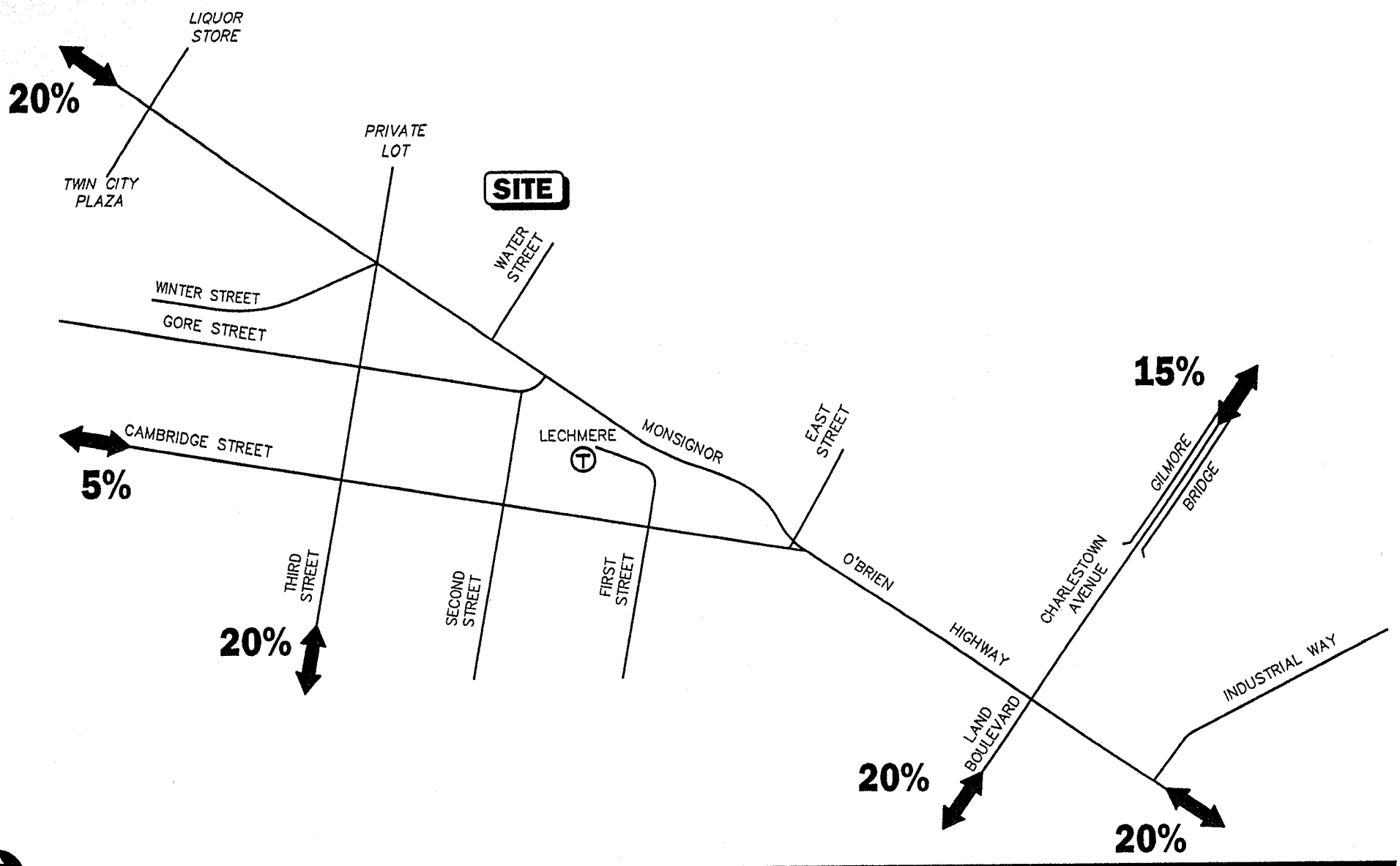
Based upon this data, the overall trip-distribution pattern was developed in consultation with City officials and is summarized in Table 12. A graphical depiction appears on Figure 11.

Table 12
TRIP DISTRIBUTION SUMMARY

Roadway	Direction (To/From)	Percent To/From the Site
O'Brien Highway	East	20
O'Brien Highway	West	20
Third Street	South	20
Land Boulevard	North	15
Land Boulevard	South	20
Cambridge Street	West	5
TOTAL		100

The peak-hour site-generated traffic volumes were distributed on the roadway network according to the distribution shown in Table 12 and Figure 11. Figure 12 depicts the weekday morning and weekday evening site-generated traffic volume flow networks for 2006 conditions. These volumes were then added to the 2006 Baseline condition traffic flow networks to derive the 2006 Build condition networks, shown as Figure 13 for the weekday morning and weekday evening peak hours. Figure 14 represents the projected 2006 Build Peak Hour Pedestrian Volumes.

A summary of the peak-hour projected traffic-volume changes in the vicinity of the site drive is shown in Table 13. These volumes are based on the expected increases from the project traffic volumes.



Not To Scale

Figure 11

Trip Distribution Map

Vanasse & Associates, Inc
Transportation Engineers & Planners

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Table 13
2006 PEAK-HOUR TRAFFIC-VOLUME INCREASES[a]

Location	2006 Baseline	2006 Build	Volume Difference	Percent Increase
O'Brien Highway, west of Third Street:				
Weekday Morning	3,027	3,048	21	0.7
Weekday Evening	2,816	2,841	25	0.9
O'Brien Highway, east of Land Boulevard:				
Weekday Morning	2,773	2,794	21	0.8
Weekday Evening	2,808	2,833	25	0.9
Third Street, south of O'Brien Highway:				
Weekday Morning	931	951	20	2.1
Weekday Evening	1,185	1,196	11	0.9
Cambridge Street, south of O'Brien Highway:				
Weekday Morning	936	941	5	0.5
Weekday Evening	1,129	1,149	20	1.8
Land Boulevard, south of O'Brien Highway:				
Weekday Morning	2,316	2,337	21	0.9
Weekday Evening	3,163	3,187	24	0.8
Land Boulevard, north of O'Brien Highway:				
Weekday Morning	2,212	2,228	16	0.7
Weekday Evening	2,797	2,815	18	0.6

[a]Two-way volume.

As shown in Table 13, project-related traffic-volume increases at most locations are estimated to range between 0.5 and 2.1 percent during the weekday morning peak hour and between 0.6 and 1.8 percent during the weekday evening peak hour.

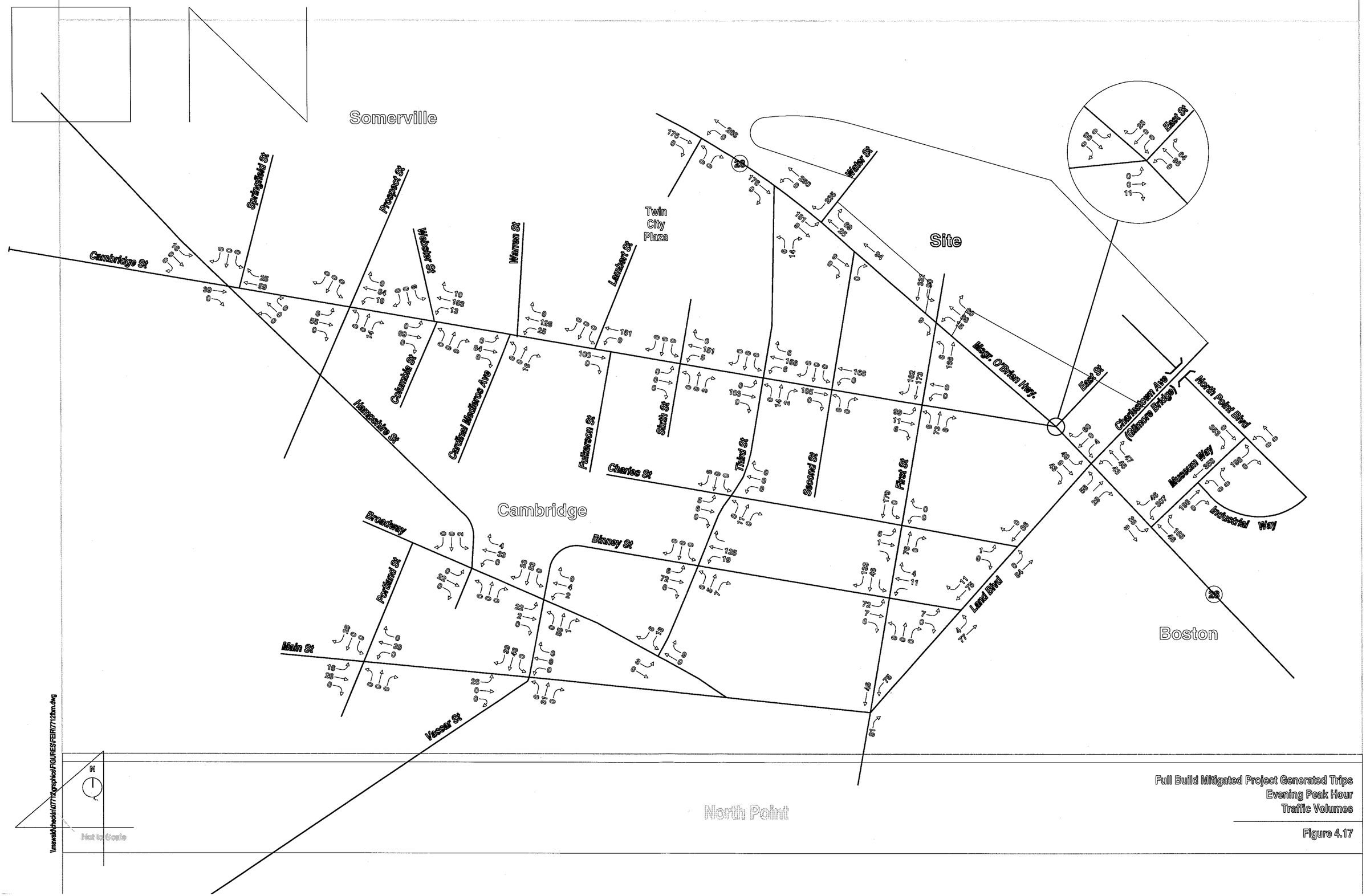
Under Review:
56-61 Clyde St (MaxPak site): seeking 199 units.

Received Zoning approval:
515 Somerville: 39 residential units, plus commercial. Received special permits. Under stop work order for enviro/demolition infractions.
343-349 Summer St: 14 residential units. Received special permits. Litigated, cannot satisfy conditions of approval, future uncertain.

COs in last year:
131-135 Willow Ave: 11 units. Not built according to permits, some units without COs. (condo)
1188-1194 Broadway: 21 units plus commercial. (condo)
43-45 Pitman St: 10 units (presently rental)

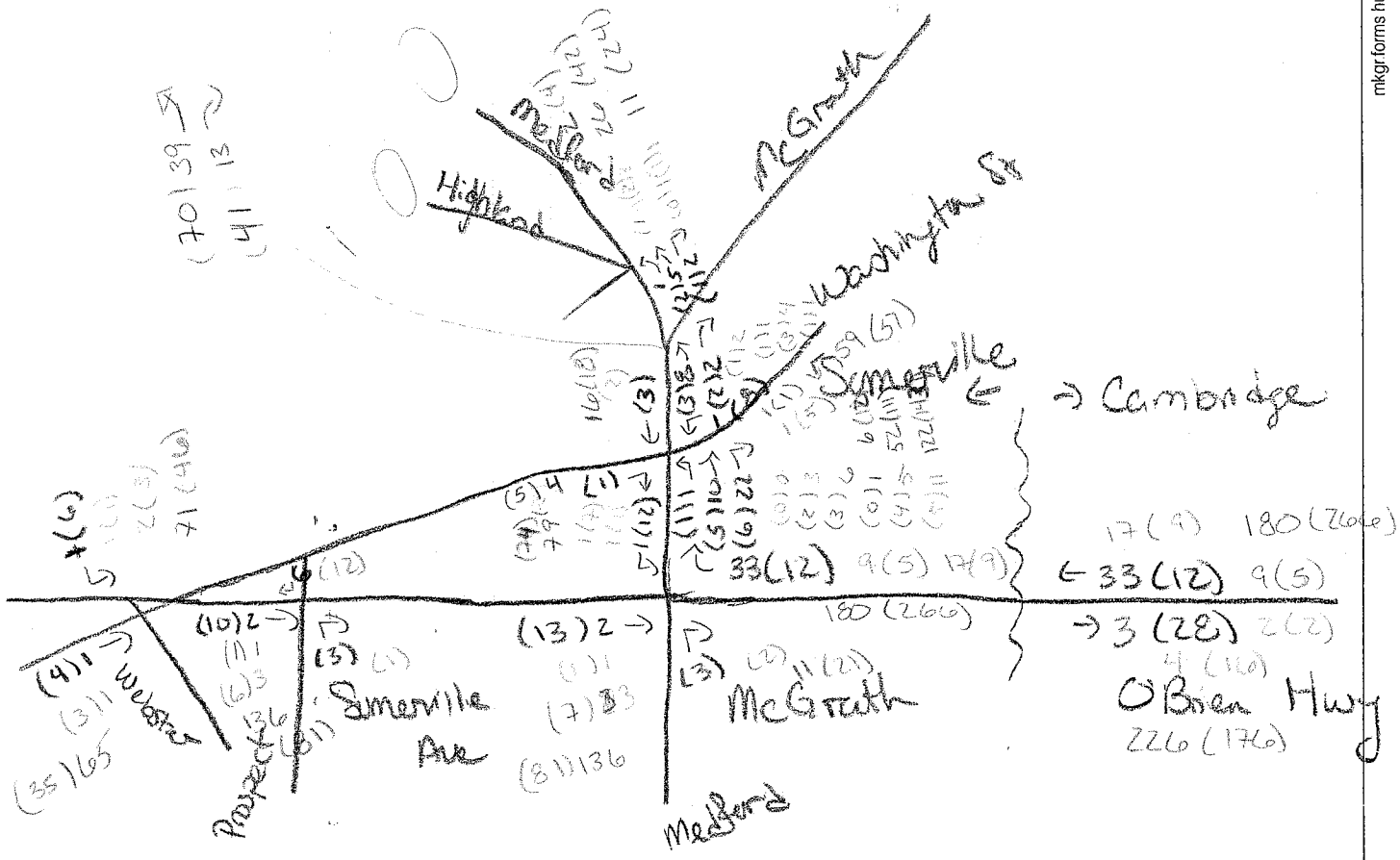
Completed in last few years:
50 Bow St: 14 units. (condo)
24-28 Marshall St:
165 Beacon St: 17 units.
27 Osgood St: 14 units (condo).
35 Charlestown: 34 units (affordable rental)

40B Affordable Housing:
65 Temple: 15 units (constructed).
1-16 Capen Ct: 95 units (permitted).
405 Alewife Brook Pkwy: 95 units (permitted).
Also a VNA facility on Lowell Street (can't find the file right now).



Full Build Mitigated Project Generated Trips
Evening Peak Hour
Traffic Volumes

Figure 4.17



Charles E. Smith Residential AM (PM)

One First St AM (PM)

22 Water St AM (PM)

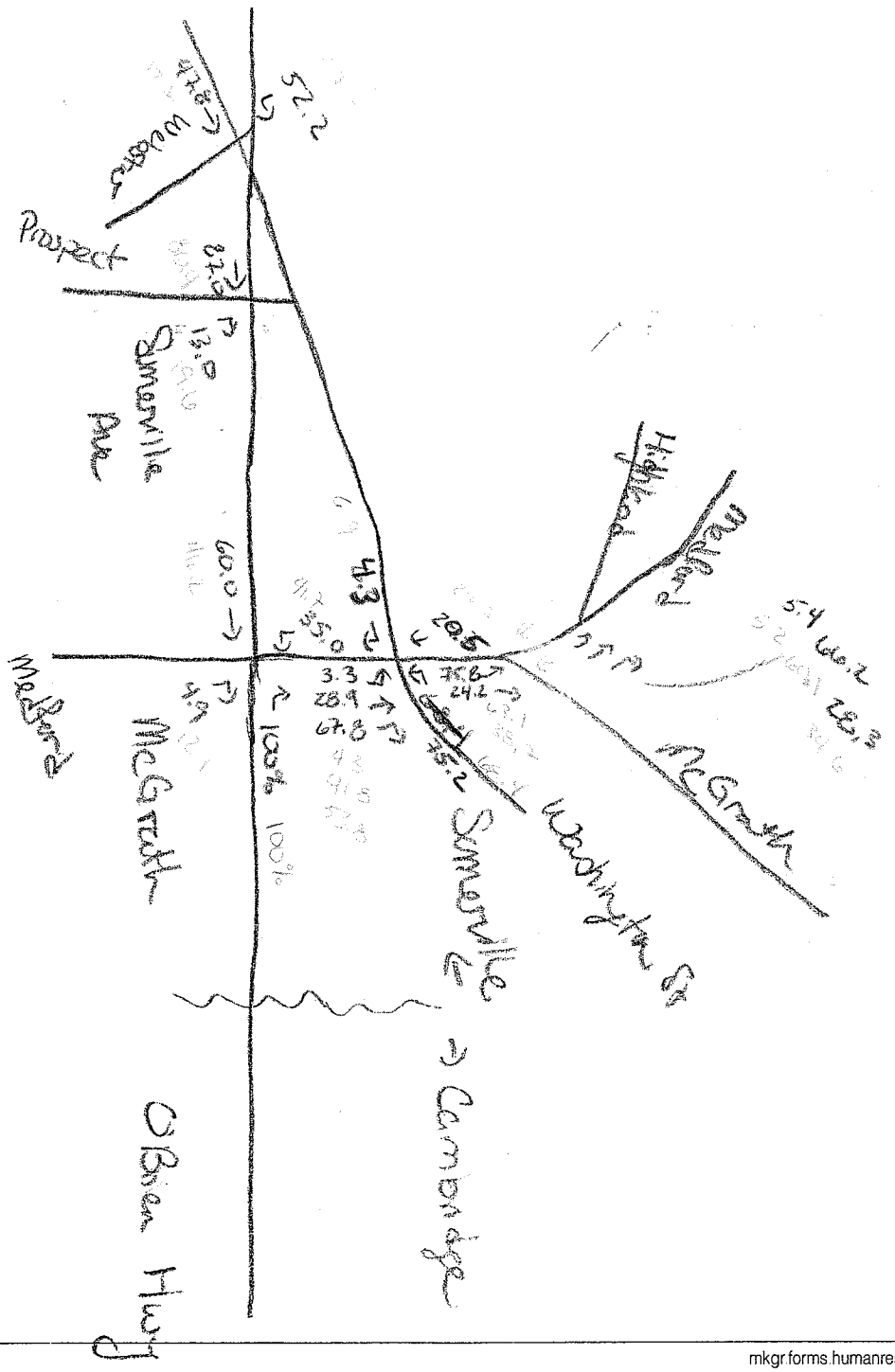
North Point AM (PM)

mkgr.forms humanres computation

Hangen Brustlin, Inc.

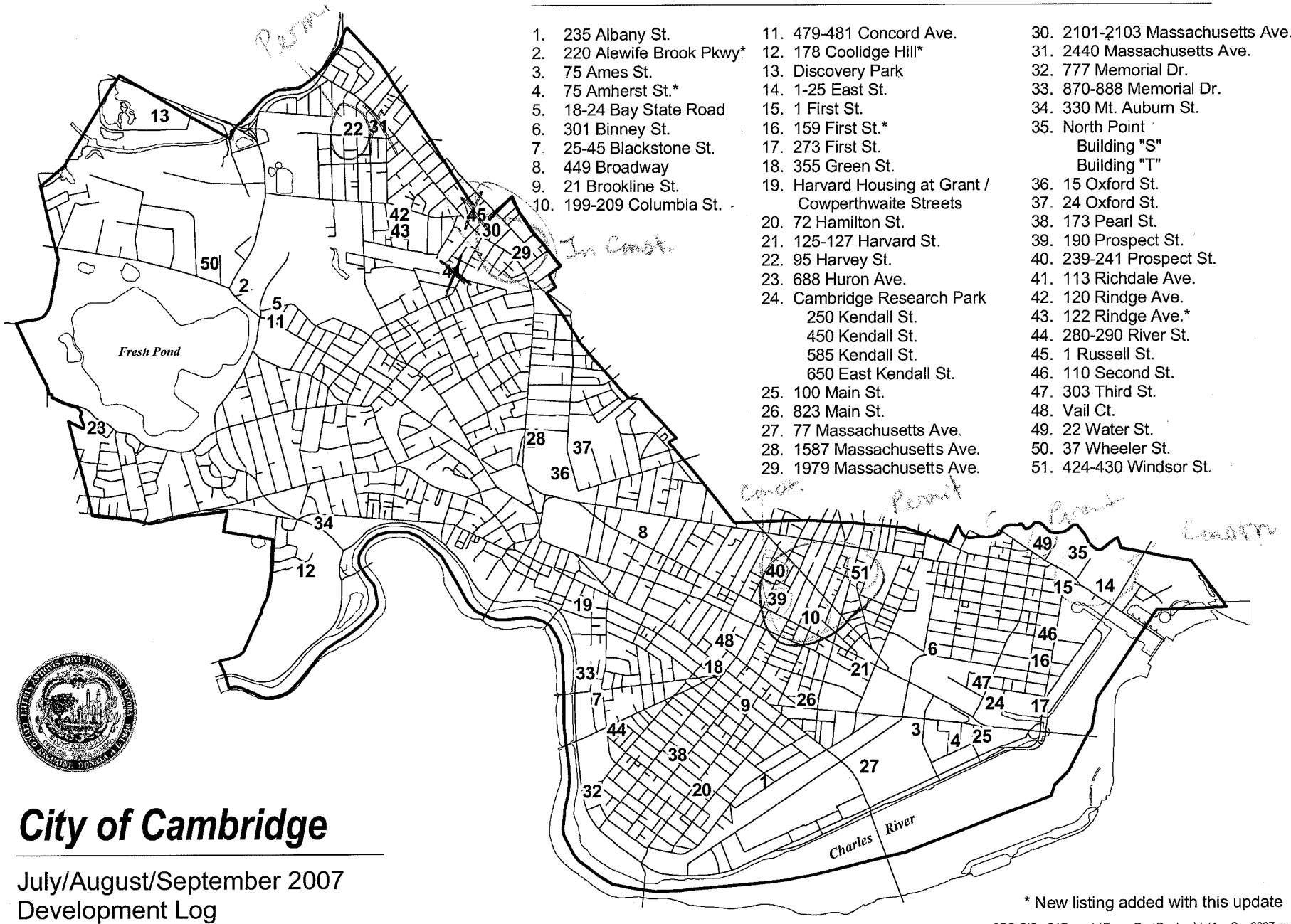
AM
PM

Existing Traffic Pattern



Current Pipeline

1. 235 Albany St.
2. 220 Alewife Brook Pkwy*
3. 75 Ames St.
4. 75 Amherst St.*
5. 18-24 Bay State Road
6. 301 Binney St.
7. 25-45 Blackstone St.
8. 449 Broadway
9. 21 Brookline St.
10. 199-209 Columbia St.
11. 479-481 Concord Ave.
12. 178 Coolidge Hill*
13. Discovery Park
14. 1-25 East St.
15. 1 First St.
16. 159 First St.*
17. 273 First St.
18. 355 Green St.
19. Harvard Housing at Grant / Cowperthwaite Streets
20. 72 Hamilton St.
21. 125-127 Harvard St.
22. 95 Harvey St.
23. 688 Huron Ave.
24. Cambridge Research Park
    - 250 Kendall St.
    - 450 Kendall St.
    - 585 Kendall St.
    - 650 East Kendall St.
25. 100 Main St.
26. 823 Main St.
27. 77 Massachusetts Ave.
28. 1587 Massachusetts Ave.
29. 1979 Massachusetts Ave.
30. 2101-2103 Massachusetts Ave.
31. 2440 Massachusetts Ave.
32. 777 Memorial Dr.
33. 870-888 Memorial Dr.
34. 330 Mt. Auburn St.
35. North Point
    - Building "S"
    - Building "T"
36. 15 Oxford St.
37. 24 Oxford St.
38. 173 Pearl St.
39. 190 Prospect St.
40. 239-241 Prospect St.
41. 113 Richdale Ave.
42. 120 Rindge Ave.
43. 122 Rindge Ave.*
44. 280-290 River St.
45. 1 Russell St.
46. 110 Second St.
47. 303 Third St.
48. Vail Ct.
49. 22 Water St.
50. 37 Wheeler St.
51. 424-430 Windsor St.



City of Cambridge

July/August/September 2007
Development Log

* New listing added with this update

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Development Log -- Project Summary

Status/Project Address	Developer Name	FAR	Lot Area	GFA	Units	Project Use
Status -- Permitting						
220 Alewife Brook Parkway / Hotel Tria Expansion	Hotel Tria Assoc., LLC	0.84	68,907	57,759	0	Hotel
159 First Street	Jones Lang LaSalle	2.24	109,972	245,976	108	Mixed Use Development
125-127 Harvard Street	CASCAP Realty, Inc.	0.00	10,200	0	24	Residential
95 Harvey Street	Michael O'Shea	1.61	8,514	13,739	8	Residential
424-430 Windsor Street / Immaculate Conception	Just A Start	0.00	0	24,710	16	Residential
Totals				**342,184**	**156**	
Status -- Special Permit Granted						
75 Ames Street / 7 Cambridge Center	Boston Properties	3.07	66,599	204,699	187	Residential
Discovery Park Remaining Master Plan	Bulfinch Company	0.00	1,154,420	661,909	0	Office/R&D
1-25 East Street Phase II / Charles E. Smith Housing	C.E. Smith/Archstone Dev	2.90	247,431	509,215	341	Residential
355 Green Street	Harry Katis	0.00	7,816	30,400	27	Residential
72 Hamilton Street	Peggy Morrissey	1.32	11,172	14,777	11	Residential
250 Kendall Street / Cambridge Research Park	Lyme Properties	3.00	0	150,000	150	Residential
585 Kendall Street / Cambridge Research Park	Lyme Properties	3.00	0	75,000	0	Theater
450 Kendall Street / Cambridge Research Park	Lyme Properties	3.00	14,463	46,293	8	Residential
823 Main Street	Just A Start	0.00	0	13,500	10	Residential
777 Memorial Drive	Nordic Properties	3.15	66,410	66,137	56	Residential
North Point Remaining Master Plan	JonesLangLaSalle-GuilfordTransport	2.66	3,256,310	4,134,318	2,151	Mixed Use Development
122 Rindge Avenue / St. John's Resident Phase 2	120 Realty Trust	0.67		23,486	16	Residential

Development Log -- Project Summary

Status/Project Address	Developer Name	FAR	Lot Area	GFA	Units	Project Use
Status -- Special Permit Granted						
Vail Court	Six Realty Trust	1.21	28,177	26,765	25	Residential
22 Water Street	Catamount Holding	3.90	104,673	408,225	392	Residential
Totals				**6,364,724**	**3,374**	
Status -- In Construction						
235 Albany Street / Graduate Dormitory	MIT	1.71	143,910	246,900	0	Institutional
75 Amherst Street / MIT Media Lab	MIT	2.62	294,849	162,665	0	College/University
301 Binney Street	Rogers St. LLC c/o Lyme Properties	3.00	165,110	268,779	0	Office/R&D
449 Broadway / Main Library Expansion	City of Cambridge	1.50	513,809	102,210	0	Institutional
21 Brookline Street	1st Cambridge Real Estate	2.00	18,256	40,755	49	Residential
199-209 Columbia Street / Columbia Court	Just A Start Corp	1.17	13,956	13,241	13	Residential
479 Concord Avenue	Shelter, Inc.	0.00	5,865	3,700	14	Residential
178 Coolidge Hill / Shady Hill Arts Center & Gym	Shady Hill School	0.26	472,716	75,363	0	Institutional
650 East Kendall Street / Cambridge Research Park	Lyme Properties	3.00	49,470	217,398	0	Office/R&D
1-25 East Street Phase I / Charles E. Smith Housing	C.E. Smith/Archstone Dev	3.77	247,431	426,000	426	Residential
273 First Street / Kendall Sq. Electric Plant	Mirant New England	0.00	168,162	11,800	0	Utilities
1 First Street Phase II	Leggat McCall Properties	4.10	72,418	136,643	82	Residential
688 Huron Avenue / Youth Center/VFW	City of Cambridge	1.08	28,592	31,000	0	Community Center
100 Main Street / Sloan School of Management	MIT	2.44	268,713	209,000	0	Institutional
77 Massachusetts Avenue / Ceyer Laboratory	MIT	2.03	0	64,909	0	College/University

Development Log -- Project Summary

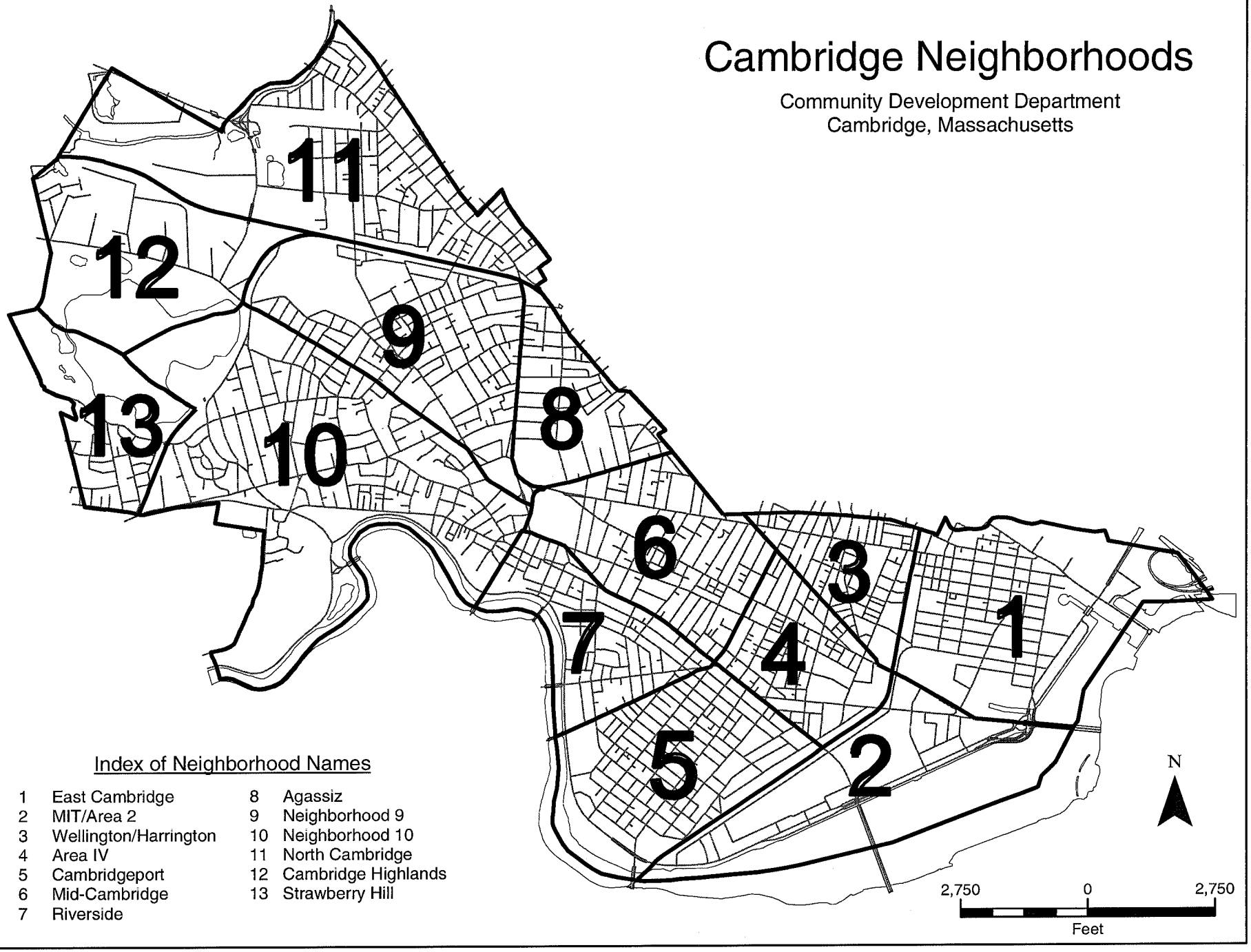
Status/Project Address	Developer Name	FAR	Lot Area	GFA	Units	Project Use
Status -- In Construction						
2101-2103 Massachusetts Avenue / VFW	CASCAP	0.00	6,316	7,800	9	Residential
1587 Massachusetts Avenue / Harvard Law School	Harvard University	1.71	1,343,528	234,000	0	Institutional
1979 Massachusetts Avenue	Sam Azzam	2.40	5,832	13,900	15	Residential
870-888 Memorial Drive / Harvard Affiliate Housing	Harvard Real Estate Services	3.10	98,828	140,652	0	College/University
330 Mt. Auburn St / Acute Care Bldg/Parking Garag	Mt. Auburn Hospital	1.56	367,181	180,900	0	Hospital
North Point Bldg "S"	JonesLangLaSalle-GuilfordTransport	2.66	19,500	113,955	99	Residential
North Point Bldg "T"	JonesLangLaSalle-GuilfordTransport	2.66	32,000	236,223	230	Residential
24 Oxford Street	Harvard University	2.12	1,132,560	410,000	0	Institutional
173 Pearl Street / McTernan Pl - Blessed Sacrmnt	Paul Ognibene	2.90	30,174	87,822	49	Residential
239-241 Prospect Street	239 Prospect St., LLC	0.75	12,792	9,600	8	Residential
190 Prospect Street	Prospect Street Housing Trust	0.36	33,814	6,339	8	Residential
120 Rindge Avenue / St. John's Resident Phase I	120 Realty Trust	0.67	100,068	52,889	47	Residential
280-290 River Street	Rocco Scippa	0.00	25,000	23,700	20	Residential
303 Third Street / Extell Housing	Extell Cambridge LLC	3.90	148,693	579,779	527	Residential
37 Wheeler Street / Baker Building	World 114 Nomine Trust	0.00	52,800	57,500	72	Residential
Totals				**4,165,422**	**1,668**	
Status -- Complete						
18-24 Bay State Road	Bay State Loft, LLC	1.95	12,443	24,000	23	Residential
25-45 Blackstone Street / Switchhouse Housing	Harvard University	0.95	44,080	41,783	33	Residential

Development Log -- Project Summary

Status/Project Address	Developer Name	FAR	Lot Area	GFA	Units	Project Use
Status -- Complete						
Grant/Cowperthwaite Streets / Harvard Housing	Harvard Real Estate Services	3.07	165,731	126,765	0	College/University
2440 Massachusetts Avenue	Cambridge Point Realty Trust	1.75	25,000	40,000	41	Residential
15 Oxford Street / LISE	Harvard University	1.58	0	118,800	0	Institutional
113 Richdale Avenue / Richdale Place	Oaktree Development	1.61	18,460	29,775	20	Residential
1 Russell Street	Quadrant Real Estate	0.00	22,536	32,032	24	Residential
110 Second Street	Charles Passage, LLC	1.95	19,995	37,729	29	Residential
Totals				**450,884**	**170**	

Cambridge Neighborhoods

Community Development Department
Cambridge, Massachusetts



Index of Neighborhood Names

1	East Cambridge	8	Agassiz
2	MIT/Area 2	9	Neighborhood 9
3	Wellington/Harrington	10	Neighborhood 10
4	Area IV	11	North Cambridge
5	Cambridgeport	12	Cambridge Highlands
6	Mid-Cambridge	13	Strawberry Hill
7	Riverside		

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DEVELOPMENT LOG
Projects by Neighborhood

Neighborhood 1 - EAST CAMBRIDGE	Project Use	Developer	Status
301 Binney Street	Office/R&D	Rogers St. LLC c/o Lyme Properties	In Construction
650 East Kendall Street / Cambridge Research Park	Office/R&D	Lyme Properties	In Construction
1-25 East Street Phase I / Charles E. Smith Housing	Residential	C.E. Smith/Archstone Dev	In Construction
1-25 East Street Phase II / Charles E. Smith Housing	Residential	C.E. Smith/Archstone Dev	Special Permit Granted
159 First Street	Mixed Use Development	Jones Lang LaSalle	Permitting
273 First Street / Kendall Sq. Electric Plant	Utilities	Mirant New England	In Construction
1 First Street Phase II	Residential	Leggat McCall Properties	In Construction
250 Kendall Street / Cambridge Research Park	Residential	Lyme Properties	Special Permit Granted
450 Kendall Street / Cambridge Research Park	Residential	Lyme Properties	Special Permit Granted
585 Kendall Street / Cambridge Research Park	Theater	Lyme Properties	Special Permit Granted
North Point Bldg "S"	Residential	JonesLangLaSalle-GuilfordTransport	In Construction
North Point Bldg "T"	Residential	JonesLangLaSalle-GuilfordTransport	In Construction
North Point Remaining Master Plan	Mixed Use Development	JonesLangLaSalle-GuilfordTransport	Special Permit Granted
110 Second Street	Residential	Charles Passage, LLC	Complete
303 Third Street / Extell Housing	Residential	Extell Cambridge LLC	In Construction
22 Water Street	Residential	Catamount Holding	Special Permit Granted

Neighborhood 2 - MIT / AREA 2	Project Use	Developer	Status
235 Albany Street / Graduate Dormitory	Institutional	MIT	In Construction

DEVELOPMENT LOG
Projects by Neighborhood

Neighborhood 2 - MIT / AREA 2	Project Use	Developer	Status
75 Amherst Street / MIT Media Lab	College/University	MIT	In Construction
100 Main Street / Sloan School of Management	Institutional	MIT	In Construction
77 Massachusetts Avenue / Ceyer Laboratory	College/University	MIT	In Construction
Vail Court	Residential	Six Realty Trust	Special Permit Granted
Neighborhood 3 - WELLINGTON HARRINGTON	**Project Use**	**Developer**	**Status**
75 Ames Street / 7 Cambridge Center	Residential	Boston Properties	Special Permit Granted
424-430 Windsor Street / Immaculate Conception	Residential	Just A Start	Permitting
Neighborhood 4 - AREA IV	**Project Use**	**Developer**	**Status**
199-209 Columbia Street / Columbia Court	Residential	Just A Start Corp	In Construction
125-127 Harvard Street	Residential	CASCAP Realty, Inc.	Permitting
823 Main Street	Residential	Just A Start	Special Permit Granted
190 Prospect Street	Residential	Prospect Street Housing Trust	In Construction
Neighborhood 5 - CAMBRIDGEPORT	**Project Use**	**Developer**	**Status**
21 Brookline Street	Residential	1st Cambridge Real Estate	In Construction
72 Hamilton Street	Residential	Peggy Morrissey	Special Permit Granted
777 Memorial Drive	Residential	Nordic Properties	Special Permit Granted
173 Pearl Street / McTernan Pl - Blessed Sacrmnt	Residential	Paul Ognibene	In Construction
280-290 River Street	Residential	Rocco Scippa	In Construction

DEVELOPMENT LOG
Projects by Neighborhood

Neighborhood 6 - MID-CAMBRIDGE	Project Use	Developer	Status
449 Broadway / Main Library Expansion	Institutional	City of Cambridge	In Construction
239-241 Prospect Street	Residential	239 Prospect St., LLC	In Construction
Neighborhood 7 - RIVERSIDE	**Project Use**	**Developer**	**Status**
25-45 Blackstone Street / Switchhouse Housing	Residential	Harvard University	Complete
Grant/Cowperthwaite Streets / Harvard Housing	College/University	Harvard Real Estate Services	Complete
355 Green Street	Residential	Harry Katis	Special Permit Granted
870-888 Memorial Drive / Harvard Affiliate Housing	College/University	Harvard Real Estate Services	In Construction
Neighborhood 8 - AGASSIZ	**Project Use**	**Developer**	**Status**
1587 Massachusetts Avenue / Harvard Law School	Institutional	Harvard University	In Construction
15 Oxford Street / LISE	Institutional	Harvard University	Complete
24 Oxford Street	Institutional	Harvard University	In Construction
Neighborhood 9 - NEIGHBORHOOD 9	**Project Use**	**Developer**	**Status**
18-24 Bay State Road	Residential	Bay State Loft, LLC	Complete
479 Concord Avenue	Residential	Shelter, Inc.	In Construction
113 Richdale Avenue / Richdale Place	Residential	Oaktree Development	Complete
Neighborhood 10 - NEIGHBORHOOD 10	**Project Use**	**Developer**	**Status**
178 Coolidge Hill / Shady Hill Arts Center & Gym	Institutional	Shady Hill School	In Construction
330 Mt. Auburn St / Acute Care Bldg/Parking Garage	Hospital	Mt. Auburn Hospital	In Construction

DEVELOPMENT LOG
Projects by Neighborhood

Neighborhood 11 - NORTH CAMBRIDGE	Project Use	Developer	Status
Discovery Park Remaining Master Plan	Office/R&D	Bulfinch Company	Special Permit Granted
95 Harvey Street	Residential	Michael O'Shea	Permitting
1979 Massachusetts Avenue	Residential	Sam Azzam	In Construction
2101-2103 Massachusetts Avenue / VFW	Residential	CASCAP	In Construction
2440 Massachusetts Avenue	Residential	Cambridge Point Realty Trust	Complete
120 Rindge Avenue / St. John's Resident Phase I	Residential	120 Realty Trust	In Construction
122 Rindge Avenue / St. John's Resident Phase 2	Residential	120 Realty Trust	Special Permit Granted
1 Russell Street	Residential	Quadrant Real Estate	Complete
Neighborhood 12 - CAMBRIDGE HIGHLANDS	**Project Use**	**Developer**	**Status**
220 Alewife Brook Parkway / Hotel Tria Expansion	Hotel	Hotel Tria Assoc., LLC	Permitting
37 Wheeler Street / Baker Building	Residential	World 114 Nomine Trust	In Construction
Neighborhood 13 - STRAWBERRY HILL	**Project Use**	**Developer**	**Status**
688 Huron Avenue / Youth Center/VFW	Community Center	City of Cambridge	In Construction

DEVELOPMENT LOG

Completed Projects

Projects Completed in 2006

Cambridge Center, #7 (Broad Institute)
Concord Avenue, #773
First Street, #1 (Phase I)
Hampshire Street, #1 (Draper Labs)
Massachusetts Avenue, #250
Massachusetts Avenue, #2377-2399 (Trolley Square)
Massachusetts Avenue, #2495
Rindge Avenue, #310 (Brikkworks Housing)
Rindge Avenue, #390 (Alewife Brook Condos II)
Third Street, #350 (The Residences at Kendall Sq.)

Projects Completed in 2005

Aberdeen Avenue, #60
Acorn Park, #10 (Discovery Park)
Cambridge Center, #12R (Biogen)
Cambridge Street, #1730 (Harvard CGIS-South)
Cambridge Street, #1737 (Harvard CGIS-North)
Charles Street, #320 (Whitehead Institute)
Decatur Street, #10
Landsdowne Street, #100 (University Park)
Oxford Street, #52 (Parking Garage)
Prospect Street, #146-152 (Scouting Way)
Sidney Street, #23 (University Park)
Vassar Street, #43 (MIT Brain & Cognitive Center)

Projects Completed in 2004

Arrow Street, #0 (Theater)
Bishop Allen Drive, #47 (Parking Garage)
Concord Avenue #650 (Neville Manor)
Franklin Street, #369 (Oaktree Housing)
Main Street, #853 (La Groceria)
Massachusetts Avenue, #254 (Novartis)
Sixth Street, #157
Vassar Street, #10 (MIT Stata Center)
West Kendall Street, #675 (Vertex)

Projects Completed in 2003

Auburn Street, #196-198 (CASCAP Housing)
Bent Street, #300 (Lohnes)
Columbia Street, #55-59 (CAST Housing)
Kendall Street, #500 (Genzyme Building)
Land Boulevard, #25 (Hotel Marlowe)
Memorial Drive, #778-784 (Polaroid-Offices)
Pleasant Street, #157-173 (Polaroid-Housing)
Rindge Avenue, #265
Technology Square, #100

Projects Completed in 2002

Albany Street, #224 (MIT Dorm)
Bigelow Street, #8
Boardman Street (Squirrel Properties)
Cambridge Park Drive, #200 (Genetics Inst.)
Cambridge Park Drive, #30
Cambridge Street, #803-815
Cambridge Street, #1167 (JAS Housing/Nobrega's)
Landsdowne Street, #35 (Millennium Pharmaceuticals)
Landsdowne Street, #40 (University Park)
Landsdowne Street, #80 (University Park)
Main Street, #350 (Firehouse Hotel)
Massachusetts Avenue, #2443
Msgr. O'Brien Highway, 187-199 (Hotel)
Osborn Street, #28 (TKT, Inc.)
Pacific Street, #70 (MIT Dorm)
Sidney Street, #88 (University Park)
Sidney Street, #91 (University Park)
Technology Square, #300
Technology Square, #600
Technology Square, #700
Technology Square, #800
Third Street, #286 (Beal Company)
Vassar Street, #100
Vassar Street #229 (MIT Dorm/Simmons Hall)

Projects Completed in 2001

Broadway, #330, #332, #334
Cambridge Center, #15
Central Square, #1-9 (Carl Baron Plaza)
Concord Avenue, #650 (Neville Assisted Living)
Erie Street, #98-100
Fresh Pond Parkway, #250 (Water Treatment Plant)
Harvey Street, #181
Kendall Square, #1 (Amgen)
Landsdowne Street, #65 (University Park)
Massachusetts Avenue, #580
Mt. Auburn Street, #125 (Post Office)
Putnam Avenue, #396-398
Rindge Avenue, #70 (Fitzgerald School)
River Street, #241
River Street, #320-366 (Bread & Circus)
Sidney Street, #180 (Vertex)
Third Street, #101

Projects Completed in 2000

Ames Street E18, #50
Bent Street, #320
Brookline Street (Auburn Court, Phase II)
Brookline Street, #139-155
Norfolk Street, #59
Otis Street, #210
Oxford Street, #12
Prospect Street, #195
Rindge Avenue, #354, #358, #368, #384-390

Projects Completed in 1999

Albany Street, #270
Broadway, #203-205
Broadway, #210
Cambridge Center, #6
Cambridge Center, #8
Erie Street, #47
First Street, #25 (2 Canal Park)
Gore Street, #163

Projects Completed in 1999 (continued)

Harvard Street, #273
Massachusetts Avenue, #1008
Massachusetts Avenue, #1380-1392; JFK Street, #14-32
Massachusetts Avenue, #2525
Memorial Drive, #619
Memorial Drive, #808-812
Mt. Auburn Street, #100-104; Winthrop St. #89-107 (Eliot Sq.)
Oxford Street, #17-33 (Maxwell-Dworkin Building)
Pacific Street, #101
Porter Road, #48
Robinson Street, #26
Sidney Street, #45 & 75
Somerville Avenue, #815
Western Avenue, #165
Wilson Road, #10 (at Smith Place)

Projects Completed in 1998

Binney, #195; Third Street, #259-265
Davenport Street, #1-15
Massachusetts Avenue, #2105-2109
Massachusetts Avenue, #2325 (Pemberton Market)
Msgr. O'Brien Highway, #15 (Museum Towers PB #85)
Msgr. O'Brien Highway, #169
Pemberton Street Condos
Porter Square Shopping Center
Richdale Avenue
Rindge Avenue, #402
Sidney Street, #20; Mass. Ave., #350
Webster Street, #67-83, Bristol Street, #51-53

Projects Completed in 1997

Bent Street, #243
Education First PB #85
Memorial Drive,, #600
Memorial Drive, #620 (Hybridon)
Msgr. O'Brien Highway, #258
River Street, #330

CTPS Memos

DRAFT MEMORANDUM

To: Green Line Extension Project Files **August 18, 2008**

From: Scott Peterson, CTPS

Re: Kiss-n-ride Demand at New Green Line Stations

Introduction

The travel demand model that CTPS uses breaks access to a transit station into walk access and drive access through the use of a node that connects it to the station. The drive access node is used to attract two types of auto trips to a transit station namely: people driving to the park-and-ride (PNR) lots to park and those that get dropped off by another person. In the modeling work done for the Green Line Extension project, only the Mystic Valley Station (MVP) was allowed to have a drive access connection and this only occurred on selected alternatives. The reasons for this approach were to focus on understanding the parking demand at MVP the terminal station, and not worry about drop-offs at intermediate stations. Now that the majority of the modeling work is complete, we can approximate the drop-offs based on surveys of existing stations using an off-model approach. This memo presents the results of this off-model approach and itemizes the number and impact of adding drop-offs to the alternatives.

Drop-offs Transit Analysis

CTPS conducted a survey in the spring of 2007 to understand the use by station and mode of drop-offs at transit stations across eastern Massachusetts. This work showed that within the urban core, surface rail stops generally have between 3-7% of their daily boardings originating from drop-offs. An average of 5% was used in the Green Line Ext analysis, pivoting off of the unconstrained modeling results. Applying this percentage to the daily boardings for all new Green Line stations, allowed us to calculate an estimate of drop-offs that may occur at those stations. It was assumed that the people car-pooling would not have carpooled otherwise and are carpooling now due to solely to the project. Since it was unlikely that the person driving the person being dropped off would be driving past the station without a detour, it was assumed that only 70% of a 5-mile trip one-way would be saved in the estimate of VMT being saved. The estimate for drop-offs from this analysis ranged from a low of 200 new daily transit trips for Alt. 6, which consisted of only Union Square to a high of 820 for Alt. 7. Alt 3 and 4 had 750 new daily transit boardings, Alt 5a/5b had 650/670 new transit boardings, and Alt 1/2a/2b had 720 new transit boardings.

Drop-offs Highway and Air Quality Analysis

These drop-offs translated into a reduction of between 1,400 vehicle miles traveled (VMT) in Alt 6 to 5,740 in Alt 7. This results in air quality savings that is shown in Table 1.

TABLE 1: Emissions Saved by Off-Modeled Drop-offs

			Pollutant Reductions in grams			
Alt	**Drop-Offs**	**VMT Saved**	**Summer VOC**	**Summer NOx**	**Winter CO**	**Summer CO2**
6	200	1,400.0	277.2	211.4	11,543.0	797,160.0
5b	650	4,550.0	900.9	687.1	37,514.8	2,590,770.0
5a	670	4,690.0	928.6	708.2	38,669.1	2,670,486.0
1,2a,2b	720	5,040.0	997.9	761.0	41,554.8	2,869,776.0
3,4	750	5,250.0	1,039.5	792.8	43,286.3	2,989,350.0
7	820	5,740.0	1,136.5	866.7	47,326.3	3,268,356.0

The emissions factors used are for the year 2030 and assume the savings is predominantly on arterials at an average speed of 25 mph.

DRAFT MEMORANDUM

To: Green Line Extension Project Team **August 21, 2008**

From: Bruce Kaplan, CTPS

Re: MVP Competing Station Origin-Station Analysis

CTPS examined the origins of modeled future year users of park-and-ride lots at transit stations pertinent to the Green Line Extension project during the AM Peak Period, when most park-and-ride activity occurs. Investigated park-and-ride lots at existing stations include Alewife, Wellington, Lechmere, and West Medford. Additionally, special attention was paid to a potential new park-and-ride lot at Mystic Valley Parkway (MVP), the terminus of several Green Line Extension alternatives. Parking usage at these stations was analyzed under a number of conditions related to parking lot capacities – unconstrained demand, demand constrained to lot availability, and demand constrained to lot availability except at MVP.

Unconstrained Parking Demand

Most park-and-ride trip origins follow expected travel patterns. Park-and-riders typically travel to the nearest station, usually one accessible by highway or arterial. Alewife park-and-riders originate from points north and west along the Route 2 and Route 3 corridors, with the largest percentages coming from communities (Lexington and Arlington) located immediately west of the station. Significant numbers also come from nearby communities along the Route 16 corridor – Medford, Somerville, and Cambridge. These are unsurprising given Alewife's location at the intersection of Route 16 and Route 2. Similarly unsurprising is the composition of the Wellington station park-and-riders. These too seem to come from communities located along the roadways that intersect at the station (Route 16, Route 28, I-93). The largest percentages of users originate in Medford, Malden, Everett, and Somerville. A substantial portion comes from points north of the station along the I-93 corridor as well as from the North Shore. Lechmere park-and-riders come from communities lining the Route 28 corridor – Medford, Somerville, and Cambridge – as well as from Boston, which provides the single largest share. Most West Medford station park-and-riders originate in communities along Route 38 (Medford, Woburn, and Winchester) and nearby Arlington, as well as other points north along the I-93 corridor.

Not much change in terms of origins at these stations appears to occur with the addition of the MVP station. A slight siphoning off of West Medford trips does occur. The largest origin community is Medford, with substantial percentages from Somerville, Malden, Winchester, and Arlington. Additionally, more people originate along the I-93 corridor than from along the Route 2 corridor, due to the closer proximity of the station to I-93. Roughly the same number of people originating in Winchester uses the MVP station as do folks from the slightly closer

Arlington. It is interesting to note that Arlington park-and-riders continue to park at Alewife in the same numbers as without the MVP station, thus indicating that the Arlington drive market for the MVP station appears to be confined to the portion in eastern Arlington currently being served by the West Medford station.

Constrained Parking Demand

Constrained parking demand presents an interesting dilemma for park-and-riders in the study area. The small lot at West Medford is filled up quickly and the overflow park-and-riders from that station migrate to the nearby MVP station facility, which also reaches its 300-space capacity. The origin breakdown of trips at West Medford remains the same, while the origin makeup at MVP changes slightly due to the diversion of trips from West Medford. When compared with the unconstrained demand scenario, new park-and-ride trips at MVP are more apt to come from Somerville, Medford, and Malden, than from Arlington and Winchester. Therefore, it seems that the closest communities (with the exception of Arlington) appear to be the ones to fill up the MVP park-and-ride lot first.

Constrained Parking Demand except at MVP

When parking demand is unconstrained at MVP, but constrained at the rest of the system's park-and-ride facilities, the origin makeup at the non-MVP facilities surprisingly looks very similar to the constrained lot demand scenario. What does occur is that communities further away from MVP, from the North Shore and along I-93 as well as along the Route 2 and Route 3 corridors, begin to take advantage of the park-and-ride opportunity at MVP. In the process, the percentage of trips coming from Arlington rises while those from Medford, Somerville, and Malden decrease. This could possibly be due to the complete satisfaction of trip-making using the Green Line from those neighboring communities, which then allows trips from further communities (Arlington, Winchester, and points north and west) to be made via MVP and the Green Line.

CTPS Forecasted Model Volumes

Description				2006-PM		2030-PM	
#	J Node	Intersection	Location	Pk Hr Vol.	Pk 3 Hr Vol.	Pk Hr Vol.	Pk 3 Hr Vol.
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	?	1	3	1	3
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Alewife Brook Pkwy	1191	3,275	1,299	3,570
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	MVP, east of intersection	1231	3,385	1,306	3,588
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	MVP, west of intersection	508	1,397	559	1,537
2.1	6658	Mystic Valley Pkwy @ Auburn St	Auburn St, south of interesection	270	743	311	854
2.1	6658	Mystic Valley Pkwy @ Auburn St	MVP, west of intersection	952	2,618	1,039	2,854
2.2	6657	Mystic Valley Pkwy @ Auburn St	Auburn St, north of interesection	37	102	38	105
2.2	6657	Mystic Valley Pkwy @ Auburn St	MVP, east of intersection	1103	3,033	1,170	3,215
3	6667	Mystic Valley Pkwy @ Winthrop St	MVP, east of intersection	989	2,720	1,030	2,829
3	6667	Mystic Valley Pkwy @ Winthrop St	MVP, west of intersection	1438	3,955	1,526	4,192
3	6667	Mystic Valley Pkwy @ Winthrop St	Winthrop St, north of interesection	961	2,643	1,000	2,748
3	6667	Mystic Valley Pkwy @ Winthrop St	Winthrop St, south of interesection	572	1,573	618	1,699
4	6659	High St @ Boston Ave/Sagamore Ave	Boston Ave, south of interesection	224	616	242	665
4	6659	High St @ Boston Ave/Sagamore Ave	High St, east of intersection	509	1,400	548	1,505
4	6659	High St @ Boston Ave/Sagamore Ave	High St, west of intersection	804	2,211	853	2,344
4	6659	High St @ Boston Ave/Sagamore Ave	Sagamore St, north of Intersection	20	55	21	59
5	6584	Mystic Valley Pkwy @ Boston Ave	Boston Ave, north of interesection	314	864	336	924
5	6584	Mystic Valley Pkwy @ Boston Ave	Boston Ave, south of interesection	496	1,364	526	1,446
5	6584	Mystic Valley Pkwy @ Boston Ave	MVP, east of intersection	1168	3,212	1,251	3,437
5	6584	Mystic Valley Pkwy @ Boston Ave	MVP, west of intersection	1058	2,910	1,144	3,142
6	8710	Boston Ave @ North St	Boston Ave, north of interesection	391	1,075	419	1,151
6	8710	Boston Ave @ North St	Boston Ave, south of interesection	452	1,243	491	1,349
6	8710	Boston Ave @ North St	North St, east of intersection	98	270	105	290
6	8710	Boston Ave @ North St	North St, west of intersection	71	195	75	205
7	6672	Boston Ave @ Winthrop St	Boston Ave, north of interesection	524	1,441	569	1,563
7	6672	Boston Ave @ Winthrop St	Boston Ave, south of interesection	520	1,430	557	1,530
7	6672	Boston Ave @ Winthrop St	Curtis St, west of intersection	282	776	305	838
7	6672	Boston Ave @ Winthrop St	Winthrop St, east of intersection	464	1,276	497	1,365
8	6670	Boston Ave @ College Ave	Boston Ave, north of interesection	383	1,053	422	1,159
8	6670	Boston Ave @ College Ave	Boston Ave, south of interesection	321	883	352	967
8	6670	Boston Ave @ College Ave	College Ave, east of intersection	360	990	386	1,059
8	6670	Boston Ave @ College Ave	College Ave, west of intersection	372	1,023	398	1,095
9	8715	Boston Ave @ Harvard St/Warner St	Boston Ave, north of interesection	267	734	286	786
9	8715	Boston Ave @ Harvard St/Warner St	Boston Ave, south of interesection	308	847	333	915
9	8715	Boston Ave @ Harvard St/Warner St	Harvard Ave, east of intersection	625	1,719	688	1,891
9	8715	Boston Ave @ Harvard St/Warner St	Warner St, west of intersection	471	1,295	523	1,438
10.1	6554	Broadway @ Warner St/College Ave/Powder House	Broadway St @ entry to rotary eastside	1301	3,578	1,498	4,114
10.2	25232	Broadway @ Warner St/College Ave/Powder House	Warner St @ entry to rotary	1144	3,146	1,294	3,555
10.3	25233	Broadway @ Warner St/College Ave/Powder House	College Ave @ entry to rotary NE	1327	3,649	1,541	4,233
10.4	25234	Broadway @ Warner St/College Ave/Powder House	Powderhouse Blvd @ entry to rotary	1335	3,671	1,537	4,222
10.5	25235	Broadway @ Warner St/College Ave/Powder House	Broadway St @ entry to rotary westside	1274	3,504	1,492	4,099
10.6	25236	Broadway @ Warner St/College Ave/Powder House	College Ave @ entry to rotary SW	1262	3,471	1,503	4,130

11	6651	High St @ Main St/Forest St/Salem St/Riverside	Forest St, north of intersection	291	800	320	880
11	6651	High St @ Main St/Forest St/Salem St/Riverside	High St, west of interesection	454	1,249	500	1,373
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Main St, south of intersection	183	503	231	634
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Salem St, north of intersection	1607	4,419	1,786	4,905
12	25288	Main St @ Mystic Valley WB Off-Ramp	Main St, north of intersection	987	2,714	1,116	3,067
12	25288	Main St @ Mystic Valley WB Off-Ramp	Main St, south of intersection	1136	3,124	1,365	3,749
12	25288	Main St @ Mystic Valley WB Off-Ramp	MVP off-ramp, east of intersection	267	734	321	881
13	6668	Main St @ South St	Main St, north of intersection	987	2,714	1,097	3,013
13	6668	Main St @ South St	Main St, south of intersection	1360	3,740	1,620	4,451
13	6668	Main St @ South St	MVP off-ramp/South St, west of intersection	570	1,568	650	1,787
14	6669	Main St @ Mystic Ave	Fire Station, east of intersection	7	19	8	22
14	6669	Main St @ Mystic Ave	Main St, north of intersection	1157	3,182	1,309	3,595
14	6669	Main St @ Mystic Ave	Main St, south of intersection	400	1,100	472	1,298
14	6669	Main St @ Mystic Ave	Mystic Ave, east of intersection	1095	3,011	1,228	3,373
15	6647	Main St @ Harvard St	Harvard St, east of intersection	567	1,559	641	1,762
15	6647	Main St @ Harvard St	Harvard St, west of intersection	559	1,537	660	1,814
15	6647	Main St @ Harvard St	Main St, north of intersection	573	1,576	642	1,765
15	6647	Main St @ Harvard St	Medford St, south of intersection	407	1,119	477	1,310
16	6538	Broadway @ Medford St/Dexter St	Broadway St, north of intersection	615	1,691	708	1,945
16	6538	Broadway @ Medford St/Dexter St	Broadway St, south of intersection	710	1,953	839	2,304
16	6538	Broadway @ Medford St/Dexter St	Dexter St, east of intersection	71	195	74	203
16	6538	Broadway @ Medford St/Dexter St	Dunkin Doughnuts	50	138	52	143
16	6538	Broadway @ Medford St/Dexter St	Medford St, north of intersection	241	663	256	703
16	6538	Broadway @ Medford St/Dexter St	Medford St, south of intersection	345	949	404	1,110
17	9311	Medford St @ Lowell St	Lowell St, west of intersection	118	325	124	341
17	9311	Medford St @ Lowell St	Medford St, north of intersection	432	1,188	502	1,378
17	9311	Medford St @ Lowell St	Medford St, south of intersection	392	1,078	463	1,272
18	6536	Medford St @ Central St	Central St, east of intersection	113	311	120	329
18	6536	Medford St @ Central St	Central St, west of intersection	422	1,161	486	1,335
18	6536	Medford St @ Central St	Medford St, north of intersection	418	1,150	456	1,253
18	6536	Medford St @ Central St	Medford St, south of intersection	455	1,251	542	1,489
19	6535	Medford St @ School St	Medford St, north of intersection	488	1,342	528	1,449
19	6535	Medford St @ School St	Medford St, south of intersection	723	1,988	861	2,366
19	6535	Medford St @ School St	School St, east of intersection	295	811	325	892
20	8765	Medford St @ Walnut St	Medford St, north of intersection	230	633	251	689
20	8765	Medford St @ Walnut St	Medford St, south of intersection	315	866	375	1,031
20	8765	Medford St @ Walnut St	Walnut St, west of intersection	355	976	398	1,093
21	6534	Medford St @ Highland Ave	Hamlet St, west of intersection	21	58	24	66
21	6534	Medford St @ Highland Ave	Highland Ave, north of intersection	443	1,218	483	1,328
21	6534	Medford St @ Highland Ave	Medford St, north of intersection	240	660	279	766
21	6534	Medford St @ Highland Ave	Medford St, south of intersection	797	2,192	949	2,608
22	8260	Medford St @ Somerville Ave	Medford St, north of intersection	994	2,734	1,164	3,198
22	8260	Medford St @ Somerville Ave	Medford St, south of intersection	559	1,537	660	1,814
22	8260	Medford St @ Somerville Ave	Somerville Ave, west of intersection	448	1,232	493	1,355

23	9307	Highland Ave @ Lowell St	Highland Ave, north of intersection	423	1,163	466	1,280
23	9307	Highland Ave @ Lowell St	Highland Ave, south of intersection	532	1,463	564	1,551
23	9307	Highland Ave @ Lowell St	Lowell St, east of intersection	123	338	131	359
23	9307	Highland Ave @ Lowell St	Lowell St, west of intersection	179	492	190	522
24	6557	Highland Ave @ Central St	Central St, east of intersection	150	413	159	437
24	6557	Highland Ave @ Central St	Central St, west of intersection	443	1,218	510	1,401
24	6557	Highland Ave @ Central St	Highland Ave, north of intersection	390	1,073	426	1,169
24	6557	Highland Ave @ Central St	Highland Ave, south of intersection	463	1,273	496	1,362
25	9312	Highland Ave @ School St	Highland Ave, north of intersection	443	1,218	488	1,340
25	9312	Highland Ave @ School St	Highland Ave, south of intersection	520	1,430	562	1,544
25	9312	Highland Ave @ School St	School St, east of intersection	418	1,150	460	1,264
26	8252	Washington St @ Interbelt Rd	Interbelt Rd, south of intersection	327	899	350	962
26	8252	Washington St @ Interbelt Rd	Washington St, east of intersection	778	2,140	880	2,418
26	8252	Washington St @ Interbelt Rd	Washington St, west of intersection	601	1,653	692	1,901
27.1	8247	Washington St @ Medford St	Medford St, north of intersection	460	1,265	539	1,480
27.1	8247	Washington St @ Medford St	Washington St, west of intersection	1079	2,967	1,231	3,383
27.2	8248	Washington St @ Medford St	Medford St, south of intersection	1121	3,083	1,324	3,638
27.2	8248	Washington St @ Medford St	Washington St, east of intersection	997	2,742	1,198	3,290
28	6514	Washington St @ Somerville St/Webster St	Somerville Ave, north of intersection	617	1,697	710	1,951
28	6514	Washington St @ Somerville Ave/Webster Ave	Washington St, east of intersection	1572	4,323	1,652	4,539
28	6514	Washington St @ Somerville Ave/Webster Ave	Washington St, west of intersection	366	1,007	410	1,127
29	6521	Washington St @ Beacon St	Beacon St, north of intersection	440	1,210	467	1,283
29	6521	Washington St @ Beacon St	Beacon St, south of intersection	537	1,477	586	1,610
29	6521	Washington St @ Beacon St	Kirkland St, west of intersection	442	1,216	460	1,264
29	6521	Washington St @ Beacon St	Washington St, east of intersection	347	954	368	1,012
30	6513	Prospect St @ Somerville Ave	Prospect St, south of intersection	1193	3,281	1,373	3,773
30	6513	Prospect Ave @ Somerville Ave	Somerville Ave, south of intersection	418	1,150	485	1,333
30	6513	Prospect Ave @ Somerville Ave	Washington St, east of intersection	821	2,258	855	2,348
30	6513	Prospect Ave @ Somerville Ave	Washington St, west of intersection	680	1,870	762	2,094
31	6528	Prospect St @ Webster St/Concord Ave	Concord Ave, west of intersection	0	-	-	-
31	6528	Prospect St @ Webster St/Concord Ave	Prospect St, south of intersection	550	1,513	639	1,755
31	6528	Prospect St @ Webster St/Concord Ave	Webster Ave, north of intersection	609	1,675	707	1,943
31	6528	Prospect St @ Webster St/Concord Ave	Webster Ave, south of intersection	710	1,953	810	2,226
32	6479	Prospect St @ Cambridge St	Cambridge St, east of intersection	390	1,073	418	1,148
32	6479	Prospect St @ Cambridge St	Cambridge St, west of intersection	362	996	413	1,135
32	6479	Prospect St @ Cambridge St	Prospect St, north of intersection	252	693	280	769
32	6479	Prospect St @ Cambridge St	Prospect St, souh of intersection	549	1,510	632	1,736
33	6481	Prospect St @ Hampshire St	Hampshire St, east of intersection	337	927	405	1,112
33	6481	Prospect St @ Hampshire St	Hampshire St, west of intersection	320	880	378	1,038
33	6481	Prospect St @ Hampshire St	Prospect St, north of intersection	256	704	284	781
33	6481	Prospect St @ Hampshire St	Prospect St, souh of intersection	625	1,719	726	1,994

34	8712	George St @ Main St	George St, west of intersection	269	740	320	880
34	8712	George St @ Main St	Main St, north of intersection	717	1,972	840	2,307
34	8712	George St @ Main St	Main St, south of intersection	663	1,823	776	2,133
35	23342	George St @ College Ave	College Ave, north of intersection	4	11	4	12
35	23342	George St @ College Ave	College Ave, south of intersection	156	429	170	468
35	23342	George St @ College Ave	George St, east of intersection	513	1,411	534	1,467
36	6542 / 6543	Msgr Obrien Hwy @ Third St	Msgr Obrien Hwy, east of intersection	987	2,714	1,127	3,096
36	6542 / 6543	Msgr Obrien Hwy @ Third St	Msgr Obrien Hwy, west of intersection	1090	2,998	1,655	4,547
36	6542 / 6543	Msgr Obrien Hwy @ Third St	Third St, south of intersection	800	2,200	906	2,488
37	0	Msgr Obrien Hwy @ Water St	Msgr Obrien Hwy, east of intersection	1018	2,800	1,559	4,283
37	0	Msgr Obrien Hwy @ Water St	Msgr Obrien Hwy, west of intersection	829	2,280	981	2,694
37	0	Msgr Obrien Hwy @ Water St	Water St, north of intersection	10	28	228	628
38	6541	Msgr Obrien Hwy @ Gore St	Gore St, south of intersection	55	151	94	257
38	6541	Msgr Obrien Hwy @ Gore St	Msgr Obrien Hwy, east of intersection	1018	2,800	1,195	3,283
38	6541	Msgr Obrien Hwy @ Gore St	Msgr Obrien Hwy, west of intersection	829	2,280	981	2,694
39	0	Msgr Obrien Hwy @ Lechmere Station / 1st S Ext	Lechmere Station/1st St Ext, south of intersection	16	44	89	245
39	0	Msgr Obrien Hwy @ Lechmere Station / 1st S Ext	Msgr Obrien Hwy, east of intersection	1002	2,756	1,179	3,238
39	0	Msgr Obrien Hwy @ Lechmere Station / 1st S Ext	Msgr Obrien Hwy, west of intersection	883	2,428	1,037	2,850
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St	Cambridge St, south of intersection	732	2,013	806	2,214
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St	East St, north of intersection	83	228	523	1,437
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St	Msgr Obrien Hwy, east of intersection	1077	2,962	1,402	3,851
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St	Msgr Obrien Hwy, west of intersection	865	2,379	1,055	2,898
41	6468	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Bl	Edwin Land Blvd, south of intersection	2018	5,550	2,250	6,182
41	6467	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Bl	Gilmore Bridge, north of intersection	737	2,027	1,061	2,915
41	6466	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Bl	Msgr Obrien Hwy, east of intersection	1266	3,482	1,560	4,286
41	6465	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Bl	Msgr Obrien Hwy, west of intersection	1298	3,570	1,728	4,748
42	0	Msgr Obrien Hwy @ Museum Way	Msgr Obrien Hwy, east of intersection	1223	3,363	1,589	4,364
42	0	Msgr Obrien Hwy @ Museum Way	Msgr Obrien Hwy, west of intersection	1534	4,219	1,758	4,829
42	0	Msgr Obrien Hwy @ Museum Way	Museum Way, north of intersection	137	377	180	496
43	6472	Cambridge St @ First St	Cambridge St, east of intersection	330	908	499	1,371
43	6472	Cambridge St @ First St	First St, north of intersection	15	tbd	tbd	tbd
43	6472	Cambridge St @ First St	First St, south of intersection	598	41	93	256
44	6472	Cambridge St @ First St	Cambridge St, west of intersection	260	715	297	815

Green Line Extension Project:
Adjusted Approach Volumes for the
AM 2030 No-build Key Intersections

Description					2006-AM-Base		2030-AM-No-Build	
#	J Node	Intersection	Communities	Location	Pk 1 Hr Vol.	Pk 3 Hr Vol.	Pk 1 Hr Vol.	Pk 3 Hr Vol.
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	MVP, west of intersection	882	2,073	913	2,147
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	MVP, east of intersection	1236	2,905	1,323	3,114
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	Alewife Brook Pkwy	762	1,791	852	2,006
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	?	3	7	3	8
2.1	6658	Mystic Valley Pkwy @ Auburn St	Med/Som	MVP, west of intersection	791	1,859	839	1,974
2.1	6658	Mystic Valley Pkwy @ Auburn St	Med/Som	Auburn St, south of interesection	160	376	165	388
2.2	6657	Mystic Valley Pkwy @ Auburn St	Med/Som	MVP, east of intersection	1188	2,792	1,286	3,026
2.2	6657	Mystic Valley Pkwy @ Auburn St	Med/Som	Auburn St, north of interesection	153	360	158	371
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	Winthrop St, south of interesection	759	1,784	798	1,878
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	Winthrop St, north of interesection	1440	3,384	1,556	3,661
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	MVP, west of intersection	918	2,157	986	2,319
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	MVP, east of intersection	1169	2,747	1,267	2,981
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	Sagamore St, north of Intersection	40	94	43	100
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	High St, west of intersection	500	1,175	525	1,236
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	High St, east of intersection	711	1,671	741	1,743
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	Boston Ave, south of interesection	183	430	196	461
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	MVP, west of intersection	906	2,129	953	2,242
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	MVP, east of intersection	1099	2,583	1,188	2,794
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	Boston Ave, south of interesection	324	761	345	811
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	Boston Ave, north of interesection	514	1,208	545	1,282
6	8710	Boston Ave @ North St	Medford	North St, west of intersection	61	143	64	150
6	8710	Boston Ave @ North St	Medford	North St, east of intersection	164	385	174	410
6	8710	Boston Ave @ North St	Medford	Boston Ave, south of interesection	286	672	304	716
6	8710	Boston Ave @ North St	Medford	Boston Ave, north of interesection	562	1,321	597	1,404
7	6672	Boston Ave @ Winthrop St	Medford	Winthrop St, east of intersection	335	787	359	845
7	6672	Boston Ave @ Winthrop St	Medford	Curtis St, west of intersection	378	888	407	957
7	6672	Boston Ave @ Winthrop St	Medford	Boston Ave, south of interesection	284	667	305	717
7	6672	Boston Ave @ Winthrop St	Medford	Boston Ave, north of interesection	592	1,391	631	1,486
8	6670	Boston Ave @ College Ave	Medford	College Ave, west of intersection	194	456	212	500
8	6670	Boston Ave @ College Ave	Medford	College Ave, east of intersection	429	1,008	468	1,102
8	6670	Boston Ave @ College Ave	Medford	Boston Ave, south of interesection	205	482	221	521
8	6670	Boston Ave @ College Ave	Medford	Boston Ave, north of interesection	563	1,323	602	1,417
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Warner St, west of intersection	829	1,948	931	2,192
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Harvard Ave, east of intersection	748	1,758	838	1,972
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Boston Ave, south of interesection	118	277	128	302
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Boston Ave, north of interesection	328	771	355	835
10.1	6554	Broadway @ Warner St/College Ave/Powder House	Somerville	Broadway St @ entry to rotary eastside	1230	2,891	1,392	3,275
10.2	25232	Broadway @ Warner St/College Ave/Powder House	Somerville	Warner St @ entry to rotary	1144	2,688	1,285	3,024
10.3	25233	Broadway @ Warner St/College Ave/Powder House	Somerville	College Ave @ entry to rotary NE	1305	3,067	1,513	3,560
10.4	25234	Broadway @ Warner St/College Ave/Powder House	Somerville	Powderhouse Blvd @ entry to rotary	1584	3,722	1,903	4,478
10.5	25235	Broadway @ Warner St/College Ave/Powder House	Somerville	Broadway St @ entry to rotary westside	1736	4,080	1,978	4,655
10.6	25236	Broadway @ Warner St/College Ave/Powder House	Somerville	College Ave @ entry to rotary SW	1406	3,304	1,695	3,988
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Salem St, north of intersection	1693	3,979	2,115	4,977
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Riverside St, west of interesection	533	1,253	673	1,584
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Main St, south of intersection	77	181	90	212
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Forest St, north of intersection	416	978	535	1,258

Green Line Extension Project:
Adjusted Approach Volumes for the
AM 2030 No-build Key Intersections

Description					2006-AM-Base		2030-AM-No-Build	
#	J Node	Intersection	Communities	Location	Pk 1 Hr Vol.	Pk 3 Hr Vol.	Pk 1 Hr Vol.	Pk 3 Hr Vol.
12	25288	Main St @ Mystic Valley WB Off-Ramp	Medford	MVP off-ramp, east of intersection	219	515	255	600
12	25288	Main St @ Mystic Valley WB Off-Ramp	Medford	Main St, south of intersection	442	1,039	512	1,204
12	25288	Main St @ Mystic Valley WB Off-Ramp	Medford	Main St, north of intersection	1745	4,101	2,046	4,814
13	6668	Main St @ South St	Medford	MVP off-ramp/South St, west of intersection	613	1,441	708	1,665
13	6668	Main St @ South St	Medford	Main St, south of intersection	807	1,896	933	2,196
13	6668	Main St @ South St	Medford	Main St, north of intersection	1591	3,739	1,842	4,333
14	6669	Main St @ Mystic Ave	Medford	Mystic Ave, east of intersection	471	1,107	492	1,157
14	6669	Main St @ Mystic Ave	Medford	Main St, south of intersection	378	888	437	1,029
14	6669	Main St @ Mystic Ave	Medford	Main St, north of intersection	1858	4,366	2,147	5,052
14	6669	Main St @ Mystic Ave	Medford	Fire Station, east of intersection	8	19	9	21
15	6647	Main St @ Harvard St	Medford	Medford St, south of intersection	410	964	464	1,093
15	6647	Main St @ Harvard St	Medford	Main St, north of intersection	600	1,410	713	1,676
15	6647	Main St @ Harvard St	Medford	Harvard St, west of intersection	527	1,238	589	1,386
15	6647	Main St @ Harvard St	Medford	Harvard St, east of intersection	514	1,208	612	1,440
16	6538	Broadway @ Medford St/Dexter St	Somerville	Medford St, south of intersection	366	860	417	982
16	6538	Broadway @ Medford St/Dexter St	Somerville	Medford St, north of intersection	303	712	360	847
16	6538	Broadway @ Medford St/Dexter St	Somerville	Dunkin Doughnuts	83	195	92	217
16	6538	Broadway @ Medford St/Dexter St	Somerville	Dexter St, east of intersection	149	350	165	389
16	6538	Broadway @ Medford St/Dexter St	Somerville	Broadway St, south of intersection	507	1,191	575	1,352
16	6538	Broadway @ Medford St/Dexter St	Somerville	Broadway St, north of intersection	1092	2,566	1,188	2,795
17	9311	Medford St @ Lowell St	Somerville	Medford St, south of intersection	371	872	420	989
17	9311	Medford St @ Lowell St	Somerville	Medford St, north of intersection	853	2,005	1,017	2,393
17	9311	Medford St @ Lowell St	Somerville	Lowell St, west of intersection	124	291	126	298
18	6536	Medford St @ Central St	Somerville	Medford St, south of intersection	305	717	350	823
18	6536	Medford St @ Central St	Somerville	Medford St, north of intersection	652	1,532	738	1,738
18	6536	Medford St @ Central St	Somerville	Central St, west of intersection	322	757	333	783
18	6536	Medford St @ Central St	Somerville	Central St, east of intersection	207	486	212	500
19	6535	Medford St @ School St	Somerville	School St, east of intersection	441	1,036	460	1,083
19	6535	Medford St @ School St	Somerville	Medford St, south of intersection	443	1,041	508	1,196
19	6535	Medford St @ School St	Somerville	Medford St, north of intersection	735	1,727	837	1,969
20	8765	Medford St @ Walnut St	Somerville	Walnut St, west of intersection	250	588	286	673
20	8765	Medford St @ Walnut St	Somerville	Medford St, south of intersection	162	381	186	437
20	8765	Medford St @ Walnut St	Somerville	Medford St, north of intersection	516	1,213	593	1,394
21	6534	Medford St @ Highland Ave	Somerville	Medford St, south of intersection	533	1,253	634	1,492
21	6534	Medford St @ Highland Ave	Somerville	Medford St, north of intersection	518	1,217	595	1,400
21	6534	Medford St @ Highland Ave	Somerville	Highland Ave, north of intersection	593	1,394	638	1,502
21	6534	Medford St @ Highland Ave	Somerville	Hamlet St, west of intersection	20	47	22	52
22	8260	Medford St @ Somerville Ave	Somerville	Somerville Ave, west of intersection	470	1,105	575	1,354
22	8260	Medford St @ Somerville Ave	Somerville	Medford St, south of intersection	238	559	272	640
22	8260	Medford St @ Somerville Ave	Somerville	Medford St, north of intersection	1347	3,165	1,571	3,697
23	9307	Highland Ave @ Lowell St	Somerville	Lowell St, west of intersection	130	306	134	316
23	9307	Highland Ave @ Lowell St	Somerville	Lowell St, east of intersection	308	724	317	747
23	9307	Highland Ave @ Lowell St	Somerville	Highland Ave, south of intersection	452	1,062	482	1,133
23	9307	Highland Ave @ Lowell St	Somerville	Highland Ave, north of intersection	395	928	419	987
24	6557	Highland Ave @ Central St	Somerville	Highland Ave, south of intersection	330	776	351	827
24	6557	Highland Ave @ Central St	Somerville	Highland Ave, north of intersection	437	1,027	467	1,100

Green Line Extension Project:
Adjusted Approach Volumes for the
AM 2030 No-build Key Intersections

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Description					2006-AM-Base		2030-AM-No-Build	
#	J Node	Intersection	Communities	Location	Pk 1 Hr Vol.	Pk 3 Hr Vol.	Pk 1 Hr Vol.	Pk 3 Hr Vol.
24	6557	Highland Ave @ Central St	Somerville	Central St, west of intersection	268	630	278	654
24	6557	Highland Ave @ Central St	Somerville	Central St, east of intersection	292	686	302	710
25	9312	Highland Ave @ School St	Somerville	School St, east of intersection	531	1,248	544	1,279
25	9312	Highland Ave @ School St	Somerville	Highland Ave, south of intersection	395	928	419	986
25	9312	Highland Ave @ School St	Somerville	Highland Ave, north of intersection	496	1,166	533	1,253
26	8252	Washington St @ Interbelt Rd	Somerville	Washington St, west of intersection	398	935	506	1,192
26	8252	Washington St @ Interbelt Rd	Somerville	Washington St, east of intersection	1035	2,432	1,297	3,052
26	8252	Washington St @ Interbelt Rd	Somerville	Interbelt Rd, south of intersection	144	338	539	1,269
27.1	8247	Washington St @ Medford St	Somerville	Washington St, west of intersection	724	1,701	912	2,145
27.1	8247	Washington St @ Medford St	Somerville	Medford St, north of intersection	550	1,293	700	1,648
27.2	8248	Washington St @ Medford St	Somerville	Washington St, east of intersection	1064	2,500	1,370	3,223
27.2	8248	Washington St @ Medford St	Somerville	Medford St, south of intersection	615	1,445	808	1,901
28	6514	Washington St @ Somerville Ave/Webster Ave	Somerville	Washington St, west of intersection	362	851	412	970
28	6514	Washington St @ Somerville Ave/Webster Ave	Somerville	Washington St, east of intersection	1218	2,862	1,508	3,549
28	6514	Washington St @ Somerville St/Webster St	Somerville	Somerville Ave, north of intersection	650	1,528	817	1,922
29	6521	Washington St @ Beacon St	Somerville	Washington St, east of intersection	412	968	421	991
29	6521	Washington St @ Beacon St	Somerville	Kirkland St, west of intersection	270	635	306	720
29	6521	Washington St @ Beacon St	Somerville	Beacon St, south of intersection	291	684	334	786
29	6521	Washington St @ Beacon St	Somerville	Beacon St, north of intersection	607	1,426	673	1,583
30	6513	Prospect Ave @ Somerville Ave	Somerville	Washington St, west of intersection	618	1,452	765	1,801
30	6513	Prospect Ave @ Somerville Ave	Somerville	Washington St, east of intersection	195	458	200	470
30	6513	Prospect Ave @ Somerville Ave	Somerville	Somerville Ave, south of intersection	195	458	239	562
30	6513	Prospect St @ Somerville Ave	Somerville	Prospect St, south of intersection	656	1,542	740	1,742
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Webster Ave, south of intersection	219	515	255	601
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Webster Ave, north of intersection	816	1,918	994	2,339
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Prospect St, south of intersection	332	780	377	888
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Concord Ave, west of intersection	-	-	-	-
32	6479	Prospect St @ Cambridge St	Cambridge	Prospect St, souh of intersection	331	778	375	881
32	6479	Prospect St @ Cambridge St	Cambridge	Prospect St, north of intersection	346	813	414	973
32	6479	Prospect St @ Cambridge St	Cambridge	Cambridge St, west of intersection	330	776	370	872
32	6479	Prospect St @ Cambridge St	Cambridge	Cambridge St, east of intersection	393	924	449	1,057
33	6481	Prospect St @ Hampshire St	Cambridge	Prospect St, souh of intersection	387	909	439	1,032
33	6481	Prospect St @ Hampshire St	Cambridge	Prospect St, north of intersection	339	797	410	964
33	6481	Prospect St @ Hampshire St	Cambridge	Hampshire St, west of intersection	502	1,180	614	1,445
33	6481	Prospect St @ Hampshire St	Cambridge	Hampshire St, east of intersection	282	663	343	808

Description							2006		2030	
#	J Node	Intersection	Location	Juristidition	Color	Location	AM Pk Hr Vol.	AM Pk 3 Hr Vol.	AM Pk Hr Vol.	AM Pk 3 Hr Vol.
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	DCR	1	Winthrop St, south of interesection	759	1,784	798	1,878
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	DCR	1	Winthrop St, north of interesection	1440	3,384	1,556	3,661
7	6672	Boston Ave @ Winthrop St	Medford	Town/City	2	Winthrop St, east of intersection	335	787	359	845
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	DCR	1	MVP, west of intersection	882	2,073	913	2,147
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	DCR	1	MVP, east of intersection	1236	2,905	1,323	3,114
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	DCR	1	Alewife Brook Pkwy	762	1,791	852	2,006
1	6583	Mystic Valley Pkwy @ Alewife Brook Pkwy	Somerville	DCR	1	?	3	7	3	8
2.1	6658	Mystic Valley Pkwy @ Auburn St	Med/Som	DCR	1	MVP, west of intersection	791	1,859	839	1,974
2.1	6658	Mystic Valley Pkwy @ Auburn St	Med/Som	DCR	1	Auburn St, south of interesection	160	376	165	388
2.2	6657	Mystic Valley Pkwy @ Auburn St	Med/Som	DCR	1	MVP, east of intersection	1188	2,792	1,286	3,026
2.2	6657	Mystic Valley Pkwy @ Auburn St	Med/Som	DCR	1	Auburn St, north of interesection	153	360	158	371
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	DCR	1	MVP, west of intersection	918	2,157	986	2,319
3	6667	Mystic Valley Pkwy @ Winthrop St	Medford	DCR	1	MVP, east of intersection	1169	2,747	1,267	2,981
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	Town/City	2	Sagamore St, north of Intersection	40	94	43	100
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	Town/City	2	High St, west of intersection	500	1,175	525	1,236
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	Town/City	2	High St, east of intersection	711	1,671	741	1,743
4	6659	High St @ Boston Ave/Sagamore Ave	Medford	Town/City	2	Boston Ave, south of interesection	183	430	196	461
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	DCR	1	MVP, west of intersection	906	2,129	953	2,242
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	DCR	1	MVP, east of intersection	1099	2,583	1,188	2,794
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	DCR	1	Boston Ave, south of interesection	324	761	345	811
5	6584	Mystic Valley Pkwy @ Boston Ave	Somerville	DCR	1	Boston Ave, north of interesection	514	1,208	545	1,282
6	8710	Boston Ave @ North St	Medford	Town/City	2	North St, west of intersection	61	143	64	150
6	8710	Boston Ave @ North St	Medford	Town/City	2	North St, east of intersection	164	385	174	410
6	8710	Boston Ave @ North St	Medford	Town/City	2	Boston Ave, south of interesection	286	672	304	716
6	8710	Boston Ave @ North St	Medford	Town/City	2	Boston Ave, north of interesection	562	1,321	597	1,404
7	6672	Boston Ave @ Winthrop St	Medford	Town/City	2	Curtis St, west of intersection	378	888	407	957
7	6672	Boston Ave @ Winthrop St	Medford	Town/City	2	Boston Ave, south of interesection	284	667	305	717
7	6672	Boston Ave @ Winthrop St	Medford	Town/City	2	Boston Ave, north of interesection	592	1,391	631	1,486
8	6670	Boston Ave @ College Ave	Medford	Town/City	2	College Ave, west of intersection	194	456	212	500
8	6670	Boston Ave @ College Ave	Medford	Town/City	2	College Ave, east of intersection	429	1,008	468	1,102
8	6670	Boston Ave @ College Ave	Medford	Town/City	2	Boston Ave, south of interesection	205	482	221	521
8	6670	Boston Ave @ College Ave	Medford	Town/City	2	Boston Ave, north of interesection	563	1,323	602	1,417
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Town/City	2	Warner St, west of intersection	829	1,948	931	2,192
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Town/City	2	Harvard Ave, east of intersection	748	1,758	838	1,972
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Town/City	2	Boston Ave, south of interesection	118	277	128	302
9	8715	Boston Ave @ Harvard St/Warner St	Medford	Town/City	2	Boston Ave, north of interesection	328	771	355	835
10.1	6554	Broadway @ Warner St/College Ave/Powder House	Somerville	Town/City	3	Broadway St @ entry to rotary eastside	1230	2,891	1,392	3,275
10.2	25232	Broadway @ Warner St/College Ave/Powder House	Somerville	Town/City	3	Warner St @ entry to rotary	1144	2,688	1,285	3,024
10.3	25233	Broadway @ Warner St/College Ave/Powder House	Somerville	Town/City	3	College Ave @ entry to rotary NE	1305	3,067	1,513	3,560
10.4	25234	Broadway @ Warner St/College Ave/Powder House	Somerville	Town/City	3	Powderhouse Blvd @ entry to rotary	1584	3,722	1,903	4,478
10.5	25235	Broadway @ Warner St/College Ave/Powder House	Somerville	Town/City	3	Broadway St @ entry to rotary westside	1736	4,080	1,978	4,655
10.6	25236	Broadway @ Warner St/College Ave/Powder House	Somerville	Town/City	3	College Ave @ entry to rotary SW	1406	3,304	1,695	3,988
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Town/City	2	Salem St, north of intersection	1693	3,979	2,115	4,977
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Town/City	2	Riverside St, west of interesection	533	1,253	673	1,584
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Town/City	2	Main St, south of intersection	77	181	90	212
11	6651	High St @ Main St/Forest St/Salem St/Riverside	Medford	Town/City	2	Forest St, north of intersection	416	978	535	1,258
12	25288	Main St @ Mystic Valley WB Off-Ramp	Medford	DCR	1	MVP off-ramp, east of intersection	219	515	255	600
12	25288	Main St @ Mystic Valley WB Off-Ramp	Medford	DCR	1	Main St, south of intersection	442	1,039	512	1,204
12	25288	Main St @ Mystic Valley WB Off-Ramp	Medford	DCR	1	Main St, north of intersection	1745	4,101	2,046	4,814
13	6668	Main St @ South St	Medford	Town/City	2	MVP off-ramp/South St, west of intersection	613	1,441	708	1,665
13	6668	Main St @ South St	Medford	Town/City	2	Main St, south of intersection	807	1,896	933	2,196
13	6668	Main St @ South St	Medford	Town/City	2	Main St, north of intersection	1591	3,739	1,842	4,333
14	6669	Main St @ Mystic Ave	Medford	Town/City	2	Mystic Ave, east of intersection	471	1,107	492	1,157
14	6669	Main St @ Mystic Ave	Medford	Town/City	2	Main St, south of intersection	378	888	437	1,029
14	6669	Main St @ Mystic Ave	Medford	Town/City	2	Main St, north of intersection	1858	4,366	2,147	5,052
14	6669	Main St @ Mystic Ave	Medford	Town/City	2	Fire Station, east of intersection	8	19	9	21

15	6647	Main St @ Harvard St	Medford	Town/City	2	Medford St, south of intersection	410	964	464	1,093
15	6647	Main St @ Harvard St	Medford	Town/City	2	Main St, north of intersection	600	1,410	713	1,676
15	6647	Main St @ Harvard St	Medford	Town/City	2	Harvard St, west of intersection	527	1,238	589	1,386
15	6647	Main St @ Harvard St	Medford	Town/City	2	Harvard St, east of intersection	514	1,208	612	1,440
16	6538	Broadway @ Medford St/Dexter St	Somerville	Town/City	3	Medford St, south of intersection	366	860	417	982
16	6538	Broadway @ Medford St/Dexter St	Somerville	Town/City	3	Medford St, north of intersection	303	712	360	847
16	6538	Broadway @ Medford St/Dexter St	Somerville	Town/City	3	Dunkin Doughnuts	83	195	92	217
16	6538	Broadway @ Medford St/Dexter St	Somerville	Town/City	3	Dexter St, east of intersection	149	350	165	389
16	6538	Broadway @ Medford St/Dexter St	Somerville	Town/City	3	Broadway St, south of intersection	507	1,191	575	1,352
16	6538	Broadway @ Medford St/Dexter St	Somerville	Town/City	3	Broadway St, north of intersection	1092	2,566	1,188	2,795
17	9311	Medford St @ Lowell St	Somerville	Town/City	3	Medford St, south of intersection	371	872	420	989
17	9311	Medford St @ Lowell St	Somerville	Town/City	3	Medford St, north of intersection	853	2,005	1,017	2,393
17	9311	Medford St @ Lowell St	Somerville	Town/City	3	Lowell St, west of intersection	124	291	126	298
18	6536	Medford St @ Central St	Somerville	Town/City	3	Medford St, south of intersection	305	717	350	823
18	6536	Medford St @ Central St	Somerville	Town/City	3	Medford St, north of intersection	652	1,532	738	1,738
18	6536	Medford St @ Central St	Somerville	Town/City	3	Central St, west of intersection	322	757	333	783
18	6536	Medford St @ Central St	Somerville	Town/City	3	Central St, east of intersection	207	486	212	500
19	6535	Medford St @ School St	Somerville	Town/City	3	School St, east of intersection	441	1,036	460	1,083
19	6535	Medford St @ School St	Somerville	Town/City	3	Medford St, south of intersection	443	1,041	508	1,196
19	6535	Medford St @ School St	Somerville	Town/City	3	Medford St, north of intersection	735	1,727	837	1,969
20	8765	Medford St @ Walnut St	Somerville	Town/City	3	Walnut St, west of intersection	250	588	286	673
20	8765	Medford St @ Walnut St	Somerville	Town/City	3	Medford St, south of intersection	162	381	186	437
20	8765	Medford St @ Walnut St	Somerville	Town/City	3	Medford St, north of intersection	516	1,213	593	1,394
21	6534	Medford St @ Highland Ave	Somerville	Town/City	3	Medford St, south of intersection	533	1,253	634	1,492
21	6534	Medford St @ Highland Ave	Somerville	Town/City	3	Medford St, north of intersection	518	1,217	595	1,400
21	6534	Medford St @ Highland Ave	Somerville	Town/City	3	Highland Ave, north of intersection	593	1,394	638	1,502
21	6534	Medford St @ Highland Ave	Somerville	Town/City	3	Hamlet St, west of intersection	20	47	22	52
22	8260	Medford St @ Somerville Ave	Somerville	DCR	1	Somerville Ave, west of intersection	470	1,105	575	1,354
22	8260	Medford St @ Somerville Ave	Somerville	DCR	1	Medford St, south of intersection	238	559	272	640
22	8260	Medford St @ Somerville Ave	Somerville	DCR	1	Medford St, north of intersection	1347	3,165	1,571	3,697
23	9307	Highland Ave @ Lowell St	Somerville	Town/City	3	Lowell St, west of intersection	130	306	134	316
23	9307	Highland Ave @ Lowell St	Somerville	Town/City	3	Lowell St, east of intersection	308	724	317	747
23	9307	Highland Ave @ Lowell St	Somerville	Town/City	3	Highland Ave, south of intersection	452	1,062	482	1,133
23	9307	Highland Ave @ Lowell St	Somerville	Town/City	3	Highland Ave, north of intersection	395	928	419	987
24	6557	Highland Ave @ Central St	Somerville	Town/City	3	Highland Ave, south of intersection	330	776	351	827
24	6557	Highland Ave @ Central St	Somerville	Town/City	3	Highland Ave, north of intersection	437	1,027	467	1,100
24	6557	Highland Ave @ Central St	Somerville	Town/City	3	Central St, west of intersection	268	630	278	654
24	6557	Highland Ave @ Central St	Somerville	Town/City	3	Central St, east of intersection	292	686	302	710
25	9312	Highland Ave @ School St	Somerville	Town/City	3	School St, east of intersection	531	1,248	544	1,279
25	9312	Highland Ave @ School St	Somerville	Town/City	3	Highland Ave, south of intersection	395	928	419	986
25	9312	Highland Ave @ School St	Somerville	Town/City	3	Highland Ave, north of intersection	496	1,166	533	1,253
26	8252	Washington St @ Interbelt Rd	Somerville	Town/City	4	Washington St, west of intersection	398	935	506	1,192
26	8252	Washington St @ Interbelt Rd	Somerville	Town/City	4	Washington St, east of intersection	1035	2,432	1,297	3,052
26	8252	Washington St @ Interbelt Rd	Somerville	Town/City	4	Interbelt Rd, south of intersection	144	338	539	1,269
27.1	8247	Washington St @ Medford St	Somerville	DCR	1	Washington St, west of intersection	724	1,701	912	2,145
27.1	8247	Washington St @ Medford St	Somerville	DCR	1	Medford St, north of intersection	550	1,293	700	1,648
27.2	8248	Washington St @ Medford St	Somerville	DCR	1	Washington St, east of intersection	1064	2,500	1,370	3,223
27.2	8248	Washington St @ Medford St	Somerville	DCR	1	Medford St, south of intersection	615	1,445	808	1,901
28	6514	Washington St @ Somerville Ave/Webster Ave	Somerville	Town/City	3	Washington St, west of intersection	362	851	412	970
28	6514	Washington St @ Somerville Ave/Webster Ave	Somerville	Town/City	3	Washington St, east of intersection	1218	2,862	1,508	3,549
28	6514	Washington St @ Somerville St/Webster St	Somerville	Town/City	3	Somerville Ave, north of intersection	650	1,528	817	1,922
29	6521	Washington St @ Beacon St	Somerville	Town/City	3	Washington St, east of intersection	412	968	421	991
29	6521	Washington St @ Beacon St	Somerville	Town/City	3	Kirkland St, west of intersection	270	635	306	720
29	6521	Washington St @ Beacon St	Somerville	Town/City	3	Beacon St, south of intersection	291	684	334	786
29	6521	Washington St @ Beacon St	Somerville	Town/City	3	Beacon St, north of intersection	607	1,426	673	1,583
30	6513	Prospect Ave @ Somerville Ave	Somerville	Town/City	3	Washington St, west of intersection	618	1,452	765	1,801
30	6513	Prospect Ave @ Somerville Ave	Somerville	Town/City	3	Washington St, east of intersection	195	458	200	470
30	6513	Prospect Ave @ Somerville Ave	Somerville	Town/City	3	Somerville Ave, south of intersection	195	458	239	562

30	6513	Prospect St @ Somerville Ave	Somerville	Town/City	3	Prospect St, south of intersection	656	1,542	740	1,742
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Town/City	3	Webster Ave, south of intersection	219	515	255	601
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Town/City	3	Webster Ave, north of intersection	816	1,918	994	2,339
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Town/City	3	Prospect St, south of intersection	332	780	377	888
31	6528	Prospect St @ Webster St/Concord Ave	Somerville	Town/City	3	Concord Ave, west of intersection	0	-	-	-
32	6479	Prospect St @ Cambridge St	Cambridge	Town/City	5	Prospect St, souh of intersection	331	778	375	881
32	6479	Prospect St @ Cambridge St	Cambridge	Town/City	5	Prospect St, north of intersection	346	813	414	973
32	6479	Prospect St @ Cambridge St	Cambridge	Town/City	5	Cambridge St, west of intersection	330	776	370	872
32	6479	Prospect St @ Cambridge St	Cambridge	Town/City	5	Cambridge St, east of intersection	393	924	449	1,057
33	6481	Prospect St @ Hampshire St	Cambridge	Town/City	5	Prospect St, souh of intersection	387	909	439	1,032
33	6481	Prospect St @ Hampshire St	Cambridge	Town/City	5	Prospect St, north of intersection	339	797	410	964
33	6481	Prospect St @ Hampshire St	Cambridge	Town/City	5	Hampshire St, west of intersection	502	1,180	614	1,445
33	6481	Prospect St @ Hampshire St	Cambridge	Town/City	5	Hampshire St, east of intersection	282	663	343	808
34	8712	George St @ Main St				George St, west of intersection	281	660	295	695
34	8712	George St @ Main St			1	Main St, north of intersection	870	2,045	1,031	2,425
34	8712	George St @ Main St			2	Main St, south of intersection	454	1,067	517	1,216
35	23342	George St @ College Ave			3	George St, east of intersection	322	757	341	802
35	23342	George St @ College Ave			4	College Ave, north of intersection	16	38	17	41
35	23342	George St @ College Ave			5	College Ave, south of intersection	159	374	173	407
36	6542 / 6543	Msgr Obrien Hwy @ Third St				Msgr Obrien Hwy, west of intersection	2317	5,445	2,459	5,787
36	6542 / 6543	Msgr Obrien Hwy @ Third St				Msgr Obrien Hwy, east of intersection	443	1,041	976	2,297
36	6542 / 6543	Msgr Obrien Hwy @ Third St				Third St, south of intersection	199	468	205	483
37	0	Msgr Obrien Hwy @ Water St				Msgr Obrien Hwy, west of intersection	1685	3,960	1,982	4,663
37	0	Msgr Obrien Hwy @ Water St				Msgr Obrien Hwy, east of intersection	433	1,018	966	2,272
37	0	Msgr Obrien Hwy @ Water St				Water St, north of intersection	26	61	408	961
38	6541	Msgr Obrien Hwy @ Gore St				Msgr Obrien Hwy, west of intersection	1685	3,960	1,854	4,363
38	6541	Msgr Obrien Hwy @ Gore St				Msgr Obrien Hwy, east of intersection	430	1,011	580	1,365
38	6541	Msgr Obrien Hwy @ Gore St				Gore St, south of intersection	29	68	30	70
39	0	Msgr Obrien Hwy @ Lechmere Station / 1st S Ext				Msgr Obrien Hwy, west of intersection	1552	3,647	1,718	4,042
39	0	Msgr Obrien Hwy @ Lechmere Station / 1st S Ext				Msgr Obrien Hwy, east of intersection	408	959	599	1,411
39	0	Msgr Obrien Hwy @ Lechmere Station / 1st S Ext				Lechmere Station/1st St Ext, south of intersection	22	52	22	52
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St				Msgr Obrien Hwy, west of intersection	1553	3,650	1,719	4,044
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St				Msgr Obrien Hwy, east of intersection	889	2,089	1,233	2,902
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St				Cambridge St, south of intersection	363	853	376	885
40	6469 / 6470	Msgr Obrien Hwy @ Cambridge / East St				East St, north of intersection	35	82	757	1,782
41	6465	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Blvd				Msgr Obrien Hwy, west of intersection	1713	4,026	2,350	5,530
41	6466	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Blvd				Msgr Obrien Hwy, east of intersection	1166	2,740	1,355	3,188
41	6467	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Blvd				Gilmore Bridge, north of intersection	1239	2,912	1,560	3,670
41	6468	Msgr Obrien Hwy @ Gilmore Bridge / Edwin Land Blvd				Edwin Land Blvd, south of intersection	772	1,814	864	2,032
42	0	Msgr Obrien Hwy @ Museum Way				Msgr Obrien Hwy, west of intersection	1892	4,446	1,939	4,562
42	0	Msgr Obrien Hwy @ Museum Way				Msgr Obrien Hwy, east of intersection	1176	2,764	1,620	3,813
42	0	Msgr Obrien Hwy @ Museum Way				Museum Way, north of intersection	106	249	237	557
44	6472	Cambridge St @ First St				Cambridge St, west of intersection	258	606	273	642
43	6472	Cambridge St @ First St				Cambridge St, east of intersection	614	1,443	767	1,804
43	6472	Cambridge St @ First St				First St, north of intersection	19	45	#VALUE!	#VALUE!
43	6472	Cambridge St @ First St				First St, south of intersection	155	364	325	765

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Green Line Extension EIR Analysis: Directional Splits for Boardings and Alightings

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2030 Alt 1 by Time Periods

AM	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	na	na	na	na
College Ave	100.0%	0.0%	0.0%	100.0%
Ball Sq	99.7%	0.3%	0.0%	100.0%
Lowell St	99.8%	0.2%	0.9%	99.1%
Gilman Sq	97.4%	2.6%	12.2%	87.8%
Brickbottom	94.0%	6.0%	23.8%	76.2%
Lechmere	95.0%	5.0%	24.4%	75.6%

MD	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	na	na	na	na
College Ave	100.0%	0.0%	0.0%	100.0%
Ball Sq	99.6%	0.4%	0.3%	99.7%
Lowell St	99.4%	0.6%	0.8%	99.2%
Gilman Sq	93.7%	6.3%	8.6%	91.4%
Brickbottom	83.0%	17.0%	21.8%	78.2%
Lechmere	86.7%	13.3%	19.1%	80.9%

PM	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	na	na	na	na
College Ave	100.0%	0.0%	0.0%	100.0%
Ball Sq	99.7%	0.3%	0.5%	99.5%
Lowell St	99.6%	0.4%	0.5%	99.5%
Gilman Sq	91.1%	8.9%	7.1%	92.9%
Brickbottom	86.4%	13.6%	15.5%	84.5%
Lechmere	90.8%	9.2%	22.9%	77.1%

NT	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	na	na	na	na
College Ave	100.0%	0.0%	0.0%	100.0%
Ball Sq	99.7%	0.3%	0.0%	100.0%
Lowell St	99.5%	0.5%	0.3%	99.7%
Gilman Sq	93.7%	6.3%	4.2%	95.8%
Brickbottom	83.8%	16.2%	14.6%	85.4%
Lechmere	88.0%	12.0%	16.3%	83.7%

Daily	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	na	na	na	na
College Ave	100.0%	0.0%	0.0%	100.0%
Ball Sq	99.7%	0.3%	0.3%	99.7%
Lowell St	99.6%	0.4%	0.5%	99.5%
Gilman Sq	94.5%	5.5%	7.4%	92.6%
Brickbottom	87.2%	12.8%	18.5%	81.5%
Lechmere	90.0%	10.0%	20.6%	79.4%

2030 Alt 2a by Time Periods

AM	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	100.0%	0.0%	0.0%	100.0%
College Ave	98.7%	1.3%	4.7%	95.3%
Ball Sq	98.0%	2.0%	8.6%	91.4%
Lowell St	99.1%	0.9%	4.5%	95.5%
Gilman Sq	96.4%	3.6%	15.5%	84.5%
Brickbottom	91.7%	8.3%	29.9%	70.1%
Lechmere	94.4%	5.6%	27.3%	72.7%

MD	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	100.0%	0.0%	0.0%	100.0%
College Ave	97.7%	2.3%	7.5%	92.5%
Ball Sq	95.6%	4.4%	10.7%	89.3%
Lowell St	97.7%	2.3%	4.5%	95.5%
Gilman Sq	91.4%	8.6%	13.7%	86.3%
Brickbottom	79.1%	20.9%	26.8%	73.2%
Lechmere	84.7%	15.3%	21.6%	78.4%

PM	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	100.0%	0.0%	0.0%	100.0%
College Ave	94.3%	5.7%	3.5%	96.5%
Ball Sq	93.0%	7.0%	4.4%	95.6%
Lowell St	96.6%	3.4%	1.9%	98.1%
Gilman Sq	88.8%	11.2%	8.8%	91.2%
Brickbottom	80.7%	19.3%	18.0%	82.0%
Lechmere	88.5%	11.5%	24.1%	75.9%

NT	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	100.0%	0.0%	0.0%	100.0%
College Ave	95.7%	4.3%	2.5%	97.5%
Ball Sq	93.5%	6.5%	3.6%	96.4%
Lowell St	97.2%	2.8%	1.2%	98.8%
Gilman Sq	91.1%	8.9%	5.6%	94.4%
Brickbottom	78.2%	21.8%	16.9%	83.1%
Lechmere	85.8%	14.2%	17.3%	82.7%

Daily	Boardings		Alightings	
Stations	IB	OB	IB	OB
Union Sq	100.0%	0.0%	0.0%	100.0%
MVP	100.0%	0.0%	0.0%	100.0%
College Ave	97.0%	3.0%	4.5%	95.5%
Ball Sq	95.7%	4.3%	6.3%	93.7%
Lowell St	98.0%	2.0%	2.6%	97.4%
Gilman Sq	92.6%	7.4%	10.2%	89.8%
Brickbottom	82.9%	17.1%	22.4%	77.6%
Lechmere	88.1%	11.9%	22.6%	77.4%

2030 - Alt 2A AM Peak period

Brickbottom		Gilman Sq		Lowell St.		Ball Sq		College Ave		MVP		Union Square	
TAZ	% of Walk Access Trips	TAZ	% of Walk Access Trips	TAZ	% of Walk Access Trips	TAZ	% of Walk Access Trips	TAZ	% of Walk Access Trips	TAZ	% of Walk Access Trips	TAZ	% of Walk Access Trips
580	4.1%	580	0.0%	550	0.0%	550	41.0%	552	8.1%	556	0.0%	205	0.0%
581	10.6%	584	0.0%	551	0.0%	551	2.5%	553	33.2%	557	15.3%	579	0.0%
582	0.1%	585	0.1%	586	0.0%	552	0.0%	554	7.4%	558	12.0%	580	0.0%
583	4.5%	586	0.4%	603	0.0%	553	0.0%	555	24.4%	572	0.0%	581	0.0%
584	0.4%	587	0.0%	611	0.0%	555	0.0%	556	14.7%	573	4.2%	582	7.2%
585	0.3%	588	0.0%	612	61.9%	597	0.0%	557	0.0%	574	4.2%	583	25.4%
587	20.0%	589	0.0%	613	35.5%	598	0.0%	558	0.0%	575	17.6%	584	27.5%
588	22.3%	590	0.0%	614	1.9%	601	0.0%	572	2.9%	576	5.9%	585	10.2%
589	0.7%	591	0.0%	615	0.0%	602	0.0%	573	0.0%	577	11.3%	586	0.1%
590	8.4%	596	0.1%	616	0.7%	603	6.2%	618	0.0%	578	3.4%	587	0.0%
591	0.1%	597	3.4%	617	0.0%	612	1.1%	619	0.0%	622	0.0%	588	0.0%
593	0.0%	598	8.1%	703	0.0%	613	0.0%	620	0.1%	623	0.0%	589	0.0%
594	0.1%	599	3.3%	716	0.0%	614	0.0%	621	0.4%	624	8.1%	590	0.0%
599	0.0%	600	18.1%	717	0.0%	615	19.1%	622	0.0%	891	2.7%	600	0.0%
600	0.0%	601	11.6%			616	0.0%	623	8.8%	892	10.0%	601	0.0%
604	2.6%	602	9.7%			617	0.0%	624	0.0%	895	5.2%	604	0.0%
605	24.1%	604	0.0%			618	0.0%					605	1.3%
606	0.0%	605	0.0%			619	0.4%					606	0.0%
607	0.5%	606	11.7%			620	8.6%					607	1.3%
608	0.3%	607	9.1%			621	21.3%					608	3.9%
609	0.0%	608	0.0%			716	0.0%					609	0.0%
610	0.0%	609	0.0%			717	0.0%					610	0.0%
629	0.0%	610	15.7%			718	0.0%					611	0.0%
632	0.0%	611	8.5%									629	0.0%
633	0.0%	677	0.0%									632	0.0%
646	0.3%	678	0.1%									633	0.0%
647	0.1%											646	11.5%
648	0.0%											647	5.0%
649	0.0%											648	0.1%
651	0.1%											649	0.0%
661	0.0%											650	0.0%
662	0.0%											651	0.0%
												652	0.0%
												653	0.0%
												654	0.0%
												661	5.9%
												662	0.6%
												663	0.0%
												664	0.0%
												665	0.0%
												674	0.0%
												675	0.0%
												676	0.0%
												677	0.0%
												678	0.0%
												679	0.0%

Note:

Lechmere is not included because detailed info exists regarding access percentages for the North Point Development Project.

Access % don't vary much between alternatives for the Brickbottom, Gillman Sq, Lowell St, Ball Sq, and Union Sq Stations.

When the terminus is College Ave instead of MVP, the walk market area extends further north for College Ave and this changes the walk percentages for it.

Due to rounding, percentages may not all add up to 100%.

Green Line Extension EIR Analysis: Station Level Data

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Station Level Boarding and Alighting Data		2006 Base Year		2030 No-Build		2030 Alt 1		2030 Alt 2a		2030 Alt 2b		2030 Alt 3		2030 Alt 4		2030 Alt 5a		2030 Alt 6		2030 Alt 7		2030 Alt 5b		2030 Bus BL		2030 CRR BL	
By Time Period and Mode																											
		Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings
Key Operating Characteristics		Green E ends at Lech. Green D ends at Govt Ctr Rte 80 _ Arlington to Lech. Existing Lech Station		Green E ends at Lech. Green D ends at Govt Ctr Rte 80 _ Arlington to Lech. Existing Lech Station		Green E ends at Union Sq Green D ends at College Ave No Parking New Lech Station Union Sq via CRR ROW		Green E ends at Union Sq Green D ends at MVP With MVP Parking New Lech Station Union Sq via CRR ROW		Green E ends at Union Sq Green D ends at MVP No MVP Parking New Lech Station Union Sq via CRR ROW		Green E ends at Union Sq Green D ends at College Ave No Parking New Lech Station Union Sq via Somerville Ave		Green E ends at Union Sq Green D ends at MVP With MVP Parking New Lech Station Union Sq via Somerville Ave		Green E ends at Lech. Green D ends at College Ave No Parking New Lech Station		Green E ends at Union Sq Green D ends at Lech. No Parking New Lech Station Union Sq via CRR ROW		Green E ends at MVP Green D ends at MVP with Parking @ MVP New Lech Station		Green E ends at Lech. Green D ends at MVP/Rte16 with Parking @ MVP New Lech Station		Green E ends at Lech. Green D ends at Lechmere Rte 80 _ Arlington to Lech. Existing Lech Station Rte 80 Exp_ MVP to Lech. Shuttle - Union to Lech		Green E ends at Lech. Green D ends at Lechmere CRR Shuttle to W.Medford CRR adds 3 new stations Rte 80 _ Arlington to Lech. Existing Lech Station	
AM																											
Green Line	N.Station	900	2,300	1,500	3,600	1,600	3,800	1,600	3,900	1,600	3,900	1,600	3,800	1,600	3,900	1,600	3,800	1,600	3,700	1,600	3,900	1,600	3,800	2,300	5,500	1,500	3,700
Green Line	Science Park	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Green Line	Old Lechmere	1,700	1,000	2,700	1,500	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	3,100	1,800	2,600	1,500
Green Line	New Lechmere	na	na	na	na	3,200	1,800	3,200	1,800	3,300	1,800	3,200	1,800	3,200	1,800	3,200	1,800	3,100	1,700	3,300	1,900	3,200	1,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	700	400	800	400	800	400	700	400	800	400	1,000	500	na	na	1,300	700	1,000	500	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	1,500	700	1,600	700	1,600	700	1,500	700	1,600	700	1,600	700	na	na	1,900	800	1,600	700	na	na	na	na
Green Line	Lowell St	na	na	na	na	500	100	500	100	500	100	500	100	500	100	500	100	na	na	600	200	500	100	na	na	na	na
Green Line	Ball Sq	na	na	na	na	700	200	700	200	700	200	700	200	700	200	700	200	na	na	900	300	700	200	na	na	na	na
Green Line	College Ave	na	na	na	na	800	400	700	400	700	400	800	400	700	400	800	400	na	na	800	400	700	400	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	900	300	800	200	na	na	900	300	na	na	na	na	1,200	300	900	300	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	700	300	700	300	700	300	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	800	400	800	400	na	na	1,200	600	na	na	na	na	na	na	na	na
MD																											
Green Line	N.Station	2,000	2,100	3,200	3,400	3,400	3,700	3,500	3,700	3,500	3,700	3,400	3,700	3,500	3,700	3,400	3,600	3,400	3,600	3,500	3,700	3,400	3,600	4,900	5,200	3,300	3,500
Green Line	Science Park	300	500	300	500	300	500	300	500	300	500	300	500	300	500	300	500	300	500	400	500	300	500	300	500	300	500
Green Line	Old Lechmere	1,600	1,500	2,500	2,400	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2,900	2,800	2,500	2,300
Green Line	New Lechmere	na	na	na	na	3,000	2,800	3,000	2,900	3,000	2,900	3,000	2,800	3,000	2,900	3,000	2,800	2,800	2,700	3,100	2,900	3,000	2,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	600	800	700	900	700	900	600	800	700	900	900	1,100	na	na	1,200	1,600	900	1,100	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	1,100	1,000	1,100	1,100	1,100	1,100	1,100	1,000	1,100	1,100	1,100	1,100	na	na	1,400	1,300	1,100	1,100	na	na	na	na
Green Line	Lowell St	na	na	na	na	300	300	300	300	300	300	300	300	300	300	300	300	na	na	400	400	300	300	na	na	na	na
Green Line	Ball Sq	na	na	na	na	500	500	500	500	500	500	500	500	500	500	500	500	na	na	600	600	500	500	na	na	na	na
Green Line	College Ave	na	na	na	na	600	600	500	500	500	500	600	600	500	500	600	600	na	na	600	600	500	500	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	700	600	600	500	na	na	700	600	na	na	na	na	900	800	700	600	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	500	600	500	600	500	600	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	600	800	600	800	na	na	900	1,100	na	na	na	na	na	na	na	na
PM																											
Green Line	N.Station	2,300	1,400	3,700	2,200	4,000	2,300	4,000	2,400	4,000	2,400	4,000	2,300	4,000	2,400	3,900	2,300	3,900	2,300	4,000	2,400	3,900	2,300	5,600	3,300	3,800	2,300
Green Line	Science Park	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	700	400	600	400	600	400	600	400
Green Line	Old Lechmere	1,600	2,000	2,500	3,000	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2,900	3,500	2,500	3,000
Green Line	New Lechmere	na	na	na	na	3,000	3,600	3,100	3,700	3,100	3,700	3,000	3,600	3,100	3,700	3,000	3,600	2,900	3,500	3,100	3,800	3,000	3,600	na	na	na	na
Green Line	Brickbottom	na	na	na	na	700	700	800	700	800	700	700	700	800	700	1,000	900	na	na	1,300	1,200	1,000	900	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	800	1,400	900	1,400	900	1,400	800	1,400	900	1,400	900	1,400	na	na	1,100	1,700	900	1,400	na	na	na	na
Green Line	Lowell St	na	na	na	na	200	400	200	400	200	400	200	400	200	400	200	400	na	na	300	600	200	400	na	na	na	na
Green Line	Ball Sq	na	na	na	na	300	600	300	600	300	600	300	600	300	600	300	600	na	na	400	800	300	600	na	na	na	na
Green Line	College Ave	na	na	na	na	500	800	500	700	500	700	500	800	500	700	500	800	na	na	500	800	500	700	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	400	900	300	800	na	na	400	900	na	na	na	na	500	1,200	400	900	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	700	700	700	700	700	700	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	800	900	800	900	na	na	1,200	1,300	na	na	na	na	na	na	na	na
NT																											
Green Line	N.Station	1,900	1,300	3,000	2,200	3,100	2,300	3,100	2,200	3,100	2,200	3,100	2,300	3,100	2,200	3,100	2,300	2,900	2,200	3,200	2,300	3,100	2,300	4,400	3,200	3,000	2,100
Green Line	Science Park	300	300	300	300	400	400	400	400	400	400	400	400	400	400	300	300	300	300	300	500	300	300	400	400	300	300
Green Line	Old Lechmere	1,000	1,400	1,400	2,200	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,700	2,500	1,400	2,200
Green Line	New Lechmere	na	na	na	na	1,700	2,700	1,700	2,600	1,700	2,700	1,600	2,600	1,700	2,600	1,600	2,600	1,600	2,500	1,800	2,700	1,600	2,600	na	na	na	na
Green Line	Brickbottom	na	na	na	na	600	700	400	700	400	700	600	700	400	700	600	1,000	na	na	1,000	1,300	600	1,000	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	800	1,100	700	1,100	700	1,100	800	1,100	700	1,100	700	1,100	na	na	800	1,400	700	1,100	na	na	na	na
Green Line	Lowell St	na	na	na	na	200	400	200	400	200	400	200	400	200	400	200	400	na	na	200	300	200	400	na	na	na	na
Green Line	Ball Sq	na	na	na	na	300	500	300	500	300	500	300	500	300	500	300	500	na	na	400	600	300	500	na	na	na	na
Green Line	College Ave	na	na	na	na	400	500	300	400	300	400	400	500	300	400	400	500	na	na	400	500	300	400	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	400	600	300	500	na	na	400	600	na	na	na	na	400	700	400	600	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	300	600	300	600	300	600	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	500	600	500	600	na	na	600	900	na	na	na	na	na	na	na	na
Daily																											
Green Line	N.Station	7,100	7,100	11,400	11,400	12,100	12,100	12,200	12,200	12,200	12,200	12,100	12,100	12,200	12,200	12,000	12,000	11,800	11,800	12,300	12,300	12,000	12,000	17,200	17,200	11,600	11,600
Green Line	Science Park	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,700	1,700	1,500	1,500	1,600	1,600	1,500	1,500
Green Line	Old Lechmere	5,900	5,900	9,100	9,100	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	10,600	10,600	9,000	9,000
Green Line	New Lechmere	na	na	na	na	10,900	10,900	11,000	11,000	11,100	11,100	10,800	10,800	11,000	11,000	10,800	10,800	10,400	10,400	11,300	11,300	10,800	10,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	2,600	2,600	2,700	2,700	2,700	2,700	2,600	2,600	2,700	2,700	3,500	3,500	na	na	4,800	4,800	3,500	3,500	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	4,200	4,200	4,300	4,300	4,300	4,300	4,200	4,200	4,300	4,300	4,300	4,300	na	na	5,200	5,200	4,300	4,300	na	na	na	na
Green Line	Lowell St	na	na	na	na	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	na	na	1,500	1,500	1,200	1,200	na	na	na	na
Green Line	Ball Sq	na	na	na	na	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	na	na	2,300	2,300	1,800	1,800	na	na	na	na
Green Line	College Ave	na	na	na	na	2,300	2,300	2,000	2,000	2,000	2,000	2,300	2,300	2,000	2,000	2,300	2,300	na	na	2,300	2,300	2,000	2,000	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	2,400	2,400	2,000	2,000	na	na	2,400	2,400	na	na	na	na	3,000	3,000	2,400	2,400	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	2,200	2,200	2,200	2,200	2,200	2,200	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	2,700	2,700	2,700	2,700	na	na	3,900	3,900	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	14,500	14,500	22,000	22,000	38,900	38,900	41,400	41,400	41,100	41,100	39,300	39,300	41,900	41,900	37,400	37,400	27,600	27,600	44,400	44,400	39,500	39,500	29,400	29,400	22,100	22,100
CRR-Shuttle	N.Station	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	800	800
CRR-Shuttle	Gilman Sq	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	300	300
CRR-Shuttle	Lowell St	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	100	100
CRR-Shuttle	College Ave	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	200	200
CRR-Shuttle	W.Medford	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	200	200
Bus	Rte 80	1,900	1,900	2,500	2,500	1,900	1,900	1,600	1,600	1,600	1,600	1,900	1,900	1,600	1,600	1,900	1,900	3,300	3,300	1,400	1,400	1,900	1,900	2,200	2,200	2,600	2,600
Bus-Shuttle	Rte 80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,600	1,600	na	na
Bus-Shuttle	Union Sq	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	300	300	na	na

Green Line Extension EIR Analysis: Station Level Data

DRAFT

Station Level Boarding and Alighting Data		2006 Base Year		2030 No-Build		2030 Alt 1		2030 Alt 2a		2030 Alt 2b		2030 Alt 3		2030 Alt 4		2030 Alt 5a		2030 Alt 6		2030 Alt 7		2030 Alt 5b		2030 Bus BL		2030 CRR BL	
By Time Period and Mode		Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings
Daily minus KNR																											
Green Line	N.Station	7,100	7,100	11,400	11,400	12,100	12,100	12,200	12,200	12,200	12,200	12,100	12,100	12,200	12,200	12,000	12,000	11,800	11,800	12,300	12,300	12,000	12,000	17,200	17,200	11,600	11,600
Green Line	Science Park	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,700	1,700	1,500	1,500	1,600	1,600	1,500	1,500
Green Line	Old Lechmere	5,900	5,900	9,100	9,100	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	10,600	10,600	9,000	9,000
Green Line	New Lechmere	na	na	na	na	10,900	10,900	11,000	11,000	11,100	11,100	10,800	10,800	11,000	11,000	10,800	10,800	10,400	10,400	11,300	11,300	10,800	10,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	2,600	2,600	2,700	2,700	2,700	2,700	2,600	2,600	2,700	2,700	3,500	3,500	na	na	4,800	4,800	3,500	3,500	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	4,200	4,200	4,300	4,300	4,300	4,300	4,200	4,200	4,300	4,300	4,300	4,300	na	na	5,200	5,200	4,300	4,300	na	na	na	na
Green Line	Lowell St	na	na	na	na	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	na	na	1,500	1,500	1,200	1,200	na	na	na	na
Green Line	Ball Sq	na	na	na	na	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	na	na	2,300	2,300	1,800	1,800	na	na	na	na
Green Line	College Ave	na	na	na	na	2,300	2,300	2,000	2,000	2,000	2,000	2,300	2,300	2,000	2,000	2,300	2,300	na	na	2,300	2,300	2,000	2,000	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	2,400	2,400	2,000	2,000	na	na	2,400	2,400	na	na	na	na	3,000	3,000	2,400	2,400	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	2,200	2,200	2,200	2,200	2,200	2,200	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	2,700	2,700	2,700	2,700	na	na	3,900	3,900	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	14,500	14,500	22,000	22,000	38,900	38,900	41,400	41,400	41,100	41,100	39,300	39,300	41,900	41,900	37,400	37,400	27,600	27,600	44,400	44,400	39,500	39,500	29,400	29,400	22,100	22,100
Daily with Off-Model KNR																											
Green Line	N.Station	7,100	7,100	11,400	11,400	12,100	12,100	12,200	12,200	12,200	12,200	12,100	12,100	12,200	12,200	12,000	12,000	11,800	11,800	12,300	12,300	12,000	12,000	17,200	17,200	11,600	11,600
Green Line	Science Park	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,700	1,700	1,500	1,500	1,600	1,600	1,500	1,500
Green Line	Old Lechmere	5,900	5,900	9,100	9,100	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	10,600	10,600	9,000	9,000
Green Line	New Lechmere	na	na	na	na	10,900	10,900	11,000	11,000	11,100	11,100	10,800	10,800	11,000	11,000	10,800	10,800	10,400	10,400	11,300	11,300	10,800	10,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	2,730	2,730	2,840	2,840	2,840	2,840	2,730	2,730	2,840	2,840	3,680	3,680	na	na	5,040	5,040	3,680	3,680	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	4,410	4,410	4,520	4,520	4,520	4,520	4,410	4,410	4,520	4,520	4,520	4,520	na	na	5,460	5,460	4,520	4,520	na	na	na	na
Green Line	Lowell St	na	na	na	na	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	na	na	1,580	1,580	1,260	1,260	na	na	na	na
Green Line	Ball Sq	na	na	na	na	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	na	na	2,420	2,420	1,890	1,890	na	na	na	na
Green Line	College Ave	na	na	na	na	2,420	2,420	2,100	2,100	2,100	2,100	2,420	2,420	2,100	2,100	2,420	2,420	na	na	2,420	2,420	2,100	2,100	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	2,400	2,400	2,000	2,000	na	na	2,400	2,400	na	na	na	na	3,000	3,000	na	na	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	2,310	2,310	2,310	2,310	2,310	2,310	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	2,840	2,840	2,840	2,840	na	na	4,100	4,100	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	14,500	14,500	22,000	22,000	39,620	39,620	42,120	42,120	41,820	41,820	40,050	40,050	42,650	42,650	38,070	38,070	27,800	27,800	45,220	45,220	37,750	37,750	29,400	29,400	22,100	22,100
Non-Modelled KNR																											
Green Line	N.Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Green Line	Science Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Green Line	Old Lechmere	-	-	-	-	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	New Lechmere	na	na	na	na	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	na	na	na	na
Green Line	Brickbottom	na	na	na	na	130	130	140	140	140	140	130	130	140	140	180	180	na	na	240	240	180	180	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	210	210	220	220	220	220	210	210	220	220	220	220	na	na	260	260	220	220	na	na	na	na
Green Line	Lowell St	na	na	na	na	60	60	60	60	60	60	60	60	60	60	60	60	na	na	80	80	60	60	na	na	na	na
Green Line	Ball Sq	na	na	na	na	90	90	90	90	90	90	90	90	90	90	90	90	na	na	120	120	90	90	na	na	na	na
Green Line	College Ave	na	na	na	na	120	120	100	100	100	100	120	120	100	100	120	120	na	na	120	120	100	100	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	-	-	-	-	na	na	na	na	na	na	na	na	-	-	na	na	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	110	110	110	110	110	110	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	140	140	140	140	na	na	200	200	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	-	-	-	-	720	720	720	720	720	720	750	750	750	750	670	670	200	200	820	820	650	650	-	-	-	-

Pick Up - Drop Off Estimates

	Alternative 1			Alternative 2			Alternative 2			Alternative 3			Alternative 4			Alternative 5A			Alternative 6			Alternative 7			
Green Line Station	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	Total Daily Boardings	Daily PU/DO	Peak PU/DO	
Lechmere	10900	545	191	11000	550	193	11000	550	193	10800	540	189	11000	550	193	10800	540	189	10400	520	182	11300	565	197.75	
Brickbottem	2600	130	46	2700	135	47	2700	135	47	2600	130	46	2700	135	47	3500	175	61	0	0	0	4800	240	84	
Gilman Square	4200	210	74	4300	215	75	4300	215	75	4200	210	74	4300	215	75	4300	215	75	0	0	0	5200	260	91	
Lowell Street	1200	60	21	1200	60	21	1200	60	21	1200	60	21	1200	60	21	1200	60	21	0	0	0	1500	75	26.25	
Ball Square	1800	90	32	1800	90	32	1800	90	32	1800	90	32	1800	90	32	1800	90	32	0	0	0	2300	115	40.25	
College Ave	2300	115	40	2000	100	35	2000	100	35	2300	115	40	2000	100	35	2300	115	40	0	0	0	2300	115	40.25	
MVP	0	0	0	2400	120	42	2000	100	35	0	0	0	2400	120	42	0	0	0	0	0	0	3000	150	52.5	
Union Sq	2700	135	47	2200	110	39	2200	110	39	2200	110	39	2200	110	39	0	0	0	3900	195	68	0	0	0	
total with Lechmere		1285	450		1380	483		1360	476		1255	439		1380	483		1195	418.25		715	250		1520	532	

	Alternative 1			Alternative 2A			Alternative 2B			Alternative 3			Alternative 4			Alternative 5A			Alternative 6			Alternative 7			
Green Line Station	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	Peak Boardings	Drive and Park	Peak Walk	
New Lechmere	3,200		2,120	3,200		2180	3300		2240	3200		2060	3200		2180	3200		2060	3100		1810	3300		2370	walk calc by CTPA
Brickbottom	700	0	655	800	0	753	800	0	753	700	0	655	800	0	753	1000	0	939	0	0	0	1300	0	1,216	
Gilman Sq	1,500	0	1,427	1,600	0	1,525	1600	0	1,525	1500	0	1,427	1600	0	1,525	1600	0	1,525	0	0	0	1900	0	1,809	
Lowell St	500	0	479	500	0	479	500	0	479	500	0	479	500	0	479	500	0	479	0	0	0	600	0	574	
Ball Sq	700	0	669	700	0	669	700	0	669	700	0	669	700	0	669	700	0	669	0	0	0	900	0	860	
College Ave	800	0	760	700	0	665	700	0	665	800	0	760	700	0	665	800	0	760	0	0	0	800	0	760	
MVP-Rte16	0	0	0	900	80	778	800	0	765	0	0	0	900	80	778	0	0	0	0	0	0	1200	80	1,068	
Union Square	700	0	653	700	0	662	700	0	662	800	0	762	800	0	762	0	0	0	1200	0	1,132	0	0	0	

Pedestrian Operation Worksheets

- Existing Pedestrian Figures
- Existing Pedestrian Level of Service Analysis
- Pedestrian Routes by TAZ
- Future Pedestrian Figures
- Future Pedestrian Level of Service Analysis

Existing Pedestrian Figures

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Neg Negligible

Sagamore Avenue
High Street
Auburn Street
Winthrop Street
Forest Street
Salem Street
High Street
Riverside Avenue
Mystic Valley Parkway
See Detail
Fire Station
Medford
Somerville
Mystic Valley Parkway
Winthrop Street
George Street
North Street
Alewife Brook Parkway
Curtis Street
Boston Avenue
College Avenue
Powder House Boulevard
Warner Street
Broadway
College Avenue
Broadway
Harvard Street
Harvard Street
Main Street
Medford Street
Mystic Avenue

Detail
Forest Street
Salem Street
Riverside Avenue
Main Street
Clippership Drive
South Street
Mystic Valley Parkway
Fire Station
Mystic Avenue

Executive Office of Transportation & Public Works

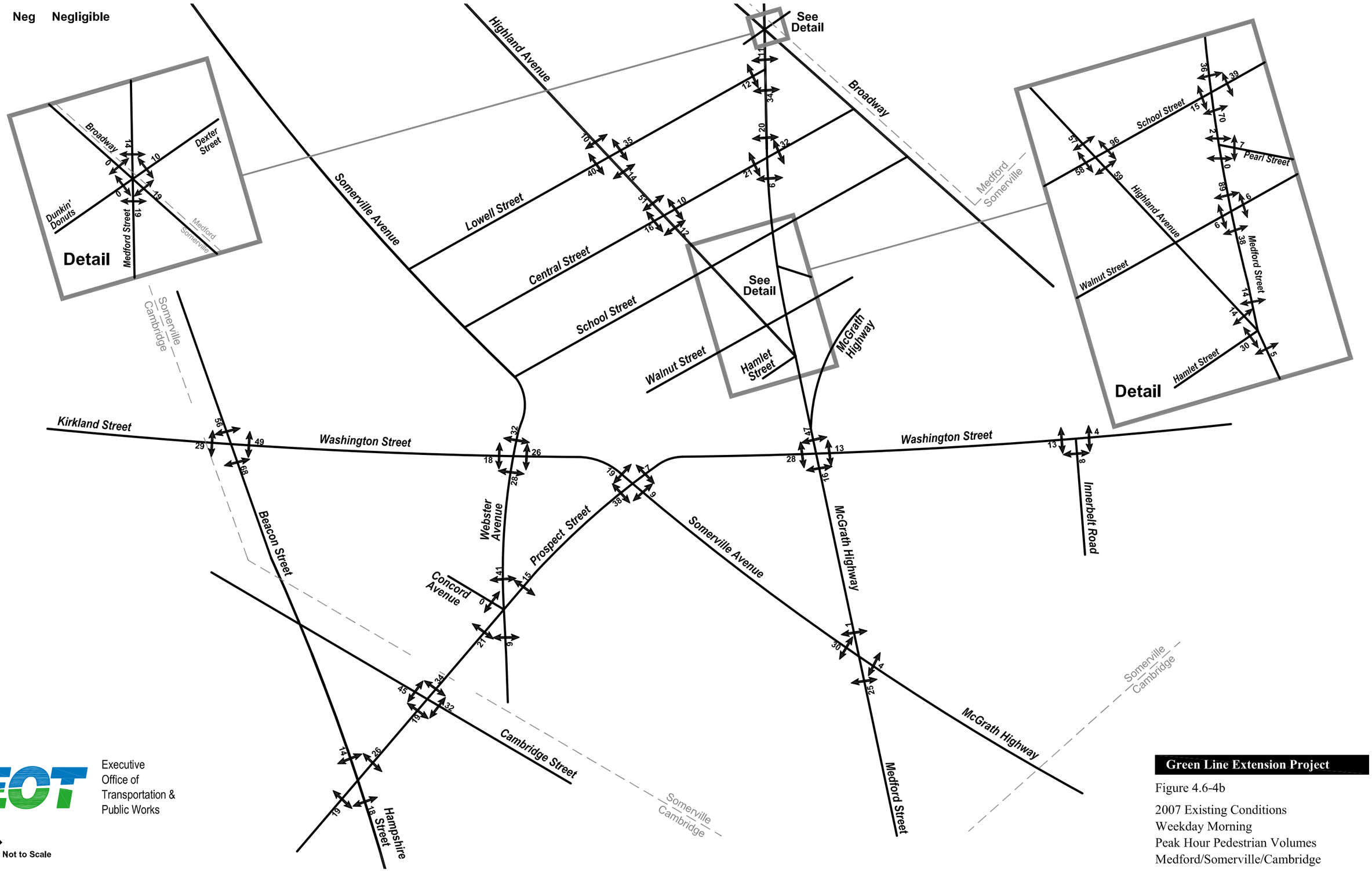
Not to Scale

Green Line Extension Project

Figure 4.6-4a

2007 Existing Conditions
Weekday Morning
Peak Hour Pedestrian Volumes
Medford/Somerville/Cambridge

Neg Negligible



EOT Executive Office of Transportation & Public Works

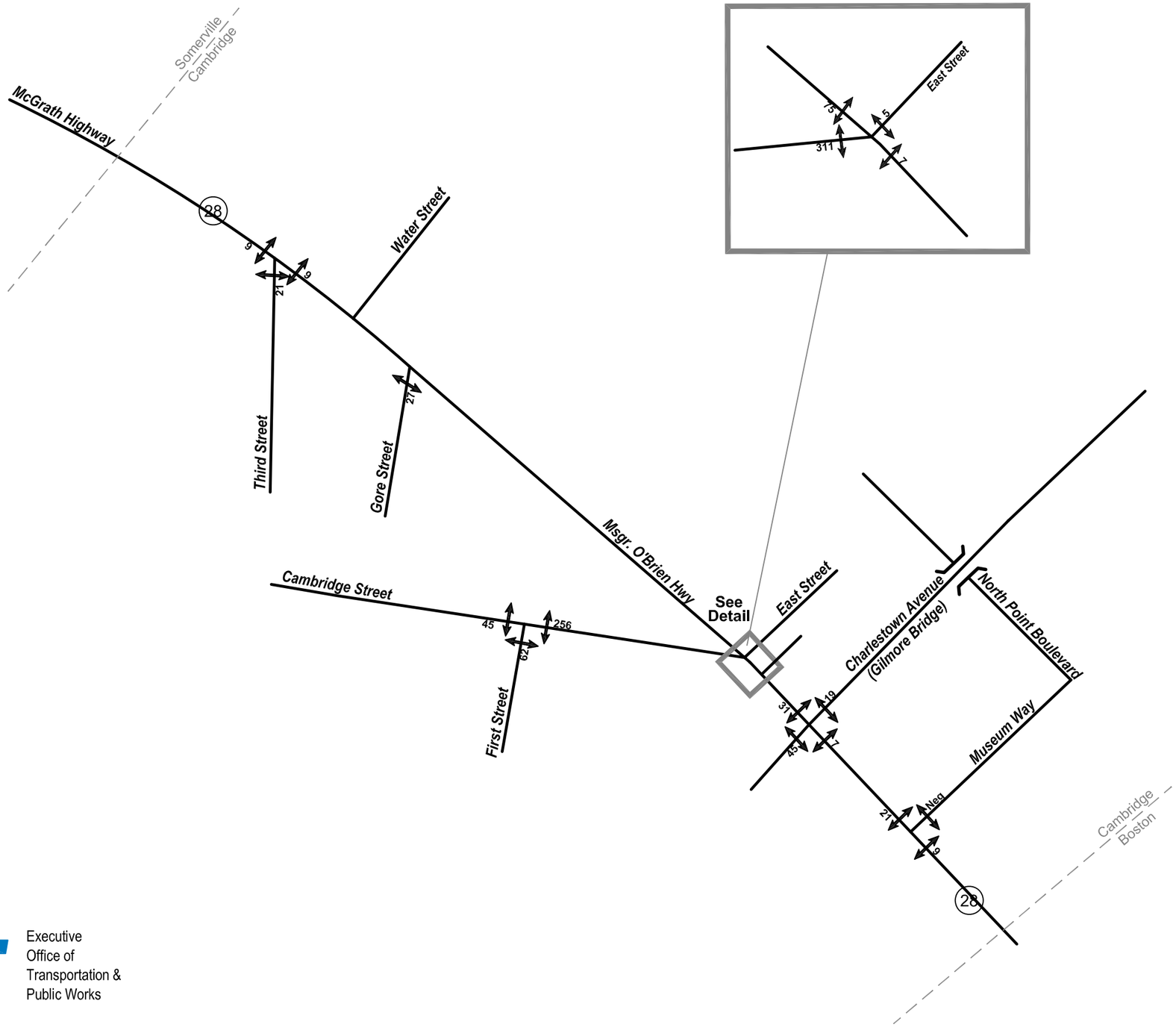
Not to Scale

Green Line Extension Project

Figure 4.6-4b

2007 Existing Conditions
Weekday Morning
Peak Hour Pedestrian Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 4.6-4b

2007 Existing Conditions
Weekday Morning
Peak Hour Pedestrian Volumes
Medford/Somerville/Cambridge

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Neg Negligible

Sagamore Avenue
High Street
Winthrop Street
Auburn Street
High Street
Forest Street
Salem Street
Riverside Avenue
Mystic Valley Parkway
See Detail
Fire Station
Medford
Somerville
Mystic Valley Parkway
North Street
Winthrop Street
George Street
Alewife Brook Parkway
Curtis Street
Main Street
Mystic Avenue
Boston Avenue
College Avenue
Harvard Street
Harvard Street
Powder House Boulevard
Warner Street
Broadway
College Avenue
Broadway
Medford Street

Detail

Forest Street
Salem Street
Riverside Avenue
Main Street
Clippership Drive
South Street
Mystic Valley Parkway
Fire Station
Mystic Avenue

Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 4.6-4a

2007 Existing Conditions
Weekday Evening
Peak Hour Pedestrian Volumes
Medford/Somerville/Cambridge

Neg Negligible

Detail

Dunkin' Donuts

Broadway

Dexter Street

Medford Street

Somerville Avenue

Highland Avenue

Lowell Street

Central Street

School Street

Walnut Street

Hamlet Street

McGrath Highway

See Detail

Broadway

Medford / Somerville

Detail

School Street

Pearl Street

Highland Avenue

Walnut Street

Medford Street

Hamlet Street

Somerville / Cambridge

Kirkland Street

Washington Street

Beacon Street

Webster Avenue

Prospect Street

Concord Avenue

Cambridge Street

Hampshire Street

Somerville Avenue

McGrath Highway

Innerbelt Road

Medford Street

Somerville / Cambridge

Somerville / Cambridge

Not to Scale

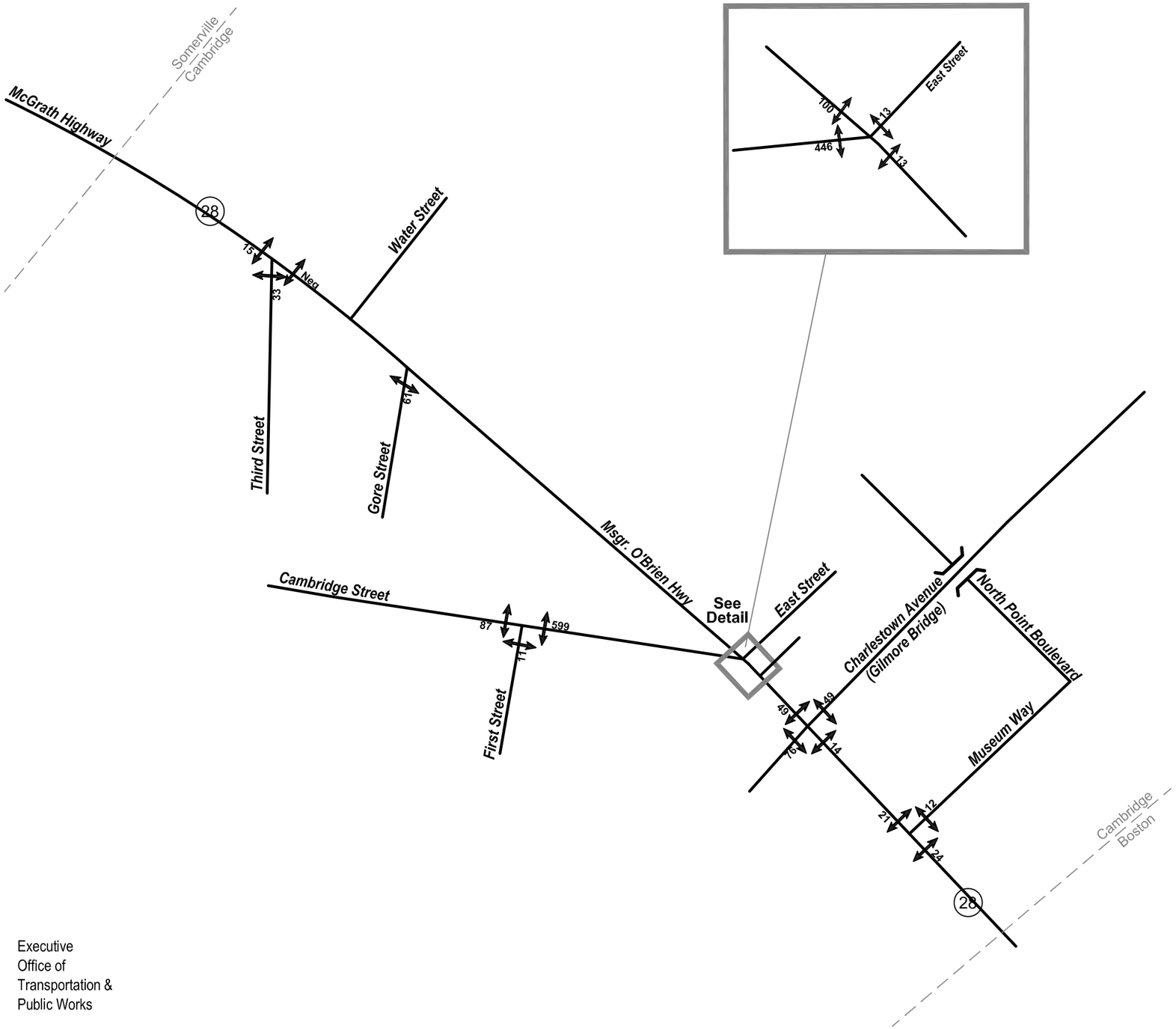
Executive Office of Transportation & Public Works

Green Line Extension Project

Figure 4.6-4b

2007 Existing Conditions
Weekday Evening
Peak Hour Pedestrian Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 4.6-4b

2007 Existing Conditions
Weekday Evening
Peak Hour Pedestrian Volumes
Medford/Somerville/Cambridge

Existing Pedestrian Level of Service Analysis

Pedestrian LOS Calculations
Existing AM

Intersection	Crosswalk	Cycle Length (sec)	Crossing Distance (ft)	Min Crossing Interval (sec)	Min FDW Phase (sec)	Walk Interval (sec)	Effective Green (g) (sec)	Total Crossing Interval (sec)	Average Ped Delay (sec)	PLOS
		Calculated								
Mystic Valley Parkway at Alewife Brook Parkway/Capen Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Auburn Street	North	120	60	18	19	-4	0	15	60	F
	South	120	46	14	15	0	4	15	56.1	E
	East		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Mystic Valley Parkway at Winthrop Street	North	135	74	22	23	-4	0	19	67.5	F
	South	135	61	18	19	0	4	19	63.6	F
	East	135	49	14	15	4	8	19	59.7	E
	West	135	66	19	20	-1	3	19	64.5	F
Boston Avenue at High Street/Sagamore Avenue	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	South									
	Middle									
	West									
Mystic Valley Parkway at Boston Avenue	North	113	50	15	16	-1	3	15	53.5	E
	South	113	50	15	16	-1	3	15	53.5	E
	East	113	50	15	16	-1	3	15	53.5	E
	West	113	55	16	17	-2	2	15	54.5	E
Boston Avenue at North Street	North	85	52	15	16	-1	3	15	39.6	D
	South	85	48	14	15	0	4	15	38.6	D
	East	85	42	12	13	2	6	15	36.7	D
	West	85	38	11	12	3	7	15	35.8	D
Boston Avenue at Winthrop Street	North	92	47	14	15	5	9	20	37.4	D
	South	92	37	11	12	8	12	20	34.8	D
	East	92	36	11	12	8	12	20	34.8	D
	West	92	26	8	9	11	15	20	32.2	D
Boston Avenue at College Avenue	North	135	56	16	17	5	9	22	58.8	E
	South	135	55	16	17	5	9	22	58.8	E
	East	135	41	12	13	9	13	22	55.1	E
	West	135	45	13	14	8	12	22	56	E
Boston Avenue at Harvard Street/Warner Street	North	129	31	9	10	9	13	19	52.2	E
	South	129	29	9	10	9	13	19	52.2	E
	East	129	41	12	13	6	10	19	54.9	E
	West	129	39	12	13	6	10	19	54.9	E
Powder House Blvd at Broadway/Warner Street/ College Avenue (East)	North	77	56	16	17	5	9	22	30	C
	South	77	45	13	14	8	12	22	27.4	C
	West	77	62	18	19	3	7	22	31.8	D
Powder House Blvd at Broadway/Warner Street/ College Avenue (West)	North	86	51	15	16	6	10	22	33.6	D
	West	86	62	18	19	3	7	22	36.3	D
Main Street at High Street/Salem Street/Forest Avenue/Riverside Avenue	North	100	50	15	16	53	57	69	9.2	A
	South	100	64	19	20	3	7	23	43.2	E
	NorthEast	100	38	11	12	13	17	25	34.4	D
	East	100	36	11	12	22	26	34	27.4	C
	West	100	49	14	15	10	14	25	37	D

Pedestrian LOS Calculations
Existing AM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Main Street at South Street/Mystic Valley EB Ramps	South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Valley WB Ramps	North East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Avenue	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Harvard Street	North	92	58	17	18	4	8	22	38.3	D
	South	92	44	13	14	8	12	22	34.8	D
	East	92	44	13	14	8	12	22	34.8	D
	West	92	44	13	14	8	12	22	34.8	D
Medford Street at Broadway	North	122	67	20	21	-1	3	20	58	E
	South	122	52	15	16	4	8	20	53.3	E
	North West	122	78	23	24	-3	1	21	60	F
	South East	122	74	22	23	-1	3	22	58	E
	East	122	32	10	11	9	13	20	48.7	E
	West	122	44	13	14	6	10	20	51.4	E
Medford Street at Lowell Street	North West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Central Street	North	80	44	13	14	1	5	15	35.2	D
	South	80	39	12	13	2	6	15	34.2	D
	East	80	37	11	12	3	7	15	33.3	D
	West	80	58	17	18	-3	1	15	39	D
Medford Street at School Street	North	70	40	12	13	4	8	17	27.5	C
	South	70	40	12	13	4	8	17	27.5	C
	East	70	40	12	13	4	8	17	27.5	C
	West	70	42	12	13	4	8	17	27.5	C
Medford Street at Walnut Street	North	78	40	12	13	3	7	16	32.3	D
	South	78	40	12	13	3	7	16	32.3	D
	East	78	35	10	11	5	9	16	30.5	D
	West	78	33	10	11	5	9	16	30.5	D
Medford Street at Highland Avenue	East	70	46	14	15	0	4	15	31.1	D
	West	70	41	12	13	2	6	15	29.3	C
	North South		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Medford Street at Somerville Avenue/McGrath Highway	North South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Highland Avenue at Lowell Street	North	74	28	8	9	6	10	15	27.7	C
	South	74	28	8	9	6	10	15	27.7	C
	East	74	40	12	13	2	6	15	31.2	D
	West	74	42	12	13	2	6	15	31.2	D
Highland Avenue at Central Street	North	86	30	9	10	5	9	15	34.5	D
	South	86	30	9	10	5	9	15	34.5	D
	East	86	42	12	13	2	6	15	37.2	D
	West	86	41	12	13	2	6	15	37.2	D
Highland Avenue at School Street	North	103	36	11	12	9	13	21	39.3	D
	South	103	28	8	9	12	16	21	36.7	D
	East	103	42	12	13	8	12	21	40.2	E
	West	103	42	12	13	8	12	21	40.2	E
Washington Street at Innerbelt Road	South	81	74	22	23	3	7	26	33.8	D
	West	81	81	24	25	1	5	26	35.7	D
Washington Street at McGrath Highway (East)	North	133	45	13	14	57	61	71	19.5	B
	South East		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at McGrath Highway (West)	North	133	50	15	16	101	105	117	2.9	A
	South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at Somerville Avenue/Webster Street	North	107	72	21	22	-1	3	21	50.5	E
	South	107	38	11	12	9	13	21	41.3	E
	East	107	84	24	25	-4	0	21	53.5	E
	West	107	68	20	21	0	4	21	49.6	E
Washington Street at Beacon Street/Kirkland Street	North	87	55	16	17	-1	3	16	40.6	E
	South	87	56	16	17	-1	3	16	40.6	E
	East	87	51	15	16	0	4	16	39.6	D
	West	87	49	14	15	1	5	16	38.6	D
Prospect Street at Somerville Avenue Street	North	107	67	20	21	0	4	21	49.6	E
	South	107	43	13	14	7	11	21	43.1	E
	East	107	59	17	18	3	7	21	46.7	E
	West	107	73	21	22	-1	3	21	50.5	E
Prospect Street at Webster Street/Concord	North	94	44	13	14	11	15	25	33.2	D

Pedestrian LOS Calculations
Existing AM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Avenue	South	94	78	23	24	1	5	25	42.1	E
	South West	94	36	11	12	13	17	25	31.5	D
	West	94	35	10	11	14	18	25	30.7	D
Prospect Street at Cambridge Street	North	90	39	12	13	24	28	37	21.4	C
	South	90	40	12	13	24	28	37	21.4	C
	East	90	53	16	17	26	30	43	20	B
	West	90	54	16	17	26	30	43	20	B
Prospect Street at Hampshire Street	North	90	35	10	11	22	26	33	22.8	C
	South	90	37	11	12	21	25	33	23.5	C
	East	90	48	14	15	32	36	47	16.2	B
	West	90	45	13	14	33	37	47	15.6	B
George Street at College Avenue	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
George Street at Main Street	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Broadway at Boston Avenue/Rogers Street	North	65	67	20	21	25	29	46	10	B
	South	65	72	21	22	24	28	46	10.5	B
Broadway at Winchester Street/Ablion Street	Northeast		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Pearl Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Existing PM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Mystic Valley Parkway at Alewife Brook Parkway/Capen Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Auburn Street	North	120	60	18	19	-4	0	15	60	F
	South	120	46	14	15	0	4	15	56.1	E
	East		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Mystic Valley Parkway at Winthrop Street	North	135	74	22	23	-4	0	19	67.5	F
	South	135	61	18	19	0	4	19	63.6	F
	East	135	49	14	15	4	8	19	59.7	E
	West	135	66	19	20	-1	3	19	64.5	F
Boston Avenue at High Street/Sagamore Avenue	North South Middle West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Boston Avenue	North	113	50	15	16	-1	3	15	53.5	E
	South	113	50	15	16	-1	3	15	53.5	E
	East	113	50	15	16	-1	3	15	53.5	E
	West	113	55	16	17	-2	2	15	54.5	E
Boston Avenue at North Street	North	85	52	15	16	-1	3	15	39.6	D
	South	85	48	14	15	0	4	15	38.6	D
	East	85	42	12	13	2	6	15	36.7	D
	West	85	38	11	12	3	7	15	35.8	D
Boston Avenue at Winthrop Street	North	92	47	14	15	5	9	20	37.4	D
	South	92	37	11	12	8	12	20	34.8	D
	East	92	36	11	12	8	12	20	34.8	D
	West	92	26	8	9	11	15	20	32.2	D
Boston Avenue at College Avenue	North	135	56	16	17	5	9	22	58.8	E
	South	135	55	16	17	5	9	22	58.8	E
	East	135	41	12	13	9	13	22	55.1	E
	West	135	45	13	14	8	12	22	56	E
Boston Avenue at Harvard Street/Warner Street	North	109	31	9	10	9	13	19	42.3	E
	South	109	29	9	10	9	13	19	42.3	E
	East	109	41	12	13	6	10	19	45	E
	West	109	39	12	13	6	10	19	45	E
Powder House Blvd at Broadway/Warner Street/ College Avenue (East)	North	77	56	16	17	5	9	22	30	C
	South	77	45	13	14	8	12	22	27.4	C
	West	77	62	18	19	3	7	22	31.8	D
Powder House Blvd at Broadway/Warner Street/ College Avenue (West)	North	86	51	15	16	6	10	22	33.6	D
	West	86	62	18	19	3	7	22	36.3	D
Main Street at High Street/Salem Street/Forest Avenue/Riverside Avenuv	North	100	50	15	16	53	57	69	9.2	A
	South	100	64	19	20	3	7	23	43.2	E
	NorthEast	100	38	11	12	13	17	25	34.4	D
	East	100	36	11	12	22	26	34	27.4	C
	West	100	49	14	15	10	14	25	37	D

Pedestrian LOS Calculations
Existing PM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Main Street at South Street/Mystic Valley EB Ramps	South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Valley WB Ramps	North East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Avenue	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Harvard Street	North	92	58	17	18	4	8	22	38.3	D
	South	92	44	13	14	8	12	22	34.8	D
	East	92	44	13	14	8	12	22	34.8	D
	West	92	44	13	14	8	12	22	34.8	D
Medford Street at Broadway	North	122	67	20	21	-1	3	20	58	E
	South	122	52	15	16	4	8	20	53.3	E
	North West	122	78	23	24	-3	1	21	60	F
	South East	122	74	22	23	-1	3	22	58	E
	East	122	32	10	11	9	13	20	48.7	E
	West	122	44	13	14	6	10	20	51.4	E
Medford Street at Lowell Street	North West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Central Street	North	80	44	13	14	1	5	15	35.2	D
	South	80	39	12	13	2	6	15	34.2	D
	East	80	37	11	12	3	7	15	33.3	D
	West	80	58	17	18	-3	1	15	39	D
Medford Street at School Street	North	70	40	12	13	4	8	17	27.5	C
	South	70	40	12	13	4	8	17	27.5	C
	East	70	40	12	13	4	8	17	27.5	C
	West	70	42	12	13	4	8	17	27.5	C
Medford Street at Walnut Street	North	78	40	12	13	3	7	16	32.3	D
	South	78	40	12	13	3	7	16	32.3	D
	East	78	35	10	11	5	9	16	30.5	D
	West	78	33	10	11	5	9	16	30.5	D
Medford Street at Highland Avenue	East	70	46	14	15	0	4	15	31.1	D
	West	70	41	12	13	2	6	15	29.3	C
	North South		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Medford Street at Somerville Avenue/McGrath Highway	North South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Highland Avenue at Lowell Street	North	74	28	8	9	6	10	15	27.7	C
	South	74	28	8	9	6	10	15	27.7	C
	East	74	40	12	13	2	6	15	31.2	D
	West	74	42	12	13	2	6	15	31.2	D
Highland Avenue at Central Street	North	86	30	9	10	5	9	15	34.5	D
	South	86	30	9	10	5	9	15	34.5	D
	East	86	42	12	13	2	6	15	37.2	D
	West	86	41	12	13	2	6	15	37.2	D
Highland Avenue at School Street	North	103	36	11	12	9	13	21	39.3	D
	South	103	28	8	9	12	16	21	36.7	D
	East	103	42	12	13	8	12	21	40.2	E
	West	103	42	12	13	8	12	21	40.2	E
Washington Street at Innerbelt Road	South	81	74	22	23	3	7	26	33.8	D
	West	81	81	24	25	1	5	26	35.7	D
Washington Street at McGrath Highway (East)	North	133	45	13	14	57	61	71	19.5	B
	South East		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at McGrath Highway (West)	North	133	50	15	16	101	105	117	2.9	A
	South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at Somerville Avenue/Webster Street	North	105	72	21	22	-1	3	21	49.5	E
	South	105	38	11	12	9	13	21	40.3	E
	East	105	84	24	25	-4	0	21	52.5	E
	West	105	68	20	21	0	4	21	48.6	E
Washington Street at Beacon Street/Kirkland Street	North	87	55	16	17	-1	3	16	40.6	E
	South	87	56	16	17	-1	3	16	40.6	E
	East	87	51	15	16	0	4	16	39.6	D
	West	87	49	14	15	1	5	16	38.6	D
Prospect Street at Somerville Avenue Street	North	109	67	20	21	0	4	21	50.6	E
	South	109	43	13	14	7	11	21	44.1	E
	East	109	59	17	18	3	7	21	47.7	E
	West	109	73	21	22	-1	3	21	51.5	E
Prospect Street at Webster Street/Concord	North	94	44	13	14	11	15	25	33.2	D

Pedestrian LOS Calculations
Existing PM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Avenue	South	94	78	23	24	1	5	25	42.1	E
	South West	94	36	11	12	13	17	25	31.5	D
	West	94	35	10	11	14	18	25	30.7	D
Prospect Street at Cambridge Street	North	90	39	12	13	23	27	36	22.1	C
	South	90	40	12	13	23	27	36	22.1	C
	East	90	53	16	17	27	31	44	19.3	B
	West	90	54	16	17	27	31	44	19.3	B
Prospect Street at Hampshire Street	North	90	35	10	11	32	36	43	16.2	B
	South	90	37	11	12	31	35	43	16.8	B
	East	90	48	14	15	22	26	37	22.8	C
	West	90	45	13	14	23	27	37	22.1	C
George Street at College Avenue	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
George Street at Main Street	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Broadway at Boston Avenue/Rogers Street	North	65	67	20	21	25	29	46	10	B
	South	65	72	21	22	24	28	46	10.5	B
Broadway at Winchester Street/Ablion Street	Northeast		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Pearl Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Existing AM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
O'Brien Highway at Cambridge Street	North	111								
	Between Islands	111	67	20	21	9	13	30	43.3	E
	East	111	57	17	18	37	41	55	22.1	C
	West	111	88	26	27	48	52	75	15.7	B
O'Brien Highway at Third Street	North	120								
	South	120	60	18	19	-2	2	17	58	E
	East	120	104	30	31	7	11	38	49.5	E
	West	120								
O'Brien Highway at Water Street	North									
	South									
	East									
	West									
Cambridge Street at First Street	North	111								
	South	111	62	18	19	9	13	28	43.3	E
	East	111	52	15	16	12	16	28	40.7	E
	West	111	36	11	12	16	20	28	37.3	D
Land Boulevard at Charlestown Avenue	North	120								
	South	120	73	21	22	13	17	35	44.2	E
	East	120	80	23	24	-13	-9	11	69.3	F
	West	120	60	18	19	37	41	56	26	C
O'Brien Highway at Industrial Avenue	North	120	35	10	11	52	56	63	17.1	B
	South	120								
	East	120	70	20	21	2	6	23	54.2	E
	West	120	70	20	21	22	26	43	36.8	D
O'Brien Highway at Existing Lechmere Station	North	65								
	South	65	32	10	11	39	43	50	3.7	A
	East	65	83	24	25	-10	-6	15	38.8	D
	West	65								
O'Brien Highway at Gore Street	North									
	South									
	East									
	West									

Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A

Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A

Pedestrian LOS Calculations
Existing PM

Intersection	Crosswalk	Cycle Length (sec)	Crossing Distance (ft)	Min Crossing Interval (sec)	Min FDW Phase (sec)	Walk Interval (sec)	Effective Green (g) (sec)	Total Crossing Interval (sec)	Average Ped Delay (sec)	PLOS
		Calculated								
O'Brien Highway at Cambridge Street	North	**111**								
	Between Islands	111	**67**	20	21	9	13	**30**	43.3	E
	East	111	**57**	17	18	37	41	**55**	22.1	C
	West	111	**88**	26	27	21	25	**48**	33.3	D
O'Brien Highway at Third Street	North	**120**								
	South	120	**60**	18	19	-2	2	**17**	58	E
	East	120	**104**	30	31	7	11	**38**	49.5	E
	West	120								
O'Brien Highway at Water Street	North									
	South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	East									
	West									
Cambridge Street at First Street	North	**111**								
	South	111	**62**	18	19	9	13	**28**	43.3	E
	East	111	**52**	15	16	12	16	**28**	40.7	E
	West	111	**36**	11	12	16	20	**28**	37.3	D
Land Boulevard at Charlestown Avenue	North	**120**								
	South	120	**73**	21	22	3	7	**25**	53.2	E
	East	120	**80**	23	24	-2	2	**22**	58	E
	West	120	**60**	18	19	14	18	**33**	43.4	E
O'Brien Highway at Industrial Avenue	North	**120**	**35**	10	11	54	58	**65**	16	B
	South	120								
	East	120	**70**	20	21	4	8	**25**	52.3	E
	West	120	**70**	20	21	4	8	**25**	52.3	E
O'Brien Highway at Existing Lechmere Station	North	**65**								
	South	65	**32**	10	11	39	43	**50**	3.7	A
	East	65	**83**	24	25	-10	-6	**15**	38.8	D
	West									
O'Brien Highway at Gore Street	North									
	South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	East									
	West									

Pedestrian Routes by TAZ

Pedestrian trips by TAZ

Station	TAZ	TAZ - % Walk Access Trips	Peak Walk	Routes
Union Square	582	7.2%	48	
	583	25.4%	168	
	584	27.5%	182	
	585	10.2%	67	
	586	0.1%	1	
	605	1.3%	9	
	607	1.3%	9	
	608	3.9%	26	
	646	11.5%	76	
	647	5.0%	33	
	648	0.1%	1	
	661	5.9%	39	
	662	0.6%	4	
		100.0%	662	
MVP	557	15.3%	119	100 Boston Ave
	558	12.0%	93	67 Mystic Valley Pkwy 33 Boston Ave
	573	4.2%	33	100 Mystic Valley Pkwy
	574	4.2%	33	100 Mystic Valley Pkwy
	575	17.6%	137	67 Mystic Valley Pkwy 33 Boston Ave
	576	5.9%	46	50 Boston Ave 50 Mystic Valley Pkwy
	577	11.3%	88	100 Boston Ave
	578	3.4%	26	100 Boston Ave
	624	8.1%	63	100 Mystic Valley Pkwy
	891	2.7%	21	100 Mystic Valley Pkwy
	892	10.0%	78	100 Mystic Valley Pkwy
	895	5.2%	40	67 Mystic Valley Pkwy 33 Boston Ave
		99.9%	778	
College Ave	552	8.1%	54	100 Buzzels Ln
	553	33.2%	221	33 College Ave, 33 Buzzels Ln, 33 Boston Ave
	554	7.4%	49	100 College Ave
	555	24.4%	162	50 College Ave, 50 Boston Ave
	556	14.7%	98	100 College Ave (Burget Ave?)
	572	2.9%	19	100 Forest St
	620	0.1%	1	
	621	0.4%	3	
	623	8.8%	59	100 College Ave
		100.0%	665	
Ball Sq	550	41.0%	274	100 Broadway St
	551	2.5%	17	100 Broadway St
	603	6.2%	41	100 Broadway St
	612	1.1%	7	67 Broadway St, 33 Boston Ave
	615	19.1%	128	
	619	0.4%	3	
	620	8.6%	57	
	621	21.3%	142	
		100.2%	669	
Lowell St	612	61.9%	297	
	613	35.5%	170	
	614	1.9%	9	
	616	0.7%	3	
		100.0%	479	
Gilman Sq	585	0.1%	2	
	586	0.4%	6	
	596	0.1%	2	
	597	3.4%	52	
	598	8.1%	124	
	599	3.3%	50	
	600	18.1%	276	
	601	11.6%	177	
	602	9.7%	148	
	606	11.7%	178	
	607	9.1%	139	
	610	15.7%	239	
	611	8.5%	130	
	678	0.1%	2	
		99.9%	1,525	
Brickbottom	580	4.1%	31	
	581	10.6%	80	
	582	0.1%	1	
	583	4.5%	34	
	584	0.4%	3	
	585	0.3%	2	
	587	20.0%	151	
	588	22.3%	168	
	589	0.7%	5	
	590	8.4%	63	
	591	0.1%	1	
	594	0.1%	1	
	604	2.6%	20	
	605	24.1%	181	
	607	0.5%	4	
	608	0.3%	2	
	646	0.3%	2	
	647	0.1%	1	
	651	0.1%	1	
		99.6%	753	

Pedestrian trips by TAZ

Station	TAZ	TAZ - % Walk Access Trips	Peak Walk	Routes
Union Square	582	7.2%	0	
	583	25.4%	0	
	584	27.5%	0	
	585	10.2%	0	
	586	0.1%	0	
	605	1.3%	0	
	607	1.3%	0	
	608	3.9%	0	
	646	11.5%	0	
	647	5.0%	0	
	648	0.1%	0	
	661	5.9%	0	
	662	0.6%	0	
		100.0%	0	
MVP	557	15.3%	163	100 Boston Ave
	558	12.0%	128	67 Mystic Valley Pkwy 33 Boston Ave
	573	4.2%	45	100 Mystic Valley Pkwy
	574	4.2%	45	100 Mystic Valley Pkwy
	575	17.6%	188	67 Mystic Valley Pkwy 33 Boston Ave
	576	5.9%	63	50 Boston Ave 50 Mystic Valley Pkwy
	577	11.3%	121	100 Boston Ave
	578	3.4%	36	100 Boston Ave
	624	8.1%	87	100 Mystic Valley Pkwy
	891	2.7%	29	100 Mystic Valley Pkwy
	892	10.0%	107	100 Mystic Valley Pkwy
	895	5.2%	56	67 Mystic Valley Pkwy 33 Boston Ave
		99.9%	1,068	
College Ave	552	8.1%	62	100 Buzzels Ln
	553	33.2%	252	33 College Ave, 33 Buzzels Ln, 33 Boston Ave
	554	7.4%	56	100 College Ave
	555	24.4%	185	50 College Ave, 50 Boston Ave
	556	14.7%	112	100 College Ave (Burget Ave?)
	572	2.9%	22	100 Forest St
	620	0.1%	1	
	621	0.4%	3	
	623	8.8%	67	100 College Ave
		100.0%	760	
Ball Sq	550	41.0%	353	100 Broadway St
	551	2.5%	22	100 Broadway St
	603	6.2%	53	100 Broadway St
	612	1.1%	9	67 Broadway St, 33 Boston Ave
	615	19.1%	164	
	619	0.4%	3	
	620	8.6%	74	
	621	21.3%	183	
		100.2%	860	
Lowell St	612	61.9%	355	
	613	35.5%	204	
	614	1.9%	11	
	616	0.7%	4	
		100.0%	574	
Gillman Sq	585	0.1%	2	
	586	0.4%	7	
	596	0.1%	2	
	597	3.4%	62	
	598	8.1%	147	
	599	3.3%	60	
	600	18.1%	327	
	601	11.6%	210	
	602	9.7%	175	
	606	11.7%	212	
	607	9.1%	165	
	610	15.7%	284	
	611	8.5%	154	
	678	0.1%	2	
		99.9%	1,809	
Brickbottom	580	4.1%	50	
	581	10.6%	129	
	582	0.1%	1	
	583	4.5%	55	
	584	0.4%	5	
	585	0.3%	4	
	587	20.0%	243	
	588	22.3%	271	
	589	0.7%	9	
	590	8.4%	102	
	591	0.1%	1	
	594	0.1%	1	
	604	2.6%	32	
	605	24.1%	293	
	607	0.5%	6	
	608	0.3%	4	
	646	0.3%	4	
	647	0.1%	1	
	651	0.1%	1	
		99.6%	1,216	

TAZ	Subzone	Route	Comments
557	1	Boston Ave	All ped traffic from Stoughton St, Harris Rd, Harold St, Pinkham Rd, Stevens St, Capen St, Hamilton St & Gordon St will filter to South side of Boston Ave.
	2	Boston Ave via N North St	Quincy St, Adams St & Hillsdale Rd ped traffic South of Capen St will filter to North St and head north towards Boston Ave.
	3	Boston Ave	Quincy St, Adams St, Hillsdale Rd & Emery St ped traffic north of Capen St will filter to South side of Boston Ave.
	4	Boston Ave	Northside of Boston Ave
558	1	Mystic Valley Pkwy via Auburn St	High density - apts
	2	Boston Ave via S North St	Marshall St, Dearborn St, Orchard St
	3	Mystic Valley Pkwy via Auburn St	West St, Winter St, Cotting St, Northon Ave, Lyman Ave north of Marshall, Martin St
573	1	Mystic Valley Pkwy via High St & Winthrop St	High density - apts
	2	Mystic Valley Pkwy via High St & Winthrop St	Side streets filter to Winthrop St & High St
	3	Mystic Valley Pkwy Via Mystic St, Auburn St	Side streets filter to Lawrence Rd, W on Irving St, S on Mystic St
574		Mystic Valley Pkwy	Side streets filter SW to MVP and walk W along MVP
575	1	Boston Ave via Canal St	W of Allston St to filter to Warren St / Canal St to Boston Ave
	2	Mystic Valley Pkwy Via Mystic St, Auburn St	Side streets filter S towards MVP via Auburn St & Mystic St
	3	Mystic Valley Pkwy	Side streets filter S towards MVP to the east of Roland St
576	1	Boston Ave via Harvard Ave	Side streets filter to Playstead Rd, W on Harvard Ave, S on Boston Ave
	2	Mystic Valley Pkwy via Brooks St, Allston St, Auburn St	
577		Boston Ave	All ped traffic in TAZ filter to Boston Ave
578		Boston Ave	All ped traffic in TAZ filter to Boston Ave
624	1	Mystic Valley Pkwy via Alewife Brook Pkwy	High density - apts near Capen Ct
	2	Mystic Valley Pkwy via Sunnyside Ave	
891	1	Mystic Valley Pkwy via Alewife Brook Pkwy	
	2	Mystic Valley Pkwy via River St	
	3	Mystic Valley Pkwy via Gardner St	
892	1	Mystic Valley Pkwy via Rawson Rd	
	2	Mystic Valley Pkwy via River St	
	3	Mystic Valley Pkwy via Gardner St	
895	1	Boston Ave via High St	All streets to the N of Franklin St filter to Medford St / High St
	2	Mystic Valley Pkwy	

TAZ	Subzone	Route	Comment
			All ped traffic in the TAZ will filter to Forest Street
			Across Mystic River
572	1	Forest Street	S on Main; W on Royall; S on College
554	1	College Ave	Side streets filter to College; S on College
554	2	College Ave via Walnut	Side streets filter to Walnut; S on Walnut; E on Summer; S on College
			Side streets filter to Main
554	3	College Ave via Royall and Main	S on Main; W on Royall; S on College
554	4	College Ave via Royall	W on Columbia Rd; W on Royall; S on College
554	5	College Ave via George	W on George; S on College
			Side streets filter to Pearl via Main
554	6	College Ave via Pearl	W on Pearl; S on College
			Side streets filter to Stearns via Main
554	7	College Ave via Stearns	W on Stearns; S on College
554	8	College Ave via Frederick	W on Hancock Ct; S on Kenway; W on Hancock St; W on Frederick; S on College
553	1	College Ave	W on side streets (Stearns, Stanley, Frederick); S on College
			Side streets filter to Buzzells Ln
553	2	Buzzells Ln/Alumni Fields	W on Buzzells; cross playing fields and parking lot; up stairs; cross College
553	3	Buzzells Ln/Alumni Fields	N on Main; W on Buzzells; cross playing fields, etc
			Side streets filter to Dartmouth
553	4	Buzzells Ln/Alumni Fields	N on Dartmouth; W on Buzzels; cross playing fields, etc
553	5	Boston Ave via Harvard	Side streets filter S to Harvard; W on Harvard; N on Boston
		To Ball Square Sta: Winchester	This portion of the TAZ is considerably closer to the Ball Square Station, yet all of
553	6	To College Ave Sta: Boston via Harvard	the pedestrian traffic from this TAZ is allocated to College Ave
555	1	Boston Ave via Tufts campus	Walk E across Tufts campus to parking lot SE of University Ave; SE on Boston
555	2	Boston Ave	Side streets filter to Boston Ave; SE on Boston
555	3	Boston Ave via Tufts campus	Walk SE across Tufts campus; descend stairs to intersection of College and Boston
555	4	College Ave via Tufts campus	Walk SE across Tufts campus; descend main entrance stairs on College Ave; NE on College
555	5	Boston Ave	NW on Boston Ave
		To Ball Square: S on Boston Ave	This portion of the TAZ is considerably closer to the Ball Square Station, yet all of
555	6	To College Ave: N on Boston Ave	the pedestrian traffic from this TAZ is allocated to College Ave
			Side streets filter across Winthrop to Tufts campus; walk SE across campus;
623	1	College Ave via Tufts campus	descend main entrance stairs on College Ave; NE on College
623	2	College Ave via Professors Row	SE on Curtis; SE on Professors Row; NE on College
			Side streets (Conwell, Raymond, Sawyer, Whitfield, Teele) filter to Talbot via
623	3	College Ave via Talbot	Packard; SE on Talbot; N on College
623	4	College Ave via Talbot Ave	SE on Powder House; NE on Packard; SE on Talbot; N on College
556	1	College Ave	Side streets filter to College; S on College
			Side streets filter to Burget Ave; Burget dead ends at what appears to be a path
556	2	College Ave via Burget Ave (path)	through to College Ave and (future) station entrance
			Side streets filter W across Main to Stearns, Stanley, Frederick, or Windsor; then S
552	1	College Ave	on College
552	2	Buzzells Ln/Alumni Fields	Side streets filter to Main; N on Main; W on Buzzells; cross playing fields etc
		To Ball Square: Albion St	This portion of the TAZ appears closer to the Ball Square Station, yet all of the
552	3	To College Ave: Buzzells Ln	pedestrian traffic from this TAZ is allocated to College Ave

NOTE: For TAZs 552 and 553, if there is not free access to the Tufts Alumni Fields from Buzzells Ln, this pedestrian traffic will travel W on Windsor Rd to College Ave

NOTE: There are four critical questions for TAZ 554:

1) Will there be a crosswalk from the top of the Alumni Fields stairs to the station entrance?

2) Will the gate from Buzzells Ln to the Alumni Fields ever be locked?

3) Has Tufts Univ issued its opinion on pedestrians cutting across the Alumni Fields and parking lot?

4) How much, if any, pedestrian traffic is assumed to come from south of Harvard St? If any, why aren't these pedestrians allocated to Ball Square Station?

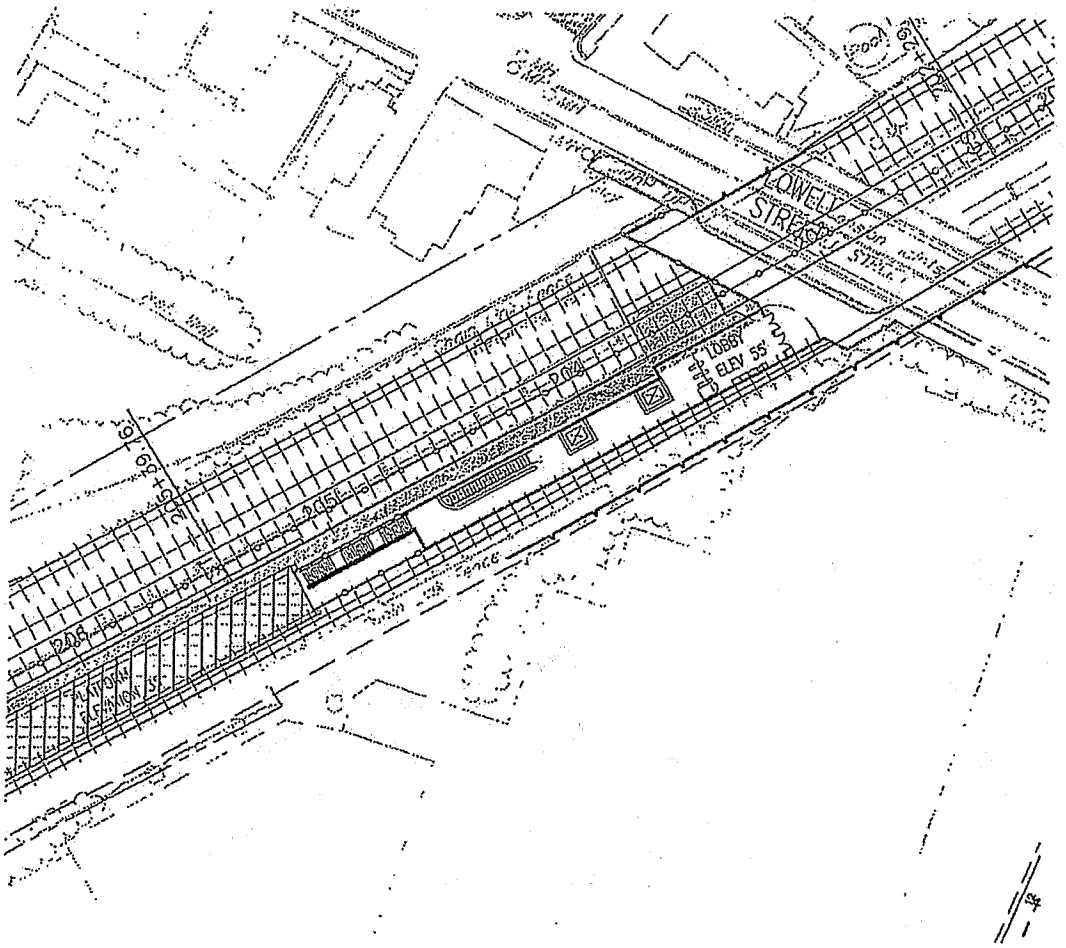
TAZ	Subzone	Route	Comments
550		Broadway Street	All ped traffic in this TAZ will filter to north side of Broadway Street via Dexter St, and Albion St and walk Northwest towards the station
551		Broadway Street	All ped traffic in this TAZ will filter to north side of Broadway Street via Albion St and walk Northwest towards the station
603		Broadway Street	All ped traffic will filter to southside of Broadway Street via Cedar St, Charles E Ryan Rd and Hinckley St and walk northwest towards the station
612	1	Broadway Street via Boston Ave	All ped traffic to the west of Cedar St will filter to Boston Ave and will approach the station via Broadway & Boston Ave
	2	Broadway Street via Cedar St	All ped traffic to the east of Cedar St (Clyde St, Warwick St & Murdock St) will filter to southside of Broadway St via Cedar St
615	1	Broadway Street via College Ave	All ped traffic to the west of Liberty Ave and south of Kidder Ave will filter to College Ave and approach the station via Broadway St
	2	Broadway Street	All ped traffic will filter to southside of Broadway Street via Liberty Ave, Bay State Avem Lowden Ave, Willow Ave and Josephine Ave
	3	Broadway Street via Boston Ave	All ped traffic to the east of Josephine Ave (Rogers Ave, Highland Rd, Pearson Ave, & Prichard Ave) will filter to Boston Ave
619	1	Broadway Street	All ped traffic to the west of Chandler St will filer to the soudh side of Broadway Street and walk east on Broadway St towards the station
	2	Broadway Street via College Ave	All ped traffic to the east of Chandler St (Chandler St, Winter St, Park Ave, Chapel St, William St, Summit St & Kenwood St will filter to College Ave and approach the station via Broadway St
620	1	Broadway Street via Powder House Blvd	All ped traffic to the north of Hamilton Rd, Fairmount Ave, Electic Ave and Walker St will filter to Powder House Blvd and approach the station via Broadway St
	2	Broadway Street	All ped traffic to the south of Hamilton Road, Ware St, Ossippee Road will filter to Broadway Street and walk east towards the station
621	1	Boston Ave	All ped traffic from Tufts Univ (Professors Row & Talbot Ave) will filter to Boston Ave via Dearborn Road
	2	Broadway Street via Powder House Blvd	All ped traffic to the south of Talbot Ave will fiter to Powder House Road / Broadway St

TAZ	Subzone	Route	Comments
612		Lowell St via Princeton St	All ped traffic filter south on Cedar St, south through Alpine St and Princeton St, north on Lowell St
613	1	Lowell St via minor arterials	Ped traffic from Alpine, Lexington, Albion, Spender, Hudson will filter north on Cedar St, south on minor arterials, then north on Lowell St
	2	Lowell St via Highland Ave	Ped traffic from Cherry, Hall, Mountain, Porter, Tower (hospital) will filter to Cedar St, Highland Ave, and north on Lowell St.
	3	Lowell St	Ped traffic filter north on Lowell St.
614	1	Lowell St	Ped traffic from Craigle, Kimball, Ibbetson, Silvey will filter to Summer St or directly onto Lowell St
	2	Lowell St via Porter St and Highland Ave	Ped traffic from Linden, Porter, and Elm will filter through Porter to Highland Ave, then north on Lowell St
	3	Lowell St via Cedar St and Highland Ave	Ped traffic from Cedar, Ashland, and Mossland will filter to Cedar St, Highland Ave, then north on Lowell St
616	1	Lowell St via Princeton/Alpine St	Ped traffic from Henry, Lesley, Lexington will filter to Alpine St, Princeton St, north on Lowell St
	2	Lowell St via Princeton/Alpine St and Highland Ave	Ped traffic from Hawthorne, Summer, Windsor will filter to Highland Ave, Cedar St, Alpine St, Princeton St, and north on Lowell St

TAZ	Subzone	Route	Comments
585	1	N on Dane St to E on Somerville Ave and N on School St	
	2	E on Washington St to NW on Webster Ave and N on School St	
586	1	N on Lowell St to E on Highland Ave and N on School St	
	2	N on Park St to E on Somerville Ave and N on School St	
	3	N on Dane St to E on Somerville Ave and N on School St	
596	1	S on Fellsway to S on MSGR McGrath Hwy and E on Pearl St	Side streets to the East of Temple St filter to Fellsway
	2	S on Temple St to S on Marshall St and W on Pearl St	Side streets to the West of Temple St filter to Temple St
597	1	S on Temple St to S on Marshall St and W on Pearl St	East half of the TAZ will filter down to Temple St
	2	SE on Main St to E on Broadway St and S on School St	West half of the TAZ will filter down to Main St / Broadway St
598	1	S on Sycamore St to SE on Medford St	Side streets to the west of Bond St will filter to Sycamore St
	2	S on Thurston St to SE on Medford St	Bond Streets & Thurston St
	3	S on Temple St to S on Marshall St and W on Pearl St	Side streets to the east of Thurston St will filter to Temple St
599	1	S on Temple St to S on Marshall St and W on Pearl St	Side streets to the west of Wheatland St
	2	S on Walnut St and W on Pearl St	Wheatland St & Fellsway W
	3	S on MSGR McGrath Hwy and W on Pearl St	East of Fellsway W
600	1	S on School St	
	2	S on Marshall St and W on Pearl St	
	3	W on Pearl St	
	4	S on Walnut St and W on Pearl St	
601	1	E on Evergreen Ave and S on School St	
	2	SE on Medford St	Foster St, Tennyson St and side streets south of Evergreen Ave to filter to Medford St
	3	E on Richdale Ave	Side streets south of Medford St filter to Richdale Ave
602	1	SE on Medford St	
	2	E on Vernon St to E on Pembroke St to S on Sycamore St and E on Richdale Ave	
606	1	W on Highland Ave and N on School St	Vinal Ave, Putnam St, Prescott St
	2	N on Walnut St and NW on Medford St	
607	1	N on Central St to E on Highland Ave and N on School St	
	2	N School St	Side streets filter to School St
610		N School St	All side streets filter to School St
611		N School St	All side streets filter to School St
678	1	N on Park St to E on Somerville Ave and N on School St	
	2	Non Dane St to E on Somerville Ave and N on School St	

TAZ	Subzone	Route	Comments
605	1	Joy St via Washington St	Ped from Warren, Stone filter to Washington St, then Joy St
	2	Joy St via McGrath Hwy and Washington St	Ped from Hamlet filter to McGrath Hwy, Washington St, then Joy St
588	1	Joy St via McGrath Hwy and Washington St	
	2	Joy St via Tufts St and Washington St	
	3	Joy St via Glen or Franklin and Washington St	
587	1	Joy St via Tufts St and Washington St	
	2	Joy St via Washington St	
581	1	Joy St via Linwood St	Ped from north Linwood go north to Joy St
	2	Joy St via Poplar St	Ped from south Linwood and points south go north on Poplar to Joy St
590	1	Joy St via McGrath Hwy and Washington St	
	2	Joy St via Cross St and Washington St	
	3	Joy St via Tufts St and Washington St	
583	1	Joy St via Washington St	
	2	Joy St via Poplar St	
580	1	Joy St via Washington St	
	2	Joy St via Washington St and New Washington St	
604	1	Joy St via McGrath Hwy and Washington St	All ped traffic filter to McGrath Hwy, Washington St, then Joy St

TAZ	Subzone	Route	Comments
612		Lowell St via Princeton St	All ped traffic filter south on Cedar St, south through Alpine St and Princeton St, north on Lowell St
613	1	Lowell St via minor arterials	Ped traffic from Alpine, Lexington, Albion, Spender, Hudson will filter north on Cedar St, south on minor arterials, then north on Lowell St
	2	Lowell St via Highland Ave	Ped traffic from Cherry, Hall, Mountain, Porter, Tower (hospital) will filter to Cedar St, Highland Ave, and north on Lowell St.
	3	Lowell St	Ped traffic filter north on Lowell St.
614	1	Lowell St	Ped traffic from Craigie, Kimball, Ibbetson, Silvey will filter to Summer St or directly onto Lowell St
	2	Lowell St via Porter St and Highland Ave	Ped traffic from Linden, Porter, and Elm will filter through Porter to Highland Ave, then north on Lowell St
	3	Lowell St via Cedar St and Highland Ave	Ped traffic from Cedar, Ashland, and Mossland will filter to Cedar St, Highland Ave, then north on Lowell St
616	1	Lowell St via Princeton/Alpine St	Ped traffic from Henry, Lesley, Lexington will filter to Alpine St, Princeton St, north on Lowell St
	2	Lowell St via Princeton/Alpine St and Highland Ave	Ped traffic from Hawthorne, Summer, Windsor will filter to Highland Ave, Cedar St, Alpine St, Princeton St, and north on Lowell St



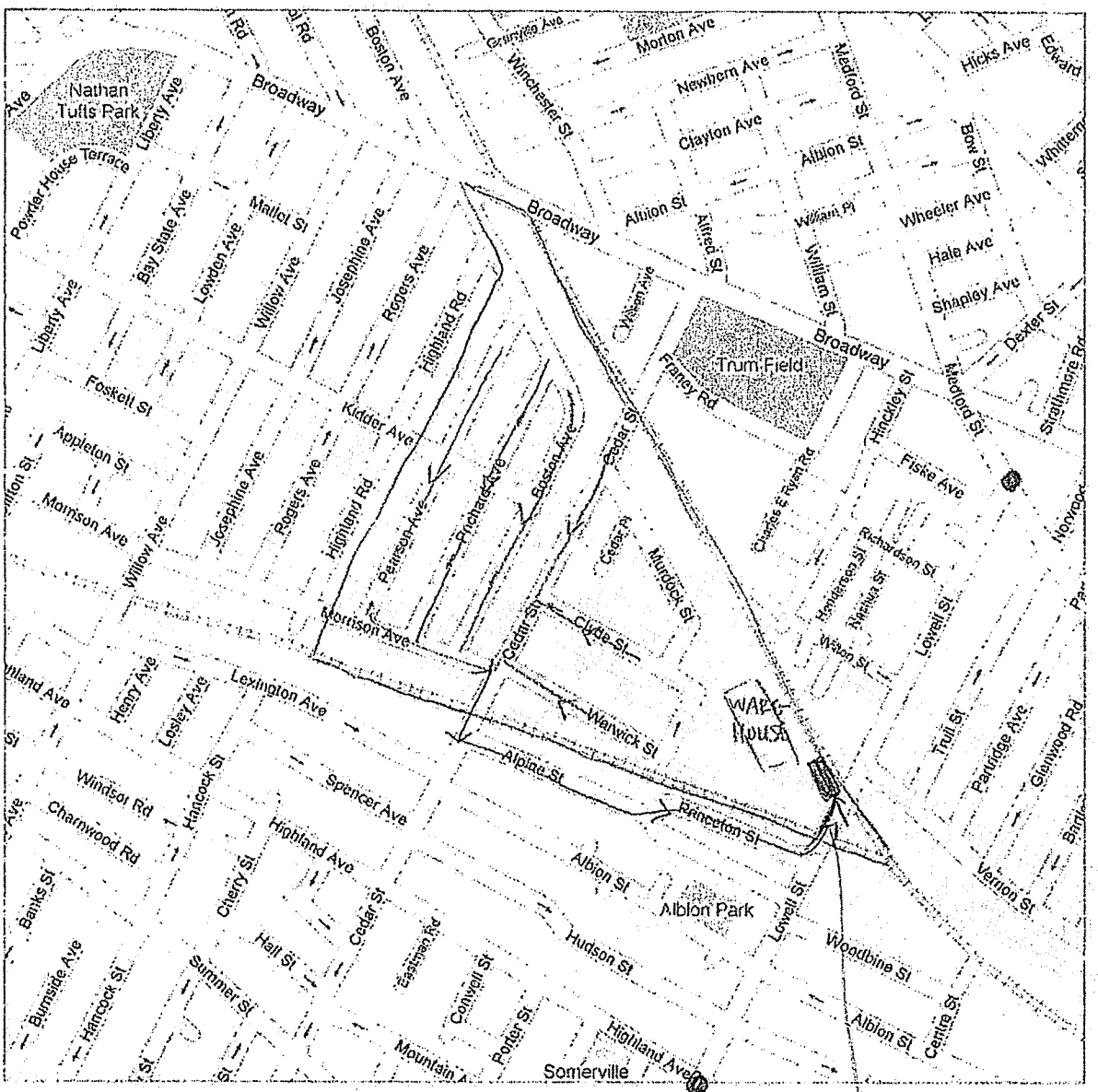
XX Alt 2 peds

XX Alt 7 peds

Google Maps

Address **Medford, MA**

Notes TAZ 612 - Lowell St



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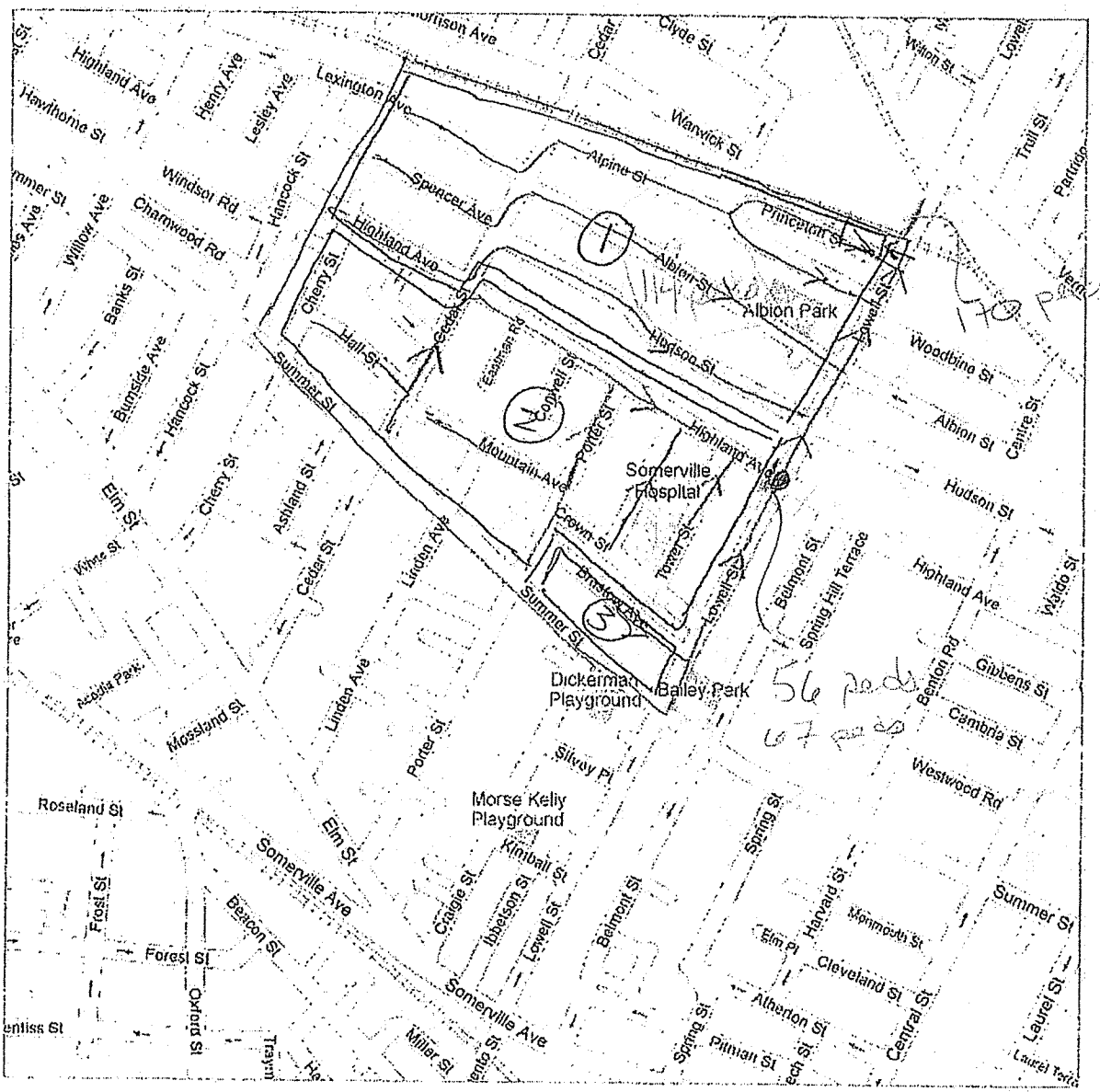
297 peds

355 peds

Google Maps

Address **Medford, MA**

Notes TAZ 613 - Lowell St



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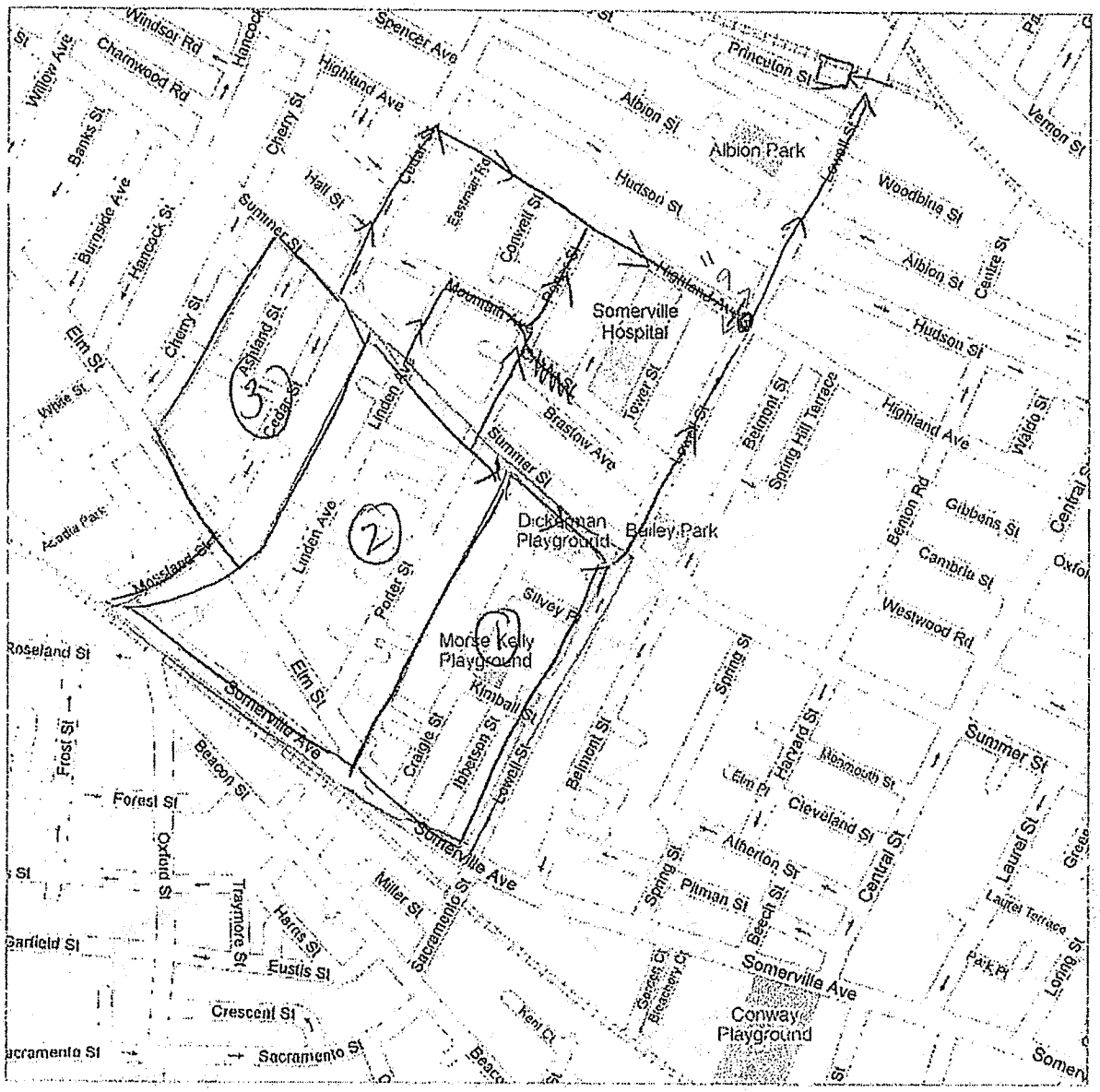
Google Maps

Address **Medford, MA**

Notes TAZ 614 - Lowell St



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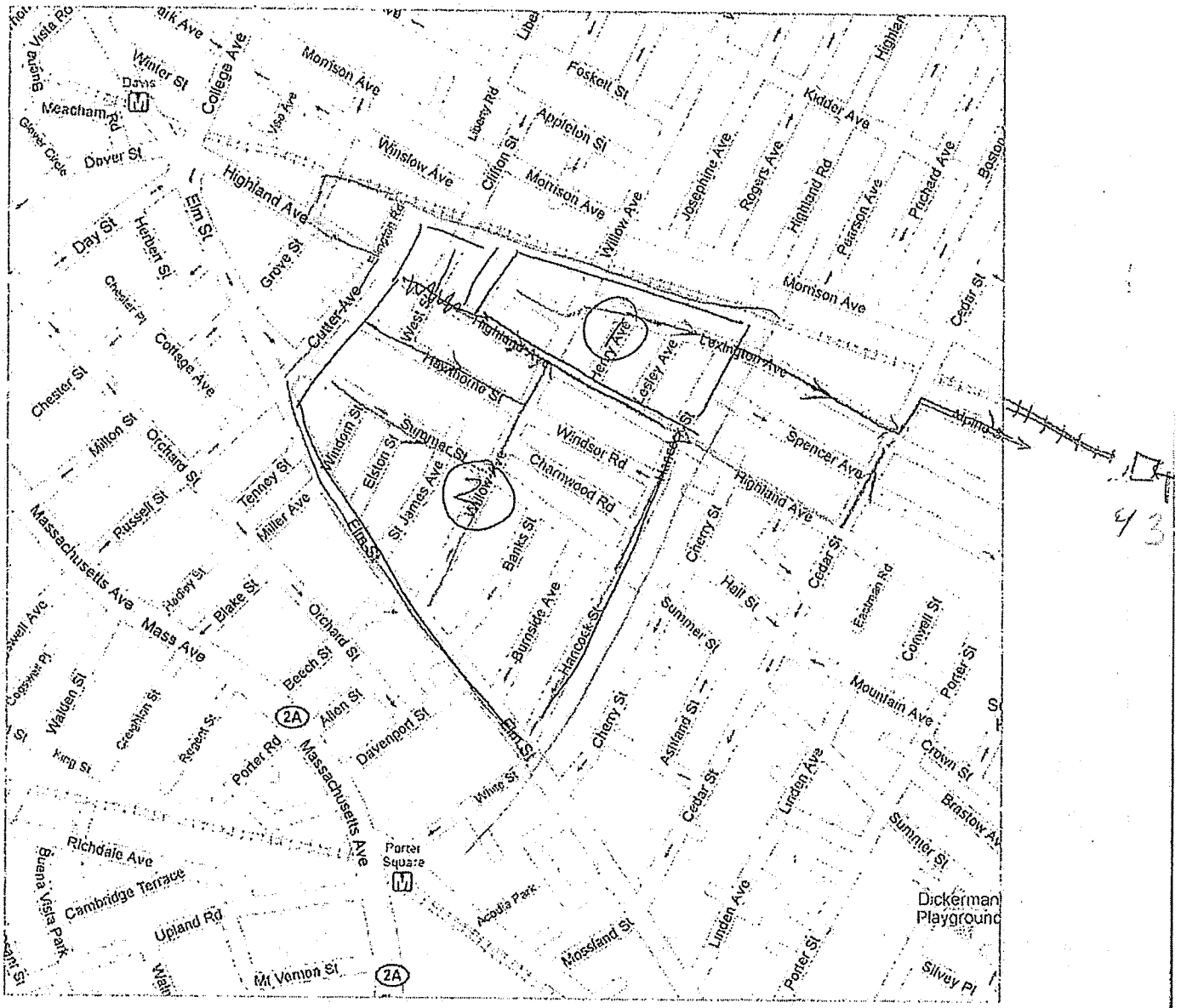
Google Maps

Address **Medford, MA**

Notes TAZ 616 - Lowell St



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TAZ	Subzone	Route	Comment
			All ped traffic in the TAZ will filter to Forest Street
			Across Mystic River
572	1	Forest Street	S on Main; W on Royall; S on College
554	1	College Ave	Side streets filter to College; S on College
554	2	College Ave via Walnut	Side streets filter to Walnut; S on Walnut; E on Summer; S on College
			Side streets filter to Main
554	3	College Ave via Royall and Main	S on Main; W on Royall; S on College
554	4	College Ave via Royall	W on Columbia Rd; W on Royall; S on College
554	5	College Ave via George	W on George; S on College
			Side streets filter to Pearl via Main
554	6	College Ave via Pearl	W on Pearl; S on College
			Side streets filter to Stearns via Main
554	7	College Ave via Stearns	W on Stearns; S on College
554	8	College Ave via Frederick	W on Hancock Ct; S on Kenway; W on Hancock St; W on Frederick; S on College
553	1	College Ave	W on side streets (Stearns, Stanley, Frederick); S on College
			Side streets filter to Buzzells Ln
553	2	Buzzells Ln/Alumni Fields	W on Buzzells; cross playing fields and parking lot; up stairs; cross College
553	3	Buzzells Ln/Alumni Fields	N on Main; W on Buzzells; cross playing fields, etc
			Side streets filter to Dartmouth
553	4	Buzzells Ln/Alumni Fields	N on Dartmouth; W on Buzzels; cross playing fields, etc
553	5	Boston Ave via Harvard	Side streets filter S to Harvard; W on Harvard; N on Boston
		To Ball Square Sta: Winchester	This portion of the TAZ is considerably closer to the Ball Square Station, yet all of
553	6	To College Ave Sta: Boston via Harvard	the pedestrian traffic from this TAZ is allocated to College Ave
555	1	Boston Ave via Tufts campus	Walk E across Tufts campus to parking lot SE of University Ave; SE on Boston
555	2	Boston Ave	Side streets filter to Boston Ave; SE on Boston
555	3	Boston Ave via Tufts campus	Walk SE across Tufts campus; descend stairs to intersection of College and Boston
555	4	College Ave via Tufts campus	Walk SE across Tufts campus; descend main entrance stairs on College Ave; NE on College
555	5	Boston Ave	NW on Boston Ave
		To Ball Square: S on Boston Ave	This portion of the TAZ is considerably closer to the Ball Square Station, yet all of
555	6	To College Ave: N on Boston Ave	the pedestrian traffic from this TAZ is allocated to College Ave
			Side streets filter across Winthrop to Tufts campus; walk SE across campus;
623	1	College Ave via Tufts campus	descend main entrance stairs on College Ave; NE on College
623	2	College Ave via Professors Row	SE on Curtis; SE on Professors Row; NE on College
			Side streets (Conwell, Raymond, Sawyer, Whitfield, Teele) filter to Talbot via
623	3	College Ave via Talbot	Packard; SE on Talbot; N on College
623	4	College Ave via Talbot Ave	SE on Powder House; NE on Packard; SE on Talbot; N on College
556	1	College Ave	Side streets filter to College; S on College
			Side streets filter to Burget Ave; Burget dead ends at what appears to be a path
556	2	College Ave via Burget Ave (path)	through to College Ave and (future) station entrance
			Side streets filter W across Main to Stearns, Stanley, Frederick, or Windsor; then S
552	1	College Ave	on College
552	2	Buzzells Ln/Alumni Fields	Side streets filter to Main; N on Main; W on Buzzells; cross playing fields etc
		To Ball Square: Albion St	This portion of the TAZ appears closer to the Ball Square Station, yet all of the
552	3	To College Ave: Buzzells Ln	pedestrian traffic from this TAZ is allocated to College Ave

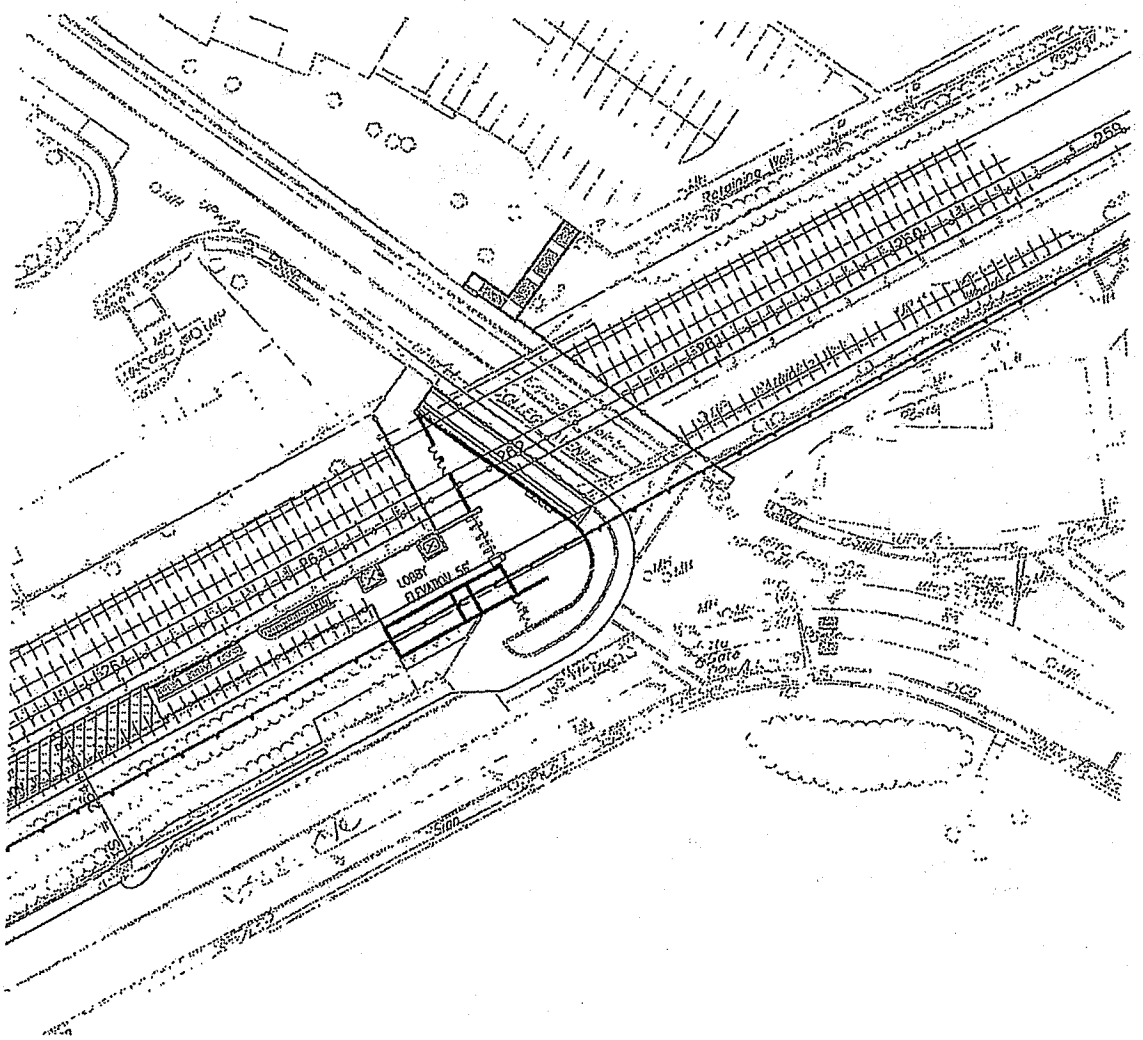
NOTE: For TAZs 552 and 553, if there is not free access to the Tufts Alumni Fields from Buzzells Ln, this pedestrian traffic will travel W on Windsor Rd to College Ave

NOTE: There are four critical questions for TAZ 554:

1) Will there be a crosswalk from the top of the Alumni Fields stairs to the station entrance?
2) Will the gate from Buzzells Ln to the Alumni Fields ever be locked?
3) Has Tufts Univ issued its opinion on pedestrians cutting across the Alumni Fields and parking lot?
4) How much, if any, pedestrian traffic is assumed to come from south of Harvard St? If any, why aren't these pedestrians allocated to Ball Square Station?

Williams

College Station



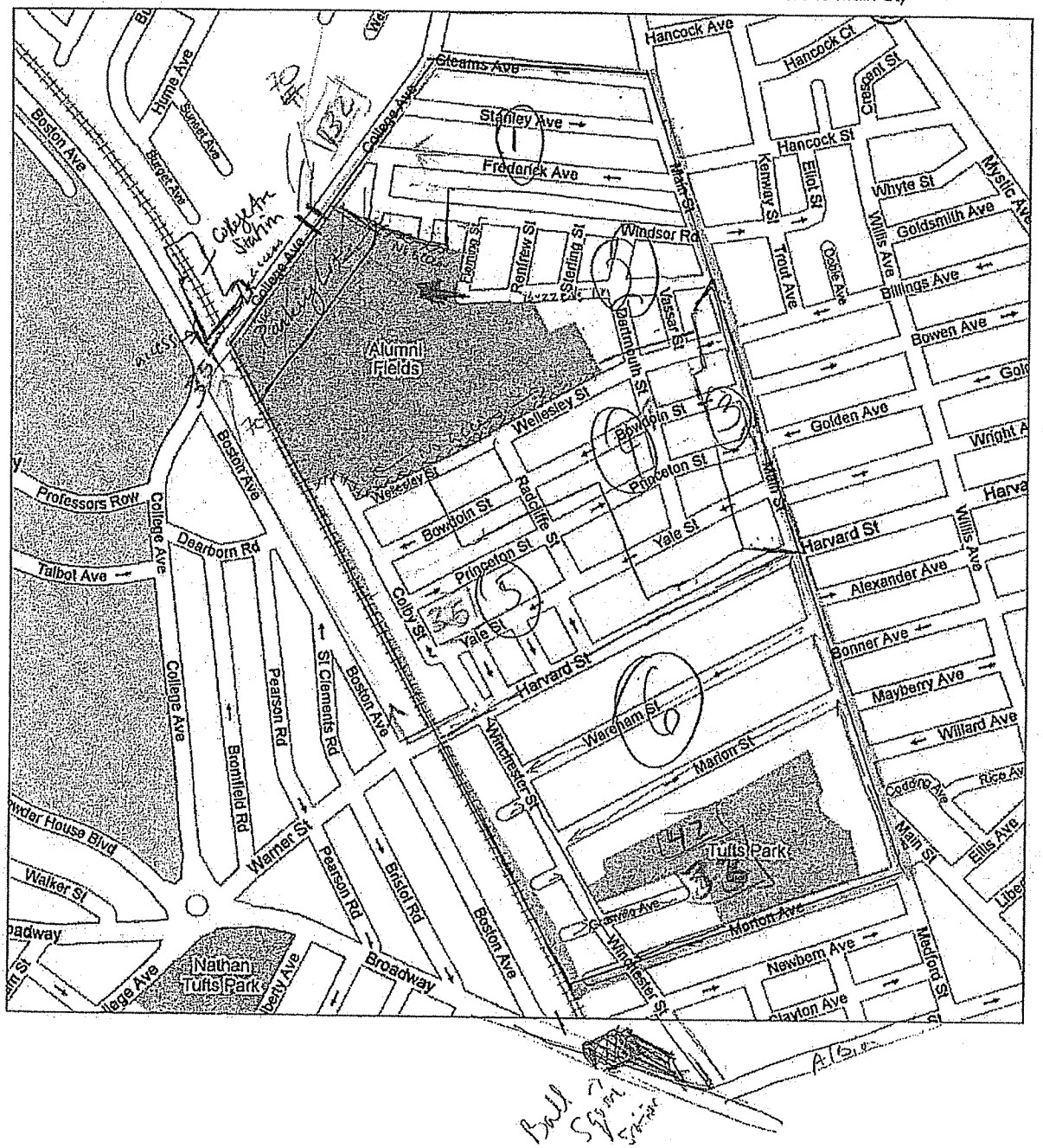
xx Alt 2 pods

xx Alt 7 pods

Q: will there be a crosswalk from Alumni Fields across College Ave to NE entrance to Stearns?

Google Maps

Notes TAZ 553
(Counterclockwise: Stearns Ave to College Ave to RR tracks to Morton Ave to Main St)

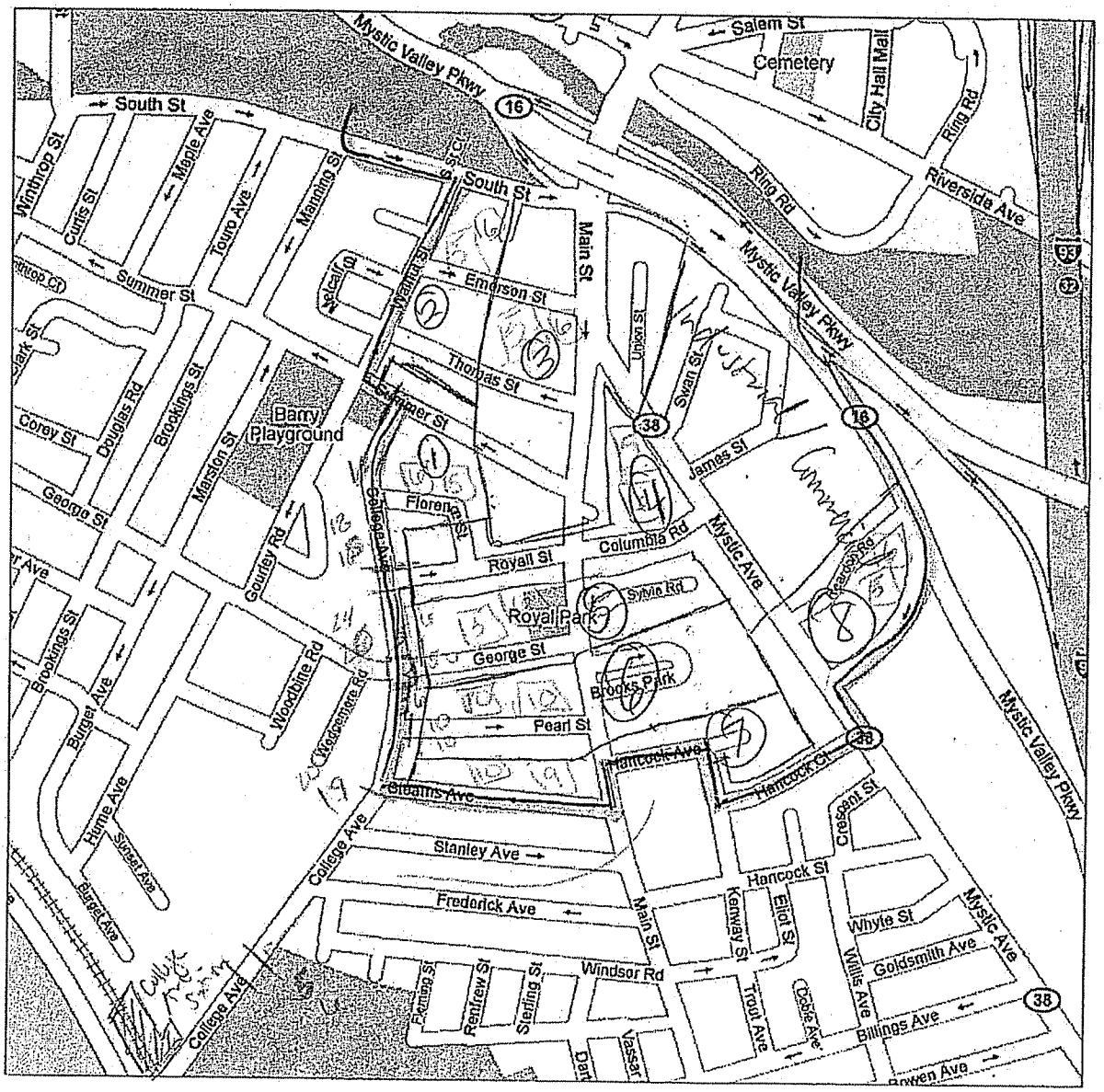


252 parking

221

Google Maps

Notes TAZ 554

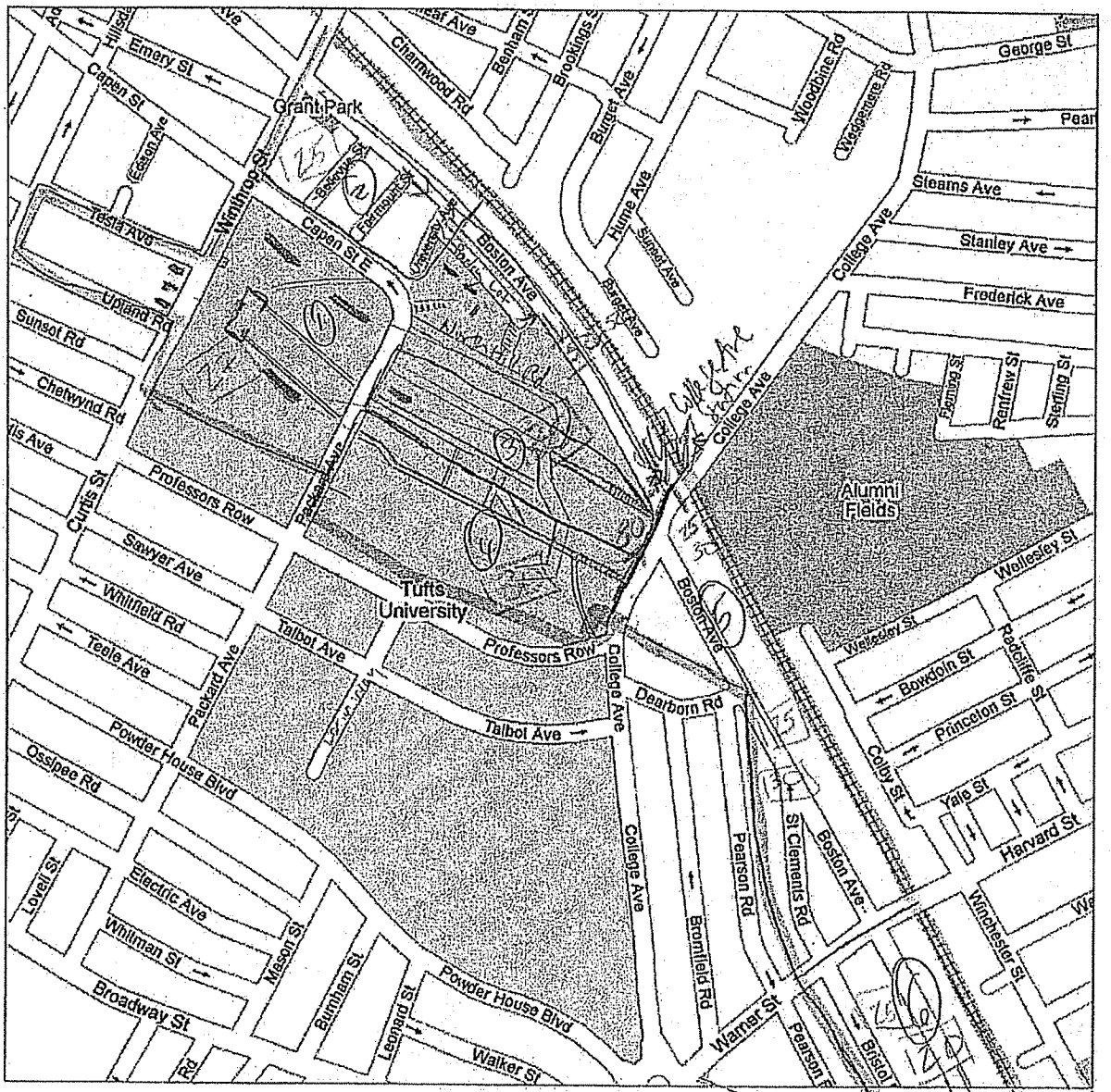


56 pads

49 pads

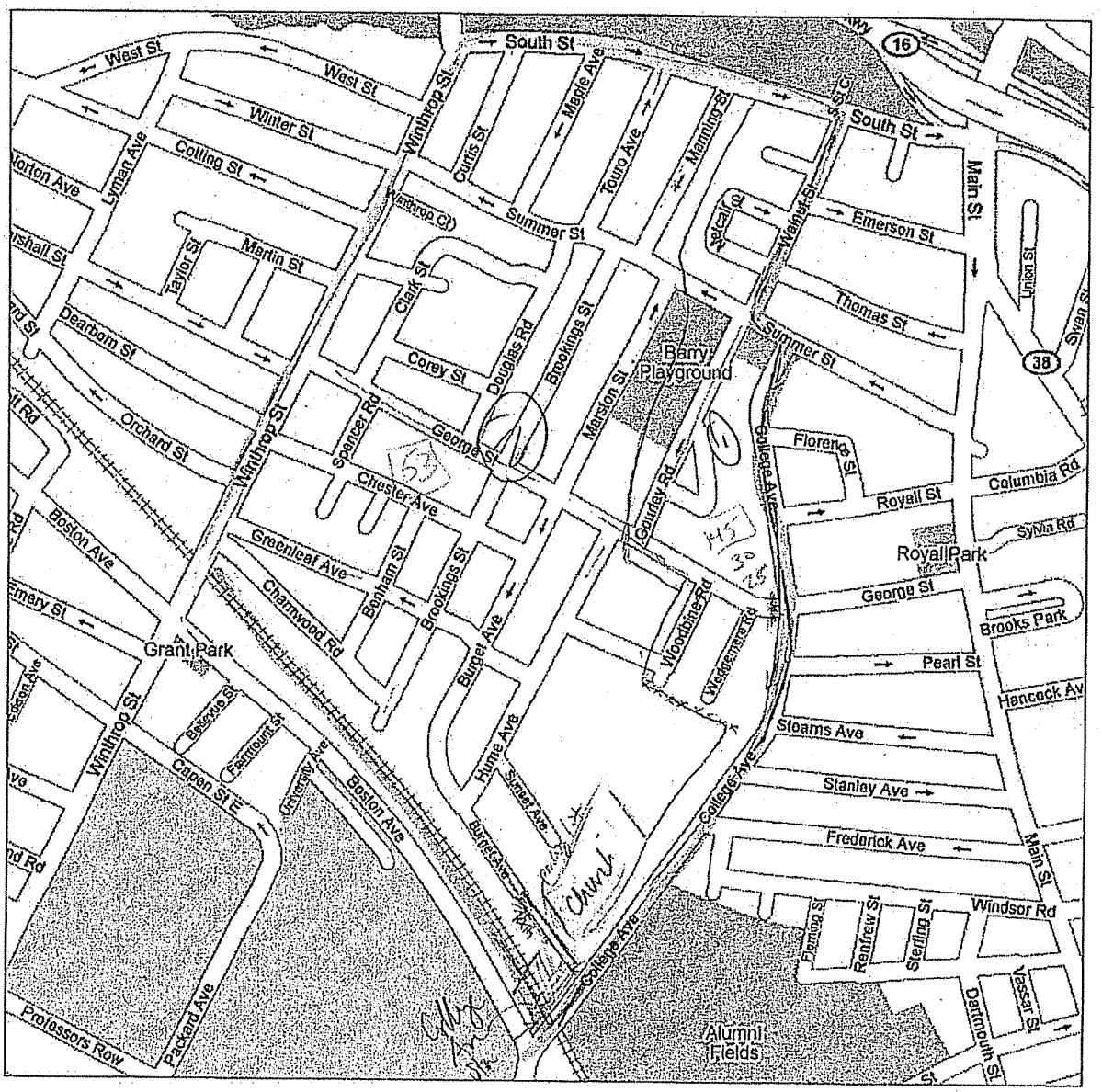
Google Maps

Notes TAZ 555



Google Maps

Notes TAZ 556



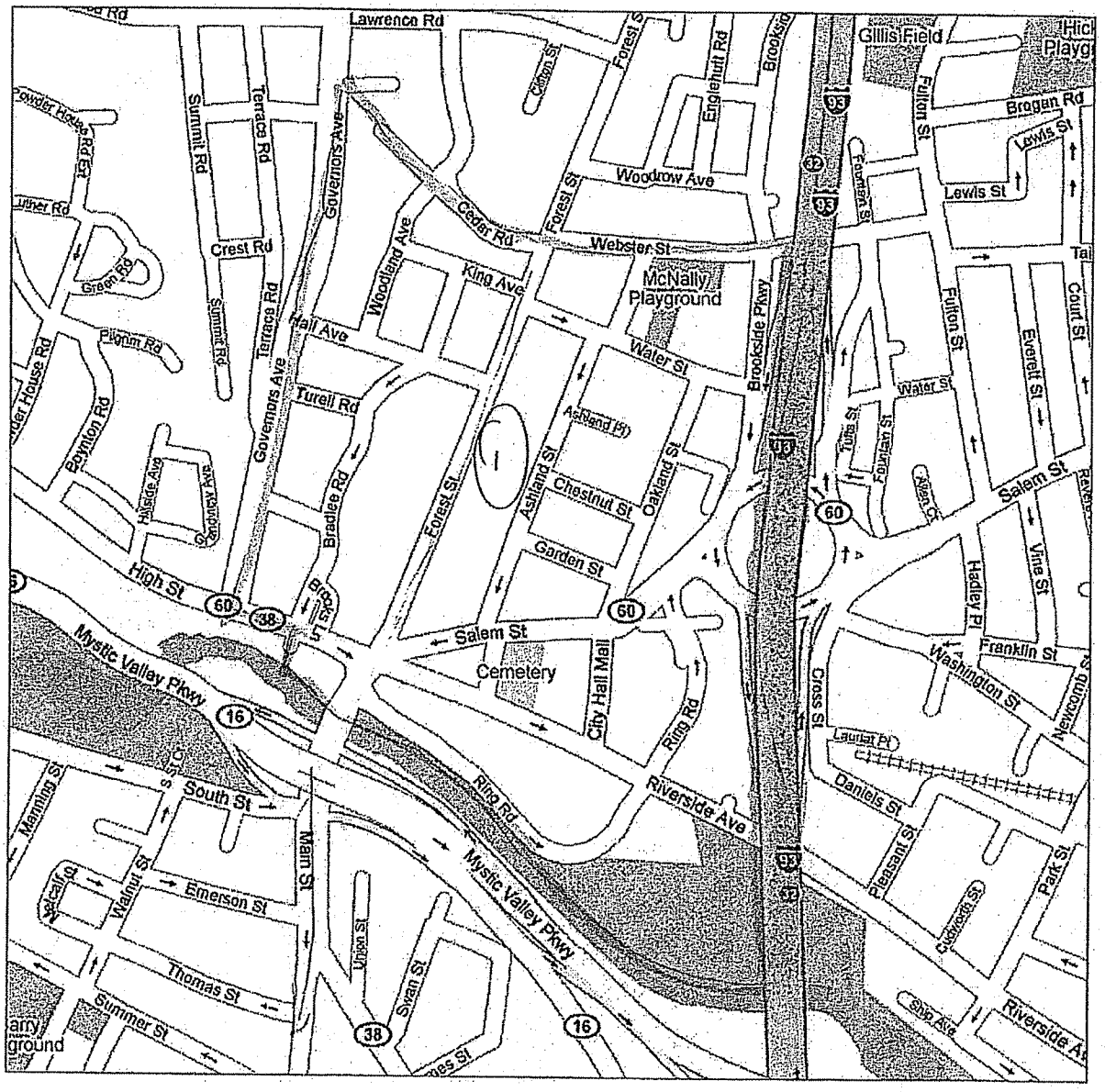
98 yds

1112 yds

College Ave

Google Maps

Notes TAZ 572



22 → royal

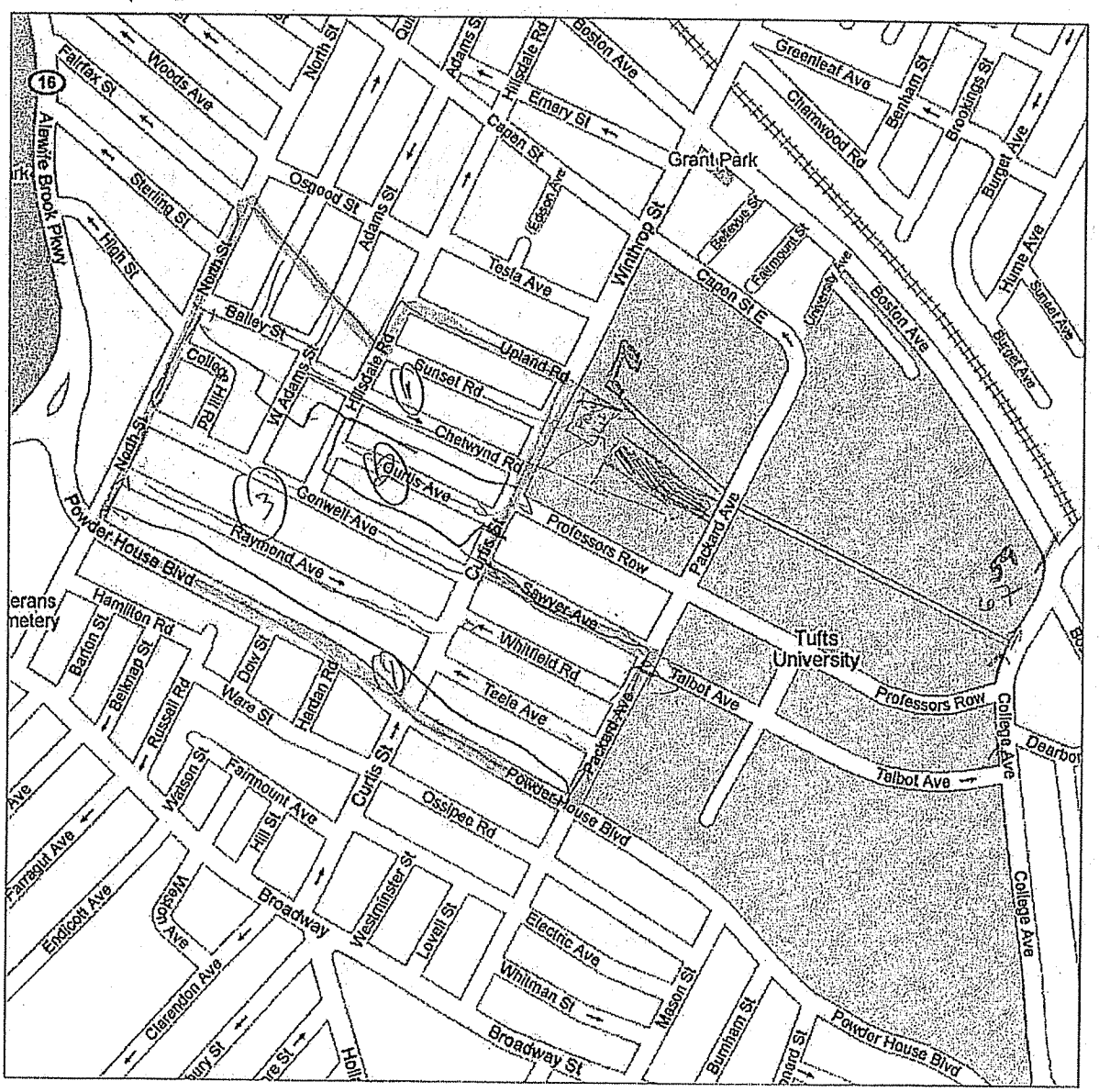
Cuesta 19

19 peds

22 peds

Google Maps

Notes TAZ 623

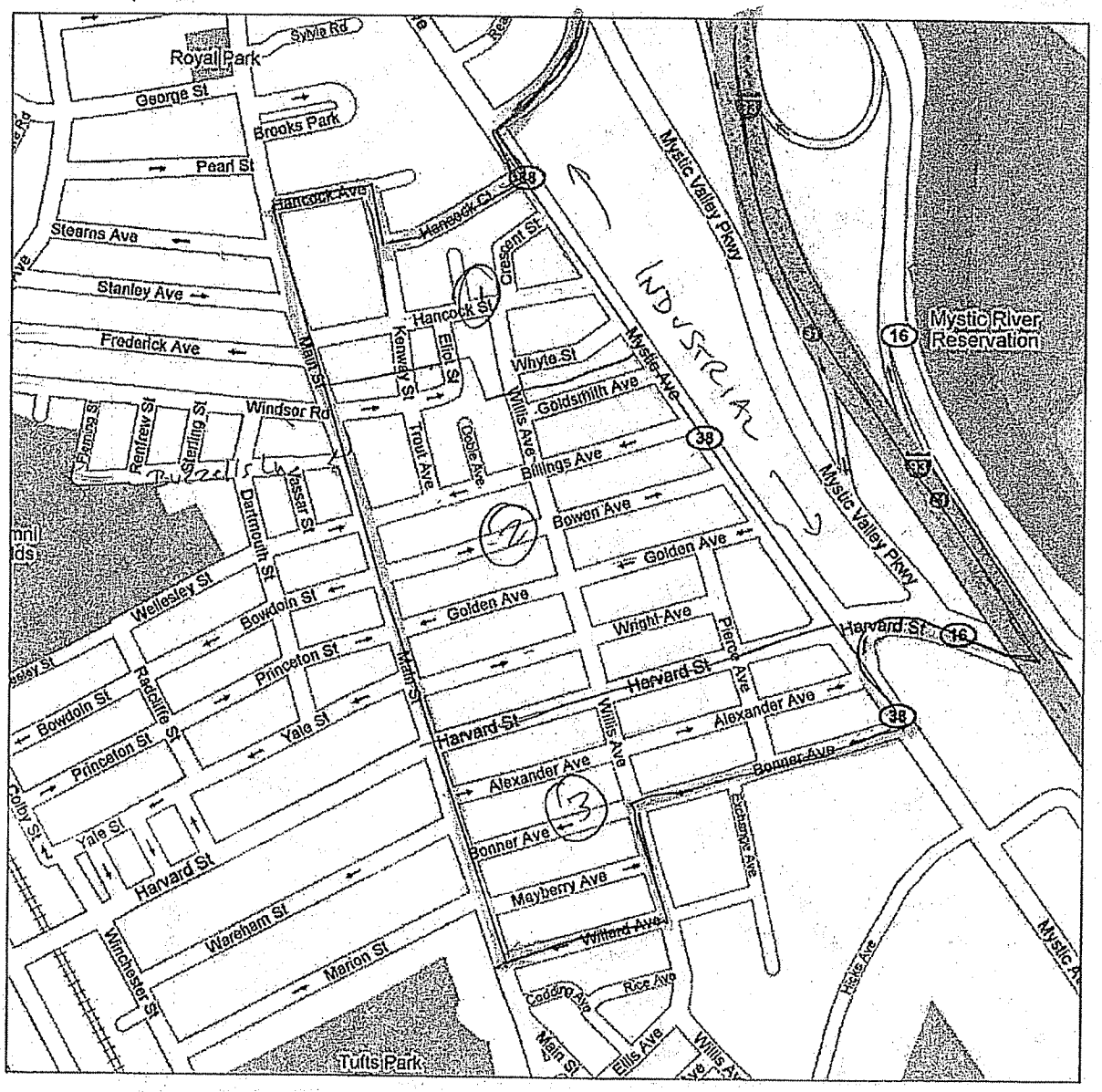


159 peds

167+ peds

Google Maps

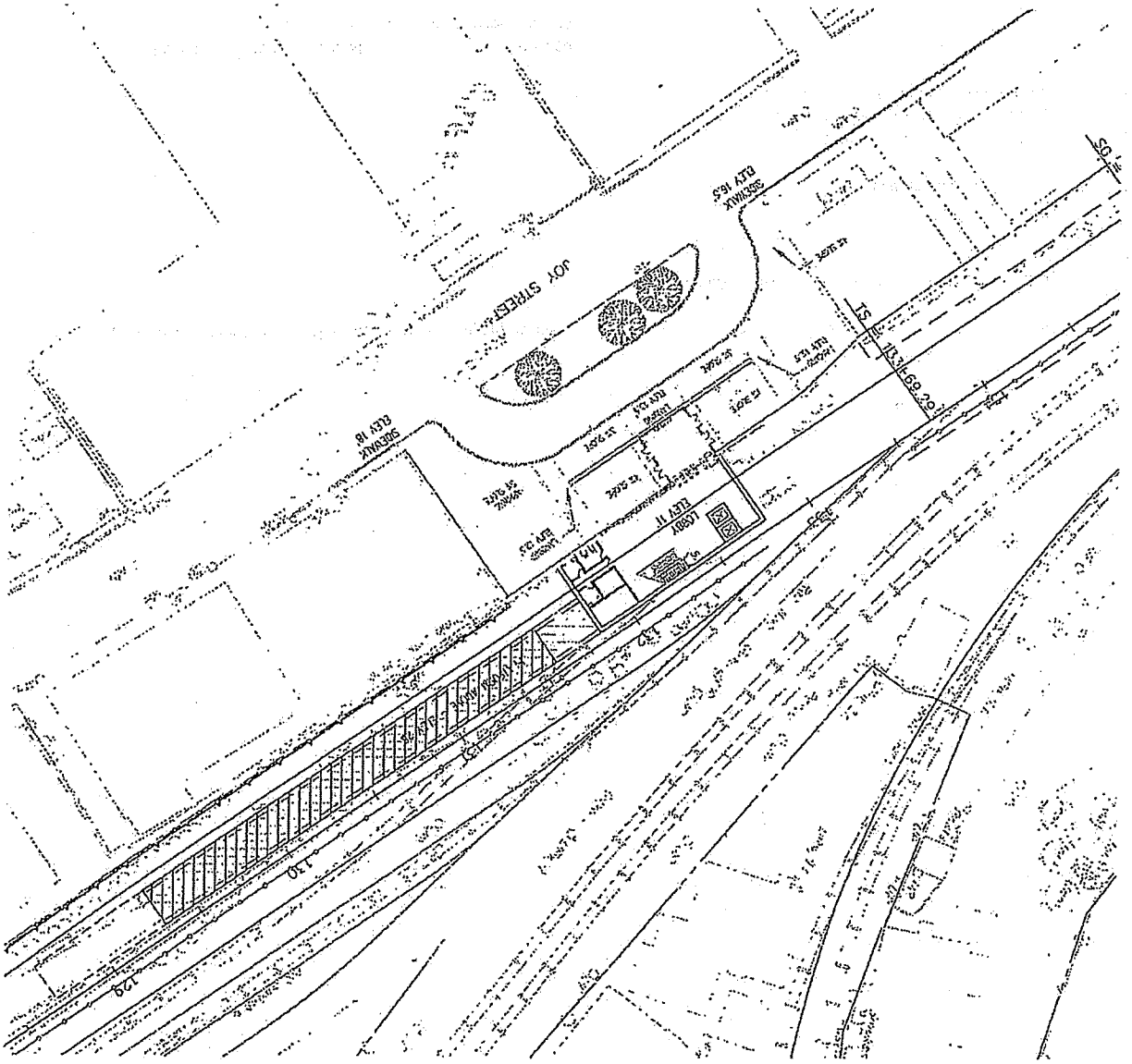
Notes TAZ 552



154 peds

162 peds

TAZ	Subzone	Route	Comments
605	1	Joy St via Washington St	Ped from Warren, Stone filter to Washington St, then Joy St
	2	Joy St via McGrath Hwy and Washington St	Ped from Hamlet filter to McGrath Hwy, Washington St, then Joy St
588	1	Joy St via McGrath Hwy and Washington St	
	2	Joy St via Tufts St and Washington St	
	3	Joy St via Glen or Franklin and Washington St	
587	1	Joy St via Tufts St and Washington St	
	2	Joy St via Washington St	
581	1	Joy St via Linwood St	Ped from north Linwood go north to Joy St
	2	Joy St via Poplar St	Ped from south Linwood and points south go north on Poplar to Joy St
590	1	Joy St via McGrath Hwy and Washington St	
	2	Joy St via Cross St and Washington St	
	3	Joy St via Tufts St and Washington St	
583	1	Joy St via Washington St	
	2	Joy St via Poplar St	
580	1	Joy St via Washington St	
	2	Joy St via Washington St and New Washington St	
604	1	Joy St via McGrath Hwy and Washington St	All ped traffic filter to McGrath Hwy, Washington St, then Joy St



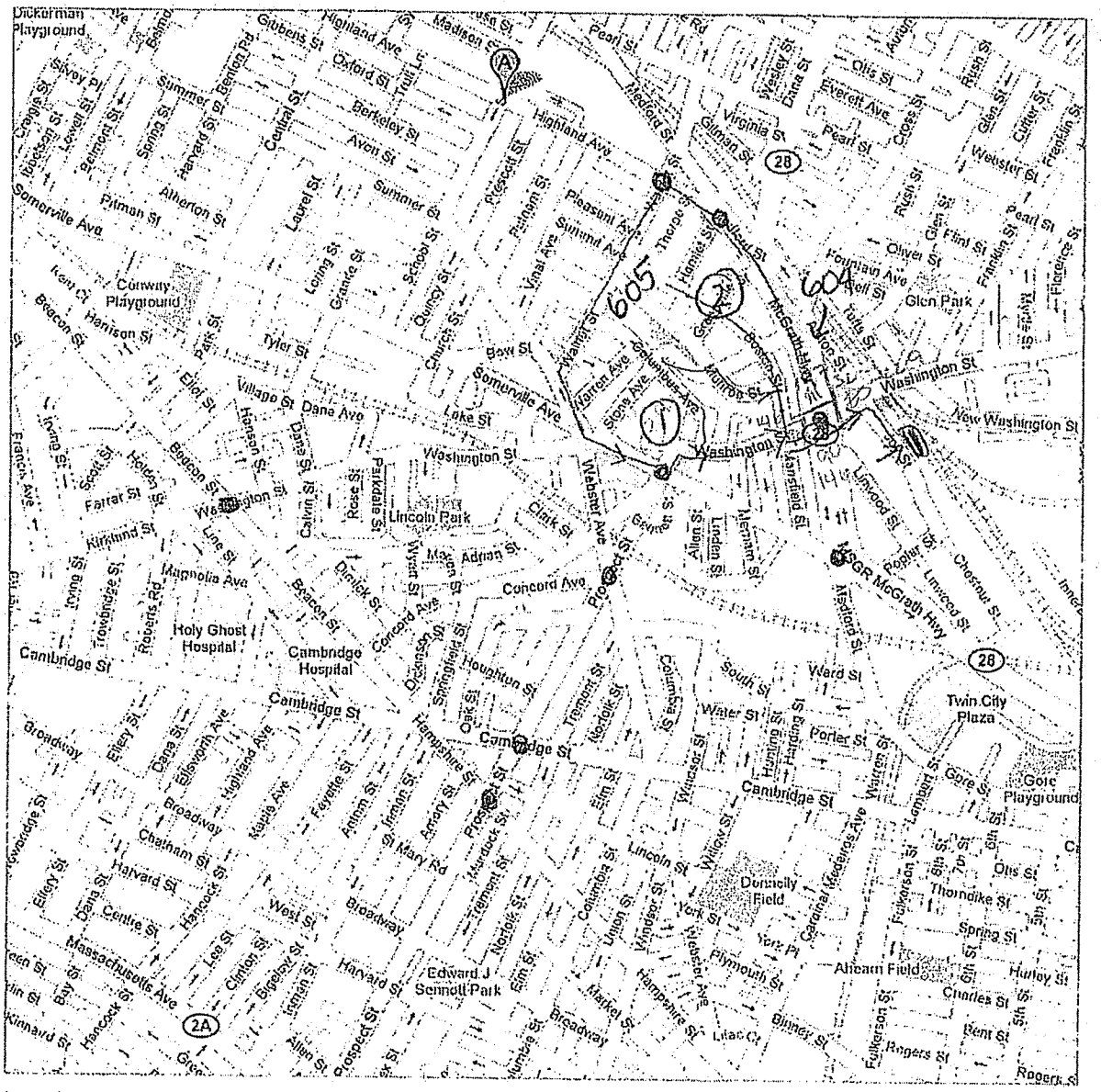
XX Alt 25 peds

XX Alt 7 peds

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

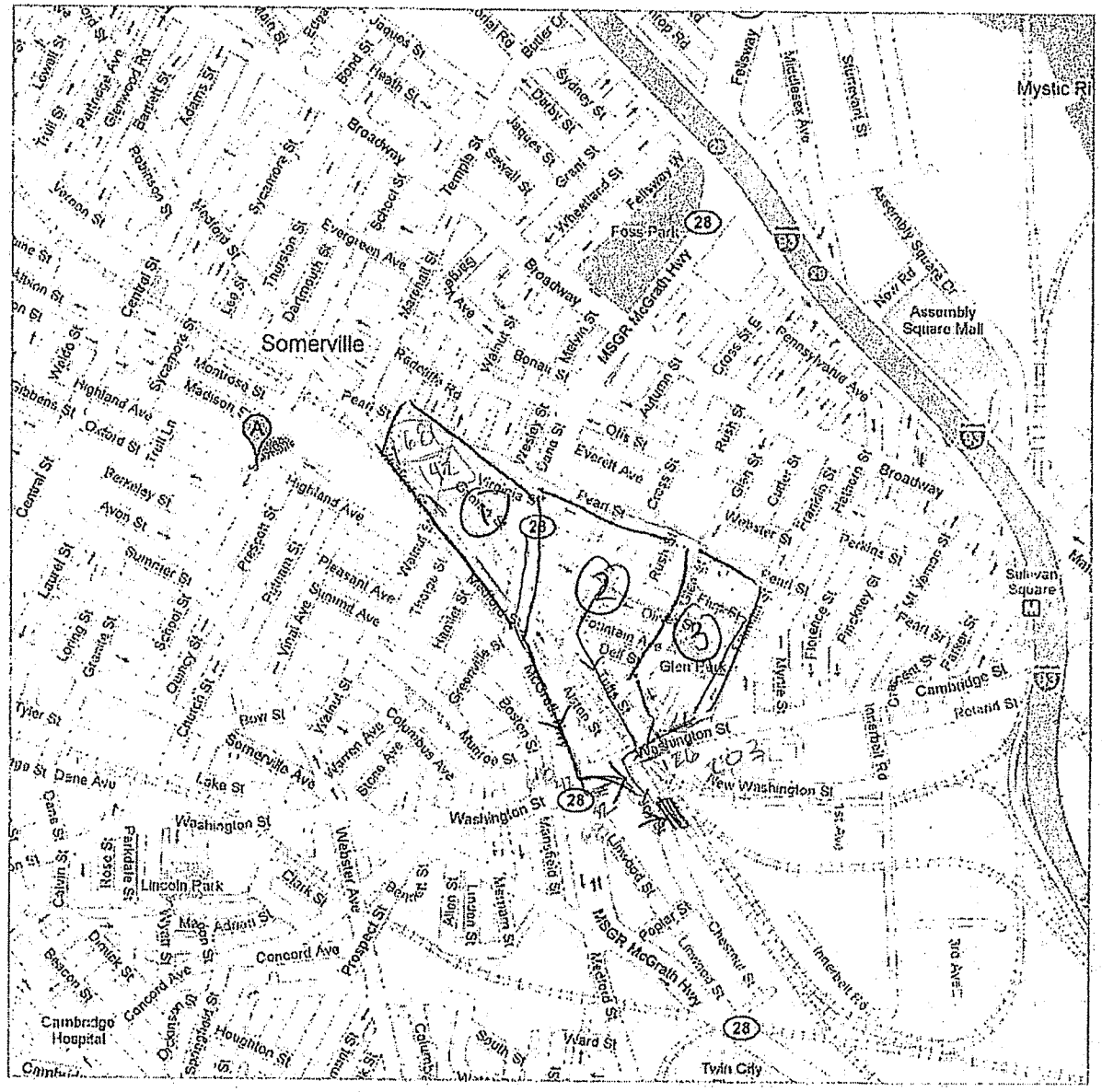
Notes TAZ 605 - Brickbottom
AND 604


605
604
Dickerman Playground
Conway Playground
Somerville Ave
Highland Ave
Washington St
Lincoln Park
Holy Ghost Hospital
Cambridge Hospital
Cambridge St
Broadway
Massachusetts Ave
Edward J. Sennott Park
Donnelly Field
Ahearn Field
Gore Playground
Twin City Plaza
Glen Park
Lake St
Concord Ave
Harvard St
Central St
Porter St
Ward St
Union Sq
McGrath Hwy
Webster Ave
Prospect St
Elm St
Oak St
Dane Ave
Village St
Bow St
Pearl St
Washington St
New Washington St
Somerville Ave
Highland Ave
Broadway
Cambridge St
Massachusetts Ave
Harvard St
Concord Ave
Lake

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

Notes TAZ 588 - Brickbottom



Loading Print Preview ...

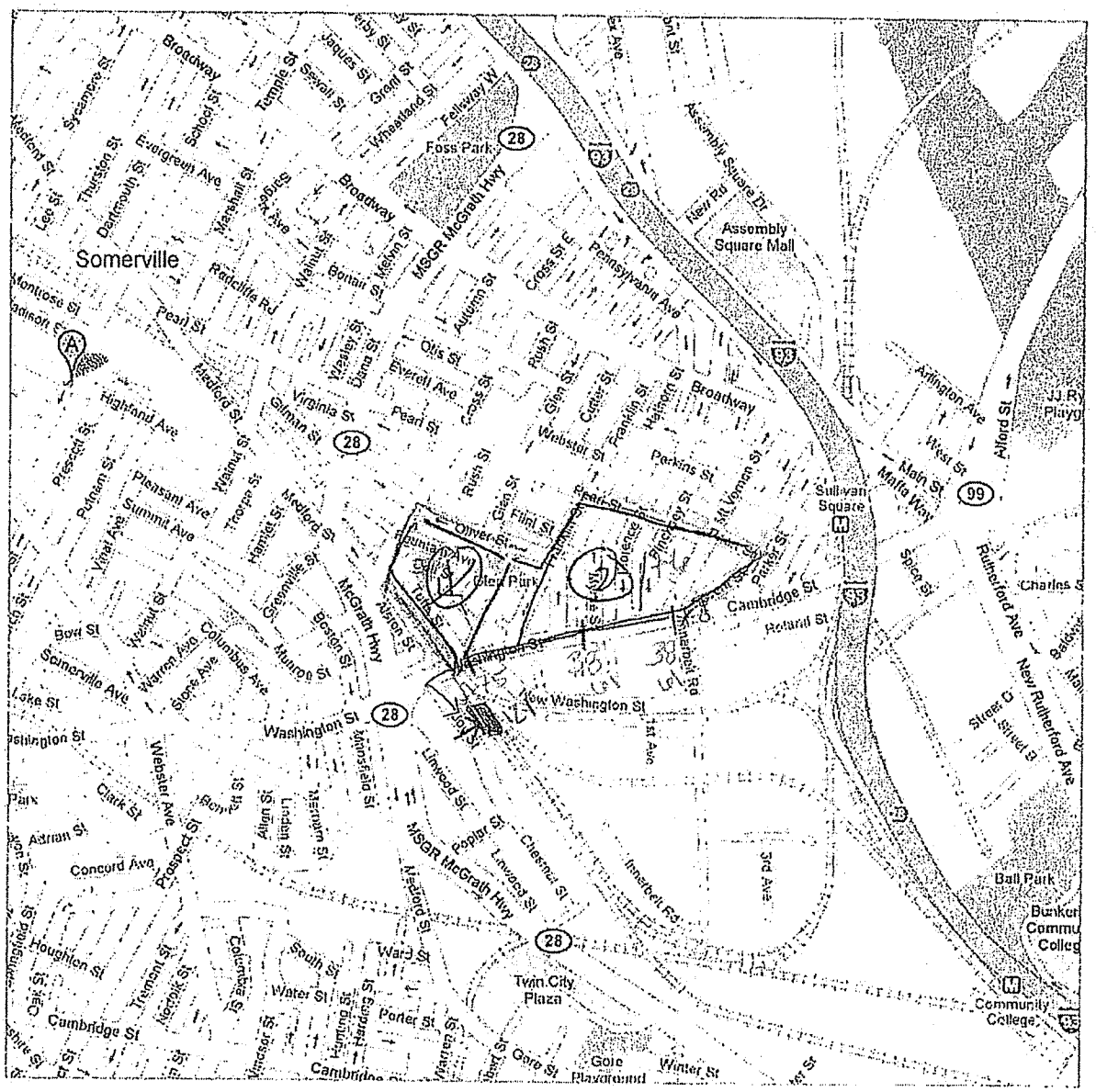
108 pgs

271 pgs

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

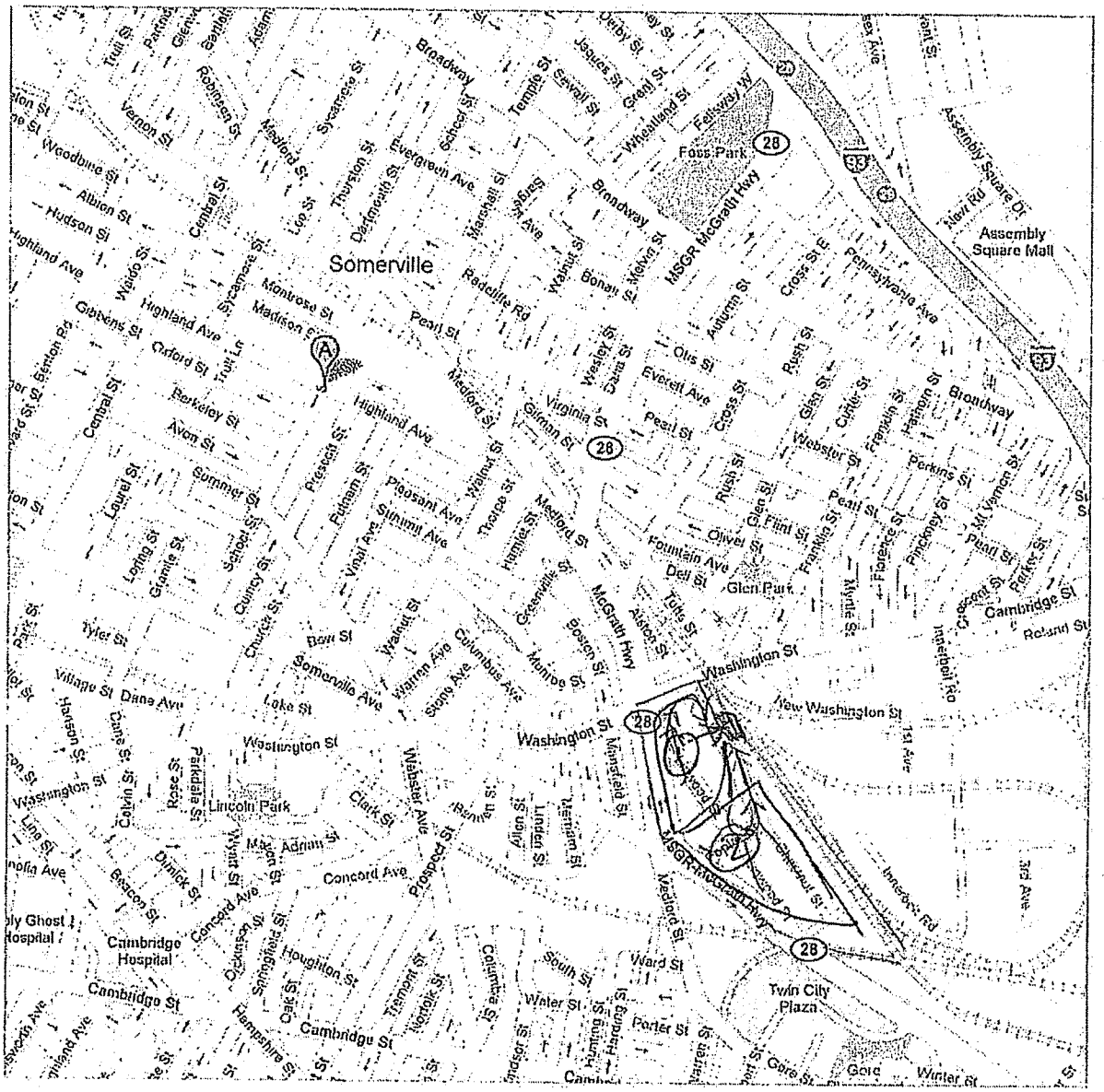
Notes TAZ 587 - Brickbottom


Somerville
Broadway
Highland Ave
Pearl St
Virginia St
Glen St
Cross St
Webster St
Perkins St
Mt Vernon St
Franklin St
Union St
Otis St
Everett Ave
Pearl St
Broadway
Foss Park
Assembly Square Dr
New Rd
Assembly Square Mall
Pennsylvania Ave
MSGR McGrath Hwy
Sullivan Square
Main St
West St
Arlington Ave
Mystic Ave
Cambridge St
Rutherford Ave
New Rutherford Ave
Charles St
Spice St
Bow St
Somerville Ave
Lake St
Washington St
New Washington St
Warren Ave
Columbus Ave
Munroe St
Broadway
Ball Park
Community College
Twin City Plaza
Water St
South St
Ward St
Houghton St
Cambridge St
Gore St
Gore Playground
Winter St
Poplar St
Linwood St
Chestnut St
Innerbelt Rd
3rd Ave
Concord Ave
Clark St
Adrian St
Lake St
Summit Ave
Pleasant Ave
Putnam St
Medford St
Willow Ave
Oliver St
Tufts St
Glen St
Rush St
Autumn St
Cross St
Otis St
Everett Ave
Pearl St
Webster St
Perkins St
Mt Vernon St
Franklin St
Union

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

Notes TAZ 581 - Brickbottom



Loading Print Preview ...

80 pdf

129 pdf

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

Notes TAZ 590 - Brickbottom

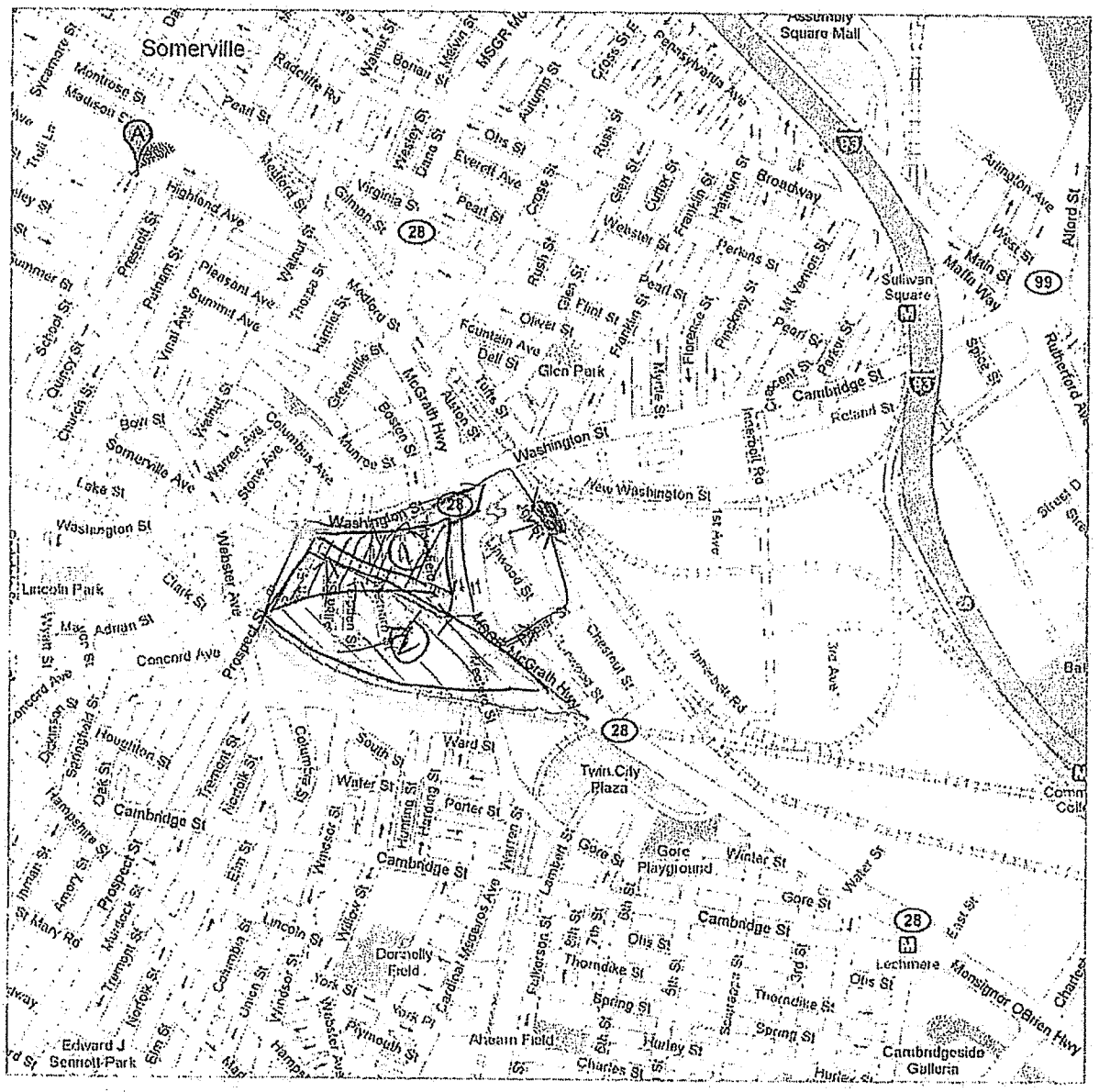


Loading Print Preview ...

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

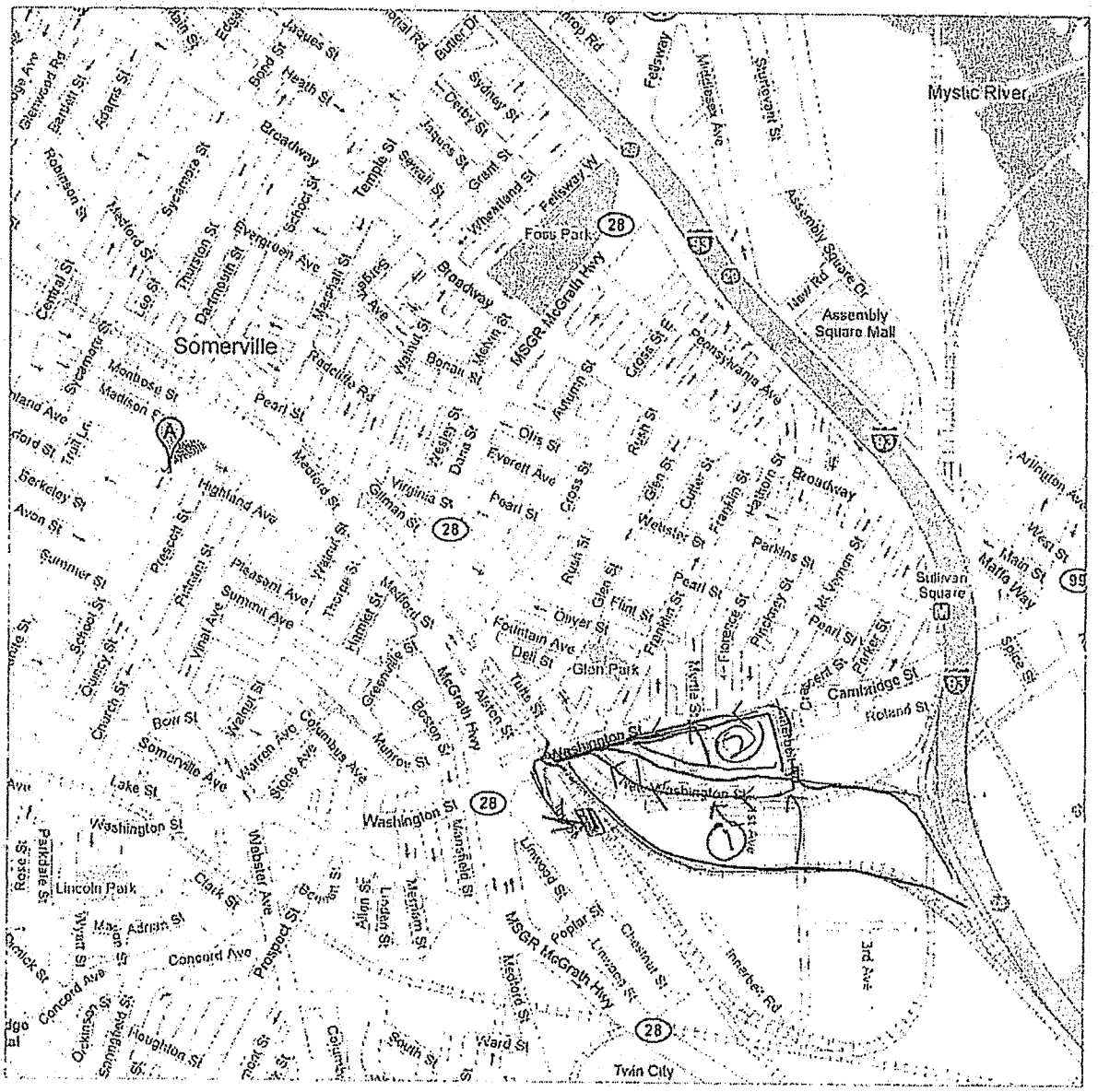
Notes TAZ 583 - Brickbottom


Somerville
Assembly Square Mall
Highland Ave
Pearl St
Otis St
Everett Ave
Broadway
Sullivan Square
Washington St
New Washington St
Lake St
Somerville Ave
Lincoln Park
Concord Ave
Cambridge St
Ward St
Water St
Porter St
Gore St
Gore Playground
Winter St
Twin City Plaza
Dorothy Field
Thorndike St
Spring St
Hurley St
Charles St
Ahearn Field
Edward J Sennott Park
Cambridgeside Galleria
Lechmere
Fellsway
Alford St
Rutherford Ave
Mystic Ave
Inner Belt Rd
Innerbelt Rd
Mt Vernon St
Pinckney St
Glen Park
Dell St
Fountain Ave
Oliver St
Flint St
Pearl St
Parker St
Cambridge St
Roland St
Chestnut St
Medford St
Virginia St
Glen St
Franklin St
Hancock St
Webster St
Herbert St
Florence St
Myrtle St
Union Sq
Prospect St
Webster Ave
Clark St
Adrian St
Houghton St
Dickinson St
Springfield St
Oak St
Hampshire St
Inman St
Amory St
Hurlock St
Trumbull St
Norfolk St
Columbia St
Union St
Windsor St
Lincoln St
Walnut St
Elm St
Winslow St
Harding St
Lambert St
Fullerton St
Cardinal Medeiros Ave
York St
York Pl
Plymouth St
Sth St
Otis St
Thorndike St
Spring St
Hurley St
Charles St
Gore St
Water St
East St
Monsignor O'Brien Hwy
Charles
Mystic Ave
Medford St
Broadway
Main St
Malin Way
Alford St
Rutherford Ave
Sullivan Square
Assembly Square Mall

Google Maps

Address **Highland Ave & School St**
Somerville, MA 02143

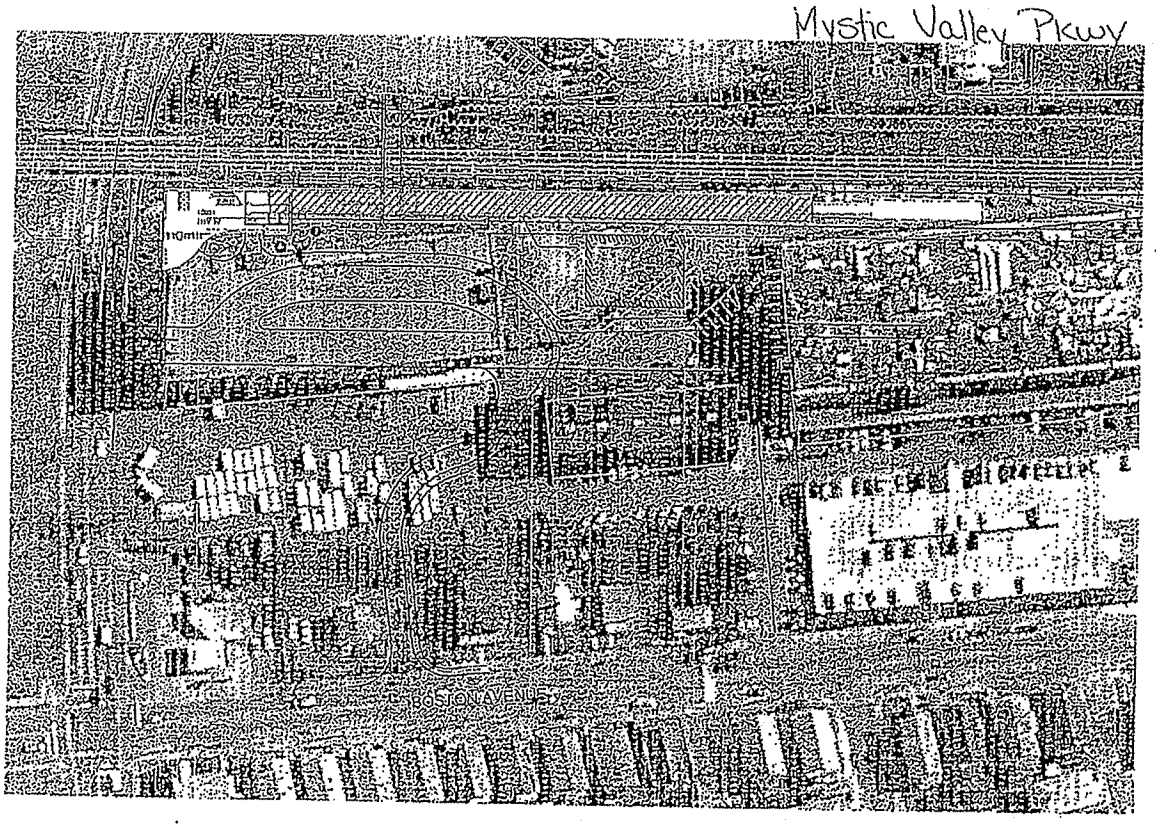
Notes TAZ 580 - Brickbottom



Loading Print Preview ...

(31 pp)
(10 pp)

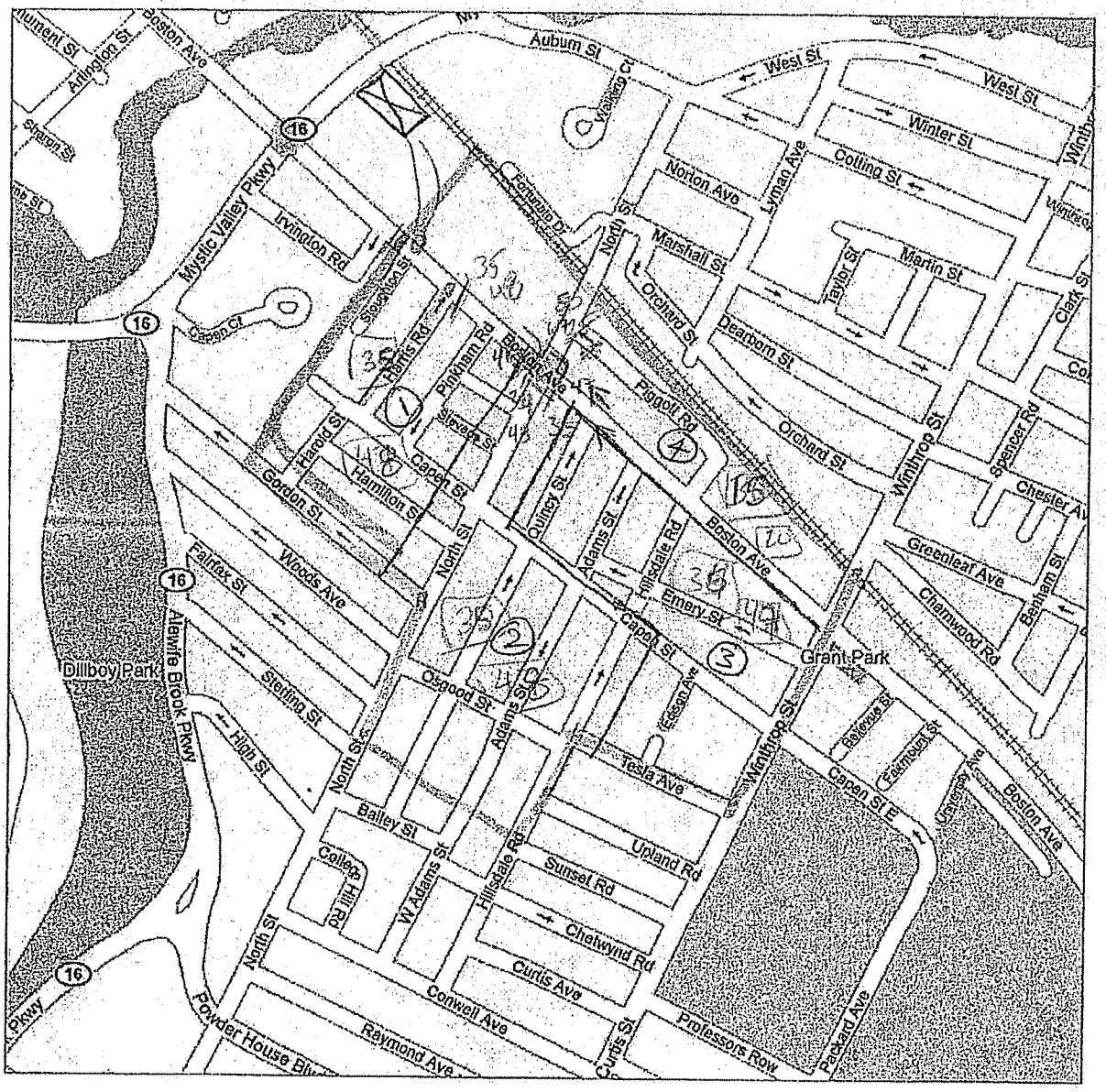
TAZ	Subzone	Route	Comments
557	1	Boston Ave	All ped traffic from Stoughton St, Harris Rd, Harold St, Pinkham Rd, Stevens St, Capen St, Hamilton St & Gordon St will filter to South side of Boston Ave.
	2	Boston Ave via N North St	Quincy St, Adams St & Hillsdale Rd ped traffic South of Capen St will filter to North St and head north towards Boston Ave.
	3	Boston Ave	Quincy St, Adams St, Hillsdale Rd & Emery St ped traffic north of Capen St will filter to South side of Boston Ave.
	4	Boston Ave	Northside of Boston Ave
558	1	Mystic Valley Pkwy via Auburn St	High density - apts
	2	Boston Ave via S North St	Marshall St, Dearborn St, Orchard St
	3	Mystic Valley Pkwy via Auburn St	West St, Winter St, Cotting St, Northon Ave, Lyman Ave north of Marshall, Martin St
573	1	Mystic Valley Pkwy via High St & Winthrop St	High density - apts
	2	Mystic Valley Pkwy via High St & Winthrop St	Side streets filter to Winthrop St & High St
	3	Mystic Valley Pkwy Via Mystic St, Auburn St	Side streets filter to Lawrence Rd, W on Irving St, S on Mystic St
574		Mystic Valley Pkwy	Side streets filter SW to MVP and walk W along MVP
575	1	Boston Ave via Canal St	W of Allston St to filter to Warren St / Canal St to Boston Ave
	2	Mystic Valley Pkwy Via Mystic St, Auburn St	Side streets filter S towards MVP via Auburn St & Mystic St
	3	Mystic Valley Pkwy	Side streets filter S towards MVP to the east of Roland St
576	1	Boston Ave via Harvard Ave	Side streets filter to Playstead Rd, W on Harvard Ave, S on Boston Ave
	2	Mystic Valley Pkwy via Brooks St, Allston St, Auburn St	
577		Boston Ave	All ped traffic in TAZ filter to Boston Ave
578		Boston Ave	All ped traffic in TAZ filter to Boston Ave
624	1	Mystic Valley Pkwy via Alewife Brook Pkwy	High density - apts near Capen Ct
	2	Mystic Valley Pkwy via Sunnyside Ave	
891	1	Mystic Valley Pkwy via Alewife Brook Pkwy	
	2	Mystic Valley Pkwy via River St	
	3	Mystic Valley Pkwy via Gardner St	
892	1	Mystic Valley Pkwy via Rawson Rd	
	2	Mystic Valley Pkwy via River St	
	3	Mystic Valley Pkwy via Gardner St	
895	1	Boston Ave via High St	All streets to the N of Franklin St filter to Medford St / High St
	2	Mystic Valley Pkwy	


Mystic Valley Pkwy

Google Maps

Notes TAZ 557 / 624

MVP



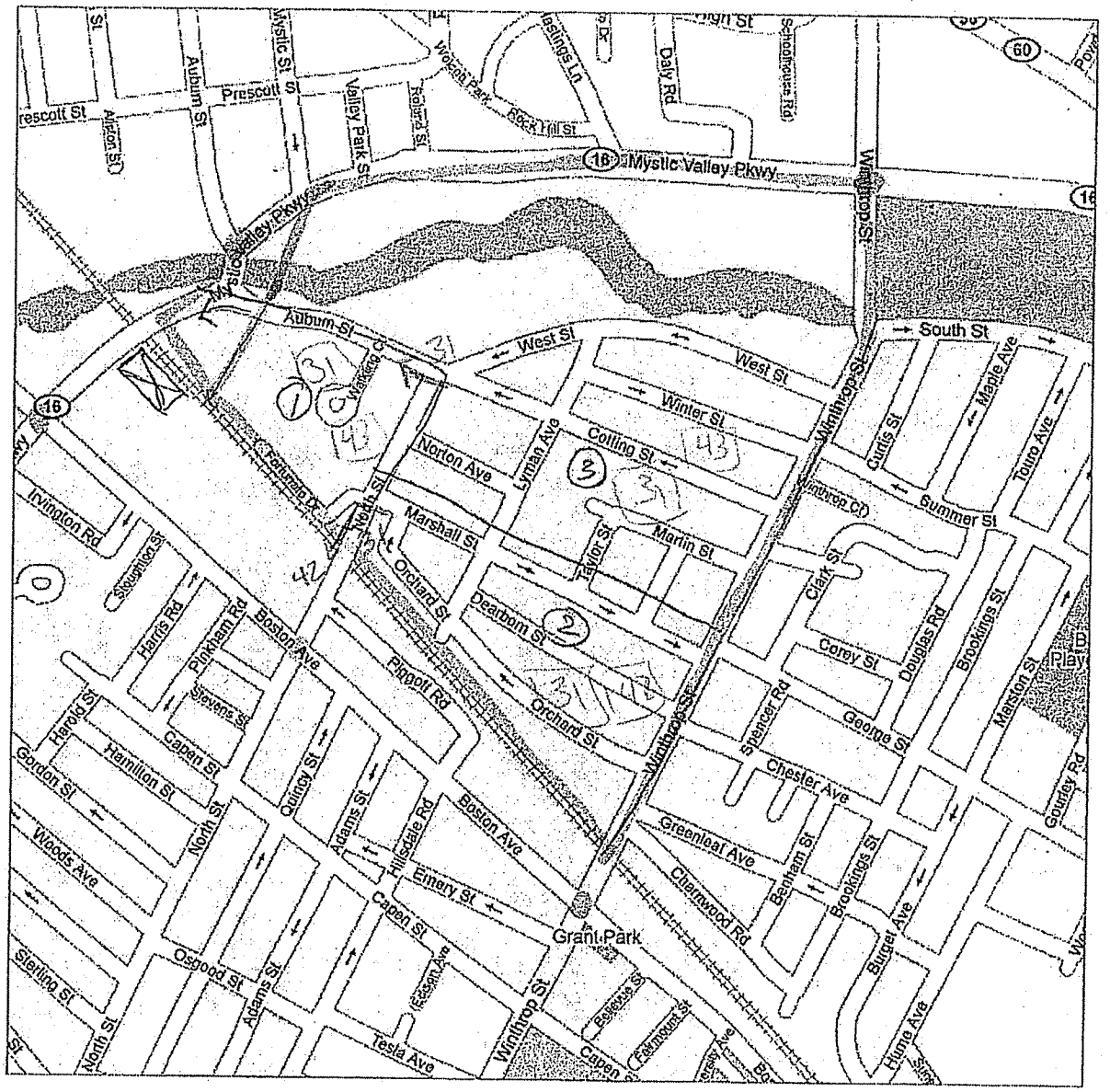
119 pads

163 pads

Google Maps

Notes TAZ 558

MVP



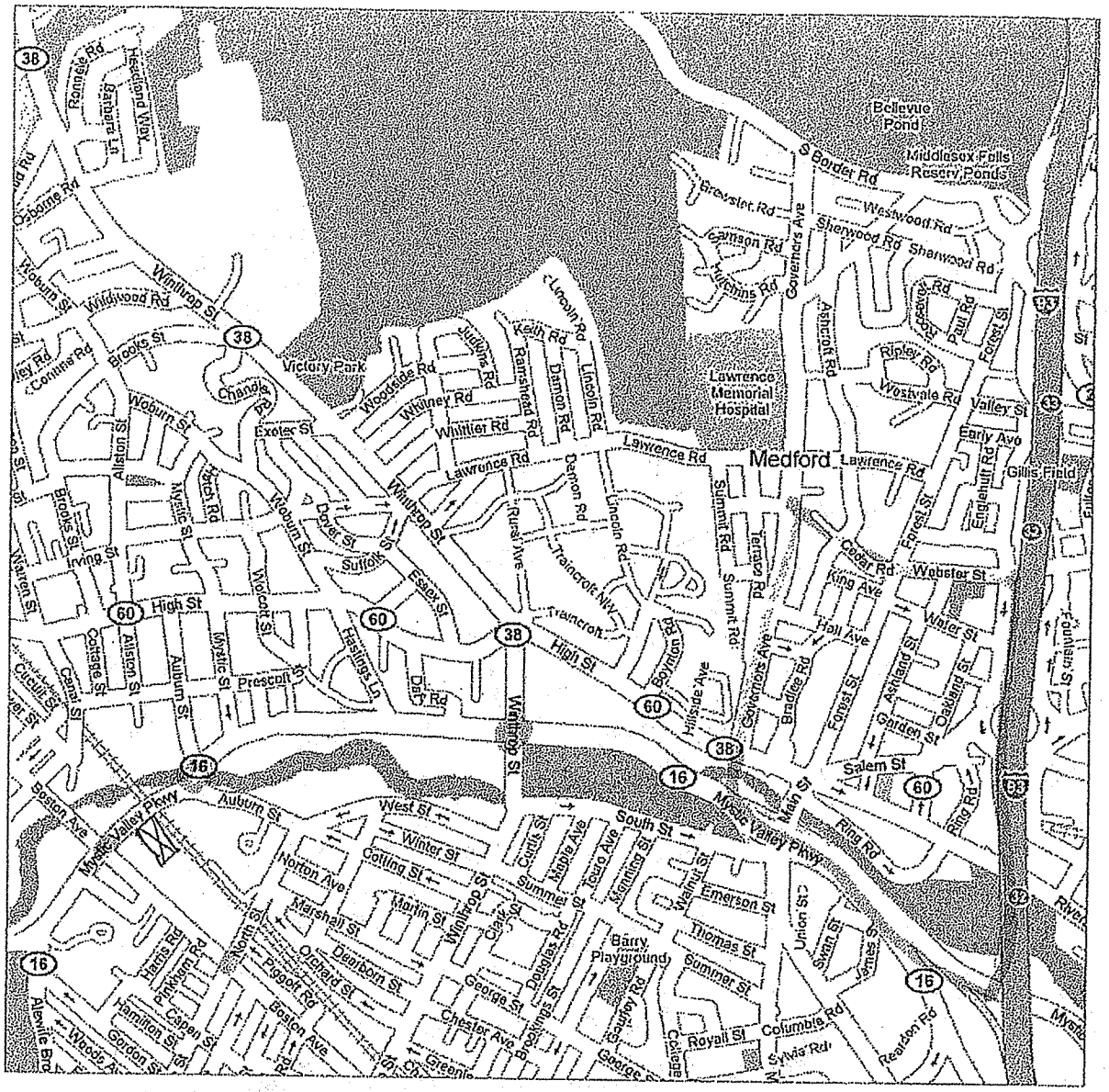
193 pop

128 pop

Google Maps

Notes TAZ 572

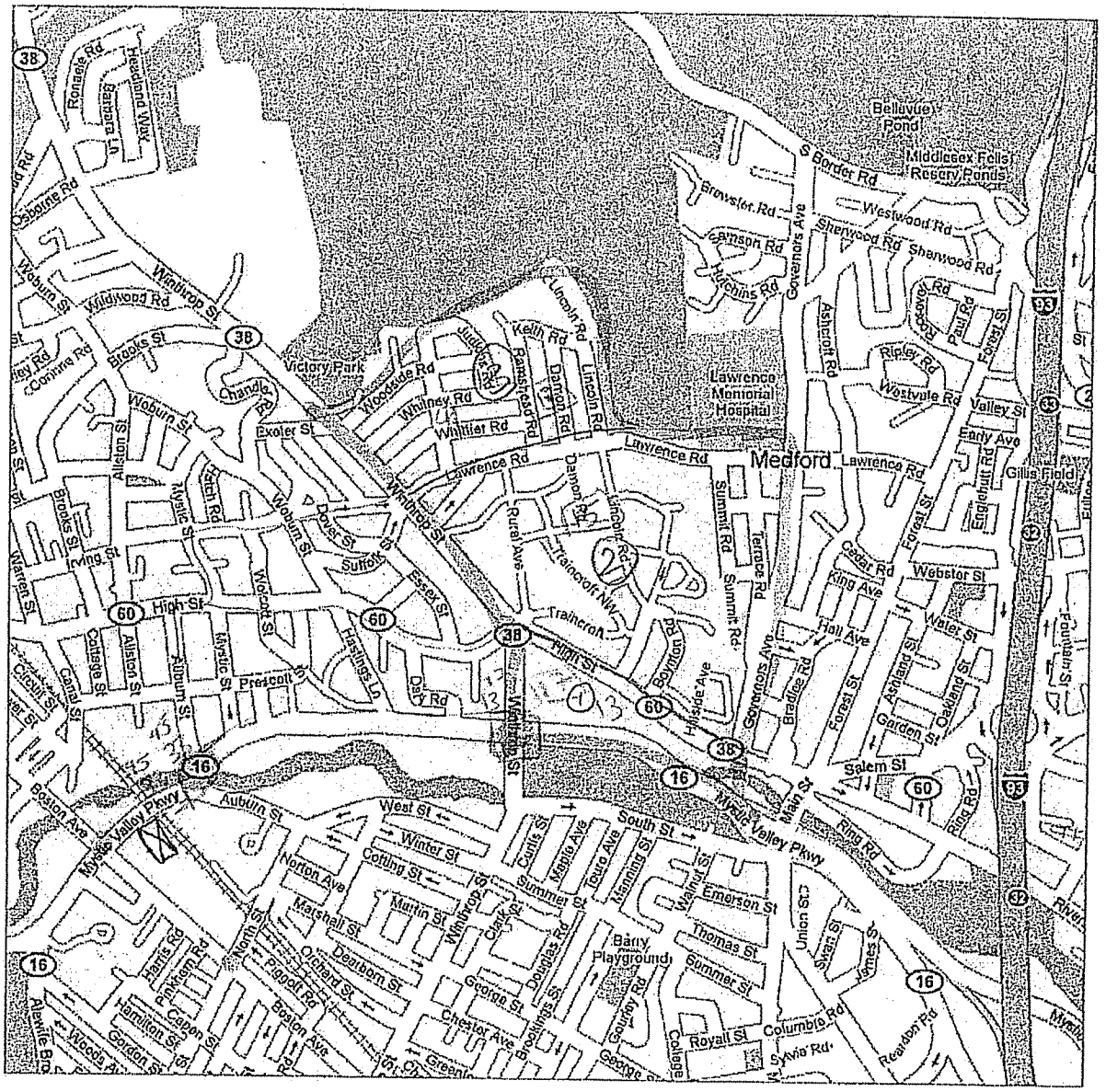
MVP Station


Medford
Lawrence Memorial Hospital
Victory Park
Barry Playground
Bellevue Pond
Middlesex Falls Reserv Ponds
Lawrence Rd
High St
Salem St
Winthrop St
Mystic Valley Pkwy
Auburn St
West St
Winter St
Summer St
Broadway
Boston Ave
Harvard St
Forest St
Ashland St
Oakland St
Garden St
Hall Ave
Water St
Webster St
King Ave
Cedar Rd
Ring Rd
Main St
Woburn St
Wildwood Rd
Whitney Rd
Whittier Rd
Woodside Rd
Exeter St
Dover St
Suffolk St
Essex St
Prescott St
Dell Rd
Trainor Rd
Traincroft Rd
Rural Ave
Summit Rd
Terrace Rd
Governors Ave
Bradlee Rd
Hillside Ave
Boynton Rd
Lincoln Rd
Damon Rd
Ramshead Rd
Kelth Rd
Judkins Rd
Chandler Rd
Brooks St
Alston St
Myrtle St
Irving St
Cottage St
Cleveland Circle
Carroll St
Hastings Ln
Marshall St
Orchard St
Dearborn St
Norton Ave
Colling St
Marlin St
Clarke St
Douglas Rd
Cardis St
Maple Ave
Tufts Ave
Kenning St
Walnut St
Emerson St
Thomas St
Summer St
Union St
Swan St
James St
Columbia Rd
Royall St
Sylvia Rd
Reardon Rd
Chester Ave
George St
Brookings St
Greenle
Pigeon Rd
Boston Ave
Harris Rd
Pinkham Rd
Capen St
Hamilton St
Gordon St
Playville Brg
Woods Av
Ridgewood Rd
Roomate Rd
Hesseltine Way
Barbara Ln
Osborne Rd
Woburn St
Conlins Rd
Ley Rd
Lincoln Rd
Keith Rd
Judkins Rd
Ramshead Rd
Damon Rd
Lincoln Rd
Whittier Rd
Woodside Rd
Whitney

Google Maps

Notes TAZ 573

MVP Station



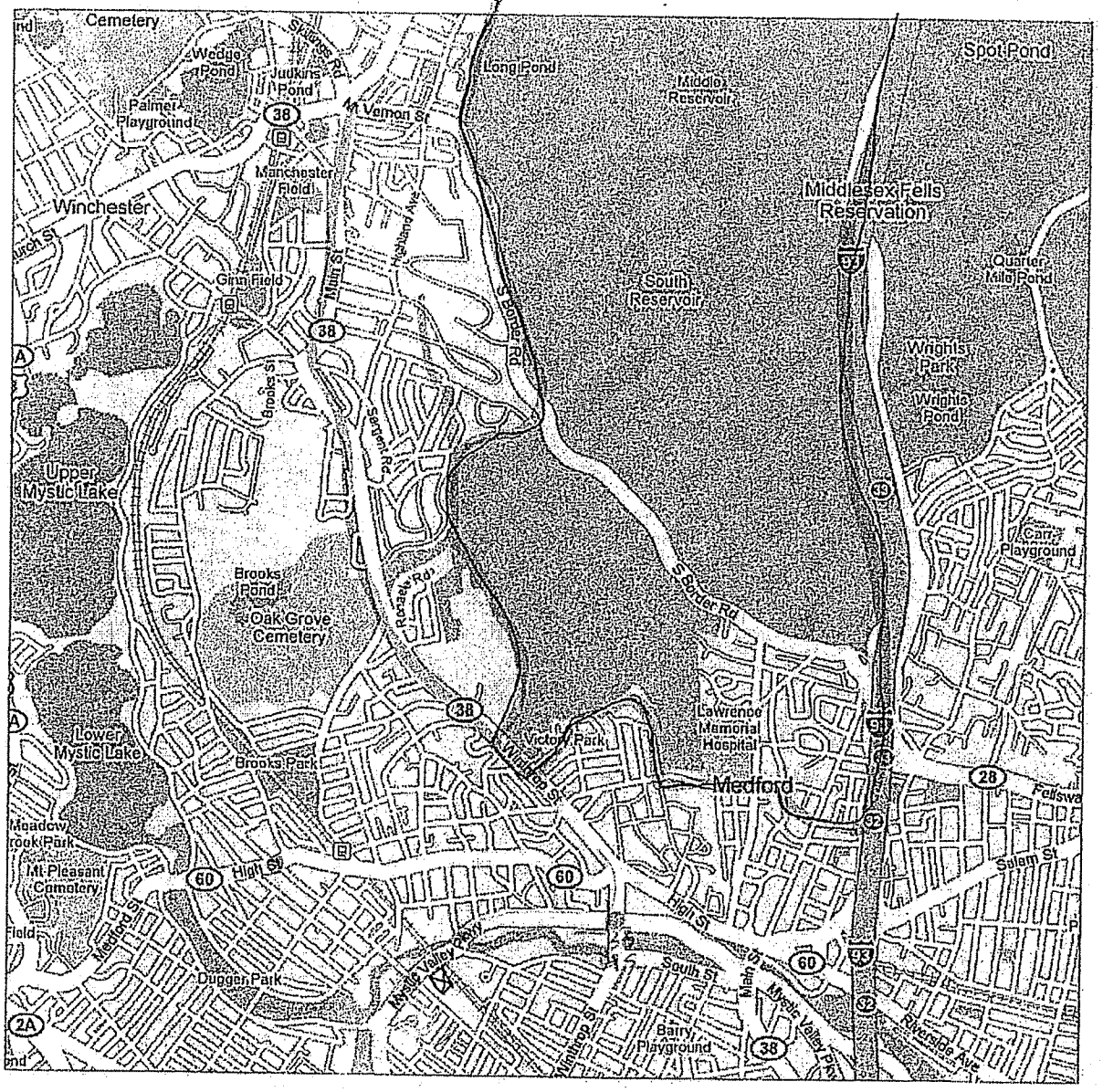
33 peds

45 peds

Google Maps

Notes TAZ 574

MVP Station



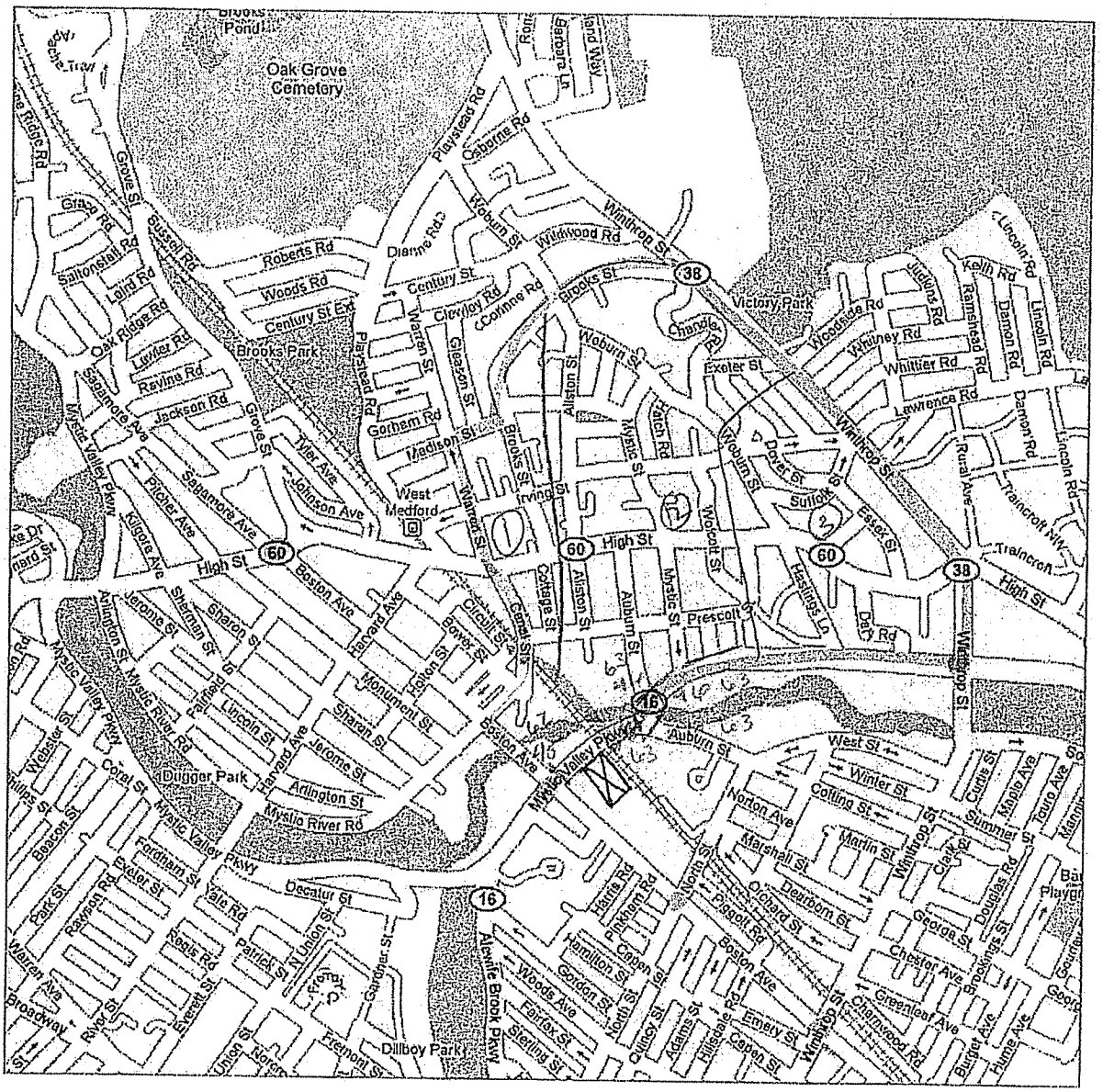
133 peds

45 peds

Google Maps

Notes TAZ 575

MVP Station



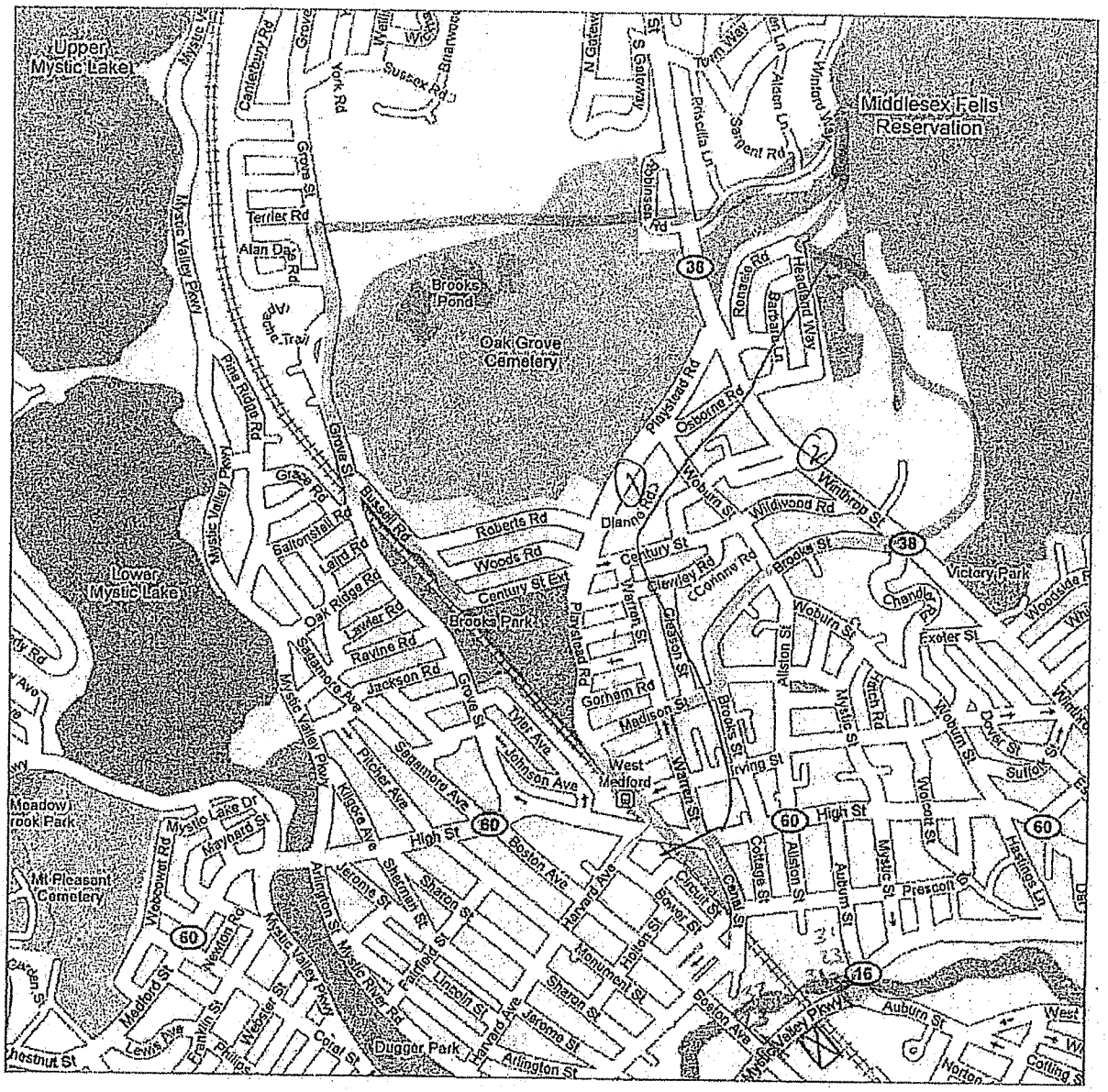
137 peds

188 peds

Google Maps

Notes TAZ 576

MVP Station



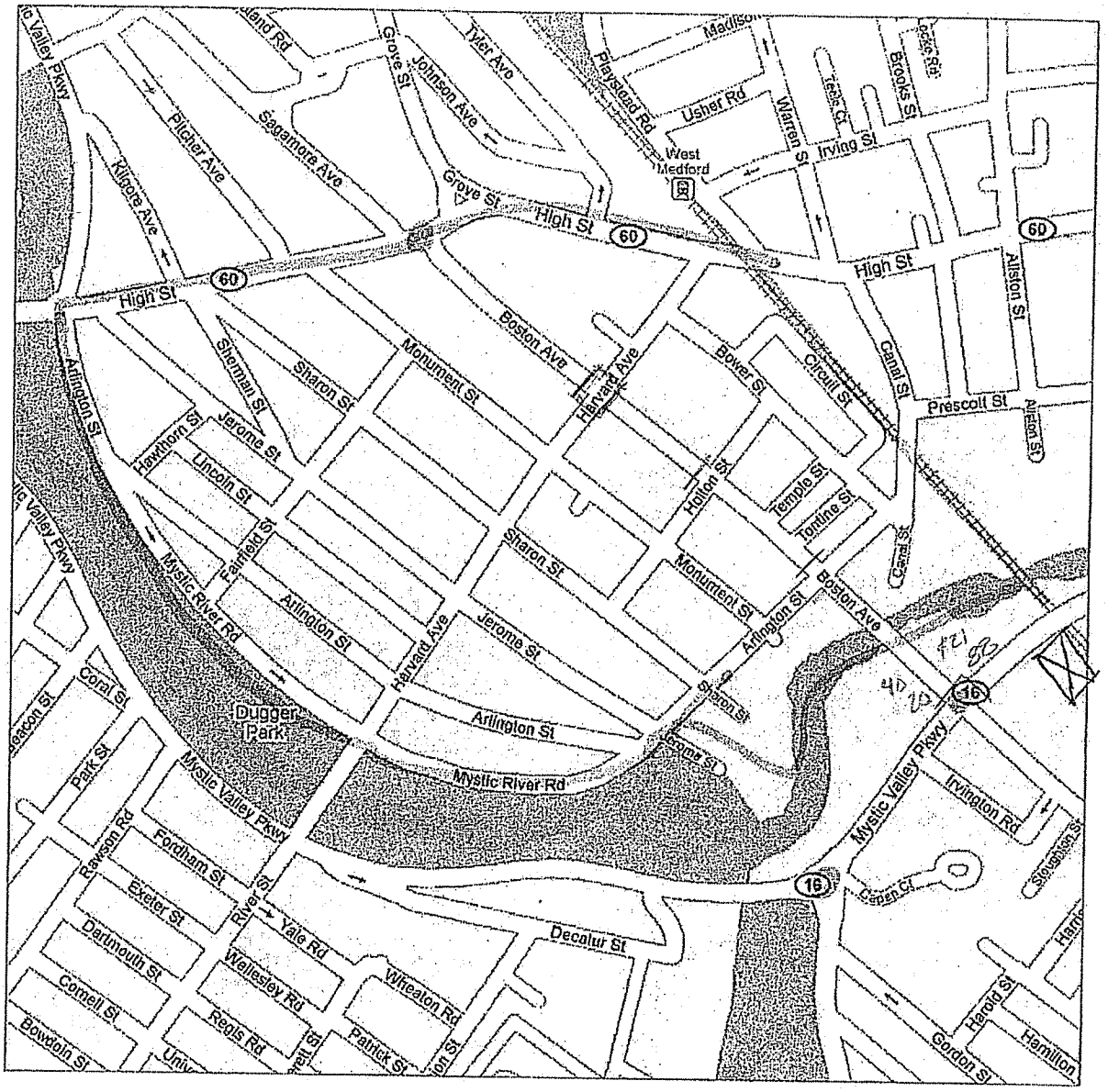
46 pads

63 pads

Google Maps

Notes TAZ 577

MVP Station



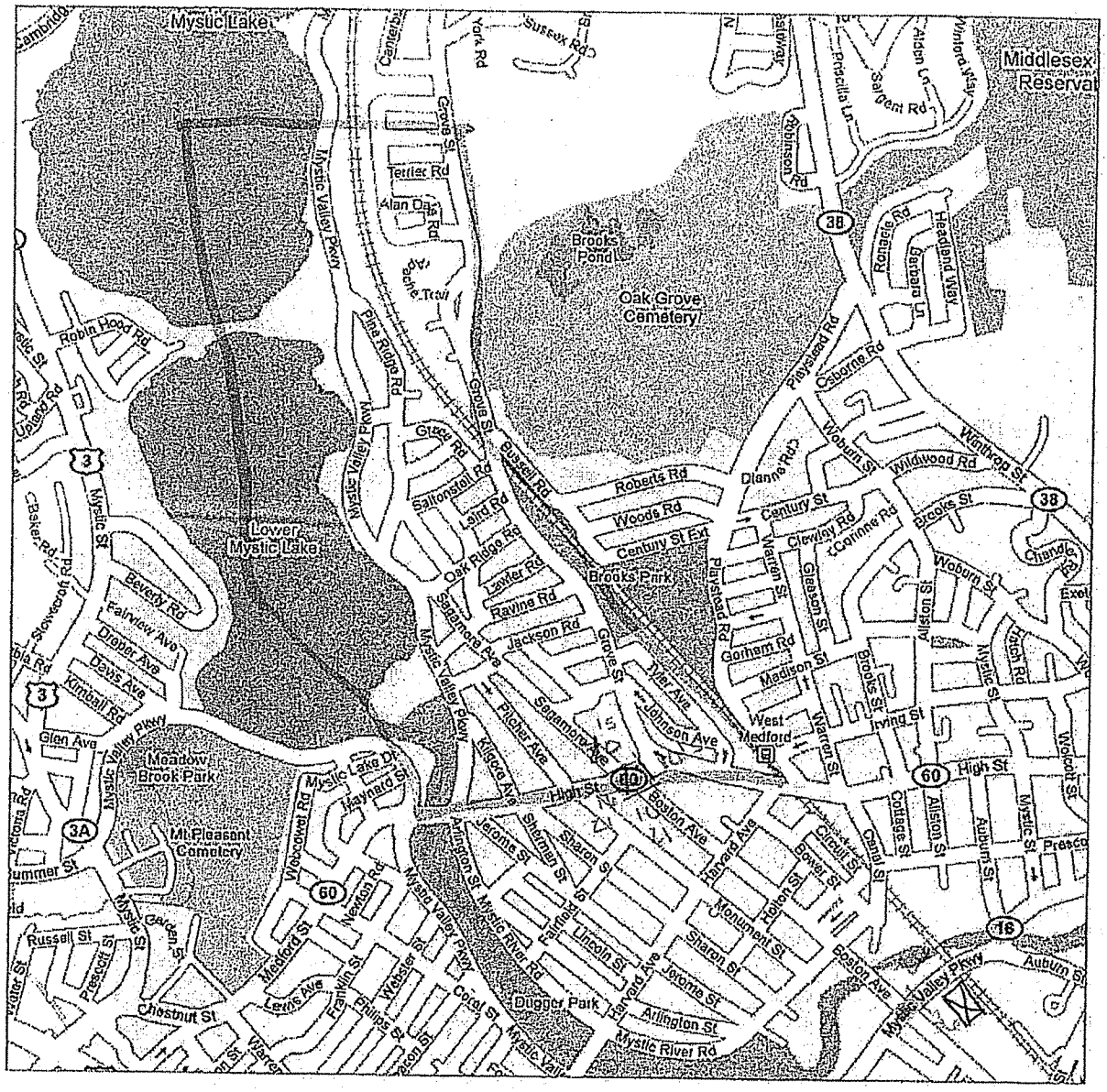
88 pe do

121 pe do

Google Maps

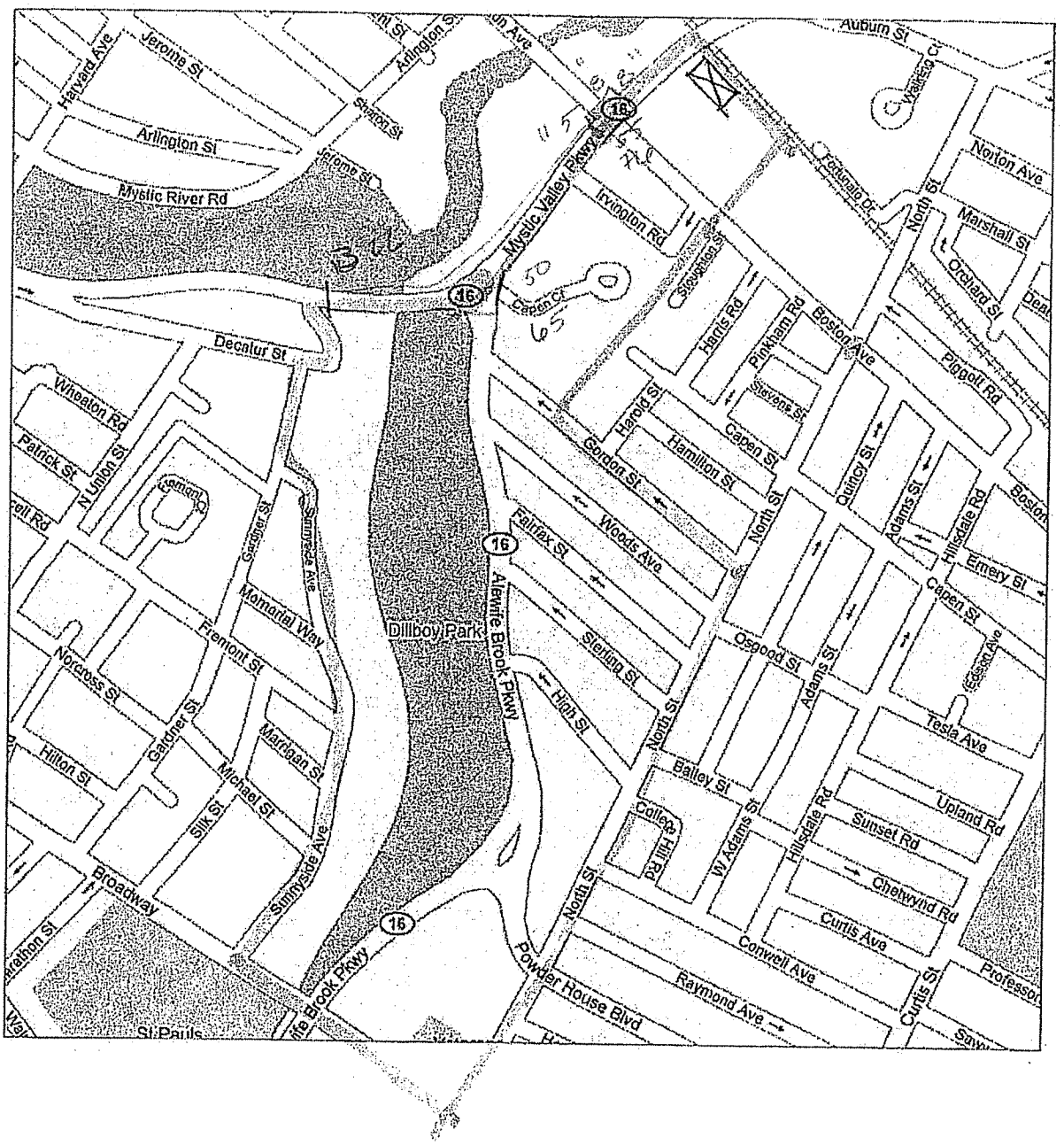
Notes TAZ 578

MVP Station


Mystic Lake
Middlesex Reservat
Brooks Pond
Oak Grove Cemetery
Lower Mystic Lake
Meadow Brook Park
Mt Pleasant Cemetery
Dugger Park
Mystic Valley Pkwy
Mystic River Rd
High St
Boston Ave
Arlington St
Medford St
Winchester Rd
Salem St
Main St
Woburn St
Wildwood Rd
Roberts Rd
Woode Rd
Century St
Century St Ext
Brooks Park
Gorham Rd
Madison St
Irving St
West Medford
Johnson Ave
Tufts
Robin Hood Rd
Beverly Rd
Fairview Ave
Draper Ave
Dows Ave
Kimball Rd
Glen Ave
Russell St
Chestnut St
Prescott St
Garden St
Lewis Ave
Franklin St
Webster St
Cedar St
Jason St
Haywood St
Mystic Lake Dr
Haynard St
Newton Rd
Sherman St
Sharon St
Jerome St
Lincoln St
Harvard Ave
Monument St
Hilton St
Bowker St
Chapel St
Cottage St
Allston St
Auburn St
Prescott St
Mystic Valley Pkwy
Auburn St
Broadway
Sycamore Ave
Tyler Ave
Fellsmere Rd
Warren St
Gleason St
Clewley Rd
Corinne Rd
Woburn St
Allston St
Irving St
Brooks St
Chandler Rd
Exeter Rd
Wellington St
Wellington Rd
Winthrop St
Brooks St
Century St
Diane Rd
Osborne Rd
Playstead Rd
Ronacle Rd
Headland Way
Barbara Ln
Aldon Ln
Winford Way
Sargent Rd
Priscilla Ln
Robinson Rd
Grove St
Teeler Rd
Alan Oaks Rd
Pacific Trail
Mystic Valley Pkwy
Pasa Ridge Rd
Grove St
Otega Rd
Russell Rd
Saltonstall Rd
Laird Rd
Oak Ridge Rd
Lester Rd
Ravine Rd
Jackson Rd
Sagamore Ave
Richer Ave
Kisseca Ave
Sagamore Rd
Mystic Valley Pkwy
Upland Rd
Baker Rd
Stowecroft Rd
Cambridge
York Rd
Sussex Rd
Cemetery
Mystic Valley Pkwy
Grove St
Arlington St
Mystic River Rd
Lincoln St
Harvard Ave
Jerome St
Arlington St
Mystic River Rd
Dugger Park
Mystic Valley Pkwy
Auburn St
Boston Ave
Monument St
Sharon St
Lincoln St
Harvard Ave
Jerome St
Sherman St
Sharon St
Farms St
Mystic River Rd
Arlington St
Mystic Valley Pkwy
Newton Rd
Winchester Rd
Medford St
Mystic Garden St
Prescott St
Russell St
Chestnut St
Lewis Ave
Franklin St
Webster St
Cedar St
Jason St
Haywood St
Mystic Lake Dr
Haynard St
Mystic Valley Pkwy
Meadow Brook Park
Glen Ave
Kimball Rd
Dows Ave
Draper Ave
Fairview Ave
Beverly Rd
Mystic St
Baker Rd
Stowecroft Rd
Upland Rd
Robin Hood Rd
Lower Mystic Lake
Mystic Valley Pkwy
Pasa Ridge Rd
Grove St
Otega Rd
Russell Rd
Saltonstall Rd
Laird Rd
Oak Ridge Rd
Lester Rd
Ravine Rd
Jackson Rd
Sagamore Ave
Richer Ave
Kisseca Ave
Sagamore Rd
Mystic Valley Pkwy
Tufts
Johnson Ave
Tyler Ave
Broadway
Fellsmere Rd
Warren St
Gleason St
Clewley Rd
Corinne Rd
Woburn St
Allston St
Irving St
Brooks St
Chandler Rd
Exeter Rd
Wellington St
Wellington Rd
Winthrop St
Brooks St
Century St
Diane Rd
Osborne Rd
Playstead Rd
Ronacle Rd
Headland Way
Barbara Ln
Aldon Ln
Winford Way
Sargent Rd
Priscilla Ln
Robinson Rd
Grove St
Teeler Rd
Alan Oaks Rd
Pacific Trail
Brooks Pond
Oak Grove Cemetery
Mystic Lake

Google Maps

Notes TAZ 624
MVP Station



63 pods

87 pods

Google Maps

Notes TAZ 891
MVP Station

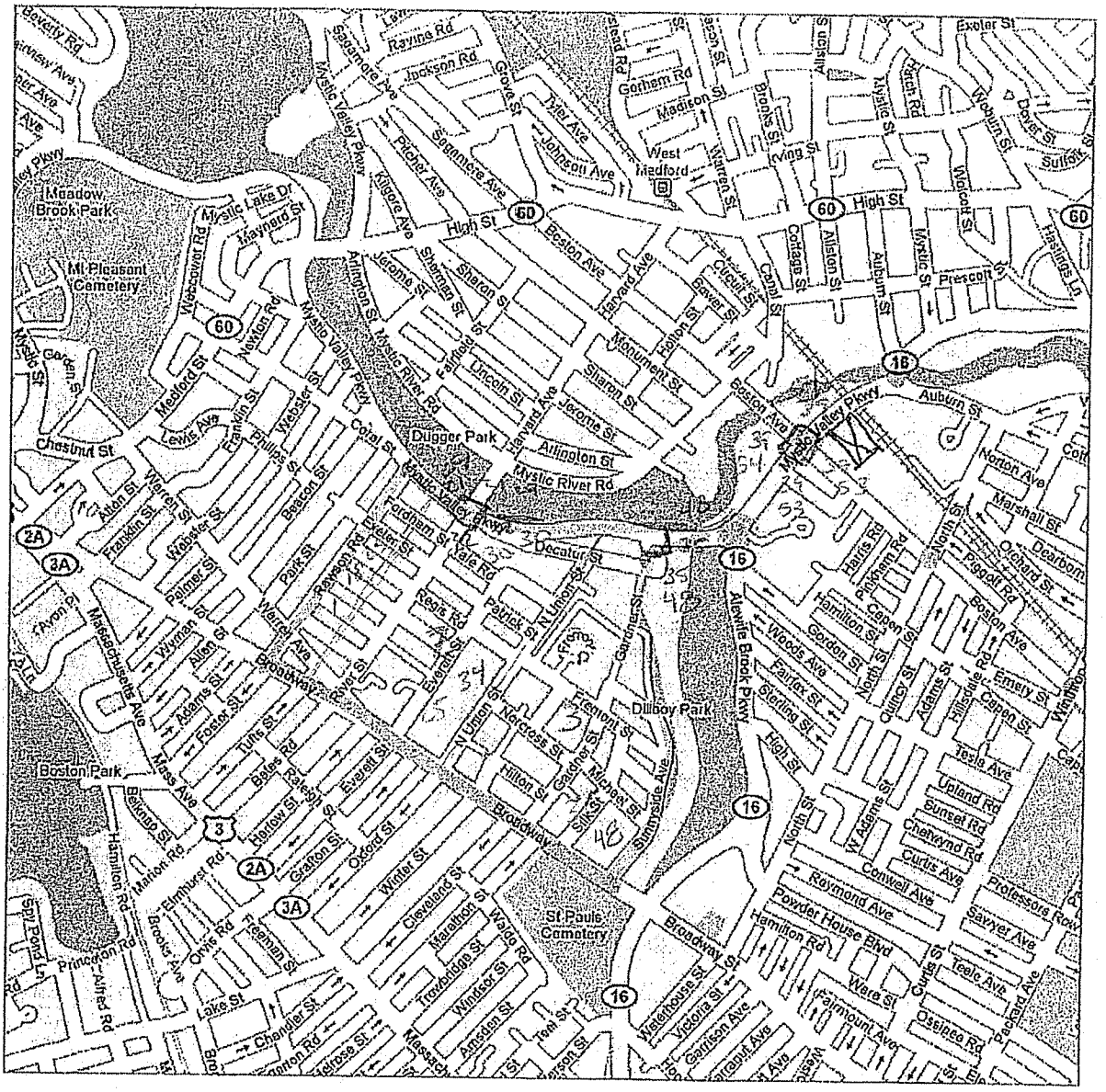


121 pads

129 pads

Google Maps

Notes TAZ 892
MVP Station

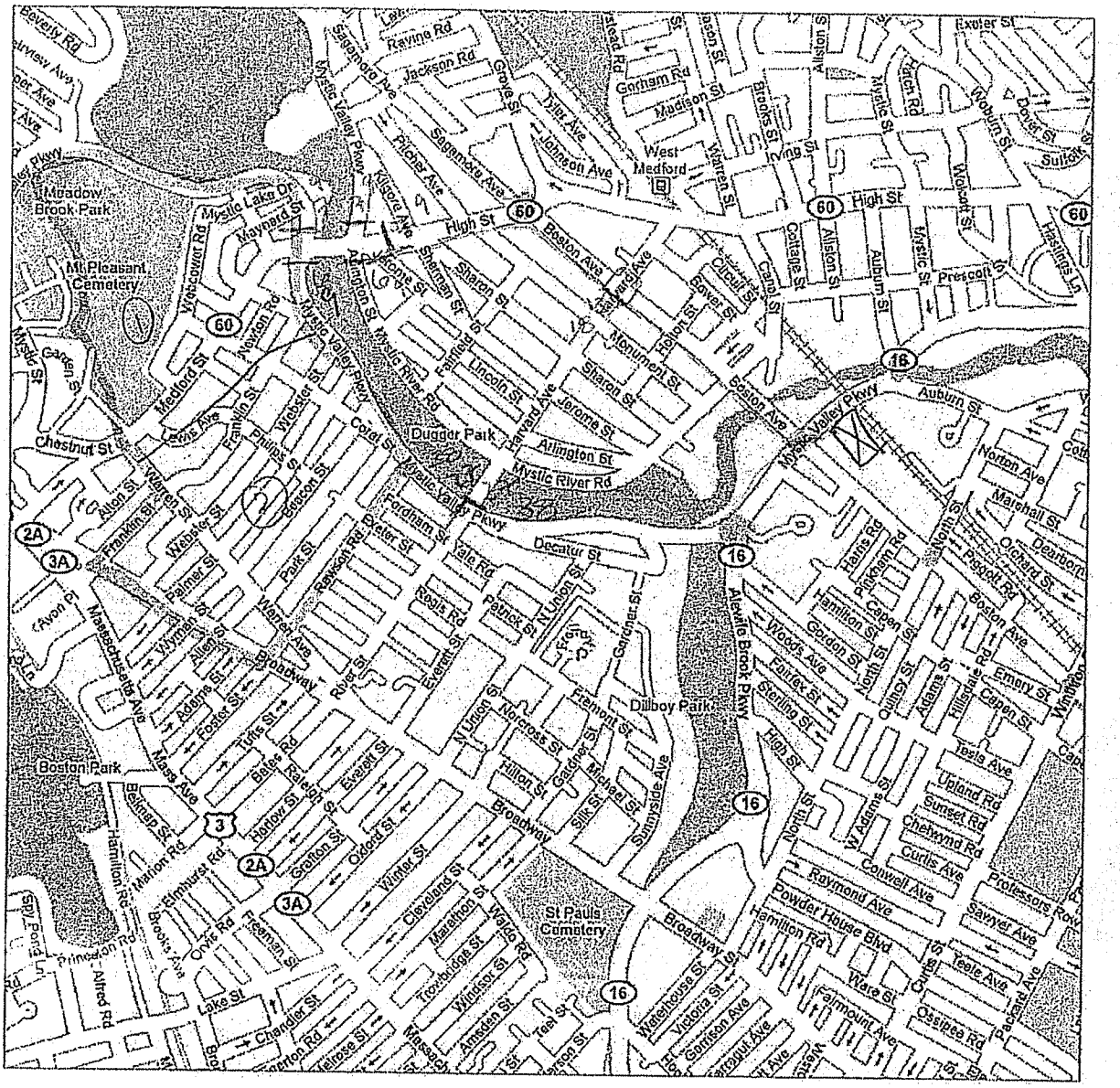


178 pads

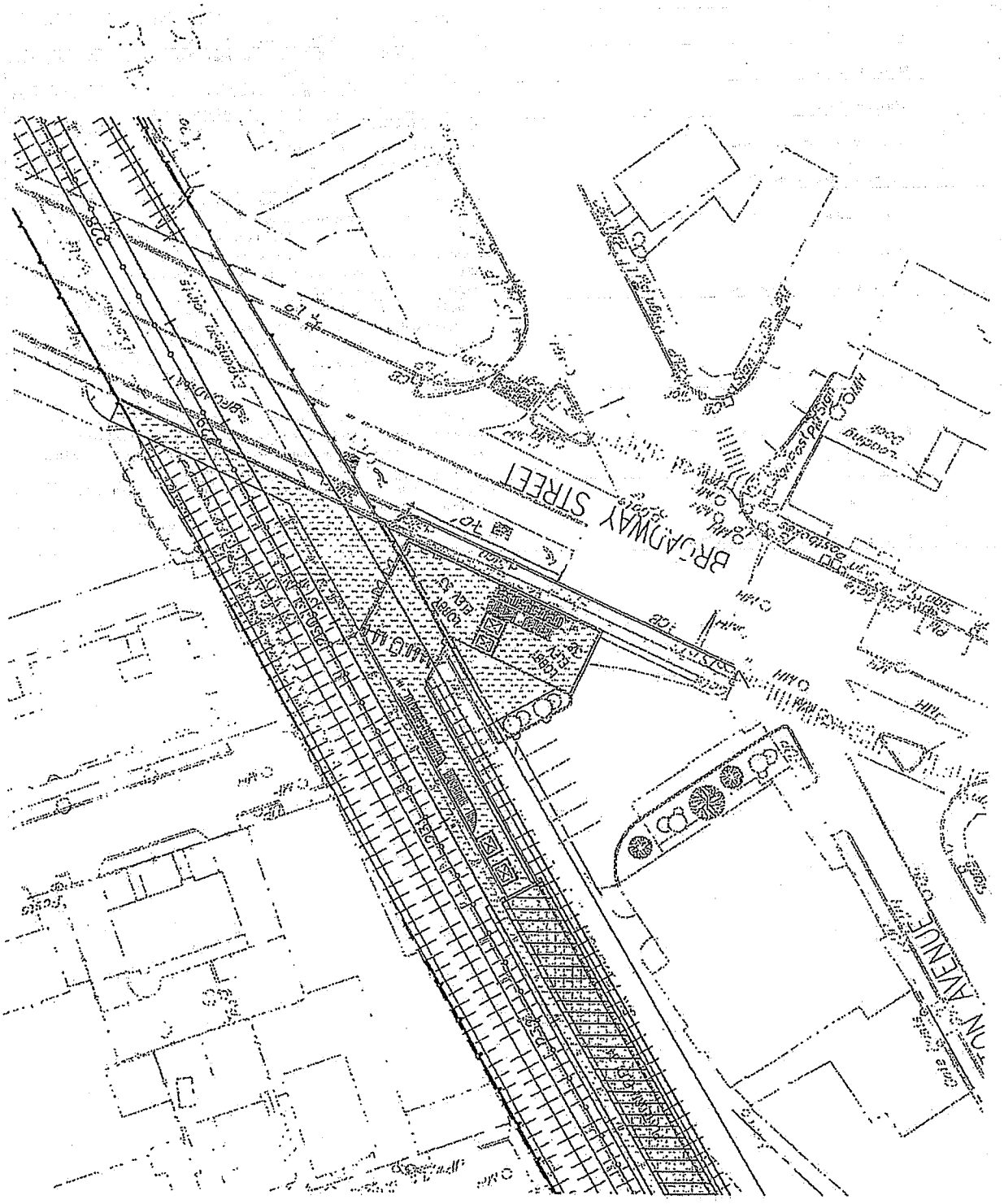
107 pads

Google Maps

Notes TAZ 895
MVP Station


Meadow Brook Park
Mt Pleasant Cemetery
Dugger Park
Dillboy Park
Boston Park
St Pauls Cemetery
Mystic River Rd
Mystic Valley Pkwy
Broadway
High St
Boston Ave
Auburn St
Medford St
Chestnut St
Arlington St
Jackson Rd
Ravine Rd
Johnson Ave
Sagamore Ave
Pitches Ave
Gorham Rd
Madison St
West Medford
Exeter St
Myrtle St
Auburn St
Prescott St
Hastings Ln
Sutton
Norton Ave
Marshall St
Orchard St
Dearborn
Pigott Rd
Boston Ave
Emery St
Wyndon
Capen St
Teele Ave
Upland Rd
Sunset Rd
Chelwynd Rd
Curtis Ave
Conwell Ave
Raymond Ave
Powder House Blvd
Sawyer Ave
Professors Row
Ware St
Fairmount Ave
Ossipee Rd
Packard Ave
Hamilton Rd
Waterhouse St
Victoria St
Garrison Ave
Tremont St
Amsden St
Windsor St
Troutbridge St
Marathon St
Cleveland St
Winter St
Oxford St
Grafton St
Harlow St
Bates Rd
Regis Rd
Everett St
Mass Ave
Belknap St
Marion Rd
Elmhurst Rd
Brooks Ave
Orne Rd
Freeman St
Princeton Rd
Alfred Rd
Lake St
Chandler St
Morton Rd
Melrose St
Spy Pond Ln
Hillon St
Norcross St
Fremont St
Michael St
Silk St
Sunnyside Ave
Gardner St
N Union St
Yale Rd
Fenwick St
Decatur St
Fordham St
Peter St
Newton Rd
Park St
Everett St
Rivera St
Broadway
Adams St
Foster St
Turtle St
Allen St
Wyman St
Palmer St
Webster St
Franklin St
Alton St
Avon Pl
Massachusetts Ave
Beacon St
Phillips St
Cedric Ave
Medford St
Myrtle Garden St
Vine Tower Rd
Newton Rd
Arlington St
Sharon St
Fairfield St
Lincoln St
Harvard Ave
Jerome St
Monument St
Hillon St
Sagamore Ave
Pitches Ave
Kilsyth Rd
Myrtle Lake Dr
Maynard St
Meadow Brook Park
Mystic Valley Pkwy
Auburn St
Gorham St
Cutler Ave
Canal St
Allston St
Cottage St
Auburn St
Mystic St
Prescott St
Hastings Ln
Exeter St
Myrtle St
Beacon St
Irving St
Warren St
Brooks St
Madison St
Gorham Rd
Tyler Ave
Johnson Ave
Sagamore Ave
Jackson Rd
Ravine Rd
Beverly Rd
Harvard Ave
Sutton
Woburn St
Beech Rd
Allston St
Mystic Valley Pkwy
Alewife Brook Pkwy
Gorham St
Fellsway
Hearns Rd
Pinehurst Rd
Hamilton St
Gordon St
Woods Ave
Fairley St
Sterling St
North St
Quincy St
Adams St
Fillsway
Capen St
Emery St
Wyndon

TAZ	Subzone	Route	Comments
550		Broadway Street	All ped traffic in this TAZ will filter to north side of Broadway Street via Dexter St, and Albion St and walk Northwest towards the station
551		Broadway Street	All ped traffic in this TAZ will filter to north side of Broadway Street via Albion St and walk Northwest towards the station
603		Broadway Street	All ped traffic will filter to southside of Broadway Street via Cedar St, Charles E Ryan Rd and Hinckley St and walk northwest towards the station
612	1	Broadway Street via Boston Ave	All ped traffic to the west of Cedar St will filter to Boston Ave and will approach the station via Broadway & Boston Ave
	2	Broadway Street via Cedar St	All ped traffic to the east of Cedar St (Clyde St, Warwick St & Murdock St) will filter to southside of Broadway St via Cedar St
615	1	Broadway Street via College Ave	All ped traffic to the west of Liberty Ave and south of Kidder Ave will filter to College Ave and approach the station via Broadway St
	2	Broadway Street	All ped traffic will filter to southside of Broadway Street via Liberty Ave, Bay State Avem Lowden Ave, Willow Ave and Josephine Ave
	3	Broadway Street via Boston Ave	All ped traffic to the east of Josephine Ave (Rogers Ave, Highland Rd, Pearson Ave, & Prichard Ave) will filter to Boston Ave
619	1	Broadway Street	All ped traffic to the west of Chandler St will filer to the soudh side of Broadway Street and walk east on Broadway St towards the station
	2	Broadway Street via College Ave	All ped traffic to the east of Chandler St (Chandler St, Winter St, Park Ave, Chapel St, William St, Summit St & Kenwood St will filter to College Ave and approach the station via Broadway St
620	1	Broadway Street via Powder House Blvd	All ped traffic to the north of Hamilton Rd, Fairmount Ave, Electic Ave and Walker St will filter to Powder House Blvd and approach the station via Broadway St
	2	Broadway Street	All ped traffic to the south of Hamilton Road, Ware St, Ossippee Road will filter to Broadway Street and walk east towards the station
621	1	Boston Ave	All ped traffic from Tufts Univ (Professors Row & Talbot Ave) will filter to Boston Ave via Dearborn Road
	2	Broadway Street via Powder House Blvd	All ped traffic to the south of Talbot Ave will filter to Powder House Road / Broadway St



XX Alt 2 pads

XY Alt 7 pads

Google Maps

Address **Medford, MA**

Notes TAZ550

Ball Sq.

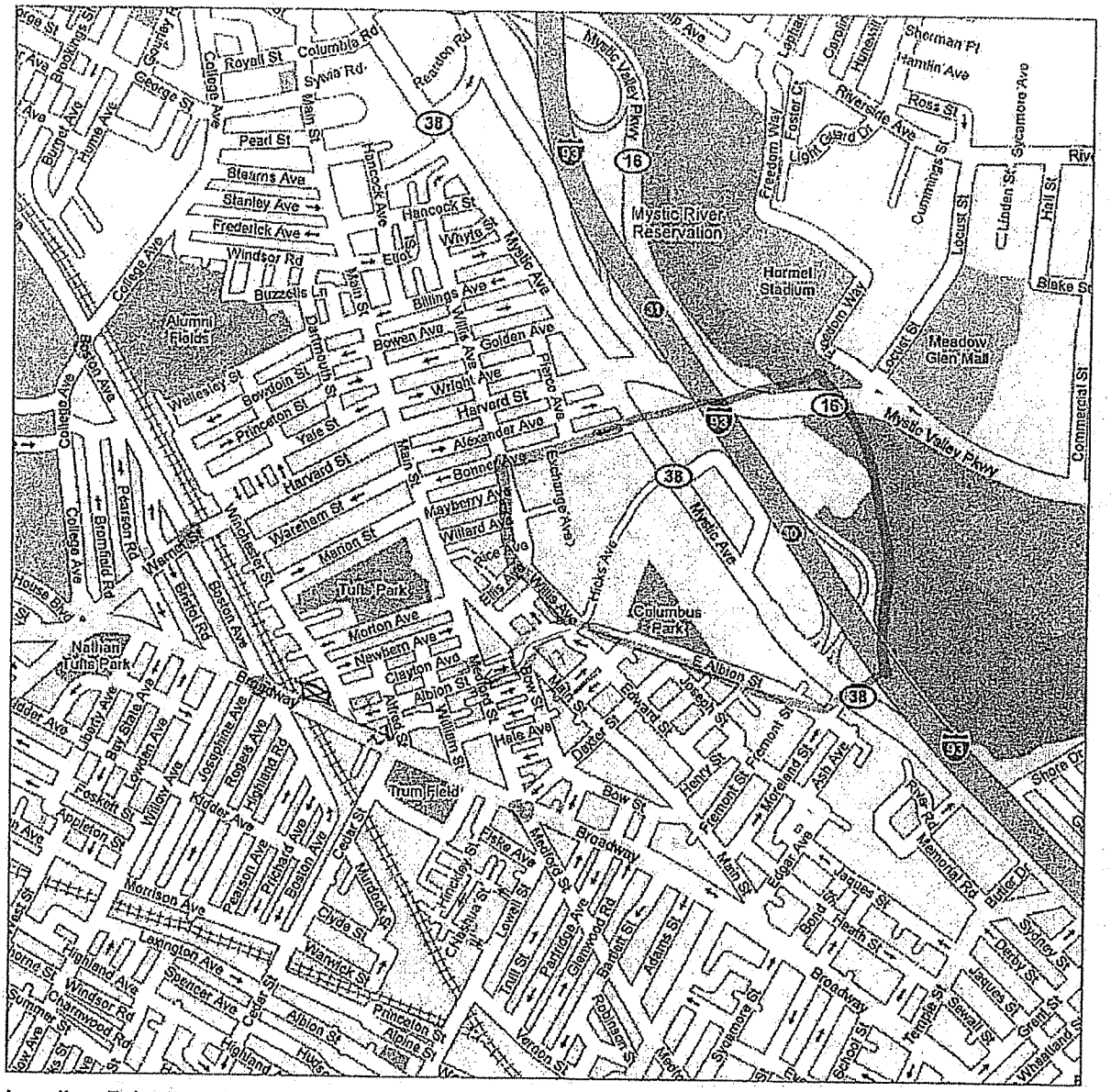

Mystic River Reservation
Hormel Stadium
Alumni Fields
Meadow Glen Mall
Tufts Park
Columbus Park
Trum Field
Somerville Hospital
Somerville
Dickerman
Broadway
Mystic Valve Pkwy
Mystic Ave
Boston Ave
College Ave
Harvard St
Alexander Ave
Bonner Ave
Warren St
Vernon St
Morton Ave
Newbern Ave
Clayton Ave
Albion St
Highland Ave
Hudson St
Woodbine St
Lexington Ave
Princeton St
Windsor Rd
Stanley Ave
Fredelick Ave
Broadway
Main St
Medford St
Temple St
Sycamore St
Willow Ave
Elm St
Cedar St
Pearson Ave
Rogers Ave
Josephine Ave
Highland Rd
Boston Ave
Bristol Rd
Pearson Rd
Bromfield Rd
Winchester St
Warner St
Hancock St
Wyllys St
Elliot St
Billings Ave
Buzzells Ln
Dartmouth St
Bowen Ave
Golden Ave
Wellesley St
Bowdoin St
Princeton St
Yale St
Wright Ave
Mayberry Ave
Willard Ave
Elm Ave
Ellis Ave
Willis Ave
Hicks Ave
Exchange Ave
Myrtle Ave
Albion St
Hale Ave
Dexter St
Edward St
Joseph St
Henry St
Fremont St
Morland St
Ash Ave
River Rd
Memorial Rd
Butler Dr
Shore Dr
Gov
Jaques St
Bond St
Heath St
Sydney St
Derby St
Grant St
Whitelland St
Evergreen Ave
Thurston St
Dartmouth St
Partridge Ave
Glenwood Rd
Bartlett St
Adams St
Truel St
Lowell St
Cutter Ave
Appleton St
Mossland St
Willcox Ave
Lowder Ave
Liberty Ave
Bay State Ave
Josephine Ave
Rogers Ave
Highland Rd
Pearson Ave
Prichard Ave
Boston Ave
Cedar St
Murdock St
Clyde St
Warwick St
Princeton St
Albion St
Hudson St
Woodbine St
Highland Ave
Somerville Ave
Cherry St
Ashland St
Cedar St
Summer St
Prospect St
Bradley Ave
Crown St
Lowell St
Pond St
Walnut St
Jaques St
Sewall St
Temple St
Grant St
Whitelland St
Broadway
Evergreen Ave
Thurston St
Dartmouth St
Lee St
Central St
Walnut St
Bonair St
McGrath
MSGR
Locust St
Linden
Hall St
Blake St
Commercial St
Lawton Way
Exchange St
Myrtle Valley Pkwy
Meadow Glen Mall
Hormel Stadium
Mystic River Reservation
Tufts Park
Columbus Park
Trum Field
Somerville Hospital
Somerville
Dickerman
Broadway
Medford St
Main

Google Maps

Address **Medford, MA**

Notes TAZ 551

Ball Sq. Station

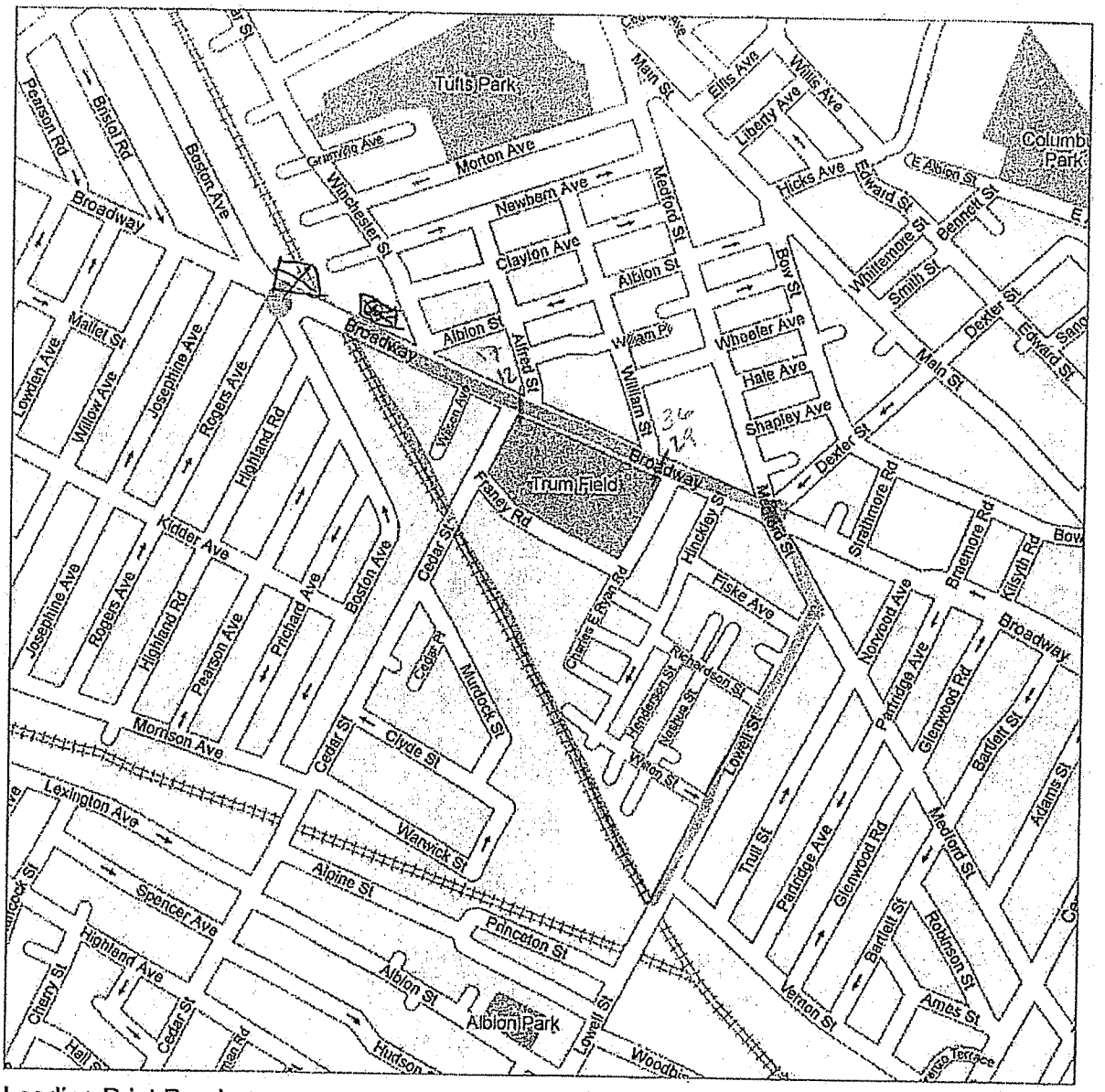

Mystic River Reservation
Hormel Stadium
Alumni Fields
Tufts Park
Columbus Park
Meadow Glen Mall
Mystic Valley Pkwy
Broadway
Main St
Harvard St
Mystic Ave
Medford Square
Trum Field
Nathan Tufts Park
Royall St
Columbia Rd
Pearl St
Stanley Ave
Frederick Ave
Windsor Rd
Wellesley St
Boxdoll St
Princeton St
Yale St
Wareham St
Morton St
Newbern Ave
Clayton Ave
Albion St
Bowen Ave
Golden Ave
Wright Ave
Alexander Ave
Bonner Ave
Mayberry Ave
Willard Ave
Rice Ave
Ellis Ave
Hicks Ave
E Albion St
Hale Ave
Dexter
Bow St
Fremont St
Moreland St
Ash Ave
Henry St
Jaques St
Heath St
Sydney St
Derby St
Sewall St
Temple St
Grant St
Wheatland St
Sycamore St
Adams St
Robinson St
Vernon St
Glenwood Rd
Partridge Ave
Tufts St
Laurel St
Fellsway West
Fellsway East
Exchange Area
Memorial Rd
Riverside Ave
Ross St
Hamlin Ave
Sherman Pl
Sycamore Ave
Cummings St
Locust St
Linden St
Holl St
Blake St
Commercial St
Freedom Way
Foster Ct
Light Guard Dr
Meadow Way
Mystic Valley Pkwy
Shore Dr
Fiske Ave
Murdock St
Cedar St
Clyde St
Warwick St
Princeton St
Alpine St
Albion St
Spencer Ave
Lexington Ave
Morrison Ave
Pearson Ave
Prichard Ave
Boston Ave
Josephine Ave
Rogers Ave
Highland Rd
Highland Ave
Ridder Ave
Bay State Ave
Lowden Ave
Whitney Ave
Foskett St
Appleton St
Windsor Rd
Charnwood Rd
Summer St
Home St
Chestnut St
Hillside St
Cross St
Hancock Ave
Hancock St
Elliot St
Whyte St
Mystic Ave
Billings Ave
Main St
Bromfield Rd
Pearson Rd
Winchester St
Boston Ave
Bristol Rd
Warren St
College Ave
Curtis Ave
Burrell Ave
Home Ave
George St
Courtney
Brookings St
Sylvia Rd
Reardon Rd
Pierce Ave
Exchange Area
Mystic Valley Pkwy
Light Guard Dr
Riverside Ave
Ross St
Hamlin Ave
Sherman Pl
Sycamore Ave
Cummings St
Locust St
Linden St
Holl St
Blake St
Commercial St
Meadow Glen Mall
Hormel Stadium
Freedom Way
Foster Ct
Meadow Way
Mystic Valley Pkwy
Shore Dr
Memorial Rd
Bitter Dr
Ferry Rd
Eqbal Ave
Jaques St
Bond St
Heath St
Sydney St
Derby St
Sewall St
Temple St
Grant St
Wheatland St
Sycamore St
Adams St
Robinson St
Vernon St
Glenwood Rd
Partridge Ave
Tufts St
Laurel St
Fellsway West
Fellsway East
Exchange Area
Broadway
Main St
Medford Square
Trum Field
Nathan Tufts Park
Columbus Park
Tufts Park
Mystic Ave
Hicks Ave
E Albion St
Hale Ave
Dexter
Bow St
Fremont St
Moreland St
Ash Ave
Henry St
Jaques

Google Maps

Address **Medford, MA**

Notes TAZ 603

Ball Sq. Station



Loading Print Preview ...

141 pages

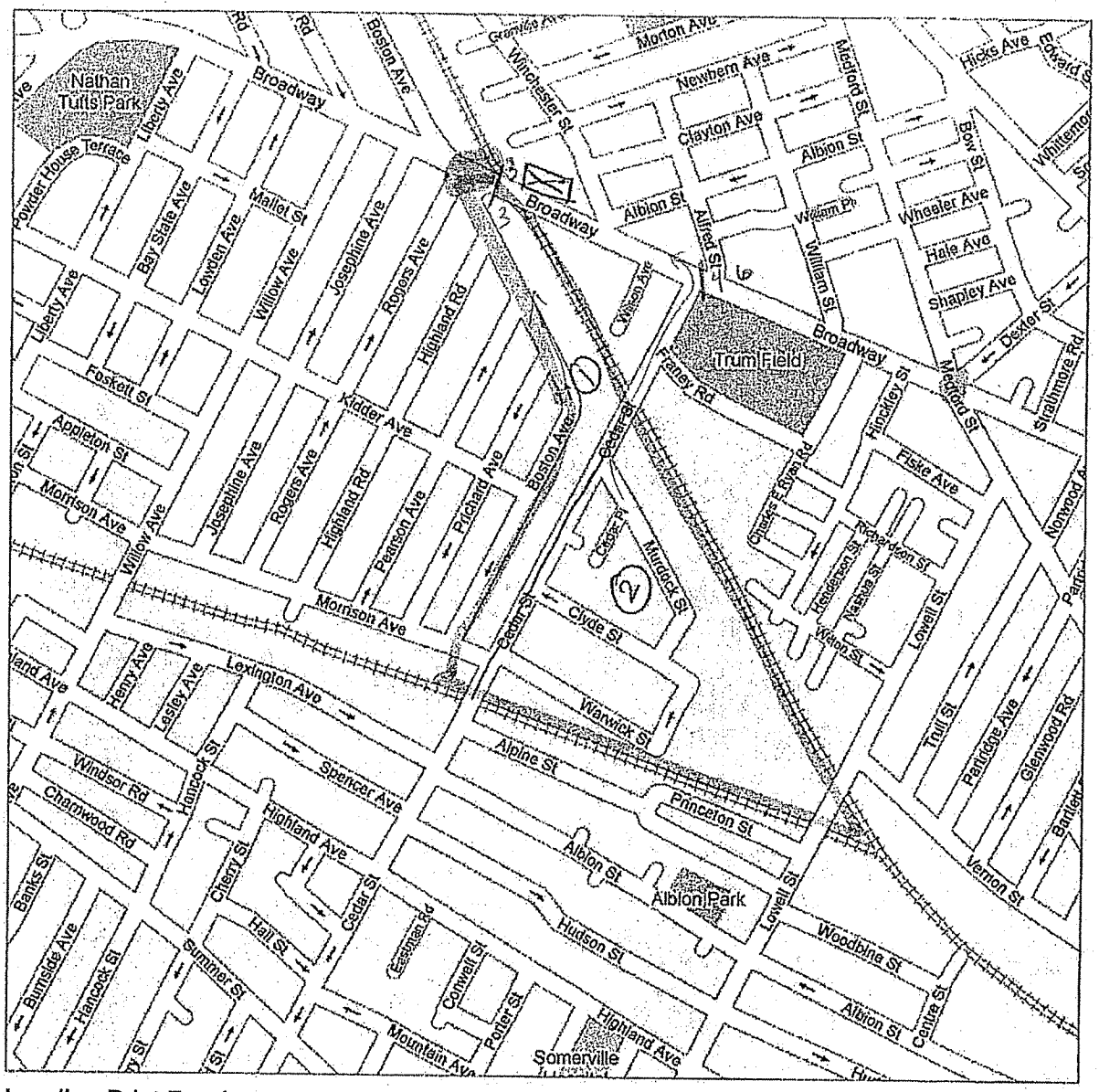
153 pages

Google Maps

Address **Medford, MA**

Notes TAZ 612

Ball Sq. Station



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17 pads

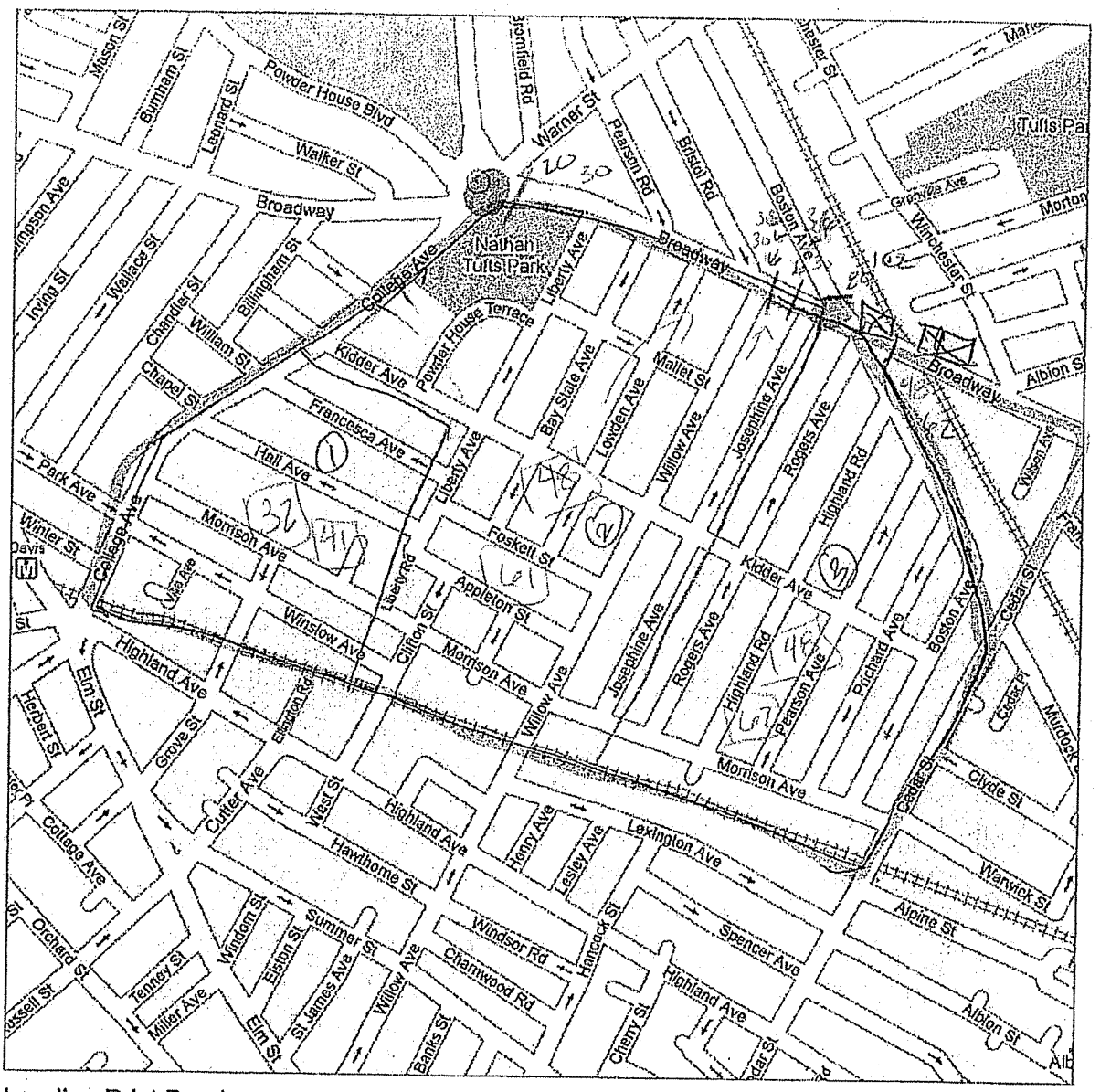
19 pads

Google Maps

Address **Medford, MA**

Notes TAZ 615

Ball Sq. Station



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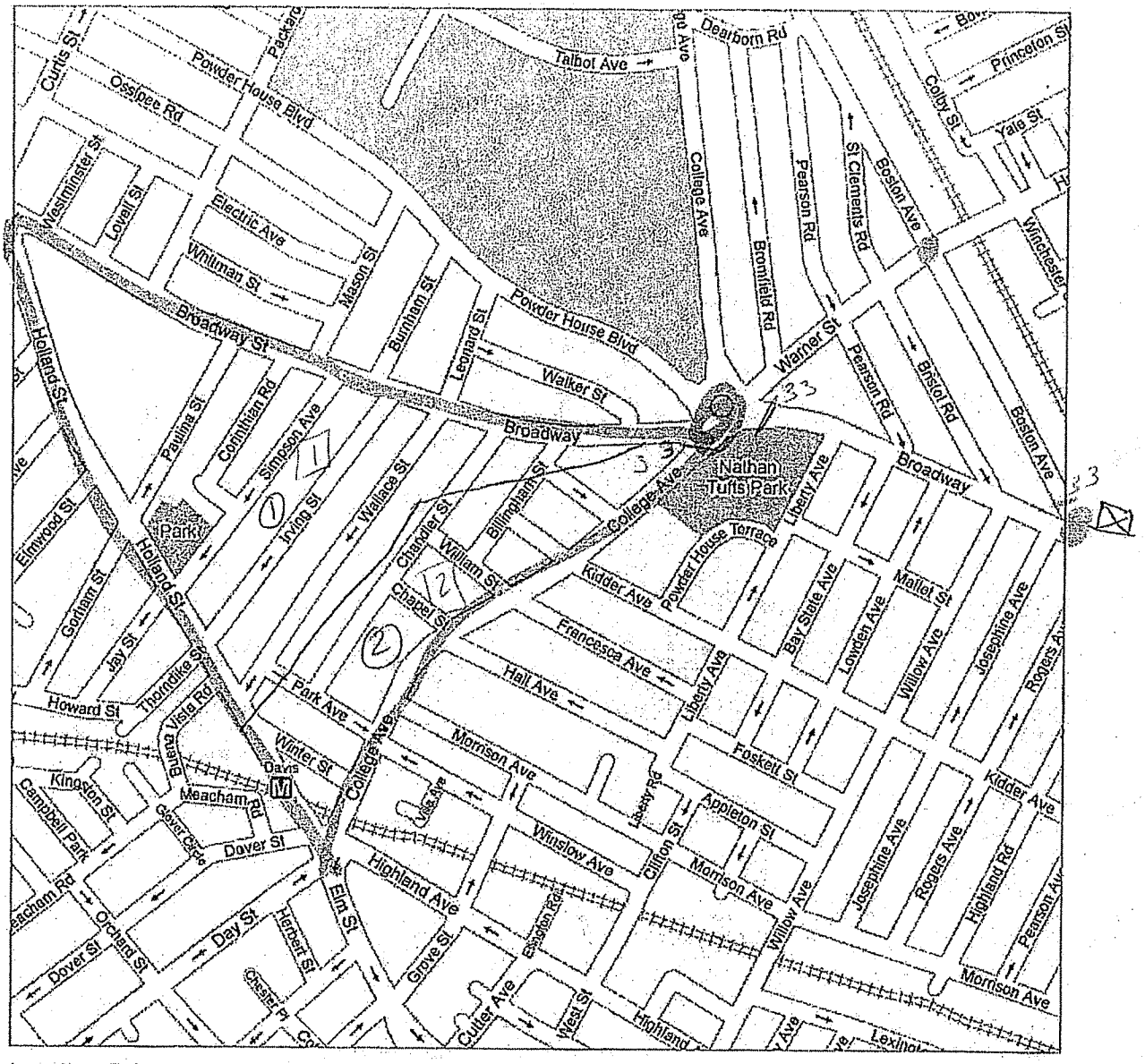
Google Maps

Address **Medford, MA**

Notes TAZ 619

Ball Sq. Station



Loading Print Preview ...

13 peds

3 peds

Google Maps

Address **Medford, MA**

Notes TAZ 620

Ball Sq. Station


Tufts University
Davis
Ball Square
Somerville Hospital
Ringgold Field
Tufts Park
Alumni Fields
Trum Field
Powder House Blvd
Broadway
Boston Ave
College Ave
Professors Row
Packard Ave
Curtis Ave
Raymond Ave
Hamilton Rd
Talbot Ave
Lake Ave
Pearson Rd
Bromfield Rd
Walker St
Wallace St
Irving St
Pauline St
Cameron Ave
Elmwood St
Gotham St
Jay St
Clarendon Ave
Newbury St
Moore St
Mead St
Holland St
Electric Ave
Whitman St
Mason St
Bumpkin St
Simpson Ave
Carnation St
Gold Star Rd
Camp St
Washburn Ave
Malvern Rd
Brookford St
Fairmount Ave
Osgood Rd
Ware St
Teele Ave
Sawyer Ave
Upland Rd
Sunset Rd
Chelwynd Rd
Colwell Ave
W Adams St
North St
High St
Tesla Ave
Capen St
Sunnyside Ave
Waterhouse St
Victoria St
Garrison Ave
Fairmont Ave
Endicott Ave
Foster Ave
Harvey St
Dudley St
Read St
Cedar St
Harris St
Rice St
Mystic Ave
Meacham Rd
Dover St
Day St
Orchard St
Chester St
Cottage Ave
Cutler Ave
Elm St
Highland Ave
Winslow Ave
Morrison Ave
Mass Ave
Hall Ave
College Ave
Chandler St
William St
Kidder Ave
Liberty Ave
Gay State Ave
Lawton Ave
Josephine Ave
Rogers Ave
Highland Rd
Foskett St
Appleton St
Hawthorne St
West St
Summer St
Elston St
Willow Ave
Banks St
Blunside Ave
Hancock St
Cherry St
Ashland St
Cedar St
Summer St
Porter St
Crown St
Bracket St
Lowell St
Highland Ave
Hudson St
Albion St
Alpine St
Princeton St
Warwick St
Clyde St
Murdock St
Pearson Ave
Prichard Ave
Boston Ave
Cedar St
Lincoln St
Joshua St
Tufts St
Lowell St
Albion St
Woodbine St
Hudson St
Highland Ave
Somerville Ave
Porter Rd
Davenport St
Regent St
Mead St
Richdale Ave
Boltion St
Pemberton St
Sherman St
Middlesex St
Sargent St
Ridge Ave
Massachusetts Ave
Milton St
Russell St
Tennyson St
Blake St
Orchard St
Mass Ave
Pemberton St
Catholic Cemetery
Harvard St
Wareham St
Manton St
Bonner Ave
Mayberry Ave
Willard Ave
Rice Ave
Ellis Ave
Alexander Ave
Wright Ave
Bowen Ave
Billings Ave
Buzzells Ln
Elliot St
Whyte St
Hancock St
Stanley Ave
Stearns Ave
Frederick Ave
Windsor Rd
College Ave
Boston Ave
Dartmouth St
Main St
Wellesley St
Bowdoin St
Princeton St
Yale St
Harvard St
Morton Ave
Newbern Ave
Clayton Ave
Albion St
Broadway
Bristol Rd
Winchester St
Warren St
Main St
Medford St
Powder House Blvd
Broadway
Walnut St
Prospect St
Linden St
Pearl St
Hall St
Main St
Broadway
Medford St
Harvard St
Broadway
Main St
Medford St
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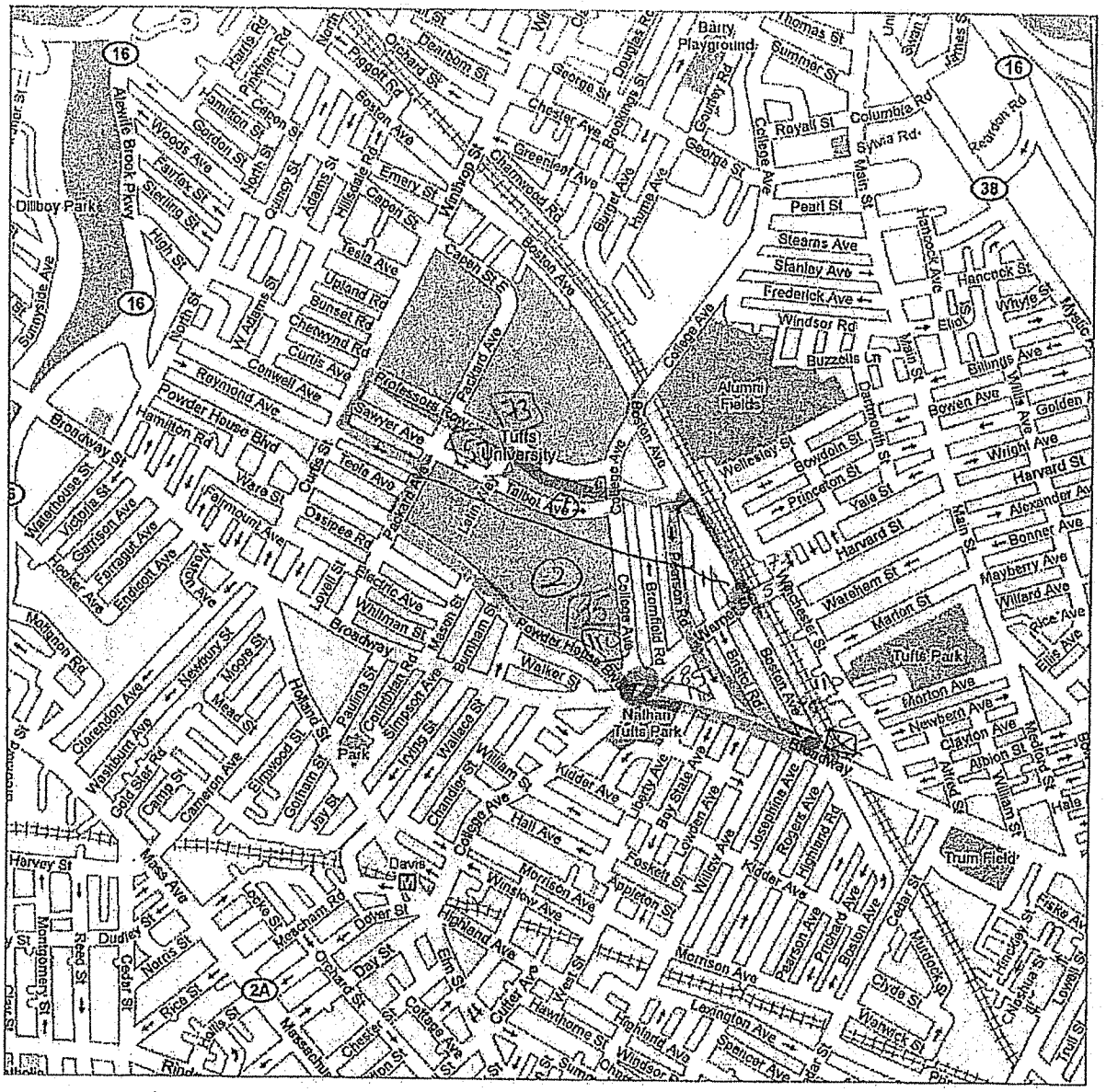
Main St
Medford St
Broadway
Main St
Medford

Google Maps

Address **Medford, MA**

Notes TAZ 621

Ball Sq. Station

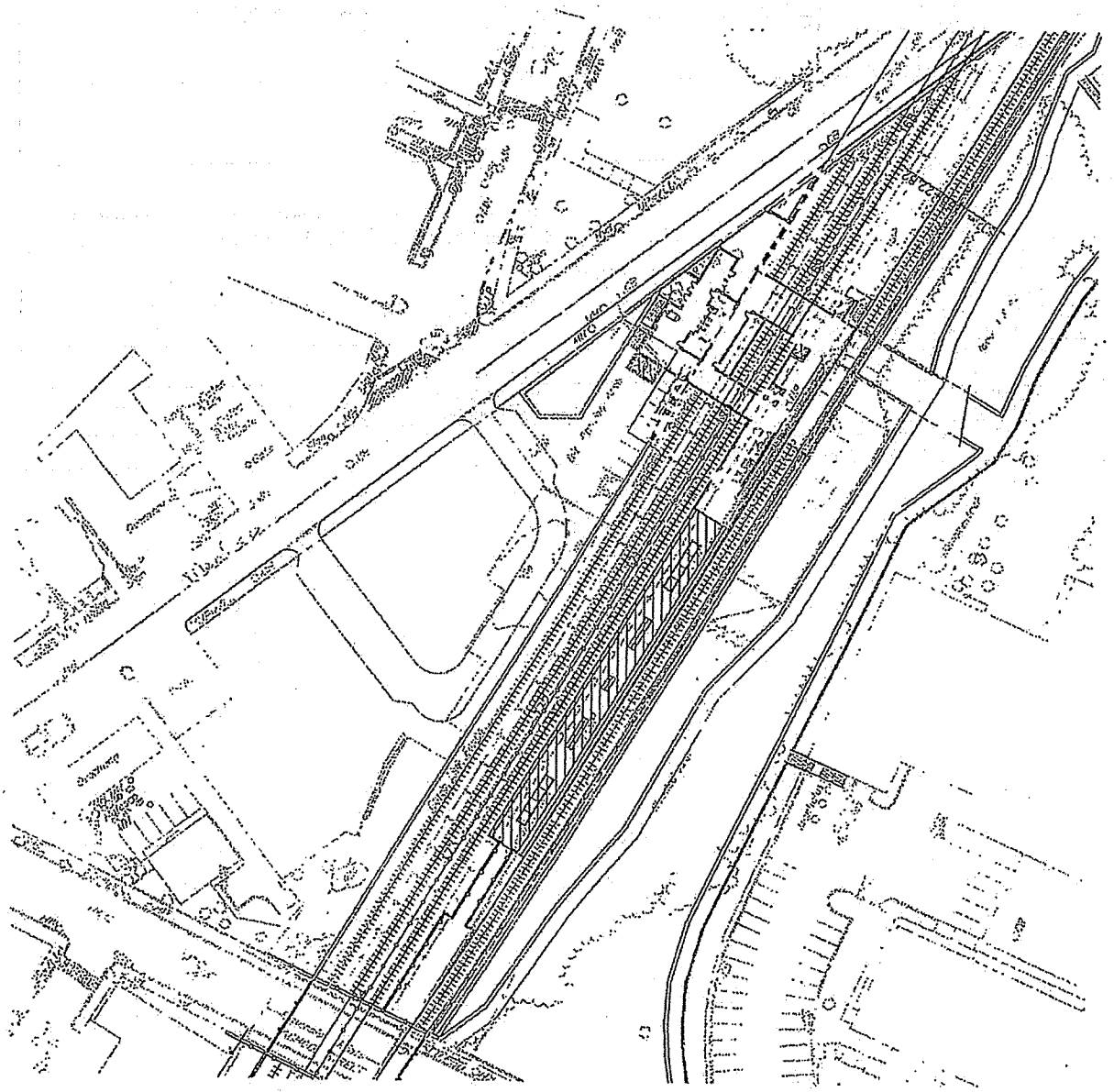


Loading Print Preview ...

142 peds

183 peds

TAZ	Subzone	Route	Comments
585	1	N on Dane St to E on Somerville Ave and N on School St	
	2	E on Washington St to NW on Webster Ave and N on School St	
586	1	N on Lowell St to E on Highland Ave and N on School St	
	2	N on Park St to E on Somerville Ave and N on School St	
	3	N on Dane St to E on Somerville Ave and N on School St	
596	1	S on Fellsway to S on MSGR McGrath Hwy and E on Pearl St	Side streets to the East of Temple St filter to Fellsway
	2	S on Temple St to S on Marshall St and W on Pearl St	Side streets to the West of Temple St filter to Temple St
597	1	S on Temple St to S on Marshall St and W on Pearl St	East half of the TAZ will filter down to Temple St
	2	SE on Main St to E on Broadway St and S on School St	West half of the TAZ will filter down to Main St / Broadway St
598	1	S on Sycamore St to SE on Medford St	Side streets to the west of Bond St will filter to Sycamore St
	2	S on Thurston St to SE on Medford St	Bond Streets & Thurston St
	3	S on Temple St to S on Marshall St and W on Pearl St	Side streets to the east of Thurston St will filter to Temple St
599	1	S on Temple St to S on Marshall St and W on Pearl St	Side streets to the west of Wheatland St
	2	S on Walnut St and W on Pearl St	Wheatland St & Fellsway W
	3	S on MSGR McGrath Hwy and W on Pearl St	East of Fellsway W
600	1	S on School St	
	2	S on Marshall St and W on Pearl St	
	3	W on Pearl St	
	4	S on Walnut St and W on Pearl St	
601	1	E on Evergreen Ave and S on School St	
	2	SE on Medford St	Foster St, Tennyson St and side streets south of Evergreen Ave to filter to Medford St
	3	E on Richdale Ave	Side streets south of Medford St filter to Richdale Ave
602	1	SE on Medford St	
	2	E on Vernon St to E on Pembroke St to S on Sycamore St and E on Richdale Ave	
606	1	W on Highland Ave and N on School St	Vinal Ave, Putnam St, Prescott St
	2	N on Walnut St and NW on Medford St	
607	1	N on Central St to E on Highland Ave and N on School St	
	2	N School St	Side streets filter to School St
610		N School St	All side streets filter to School St
611		N School St	All side streets filter to School St
678	1	N on Park St to E on Somerville Ave and N on School St	
	2	Non Dane St to E on Somerville Ave and N on School St	



XY Alt 6 peds

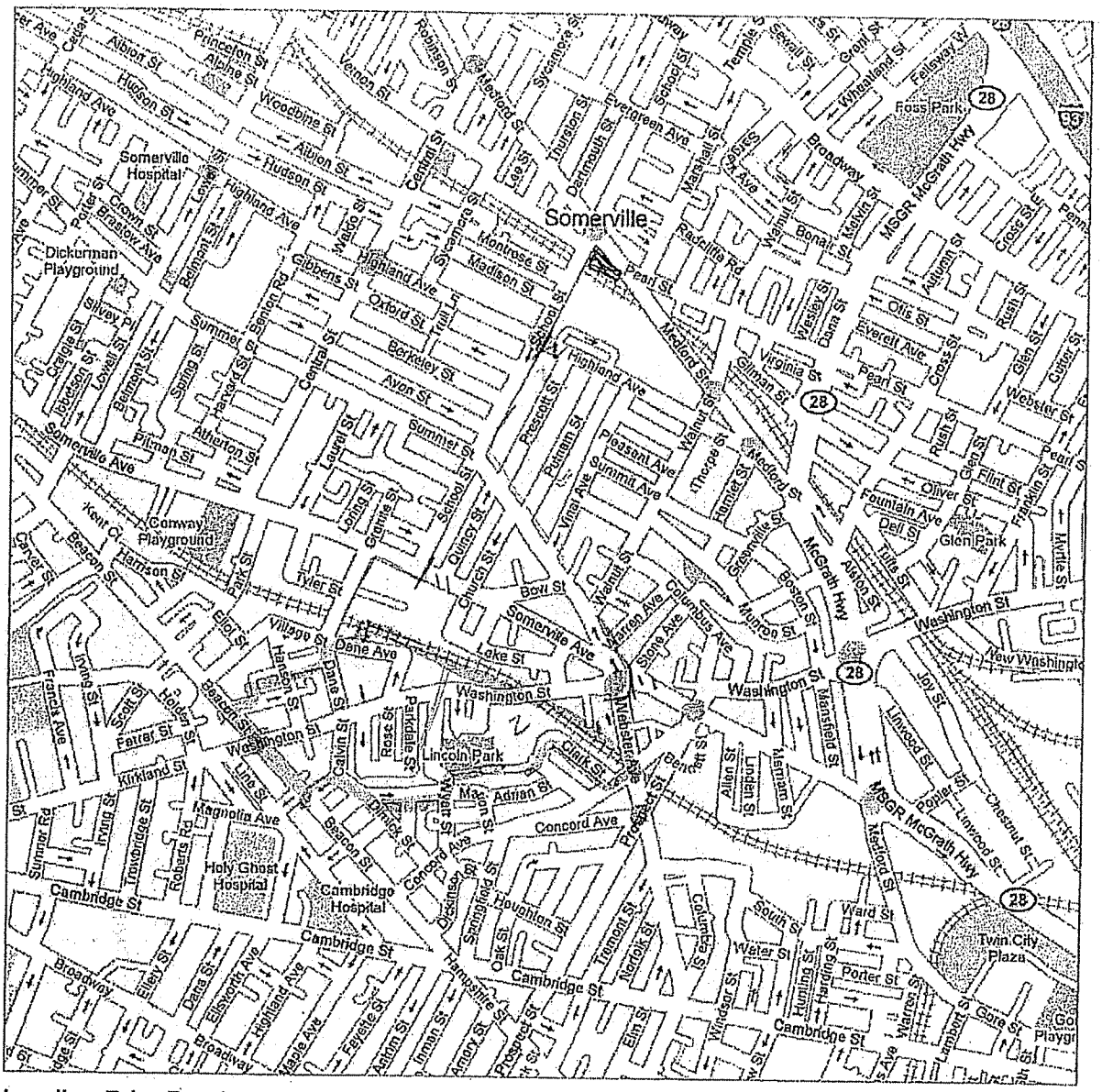
XY Alt 7 peds

Google Maps

Address **Medford, MA**

Notes TAZ 585

Gillman Sq. Station



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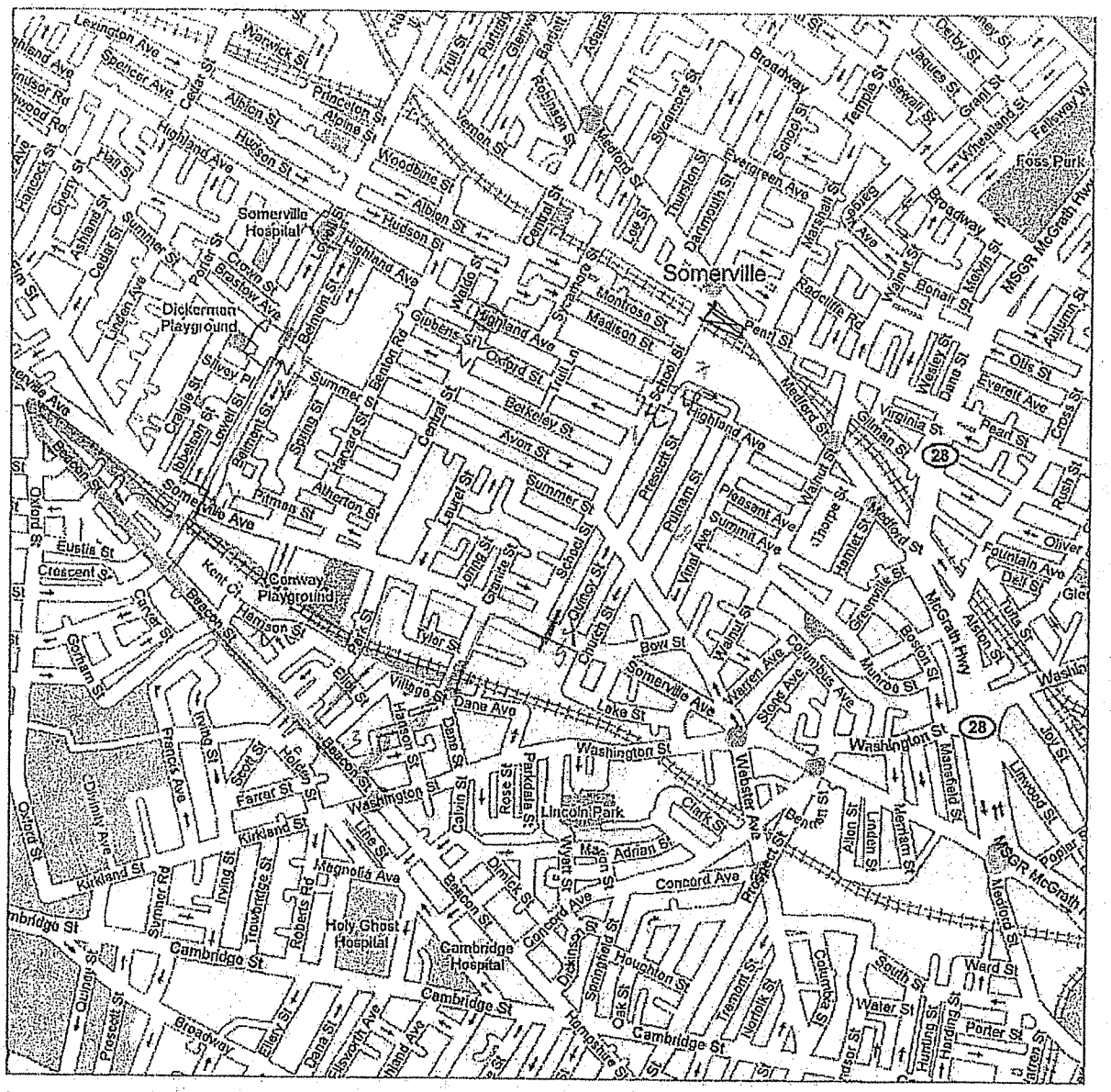
Google Maps

Address **Medford, MA**

Notes TAZ 586

Gillman Sq. Station



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16 pcds

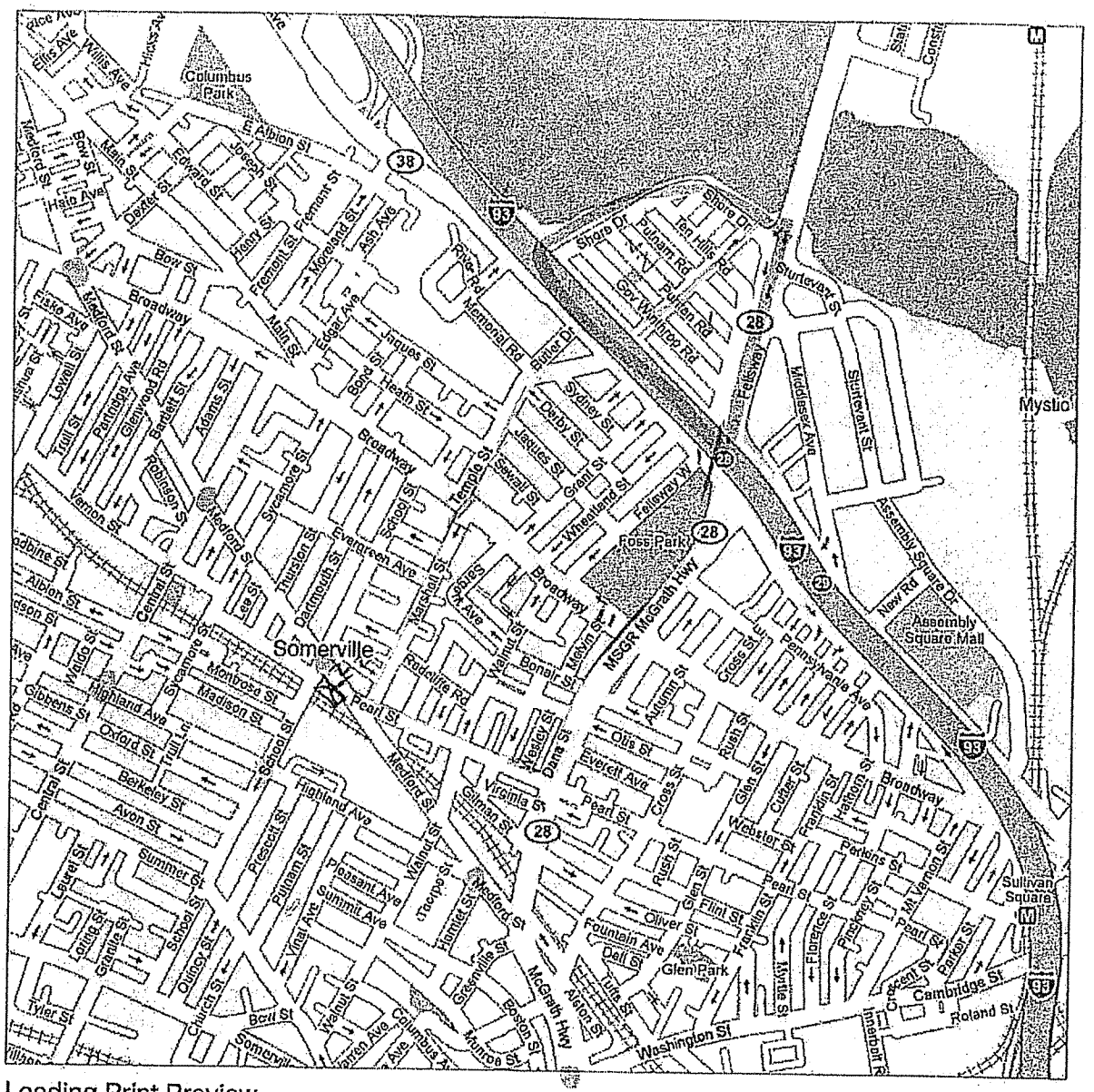
17 pcds

Google Maps

Address **Medford, MA**

Notes TAZ 596

Gillman Sq. Station



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2 pages

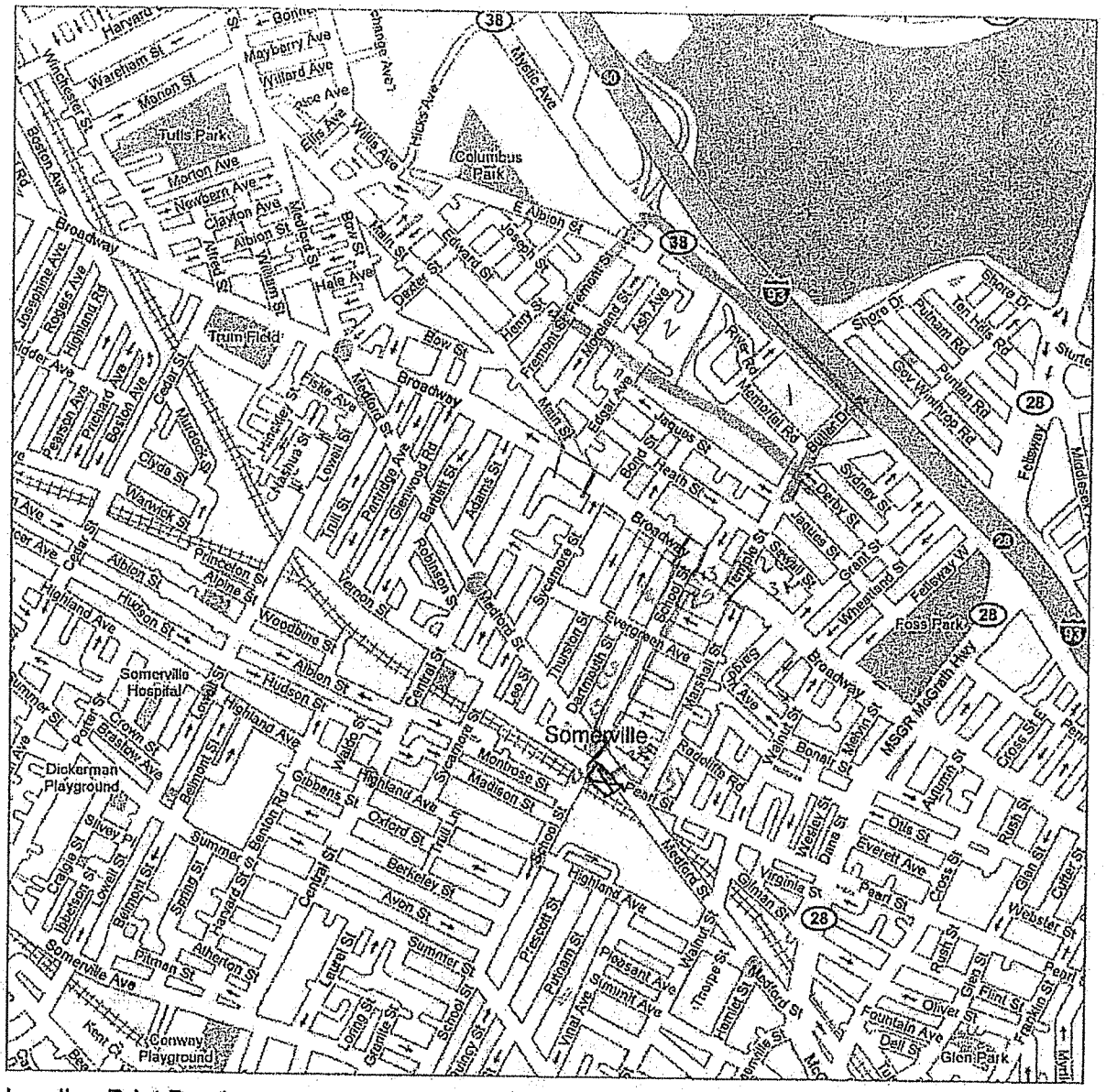
12 Pages

Google Maps

Address **Medford, MA**

Notes TAZ 597

Gillman Sq. Station



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152 peds

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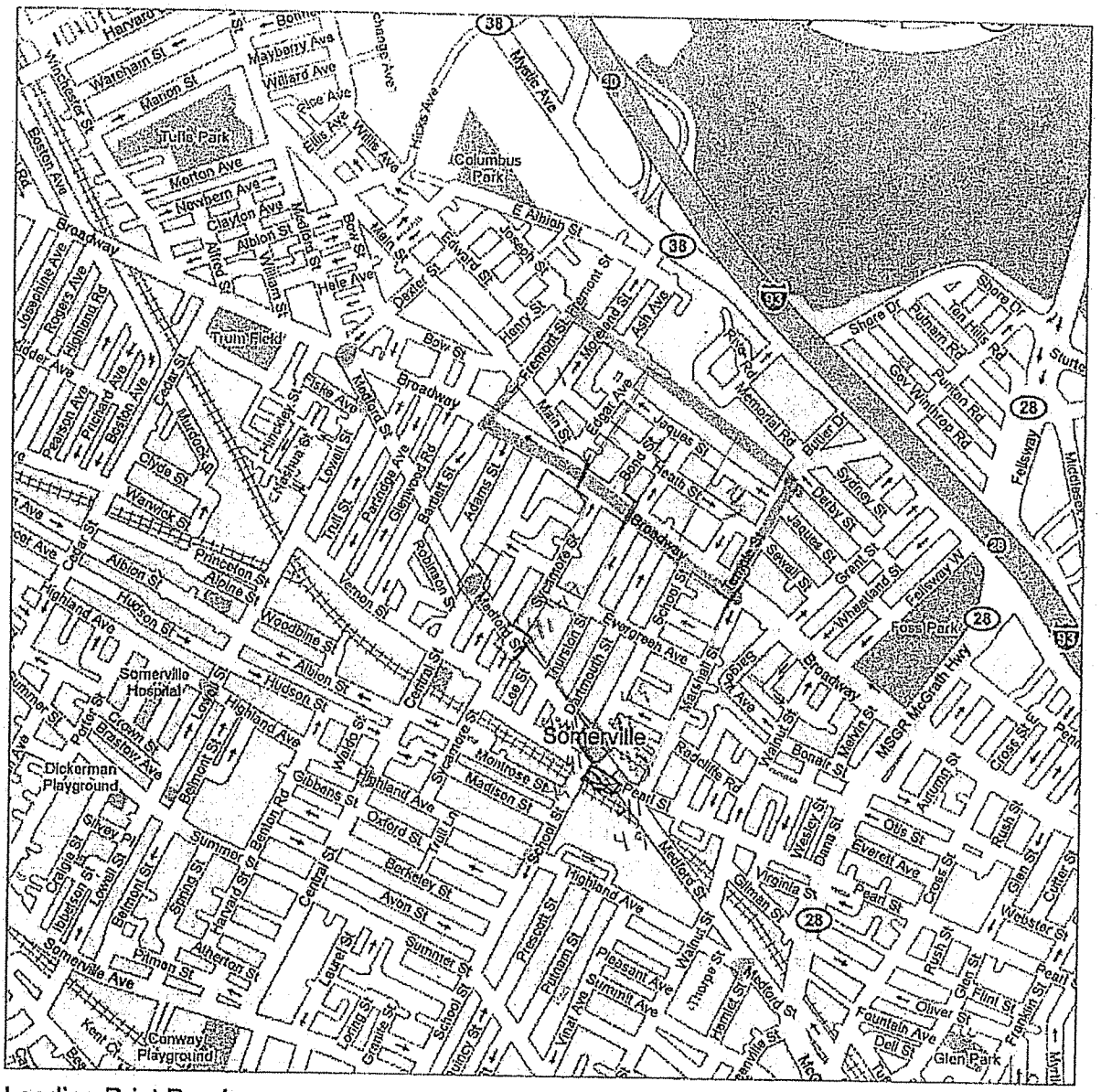
Google Maps

Address **Medford, MA**

Notes TAZ 598

Gillman Sq. Station

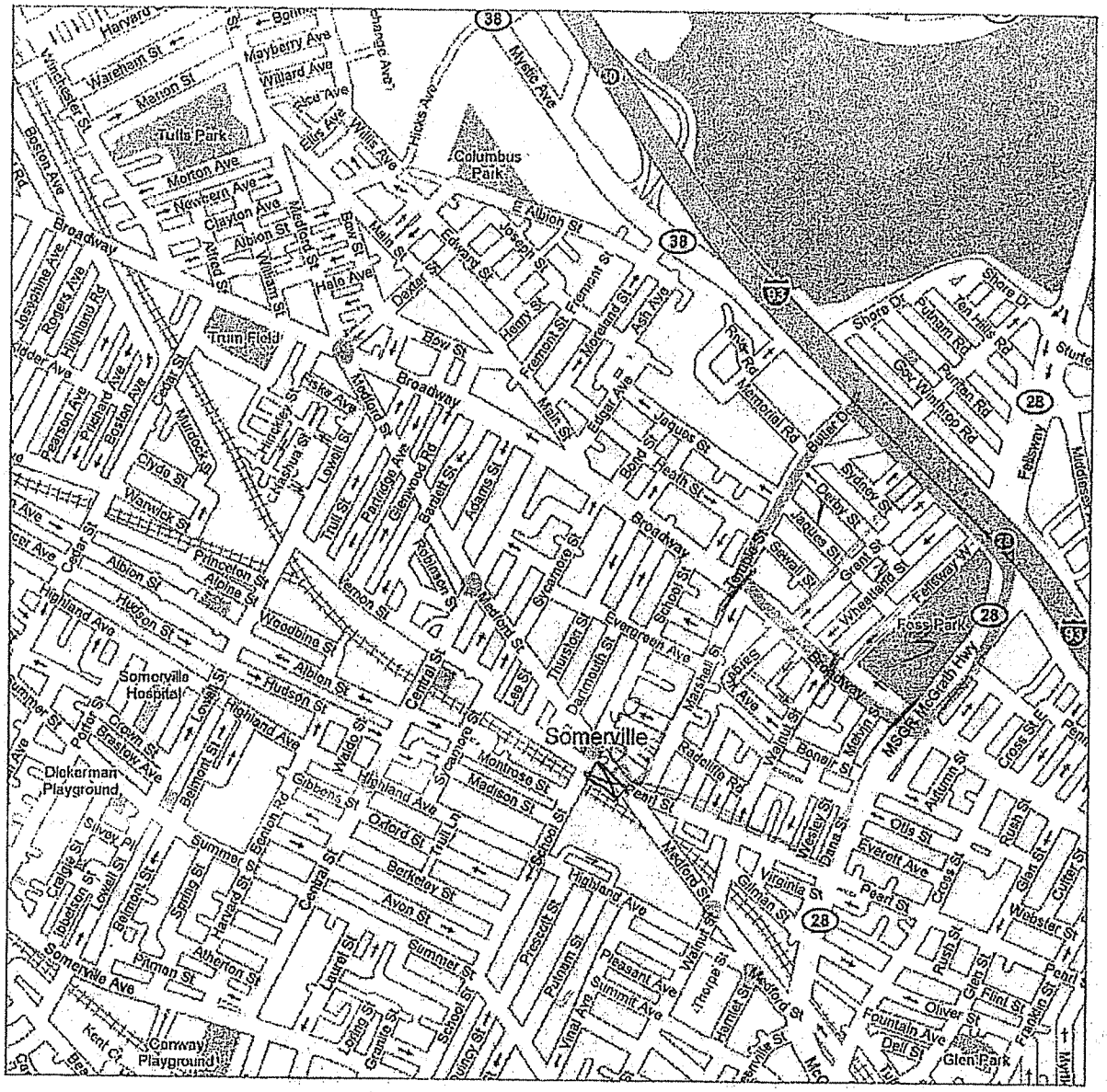

Somerville
Columbus Park
Tufts Park
Trum Field
Somerville Hospital
Dickerman Playground
Conway Playground
Foss Park
Glen Park
Broadway
Highland Ave
Somerville Ave
Medford St
MSGR McGrath Hwy
Harvard
Boston Ave
Morton Ave
Clayton Ave
Albion St
Willard Ave
Mayberry Ave
Myrtle Ave
Hicks Ave
Willis Ave
Ellis Ave
Rose Ave
Newbern Ave
Main St
Dexter St
Henry St
Fremont St
Ash Ave
Bow St
Hele Ave
Pinckney St
Lowell St
Cedar St
Clyde St
Warwick St
Princeton St
Alpine St
Albion St
Hudson St
Woodbine St
Vernon St
Robinson St
Sycamore St
Adams St
Bardath St
Glenwood Rd
Partridge Ave
Trull St
Josephine Ave
Rogers Ave
Highland Rd
Pearson Ave
Prichard Ave
Beacon Ave
Murdock St
Chestnut St
Broadway
Bond St
Health St
Jaques St
Sewall St
Grant St
Derby St
Sydney St
Butler Dr
Memorial Rd
Fellsway
Fellsway W
Wheatland St
Shore Dr
Putnam Rd
Purlan Rd
Gov Winthrop Rd
Ten Hills Rd
Middlesex
Sturtevant
Somerville Hospital
Crown St
Bristol Ave
Porter
Summer St
Dickerman Playground
Gilkey Pl
Lowell St
Tennyson St
Belmont St
Waldo St
Gibbons St
Oxford St
Berkeley St
Ayer St
Summer St
Spring St
Harvard St
Atherton St
Primen St
Kent St
Laurel St
Lorino St
Granite St
School St
Prescott St
Putnam St
Vinal Ave
Pleasant Ave
Summit Ave
Thorpe St
Hamlet St
Camille St
Walnut St
Gilman St
Virginia St
Pearl St
Everett Ave
Otis St
Oliver St
Fountain Ave
Dell St
Flint St
Rush St
Glen St
Center St
Webster St
Autumn St
Cross St
Cross St Pl
Bonair St
Kelvin St
Broadway
Somerville Ave
Central St
Trull St
Madison St
Montrose St
Highland Ave
Pearl St
Medford St
Radcliffe Rd
Dartmouth St
Evergreen Ave
Thurston St
Lee St
Nathan St
Gables Ave
Sargent St
Boston Rd
Mystic Ave
Edgar Ave
Main St
Jaques St
Broadway
Ferdinand Ave
Hancock St
Edward St
Joseph St
E Albion St
Willard St
Medford St
Clarendon Ave
Hicks Ave
Willis Ave
Ellis Ave
Rose Ave
Newbern Ave
Clayton Ave
Albion St
Willard St
Hele Ave
Dexter St
Henry St
Fremont St
Ash Ave
Bow St

Google Maps

Address **Medford, MA**

Notes TAZ 599

Gillman Sq. Station



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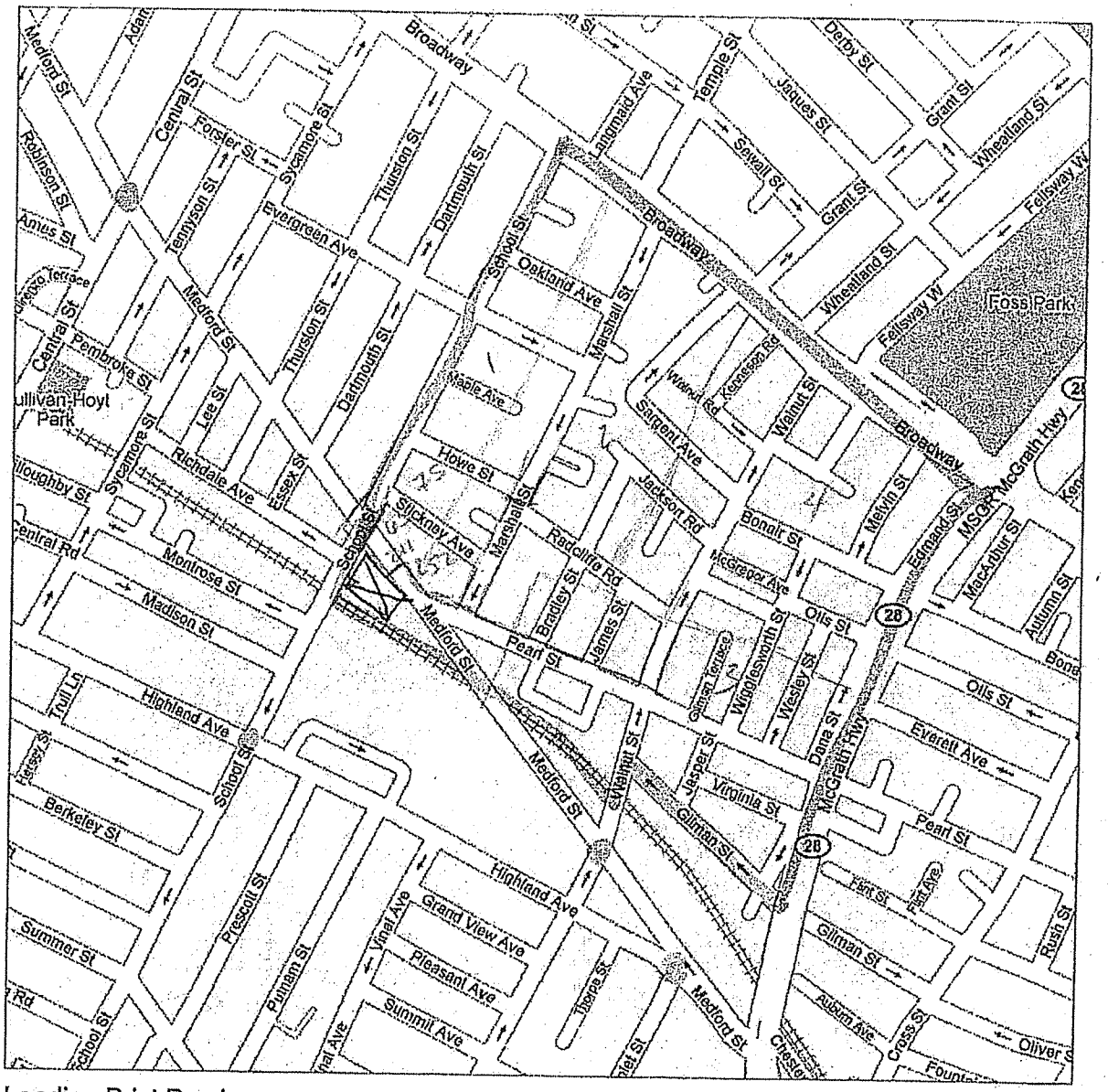
150 peds

60 peds

Google Maps

Address **Medford, MA**

Notes TAZ 600
Gillman Sq. Station



Loading Print Preview ...

327 pads

276 pads

Google Maps

Address **Medford, MA**

Notes TAZ 601
Gillman Sq. Station



Loading Print Preview ...

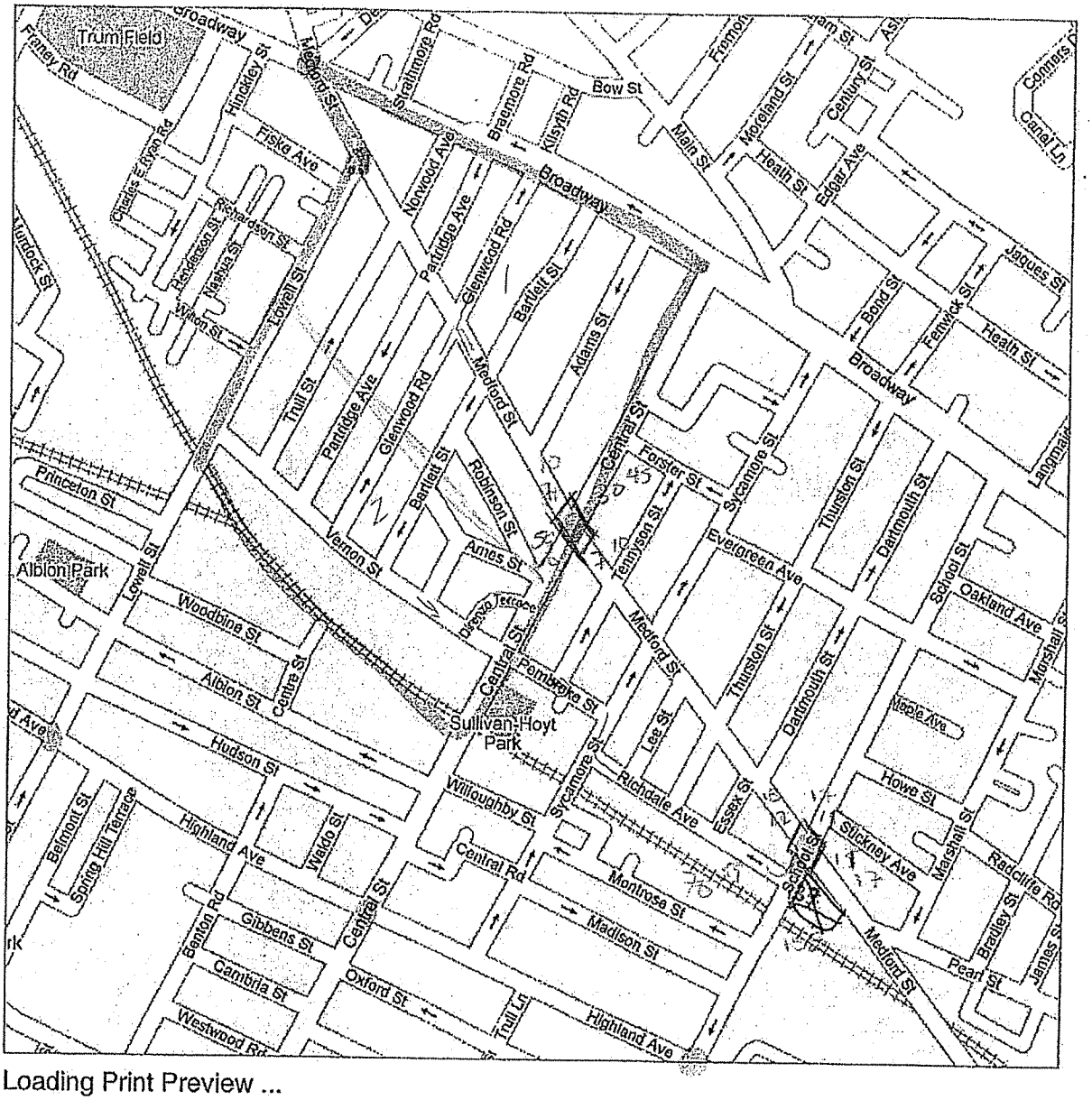
1177 pds

1210 pds

Google Maps

Address **Medford, MA**

Notes TAZ 602
Gillman Sq. Station



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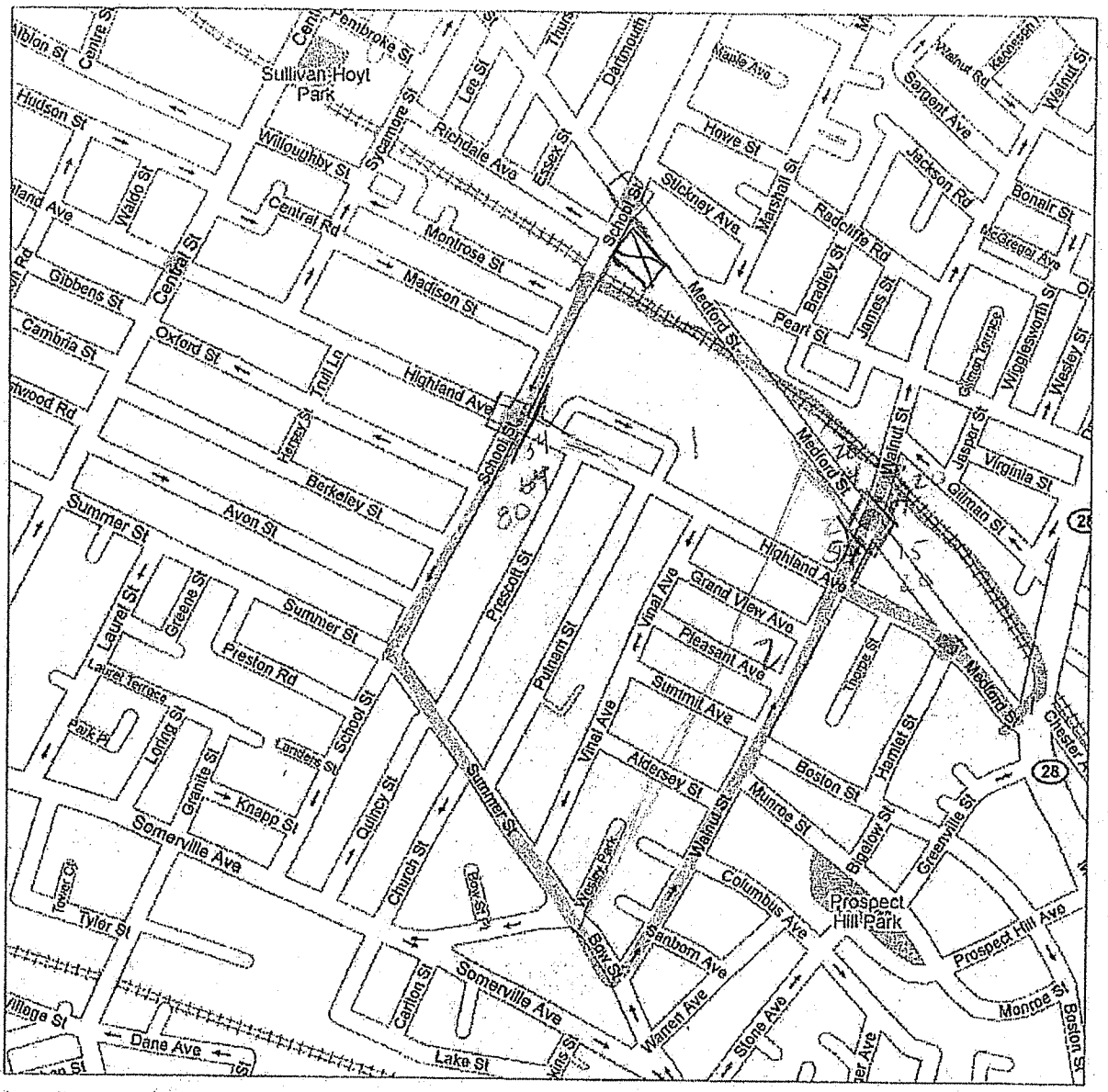
148 rods

1175 rods

Google Maps

Address **Medford, MA**

Notes TAZ 606
Gillman Sq. Station



Loading Print Preview ...

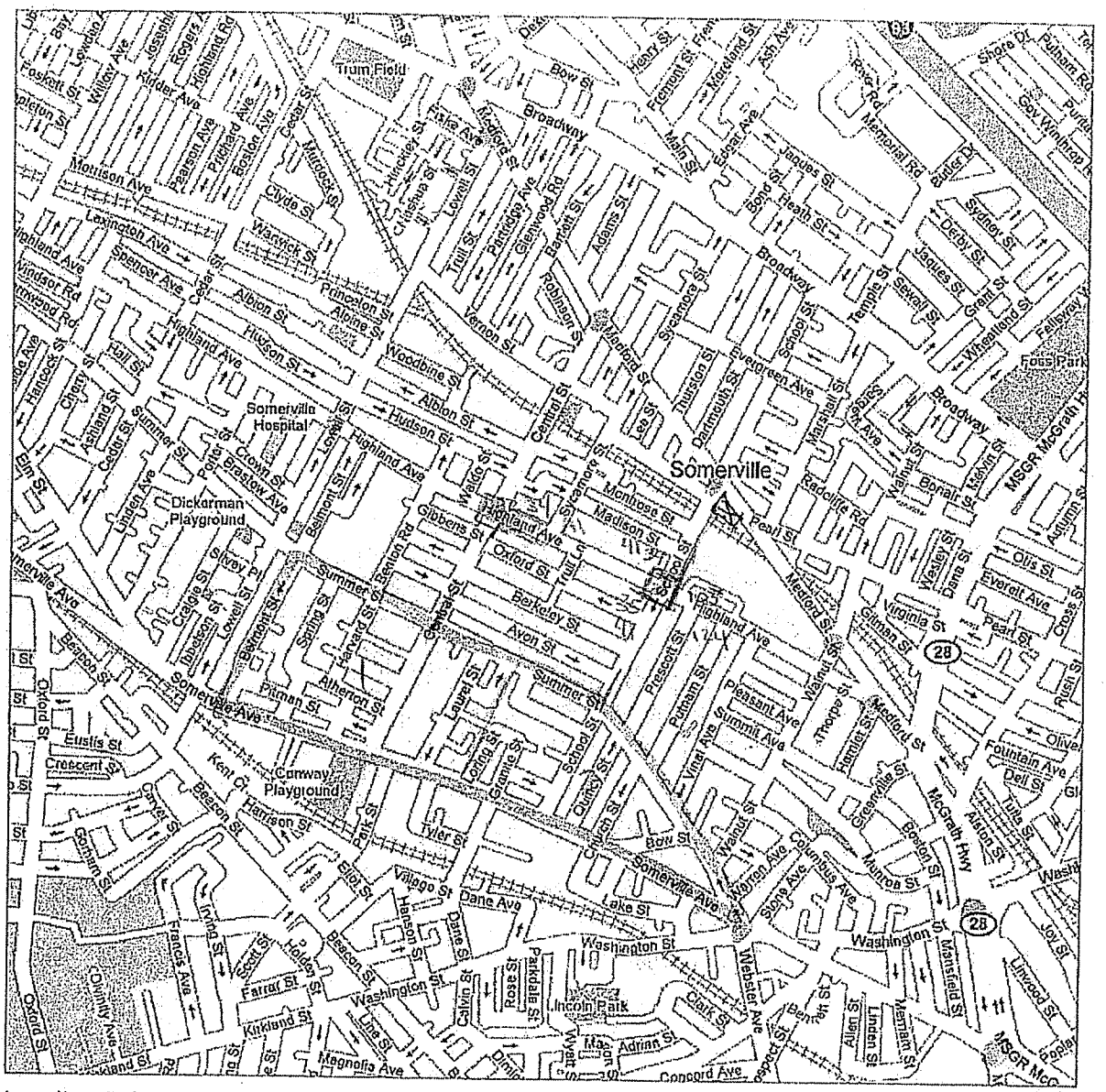
1178 peds

1212 peds

Google Maps

Address **Medford, MA**

Notes TAZ 607
Gillman Sq. Station



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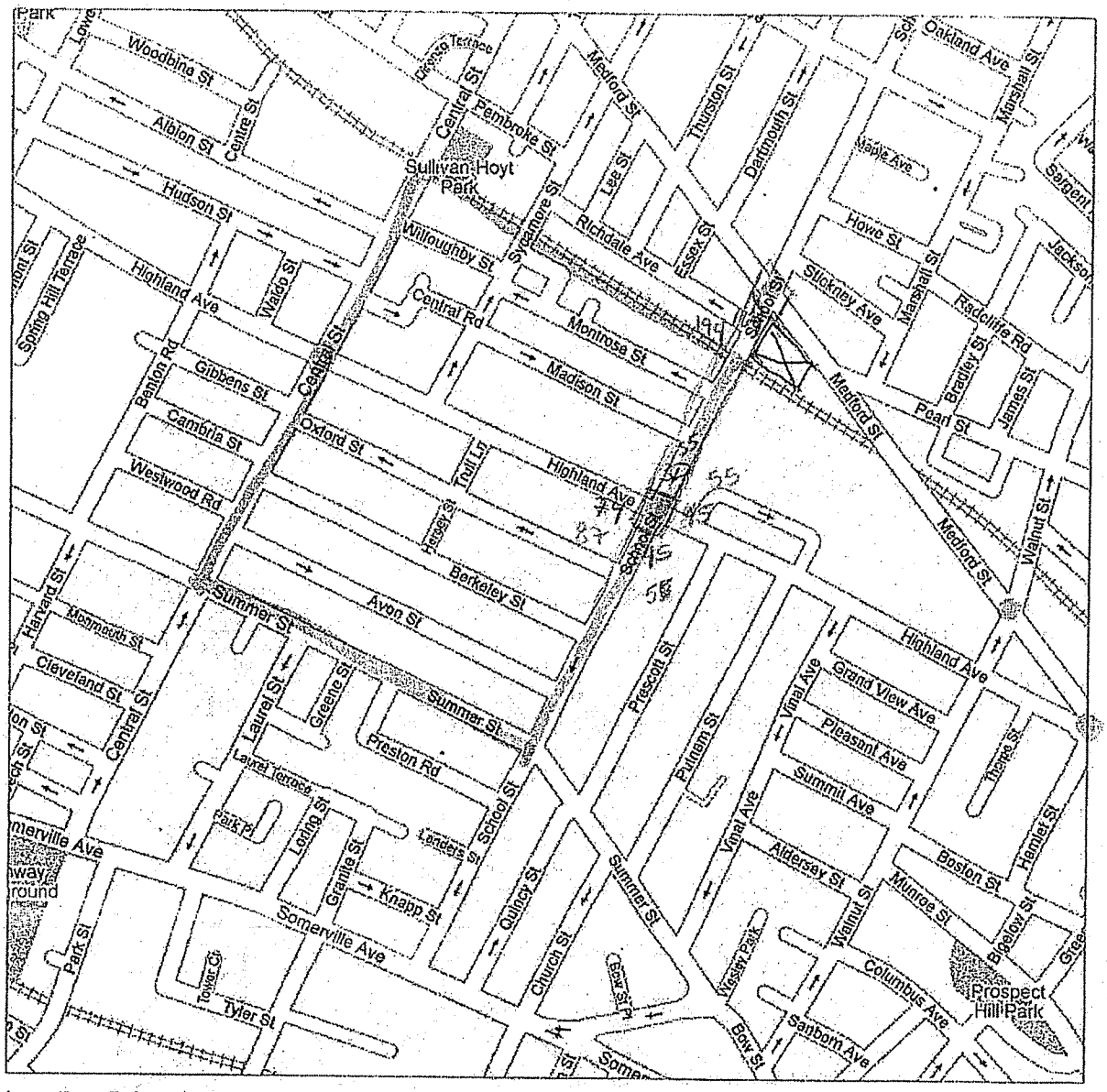
Google Maps

Address **Medford, MA**

Notes TAZ 610
Gillman Sq. Station



Loading Print Preview ...

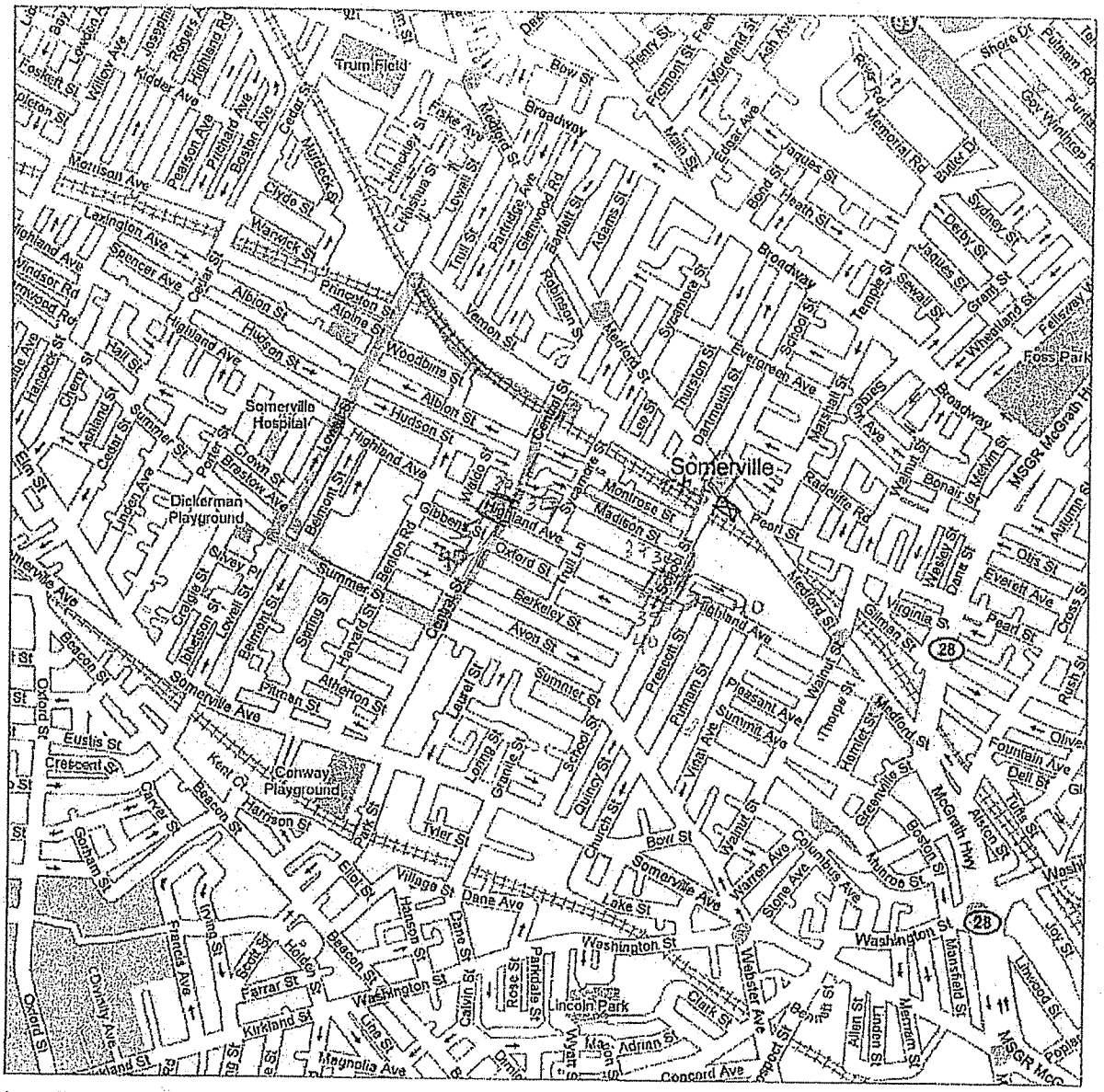
239 pods

284 pods

Google Maps

Address **Medford, MA**

Notes TAZ 611
Gillman Sq. Station



Loading Print Preview ...

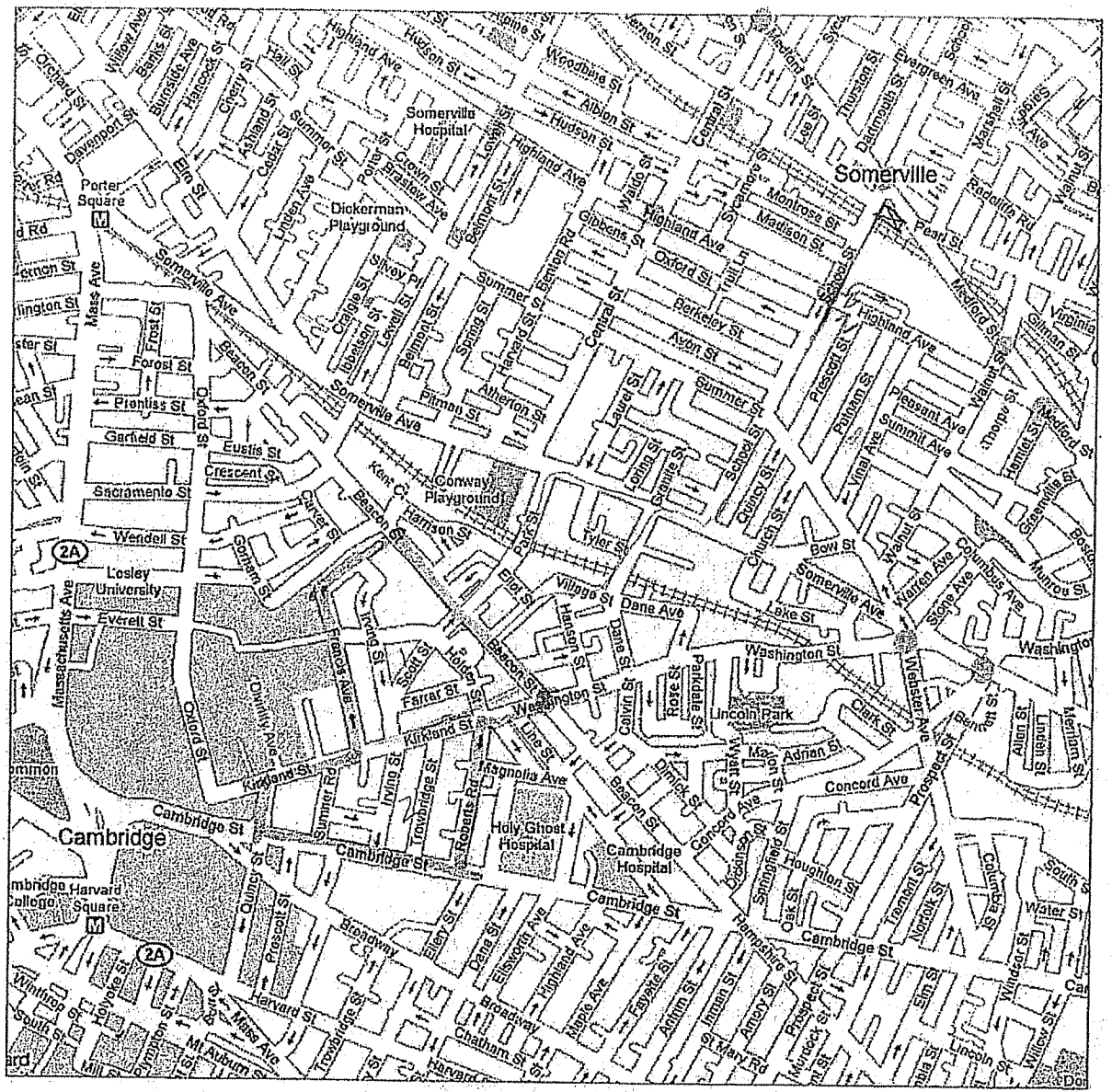
1 130 peds

1 154 peds

Google Maps

Address **Medford, MA**

Notes TAZ 678
Gillman Sq. Station



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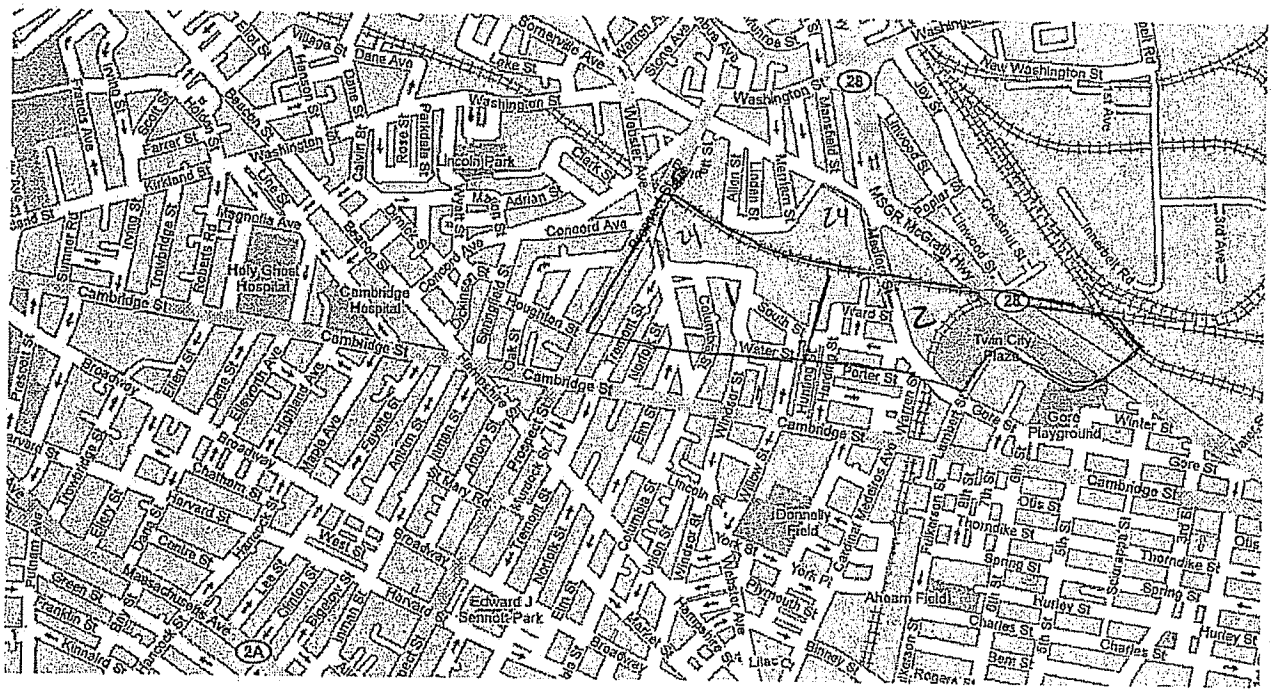
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Cambridge Hospital
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Harvard St
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Water St
Twin City Plaza
Porter St
Gore Playground
Donnelly Field
Ahearn Field
Charles St
Hurley St
Thorndike St
Spring St
Ous St
Bent St
Rogers St
Lisbon St
Blakely St
Mass Pike
Mass Ave
Memorial Rd
Alewife Brook Pkwy
Fellsway
Mystic Valley Pkwy
Mystic Ave
Medford St
Broadway
Main St
Prospect St
Central St
Franklin St
Green St
Massachusetts Ave
Elm St
Willow St
Windsor St
Columbia St
Union Sq
Lincoln St
Webster Ave
Clark St
Allen St
Hanson St
Rose St
Cedar St
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Vernon St
Norfolk St
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Lee St
Inman St
Pearl St
Bigelow St
Fayette St
Antrim St
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Ellery St
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Sycamore St
Irving St
Trowbridge St
Magnolia Ave
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Farrar St
Bolton St
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Hancock St
Roseway
Chatham St
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Sargent St
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Tremont St
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Harvard St
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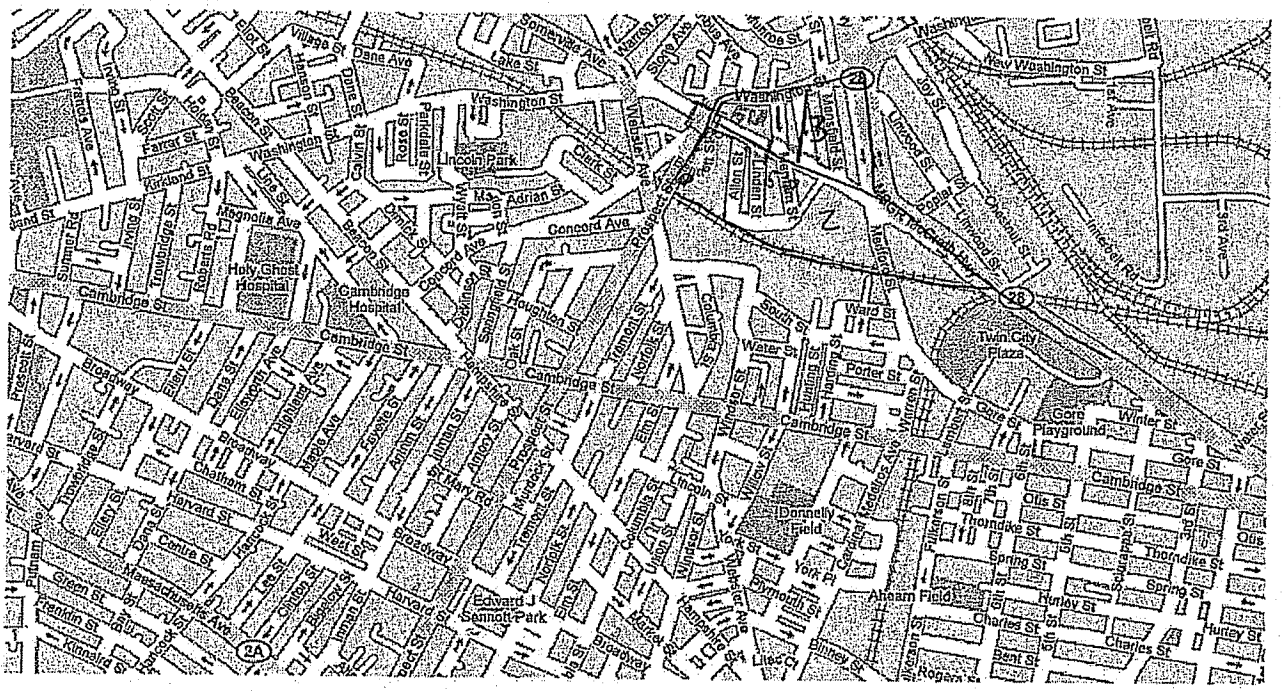
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Pine St
Chestnut St
Beech St
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Tremont St
Prospect St
Murdock St
Lowell St
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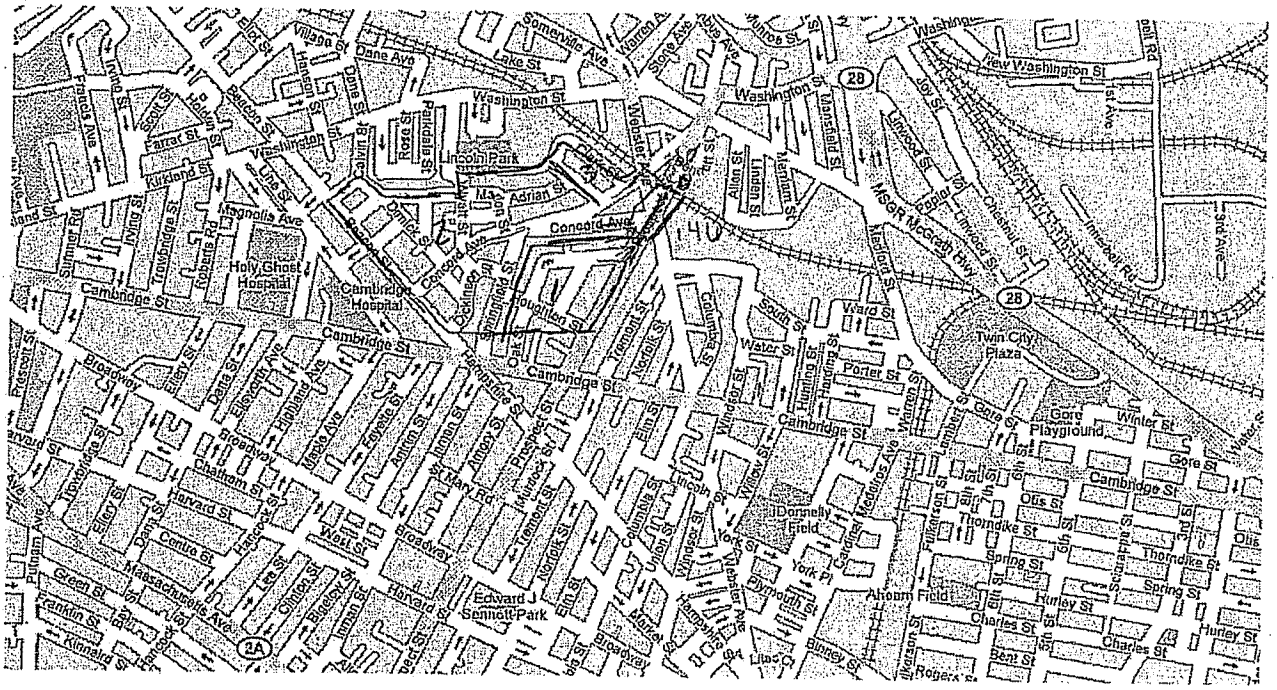
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Harvard St
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Central Sq
Prospect St
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Trenton St
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Union St
Lincoln St
Water St
Vinal St
Porter St
Twin City Plaza
Gore Playground
Gore St
Winter St
Otis St
Thorndike St
Spring St
Hurley St
Charles St
Sent St
Dornelly Field
York St
Ahearn Field
Webster Ave
Medford St
McGrath Hwy
Chestnut St
Innerbelt Rd
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Joy St
Lowell St
Allen St
Franklin St
Pearl St
Elm St
Broadway
Prospect St
Harvard St
Chatham St
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Green St
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Clinton St
Blackstone St
Inman St
Hampshire St
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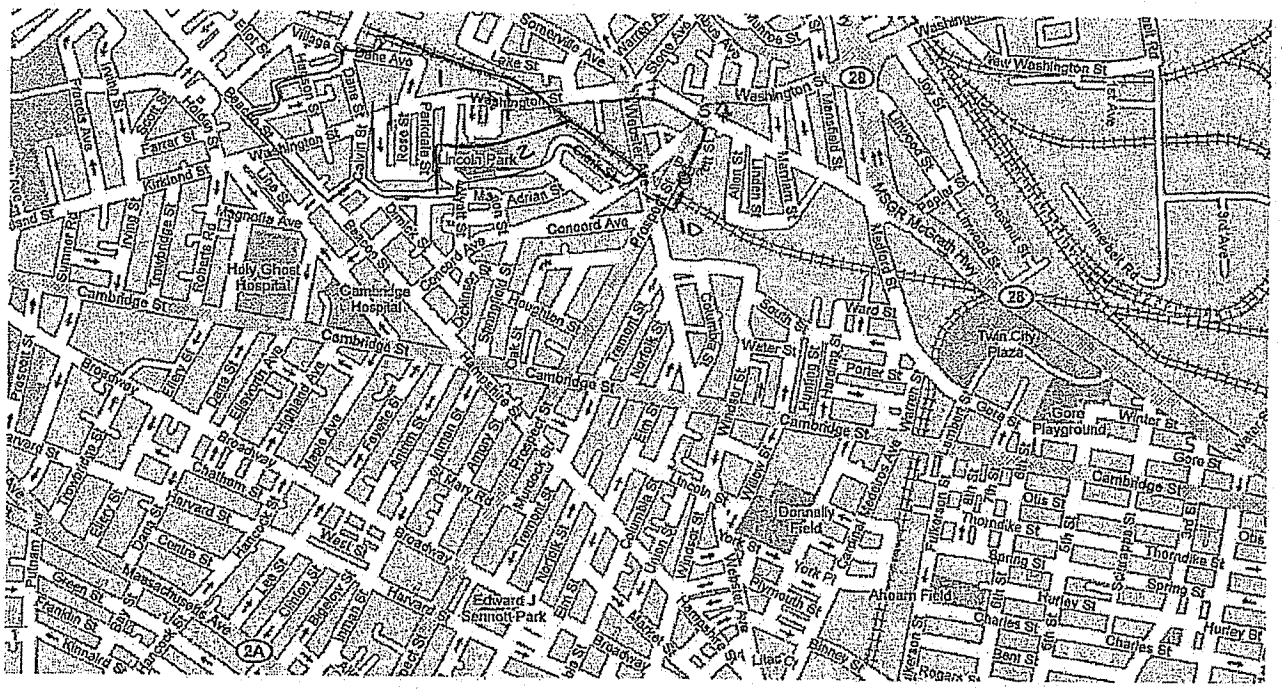

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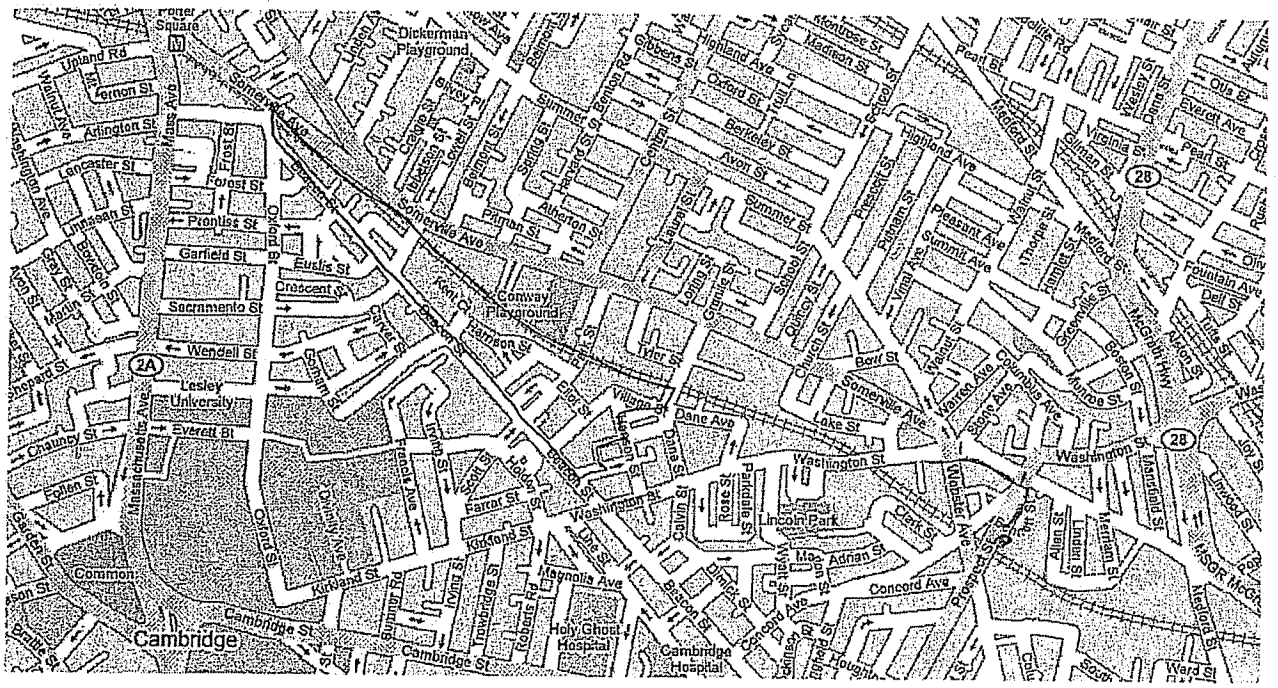

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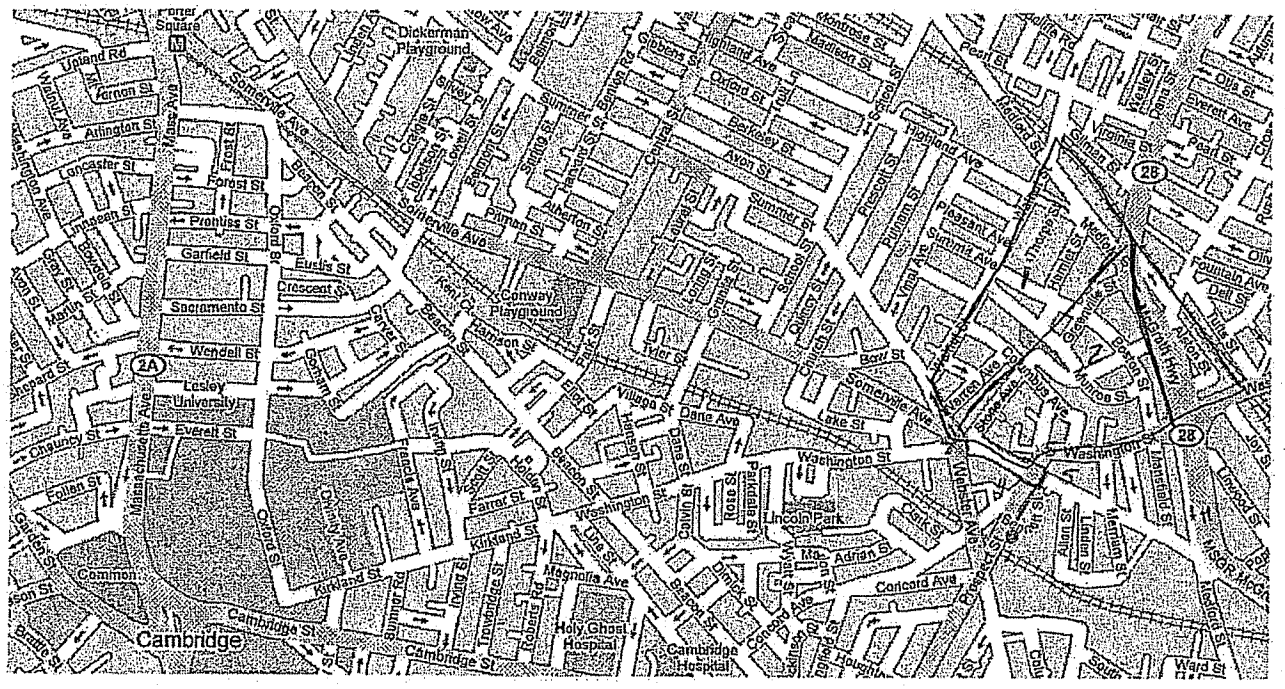
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Everett St
Chauncy St
Follen St
Common
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Cambridge St
Oxford St
Kirkland St
Harvard St
Conway Playground
Tyler St
Dane Ave
Lake St
Washington St
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Magnolia Ave
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Cambridge Hospital
Ward St
Highland Ave
Madison St
Orchard St
Berkeley St
Avon St
Summer St
Pearl St
Otis St
Everett Ave
Virginia St
Pleasant St
Summit Ave
Fitchburg Turnpike
Quincy St
Bow St
Warren Ave
Bonair St
Aldrich St
Mystic Ave
Broadway
Sycamore St
Linden St
Hemlock St
Medford St
Boston St
Dell Pl
Tufts
Walnut St
Willow Ave
Glen St
Marion St
Mass Ave
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Linnaean St
Irving St
Sparks St
Quincy St
Church St
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Putnam St
Sherman St
Hurley St
Cedar St
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Banks St
Hancock St
Vassal Ln
Fayerweather St
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Walden St
Roberts Rd
Sargent St
Blanchard Rd
Story St
Linnaean St
Beacon St
Dana St
Union Sq
Prospect St
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Clark St
Franklin St
Pearl St
Chestnut St
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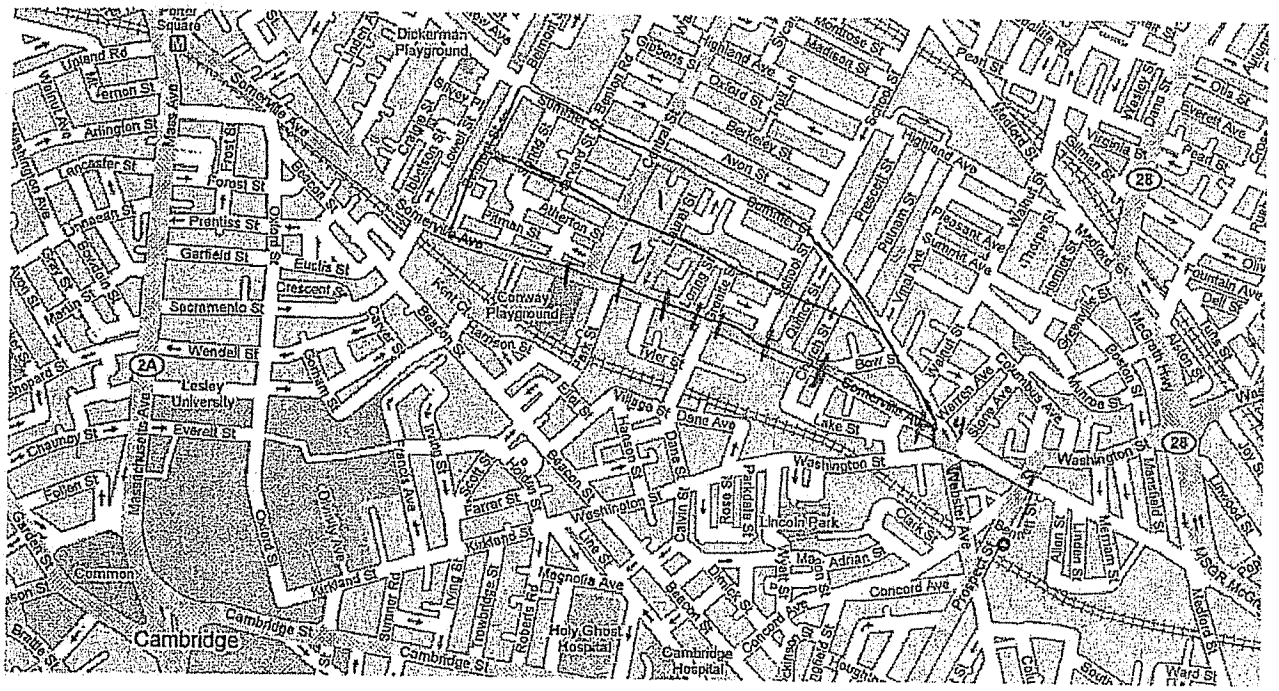

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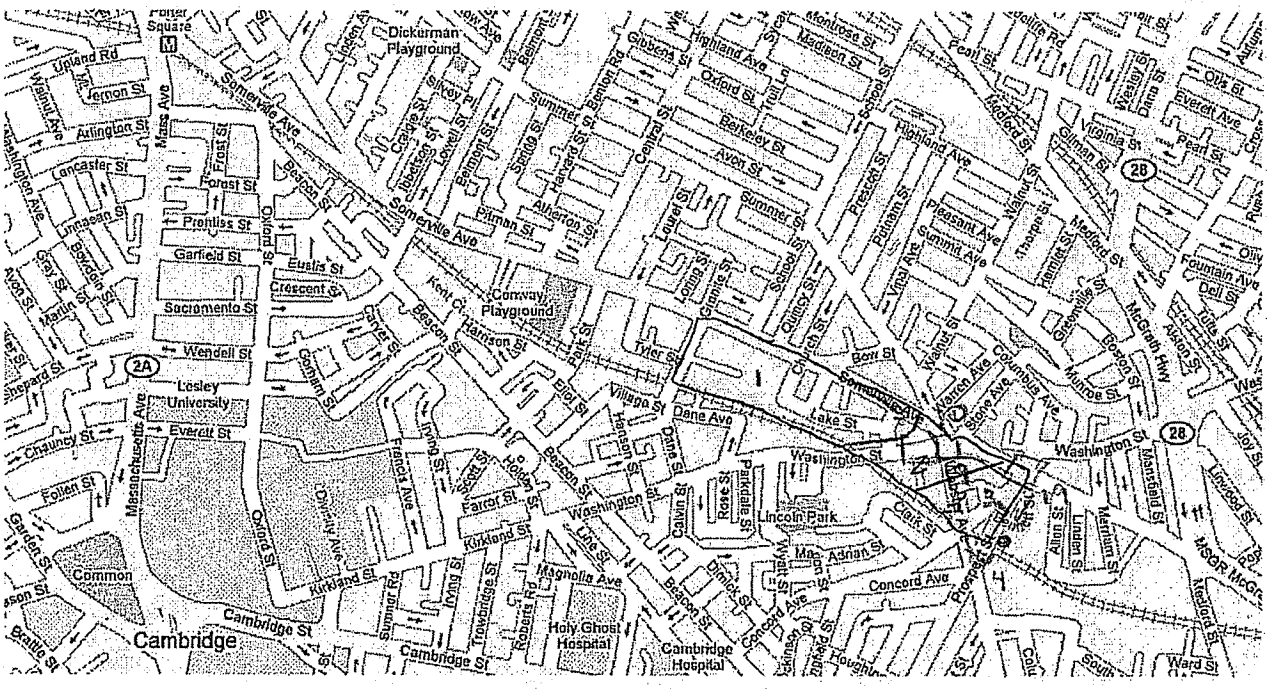
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Irving St
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Cambridge Hospital
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Elliot St
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Summit Ave
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Thorpe St
Gilman St
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Everett Ave
Otis St
Fountain Ave
Dell St
Tufts St
Alston St
Boston St
McGrath Hwy
Cedar St
Willow St
Walnut St
Warren Ave
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Stone Ave
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Summer St
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Prospect St
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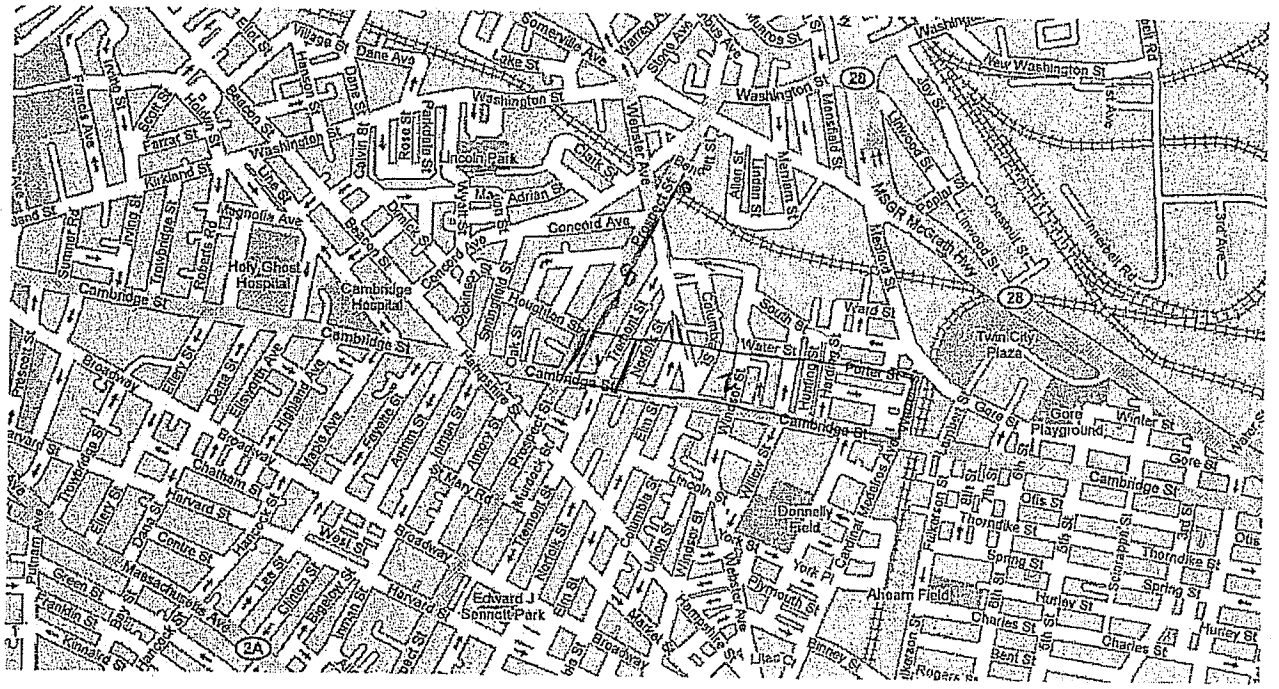

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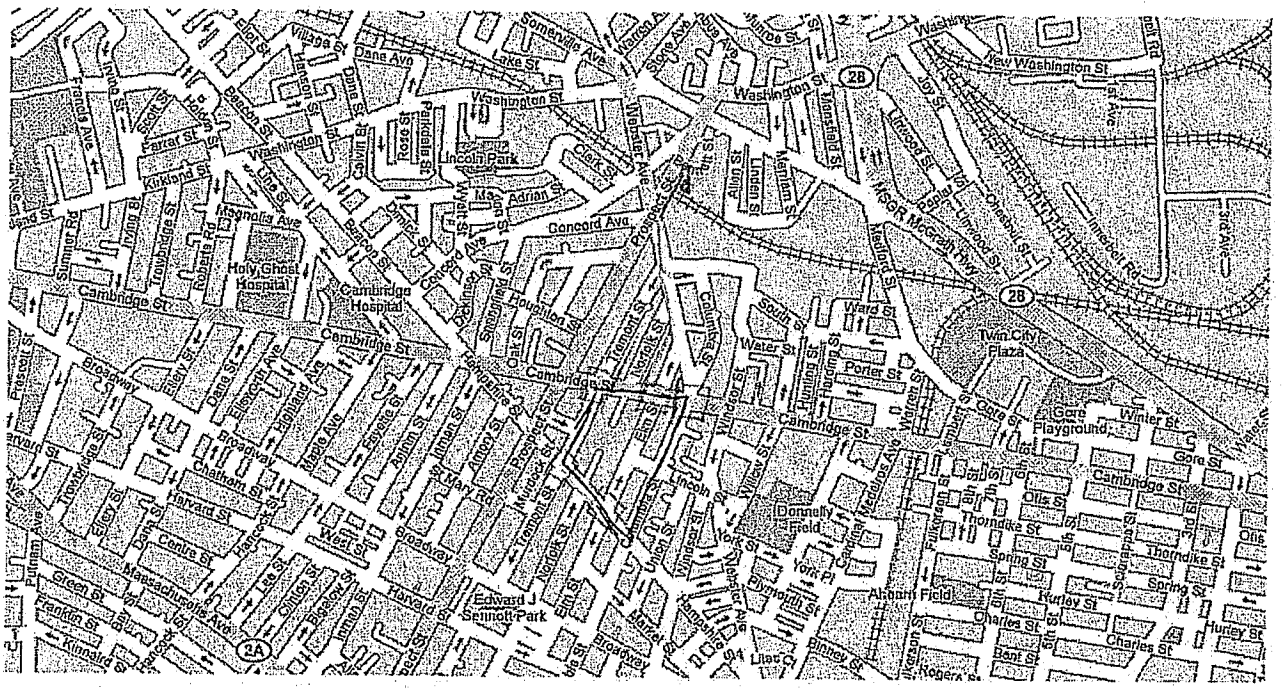

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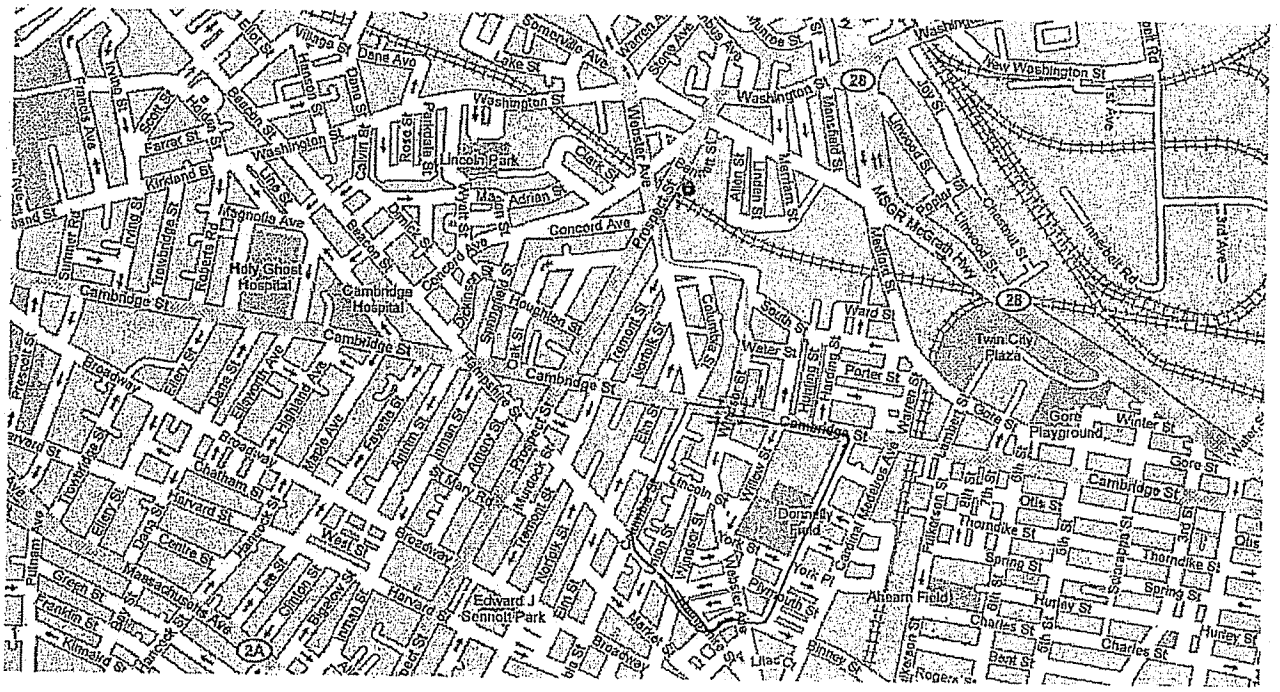
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Gore St
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Vinal Ave
Cedar St
Mystic Ave
Sargent St
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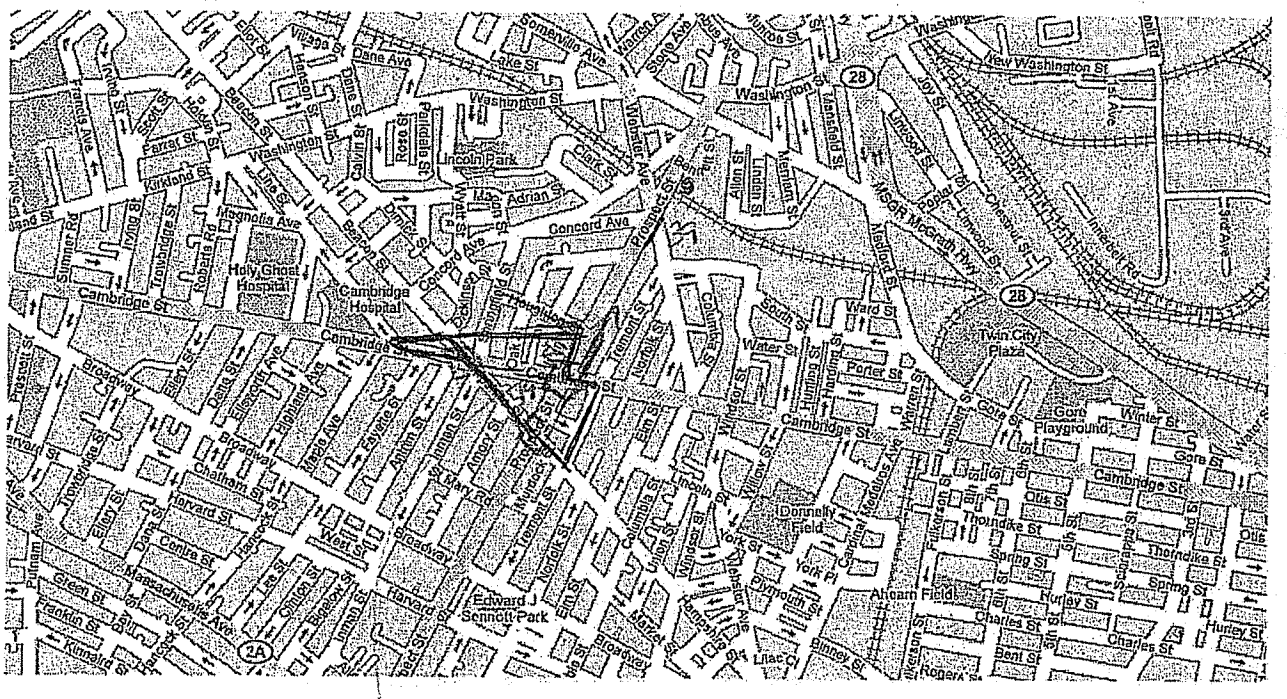
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Winter St
Porter St
Dornfeld Field
Otis St
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Edward J Sennott Park
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Broadway
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Mass Pike
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Elliot St
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Essex St
Inman St
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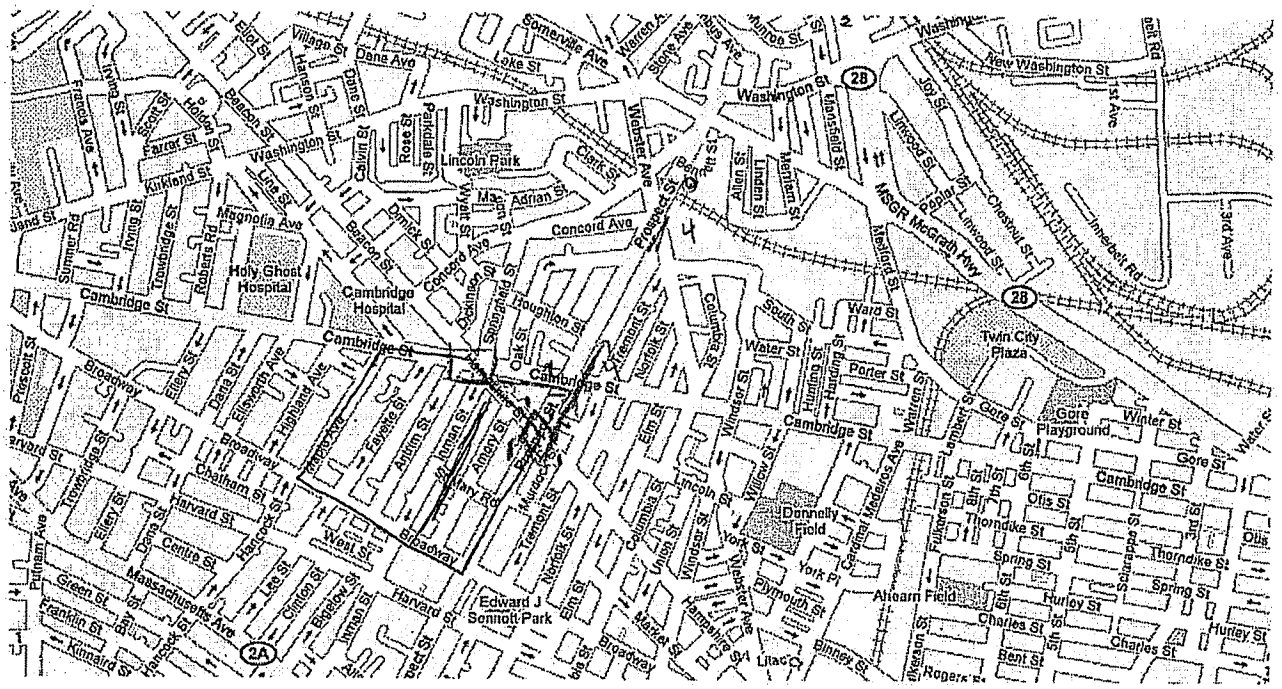

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Future Pedestrian Figures

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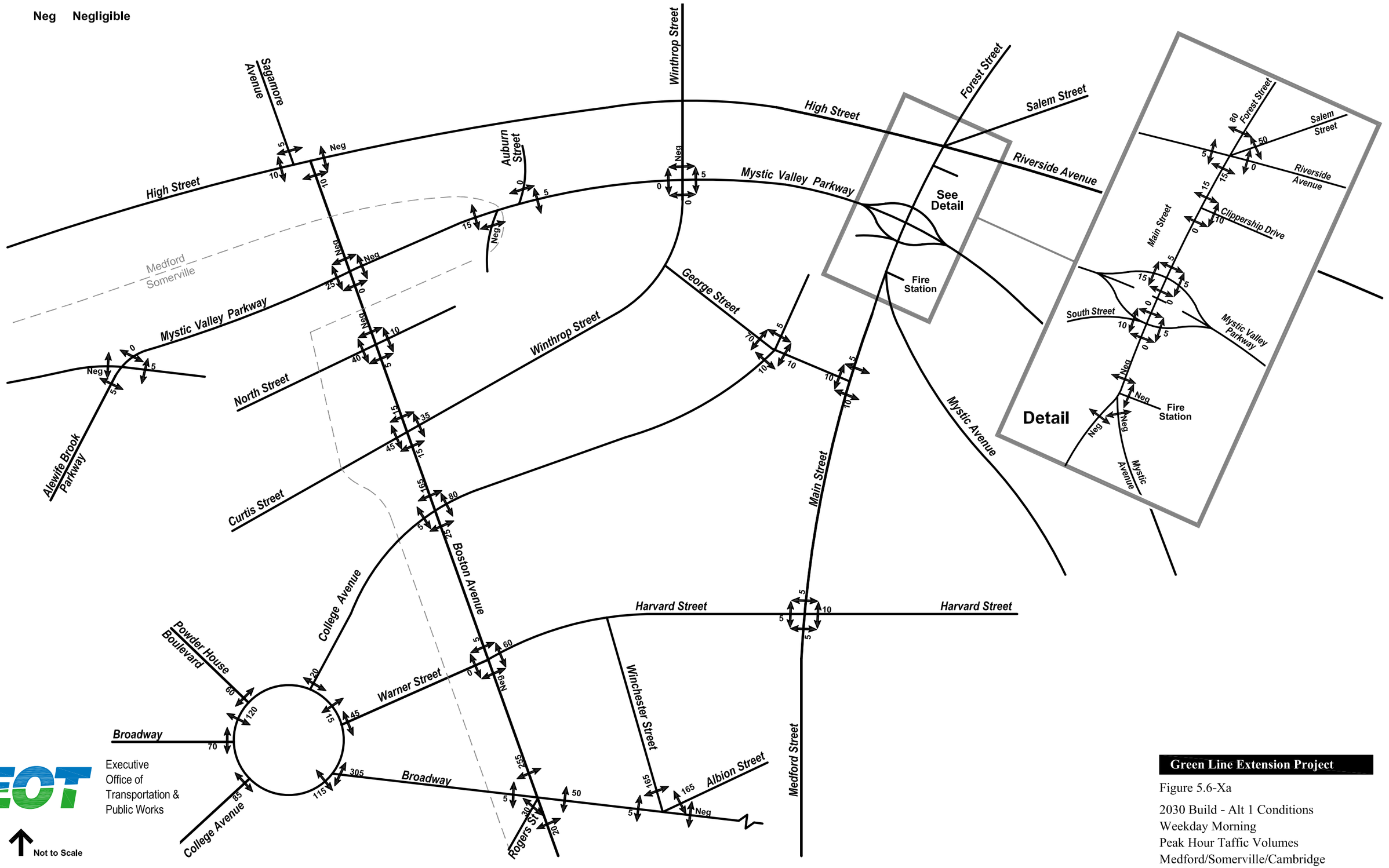

Executive Office of Transportation & Public Works

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 1 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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Neg Negligible

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Detail
Medford
Somerville
Somerville Avenue
Highland Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
See Detail
McGrath Highway
Somerville
Cambridge
School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street
Detail
Kirkland Street
Washington Street
Beacon Street
Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville Avenue
McGrath Highway
Medford Street
Innerbelt Road
Somerville
Cambridge

Executive Office of Transportation & Public Works

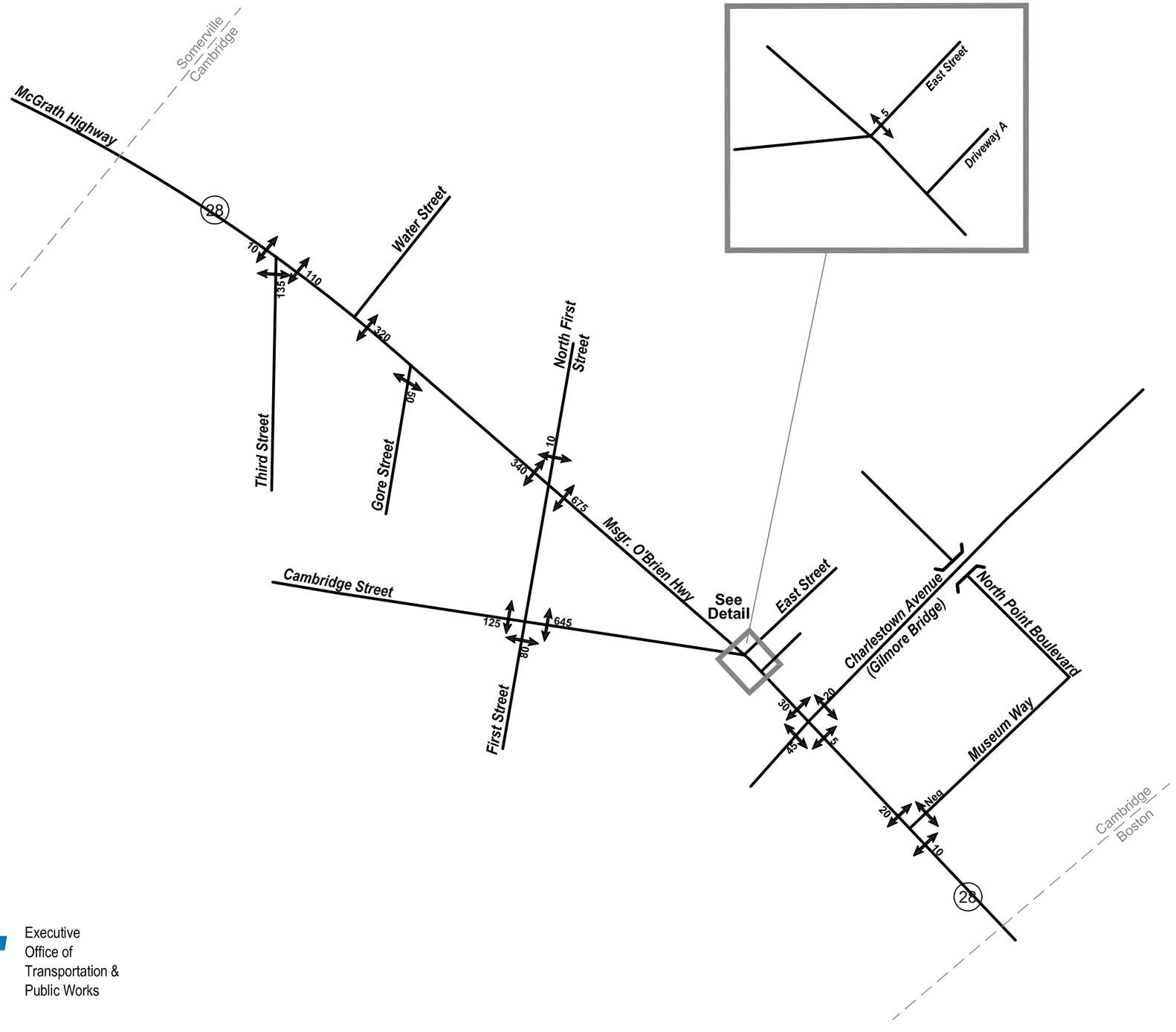
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 1 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

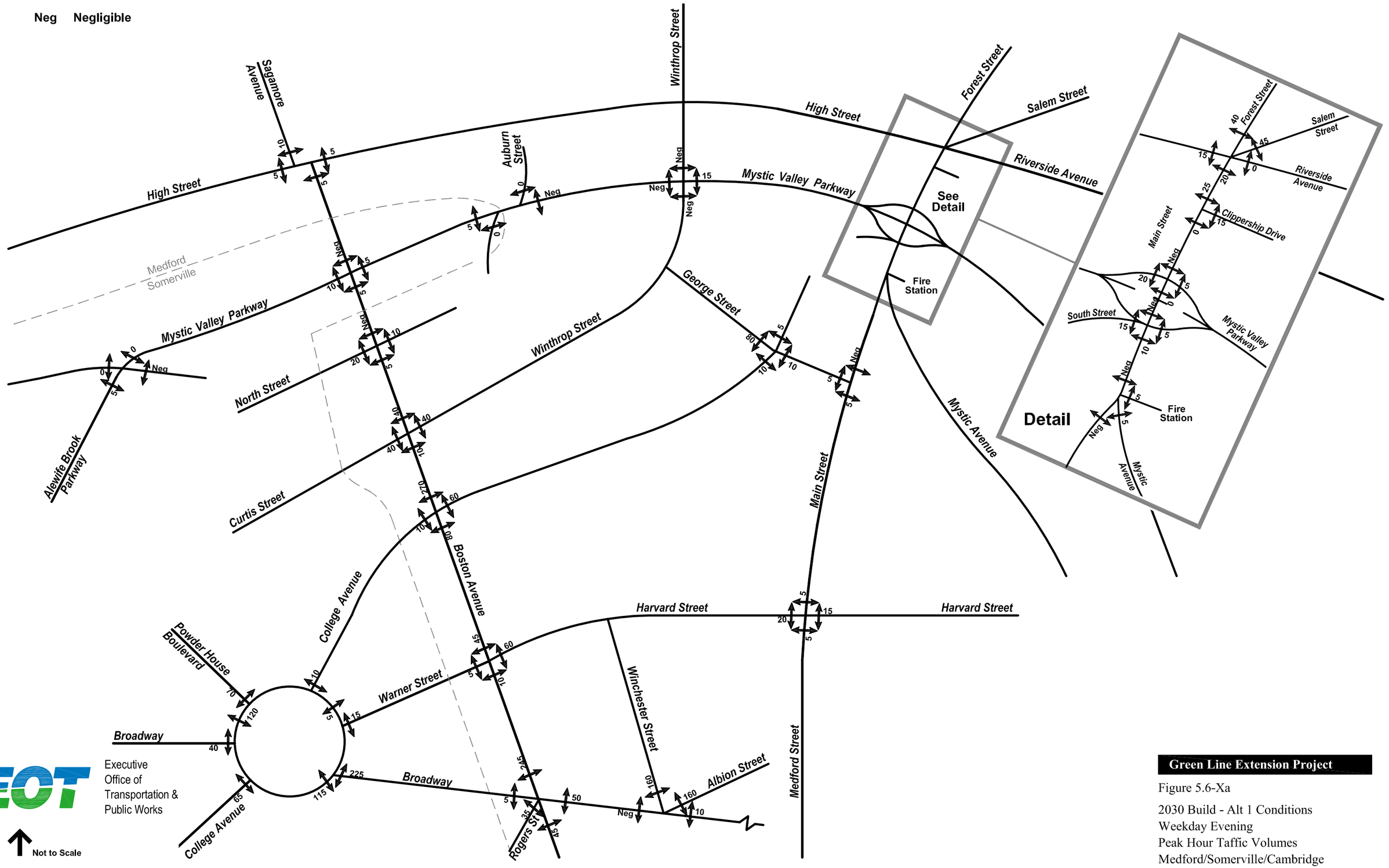
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 1 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg **Negligible**



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 1 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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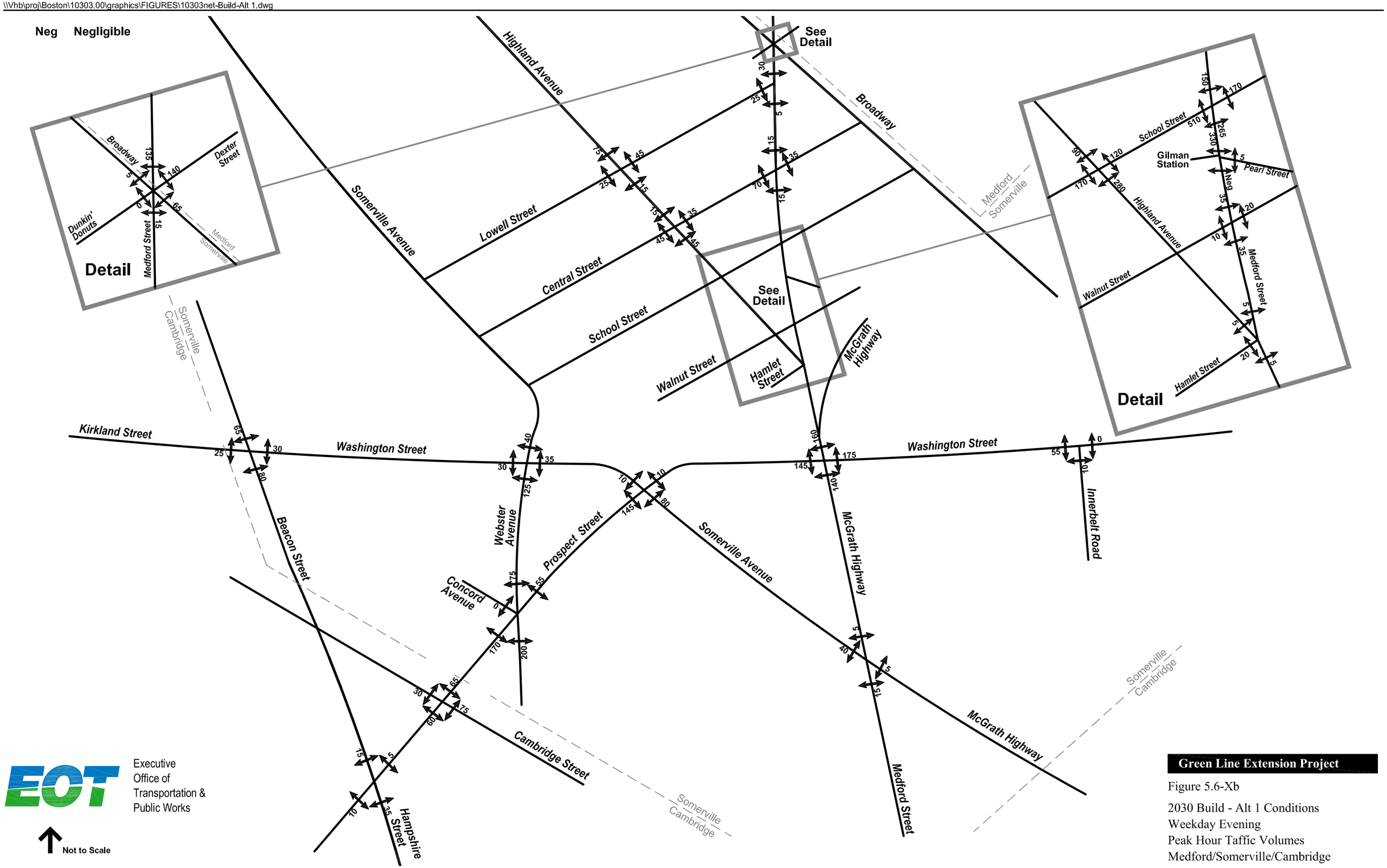


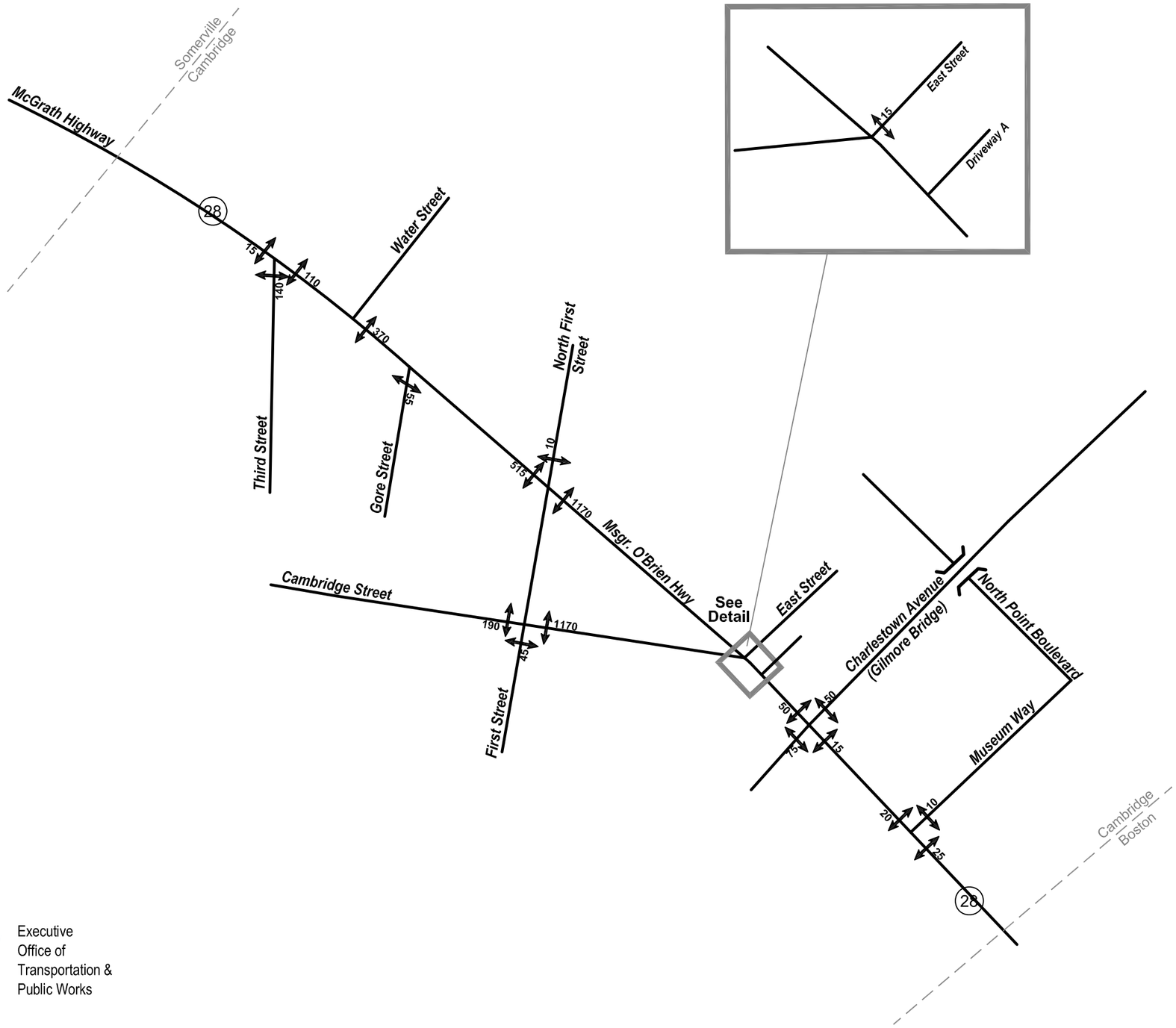
Executive Office of Transportation & Public Works

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 1 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 1 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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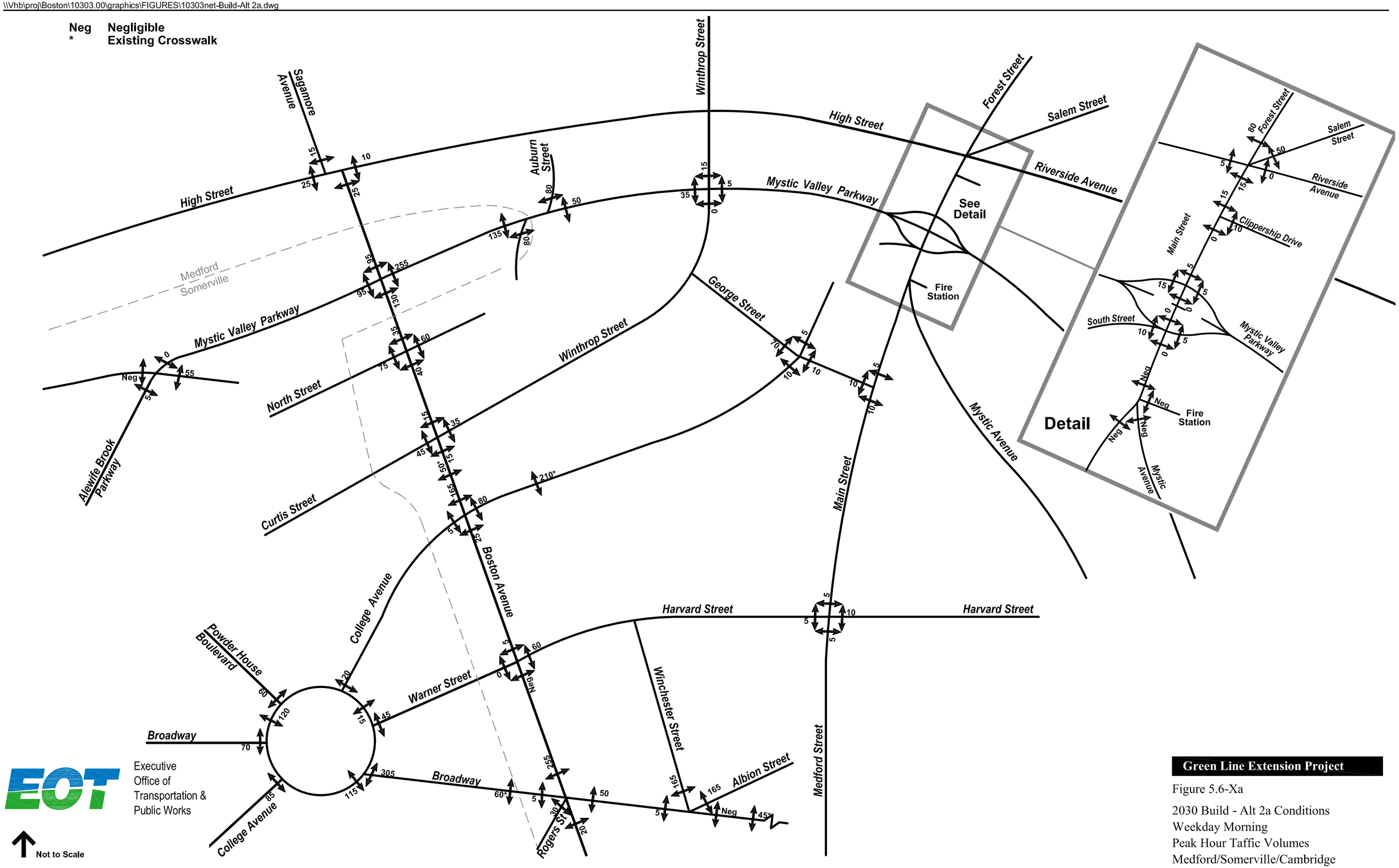

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 2a Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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Neg Negligible
* Existing Crosswalk

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville

Somerville
Cambridge

Kirkland Street
Washington Street
Beacon Street
Somerville Avenue
Highland Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
See Detail
Broadway
Medford
Somerville

Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville
Cambridge

Detail
School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

Washington Street
Innerbelt Road
McGrath Highway
Somerville Avenue
Medford Street
McGrath Highway
Somerville
Cambridge

EOT
Executive Office of Transportation & Public Works

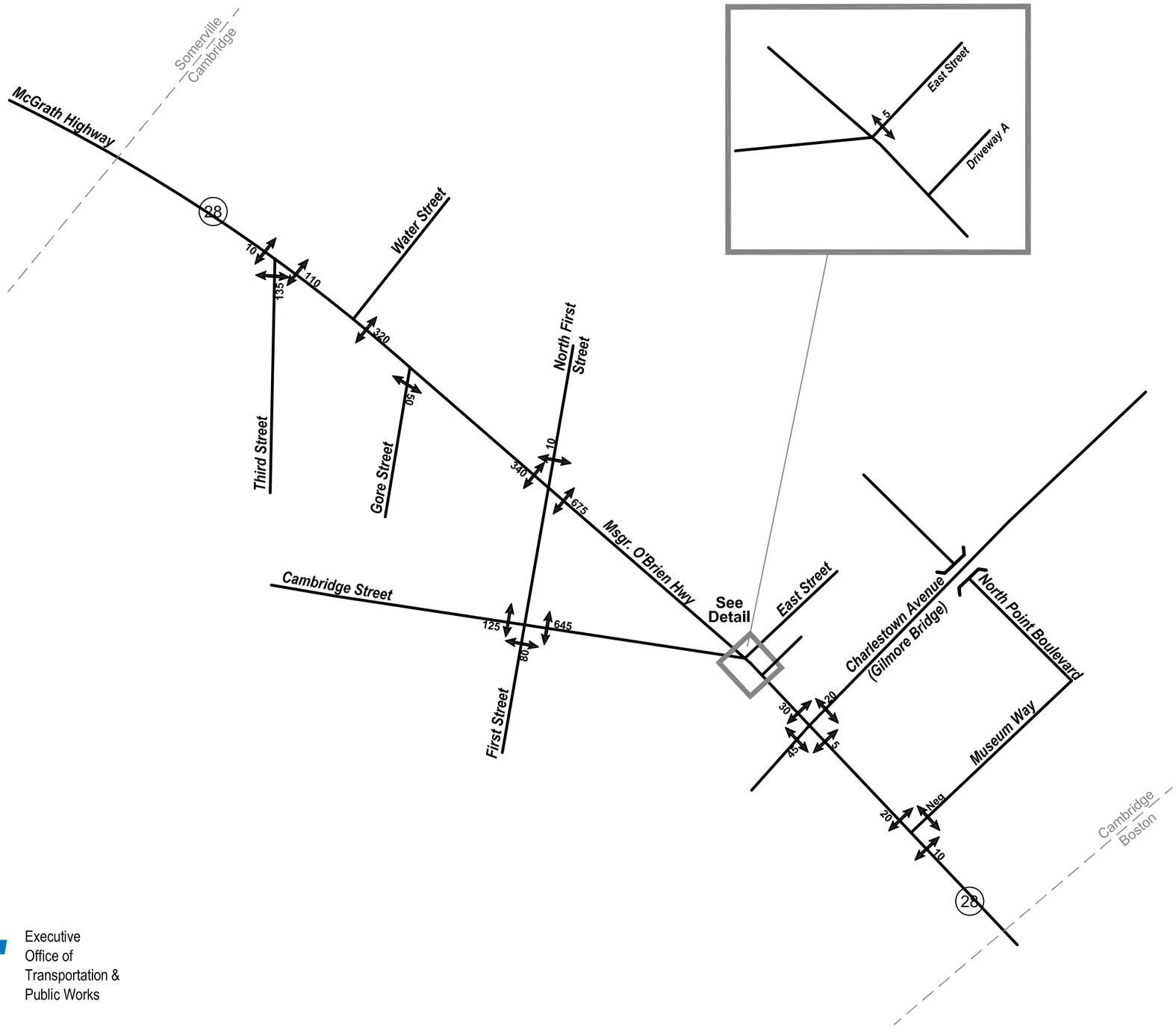
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 2a Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 2a Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible
***** Existing Crosswalk

Sagamore Avenue
High Street
Alewife Brook Parkway
Medford
Somerville
Mystic Valley Parkway
Auburn Street
Winthrop Street
High Street
Forest Street
Salem Street
Riverside Avenue
See Detail
Fire Station
Mystic Valley Parkway
North Street
Winthrop Street
George Street
Curtis Street
Boston Avenue
College Avenue
Main Street
Mystic Avenue
Harvard Street
Harvard Street
Powder House Boulevard
Warner Street
Winchester Street
Broadway
Broadway
College Avenue
Rogers St
Albion Street
Medford Street

Detail

Forest Street
Salem Street
Riverside Avenue
Main Street
Clippership Drive
South Street
Mystic Valley Parkway
Fire Station
Mystic Avenue

Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 2a Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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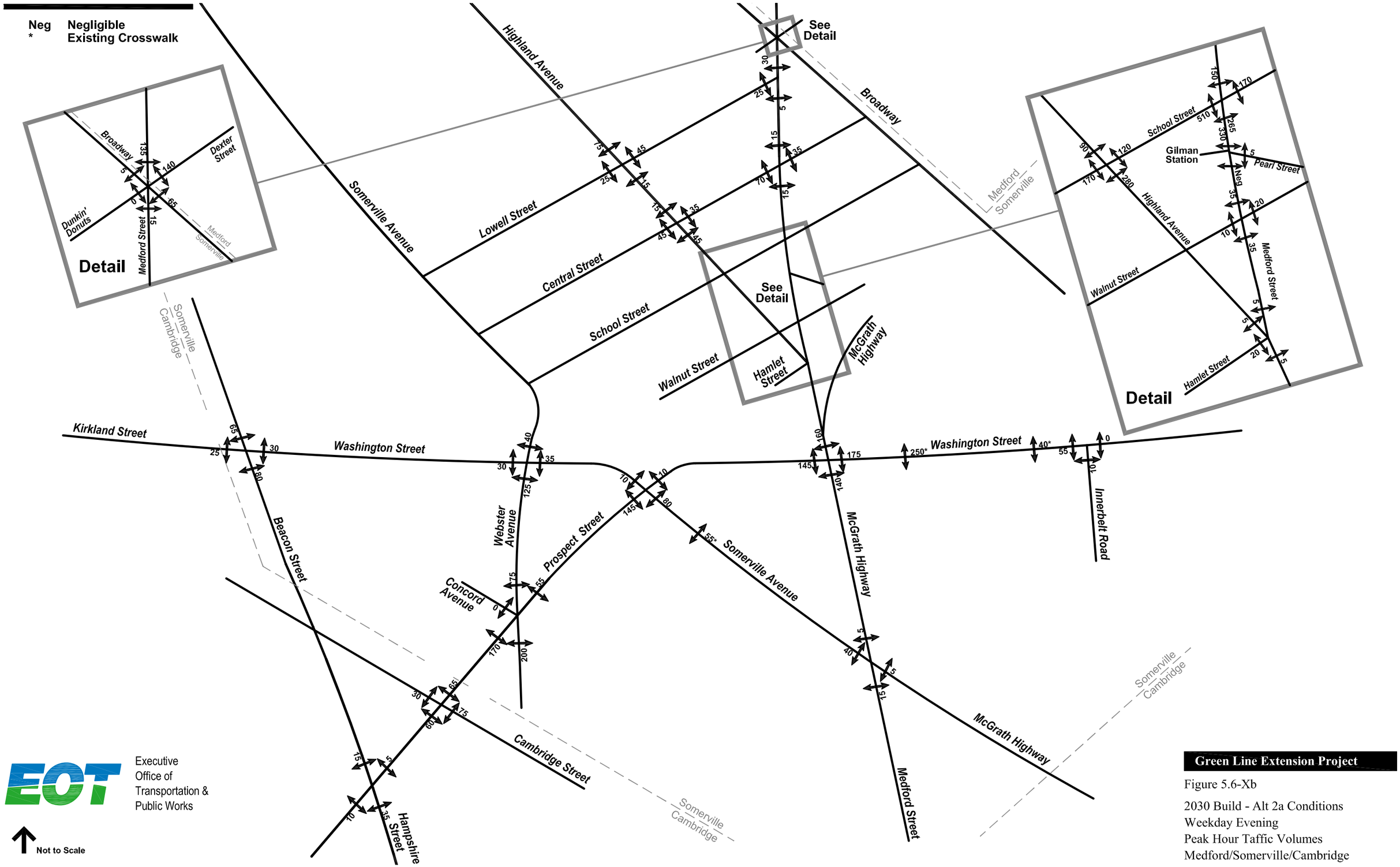


Executive Office of Transportation & Public Works

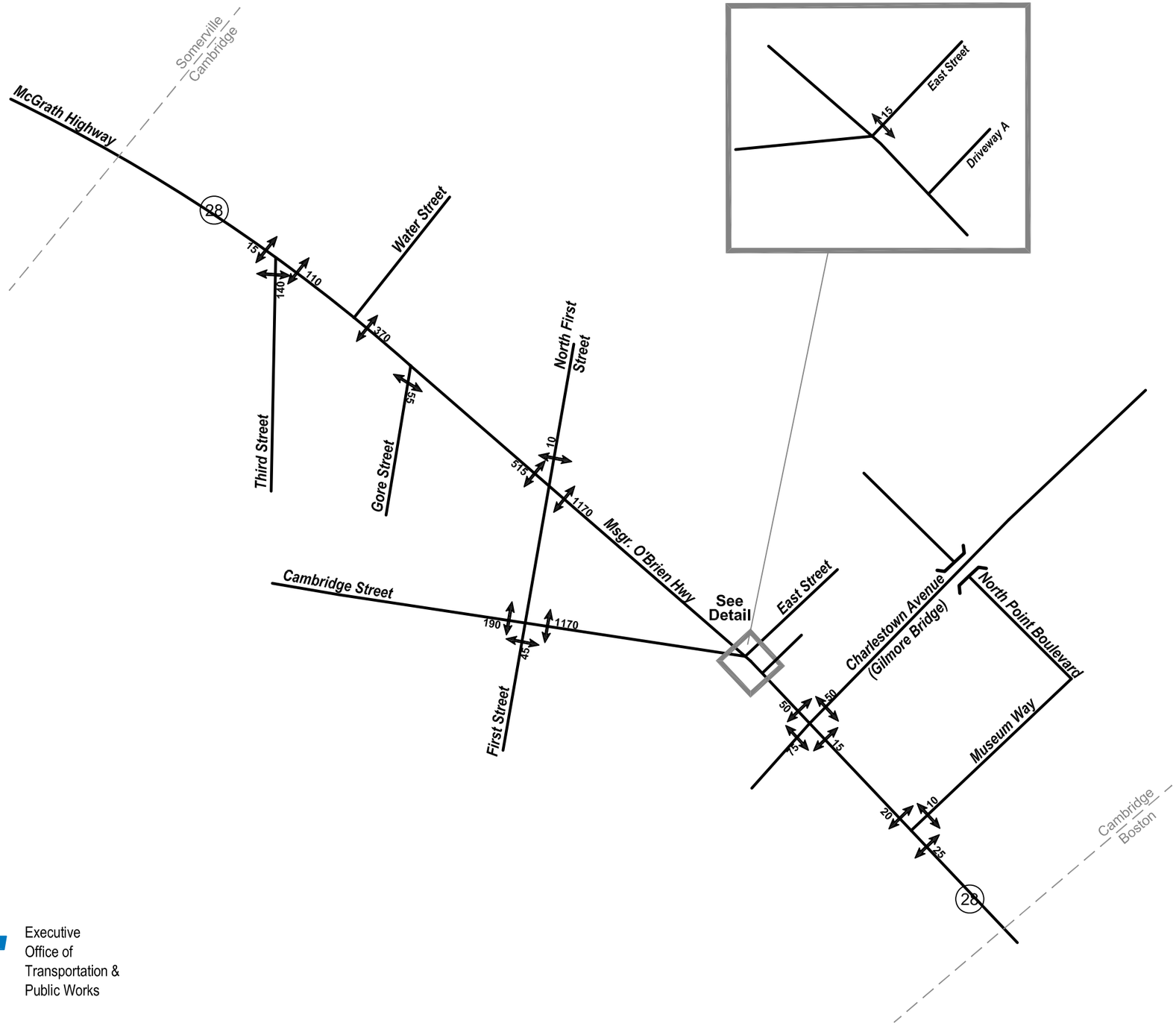
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 2a Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

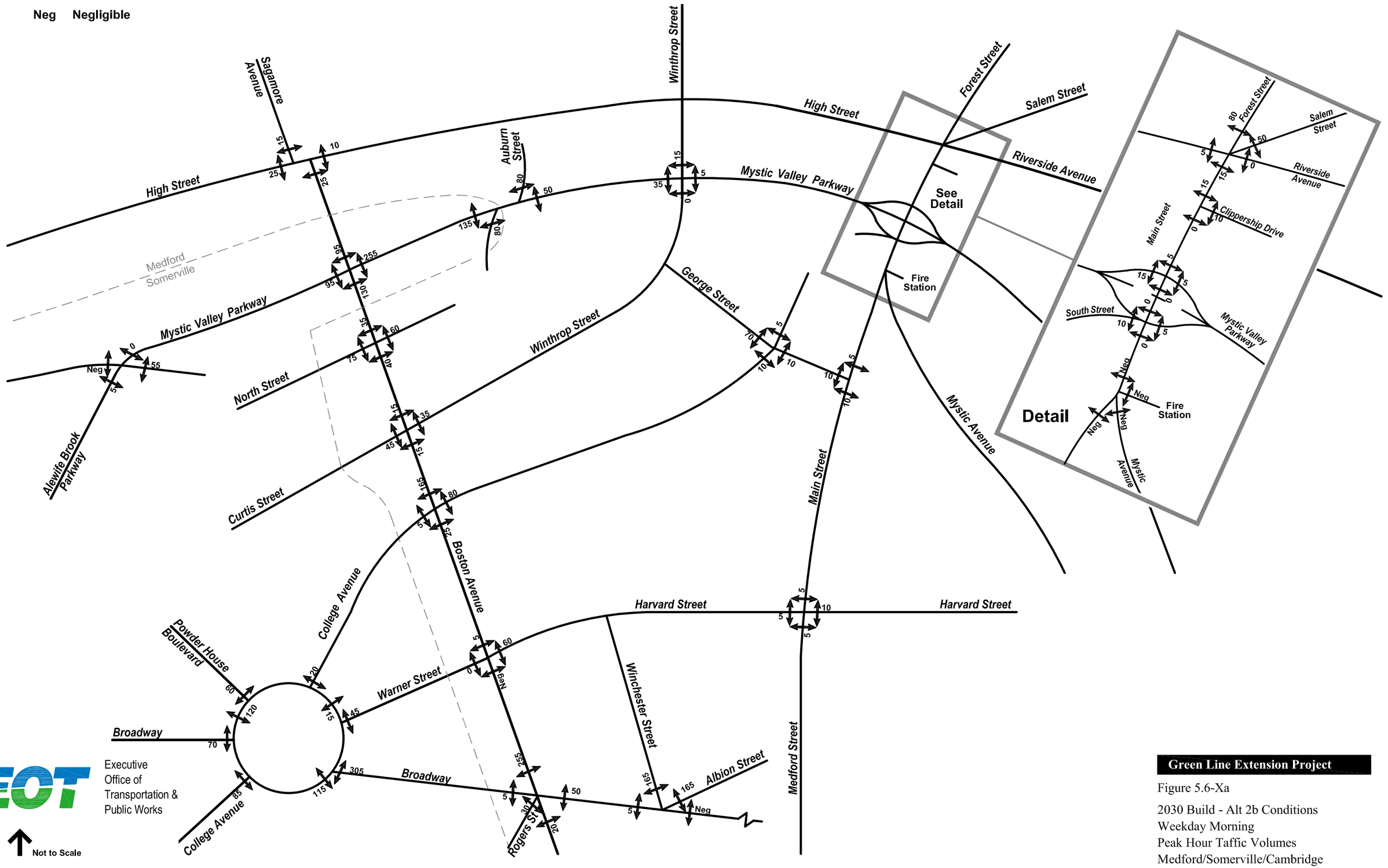
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 2a Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg **Negligible**



Executive Office of Transportation & Public Works

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 2b Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Highland Avenue
Somerville Avenue
Lowell Street
Central Street
School Street
Walnut Street
Broadway
Medford
Somerville
See Detail
Hamlet Street
McGrath Highway
Detail
Dunkin' Donuts
Dexter Street
Medford Street
Somerville
Cambridge
School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street
Kirkland Street
Washington Street
Beacon Street
Webster Avenue
Prospect Street
Concord Avenue
Somerville Avenue
McGrath Highway
Innerbelt Road
Cambridge Street
Hampshire Street
Medford Street
Somerville
Cambridge
McGrath Highway

Executive Office of Transportation & Public Works

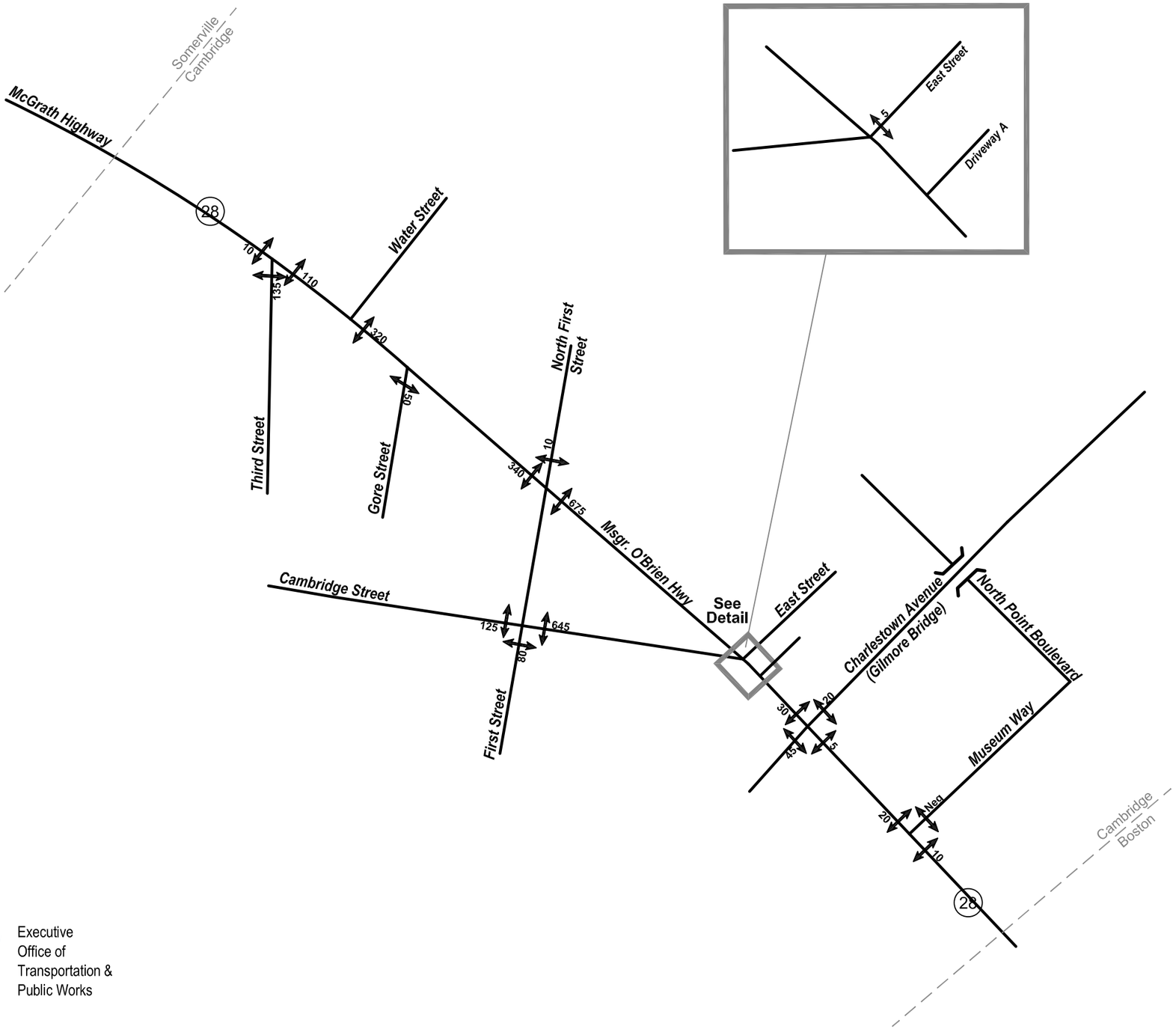
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 2b Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 2b Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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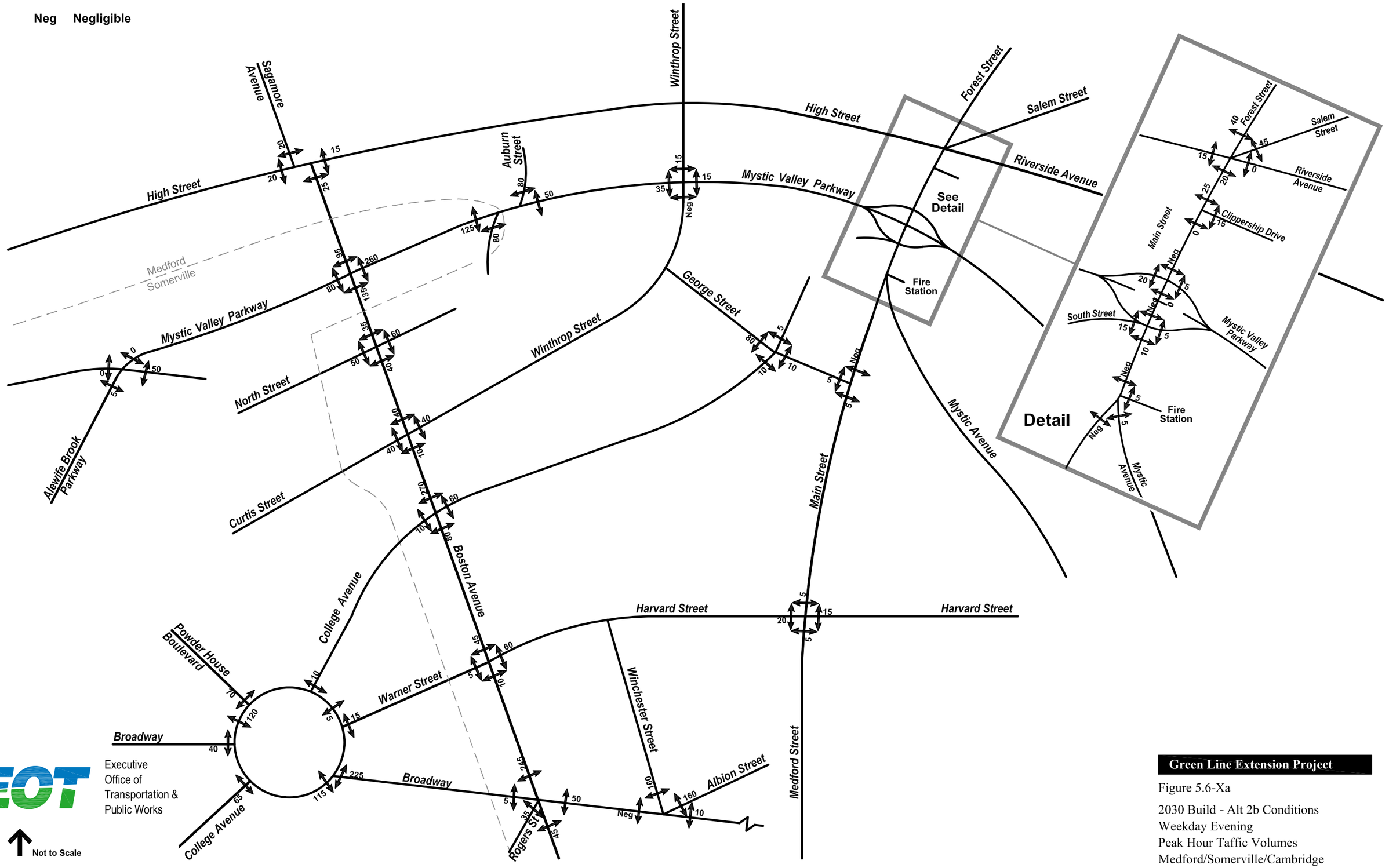
Neg **Negligible**



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 2b Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville

Somerville
Cambridge

Kirkland Street
Washington Street
Beacon Street
Somerville Avenue
Highland Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
See Detail
Broadway
Medford
Somerville

Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville
Cambridge

Washington Street
McGrath Highway
Innerbelt Road
Medford Street
Somerville Avenue
McGrath Highway
Somerville
Cambridge

Detail
School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

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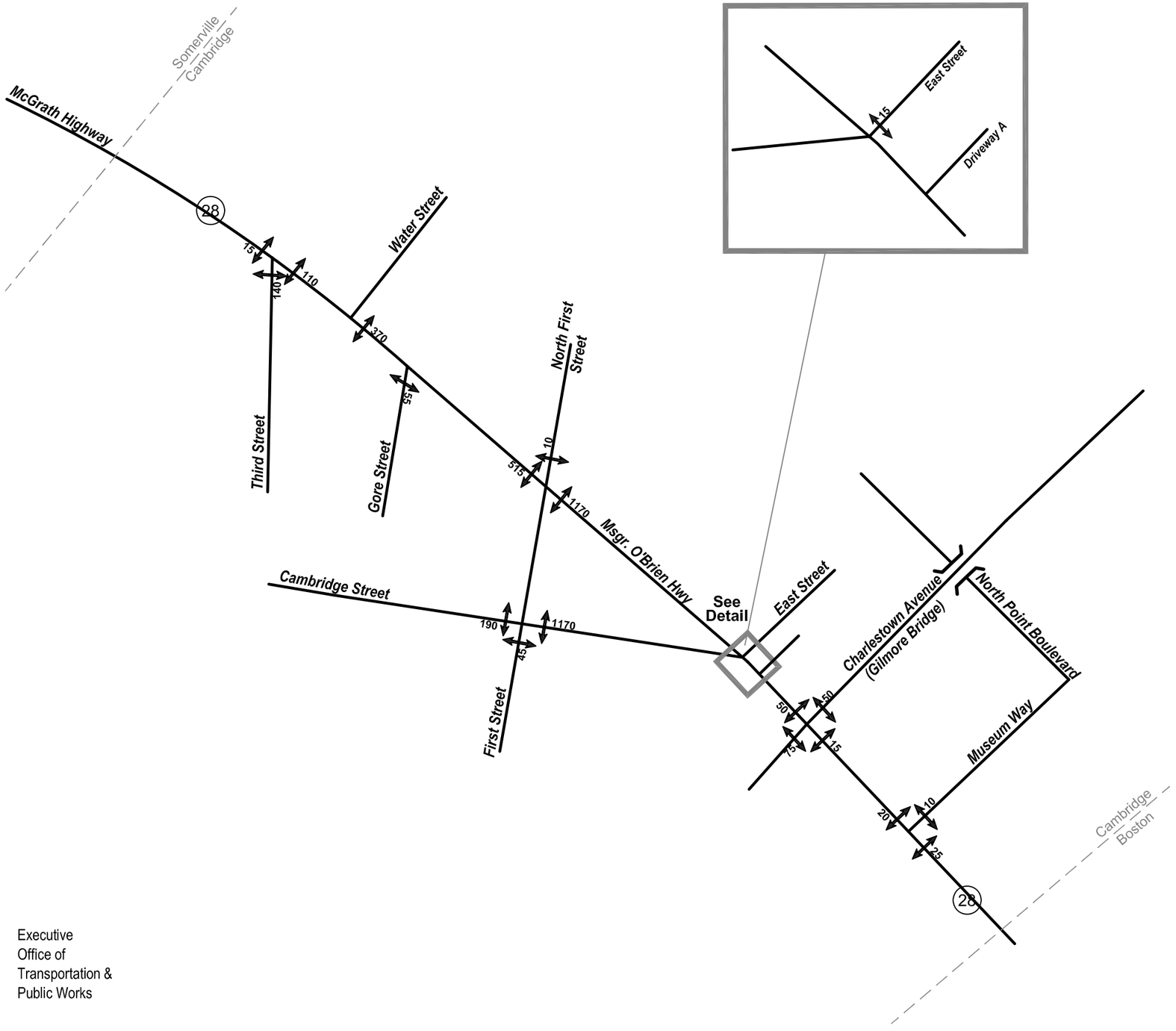
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 2b Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 2b Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Sagamore Avenue
High Street
Auburn Street
Winthrop Street
Forest Street
Salem Street
Riverside Avenue
Mystic Valley Parkway
See Detail
Fire Station
Medford
Somerville
North Street
Winthrop Street
George Street
Alewife Brook Parkway
Curtis Street
Boston Avenue
College Avenue
Harvard Street
Powder House Boulevard
Warner Street
Winchester Street
Broadway
Albion Street
Rogers St
Main Street
Medford Street
Mystic Avenue

Detail
Forest Street
Salem Street
Riverside Avenue
Clippership Drive
Main Street
South Street
Mystic Valley Parkway
Fire Station
Mystic Avenue

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Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 3 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Executive Office of Transportation & Public Works

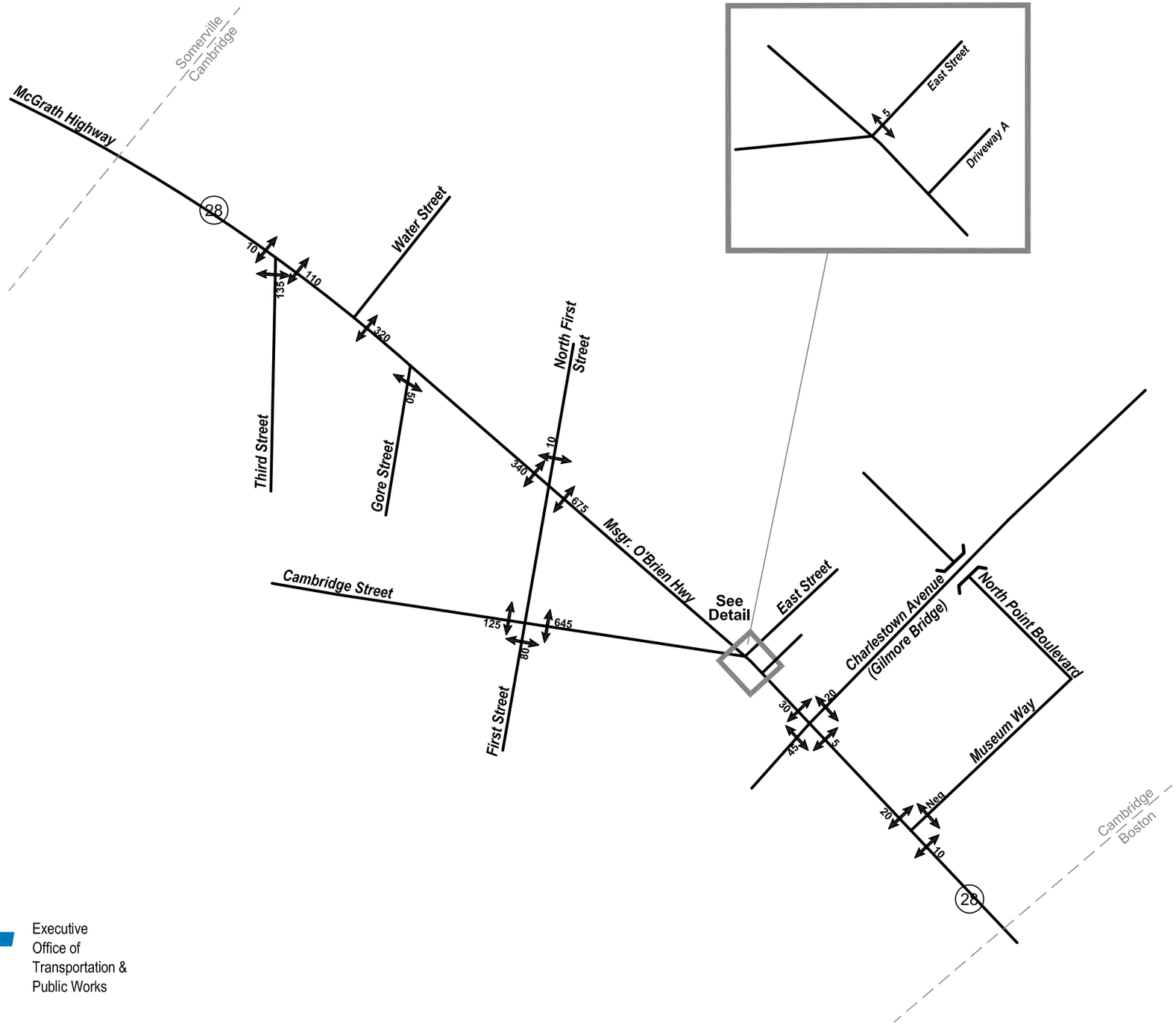
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 3 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



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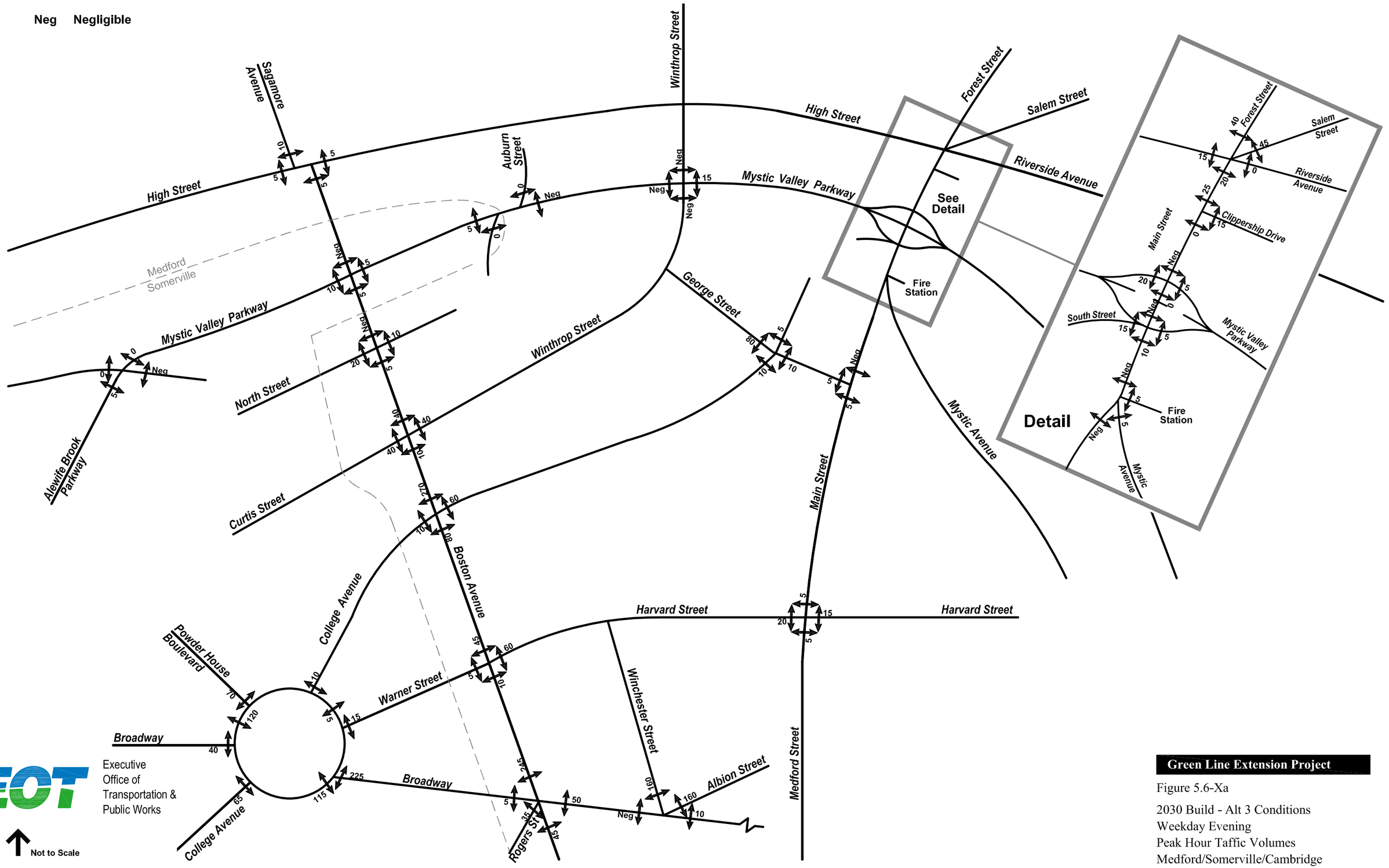
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 3 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible



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Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 3 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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Neg Negligible

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville
Somerville
Cambridge

Highland Avenue
Somerville Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
See Detail

Detail

School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

Kirkland Street
Washington Street
Beacon Street
Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville Avenue
McGrath Highway
Innerbelt Road
Medford Street
Somerville
Cambridge

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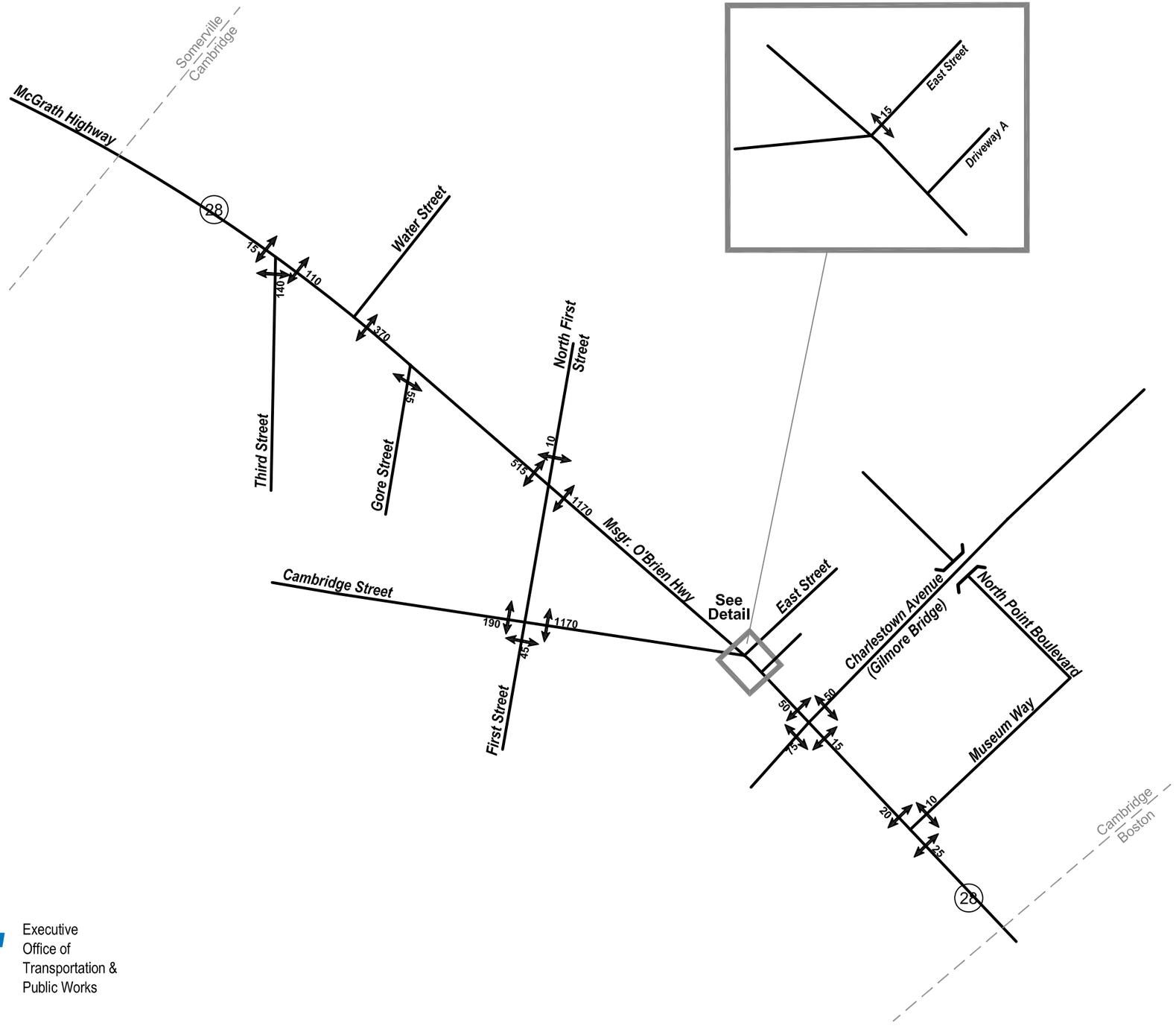
Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 3 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



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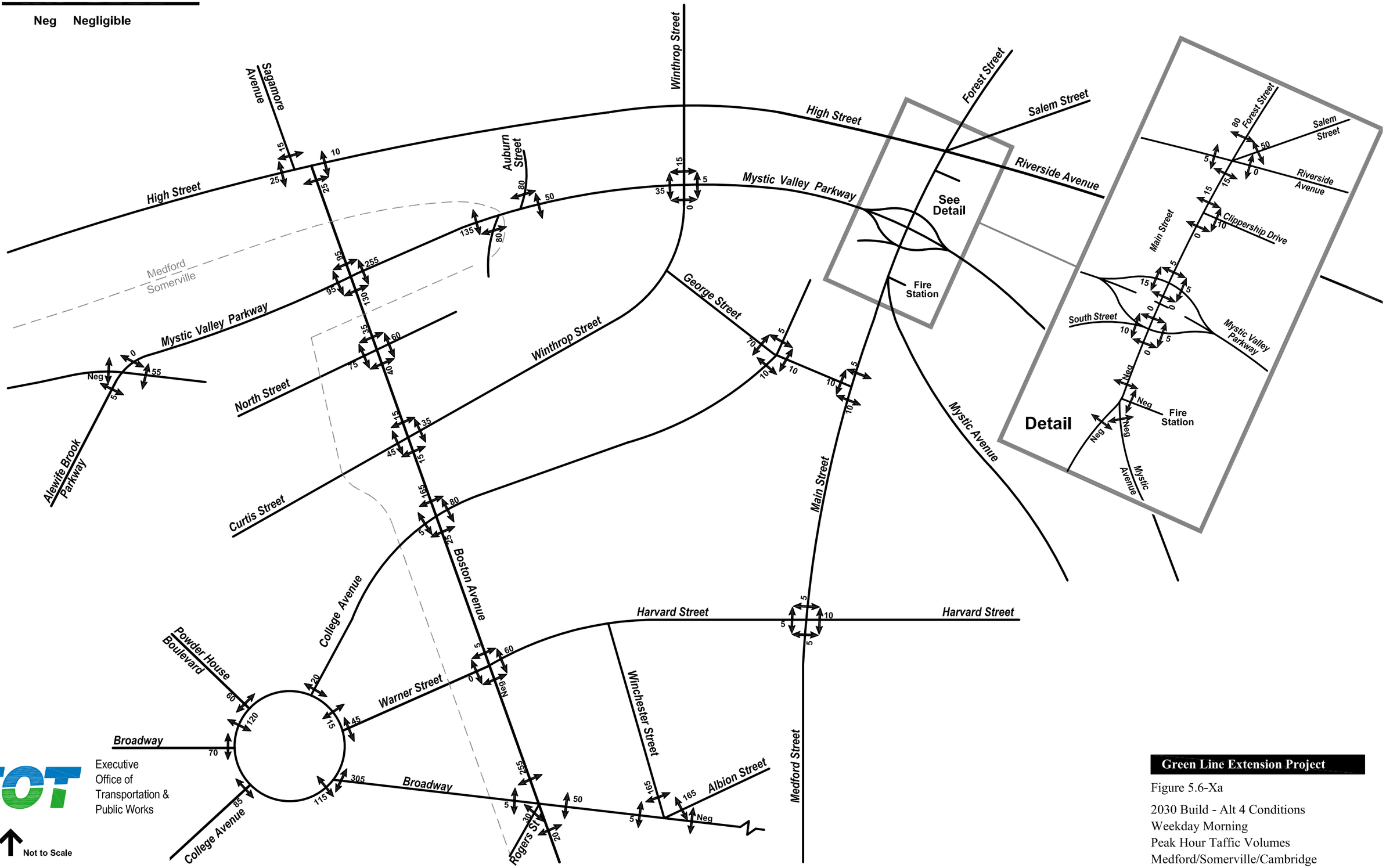
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 3 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible



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Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 4 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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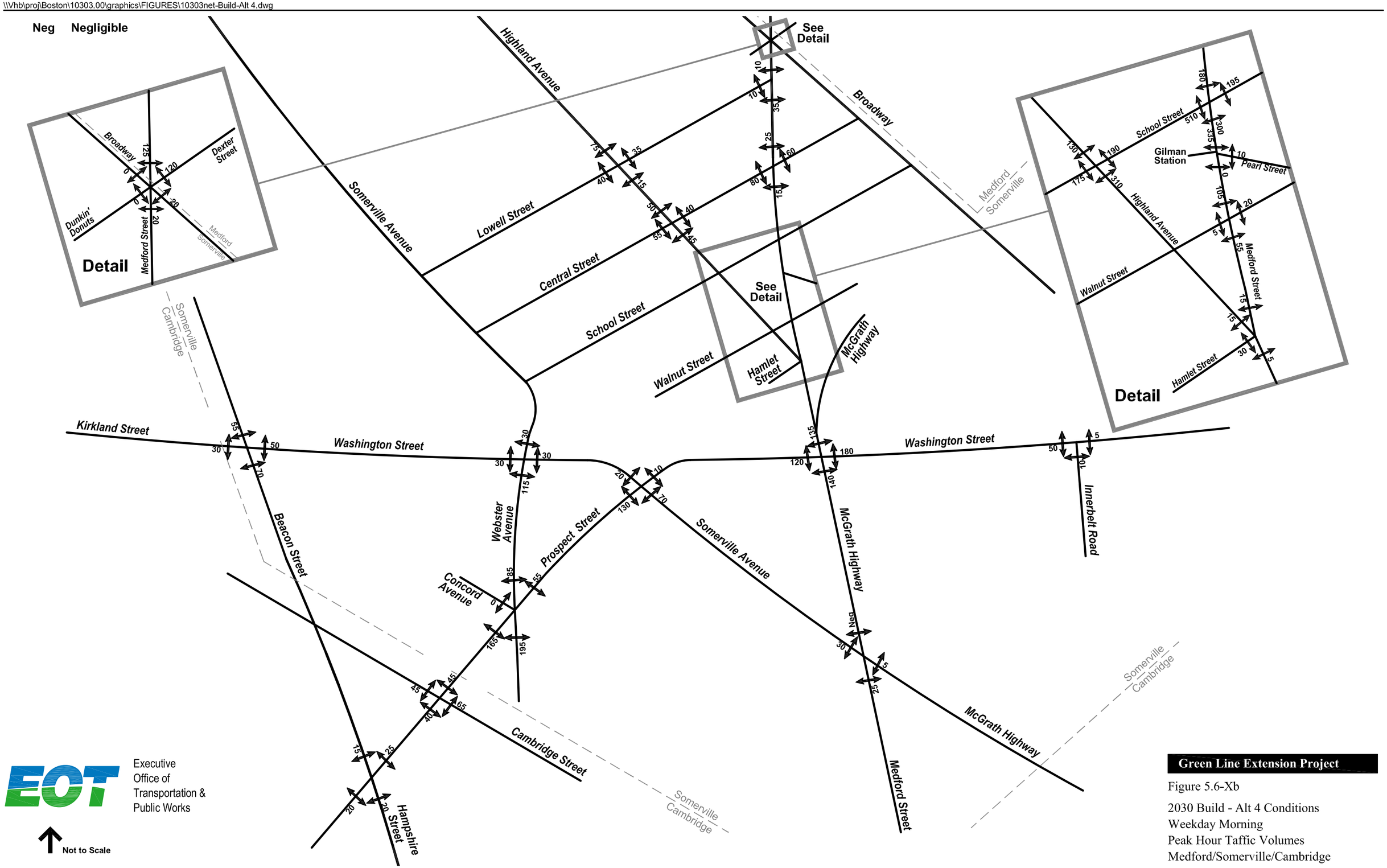

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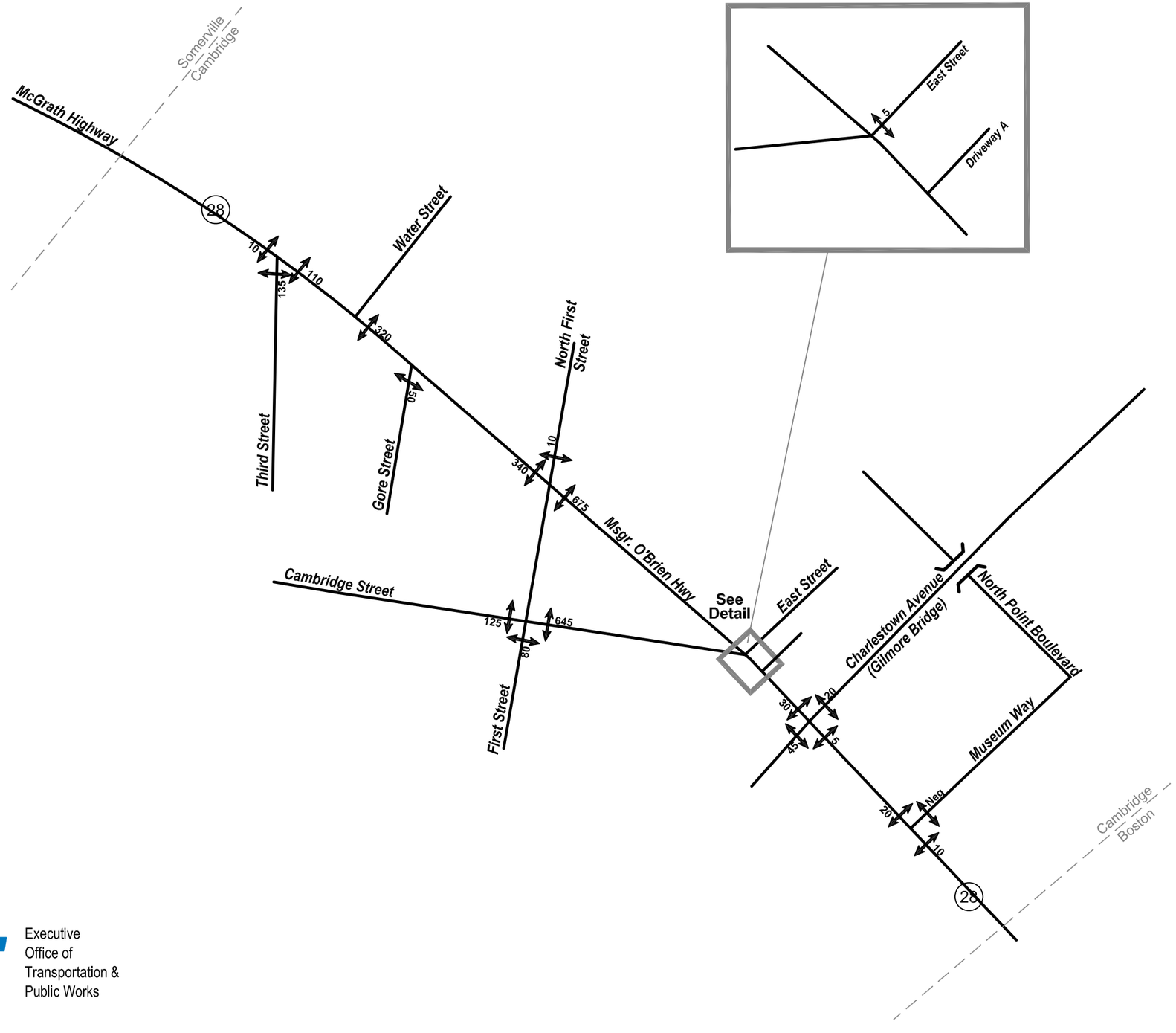
Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 4 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



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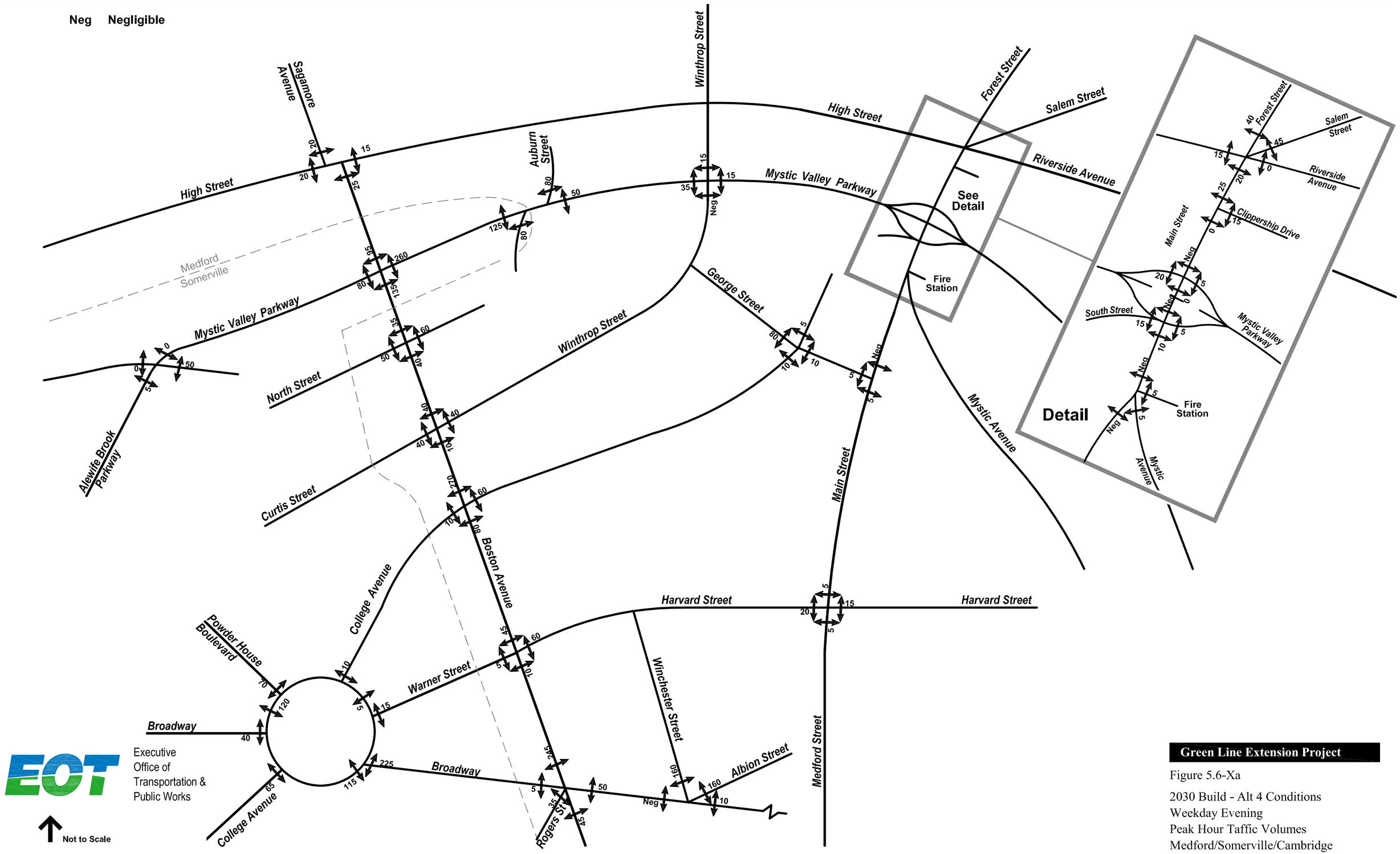
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 4 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible



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Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 4 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville

Somerville
Cambridge

Kirkland Street
Washington Street
Beacon Street
Somerville Avenue
Highland Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
See Detail
Broadway
Medford
Somerville

Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville
Cambridge

Detail

School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

Washington Street
Innerbelt Road
McGrath Highway
Somerville Avenue
McGrath Highway
Medford Street
Somerville
Cambridge

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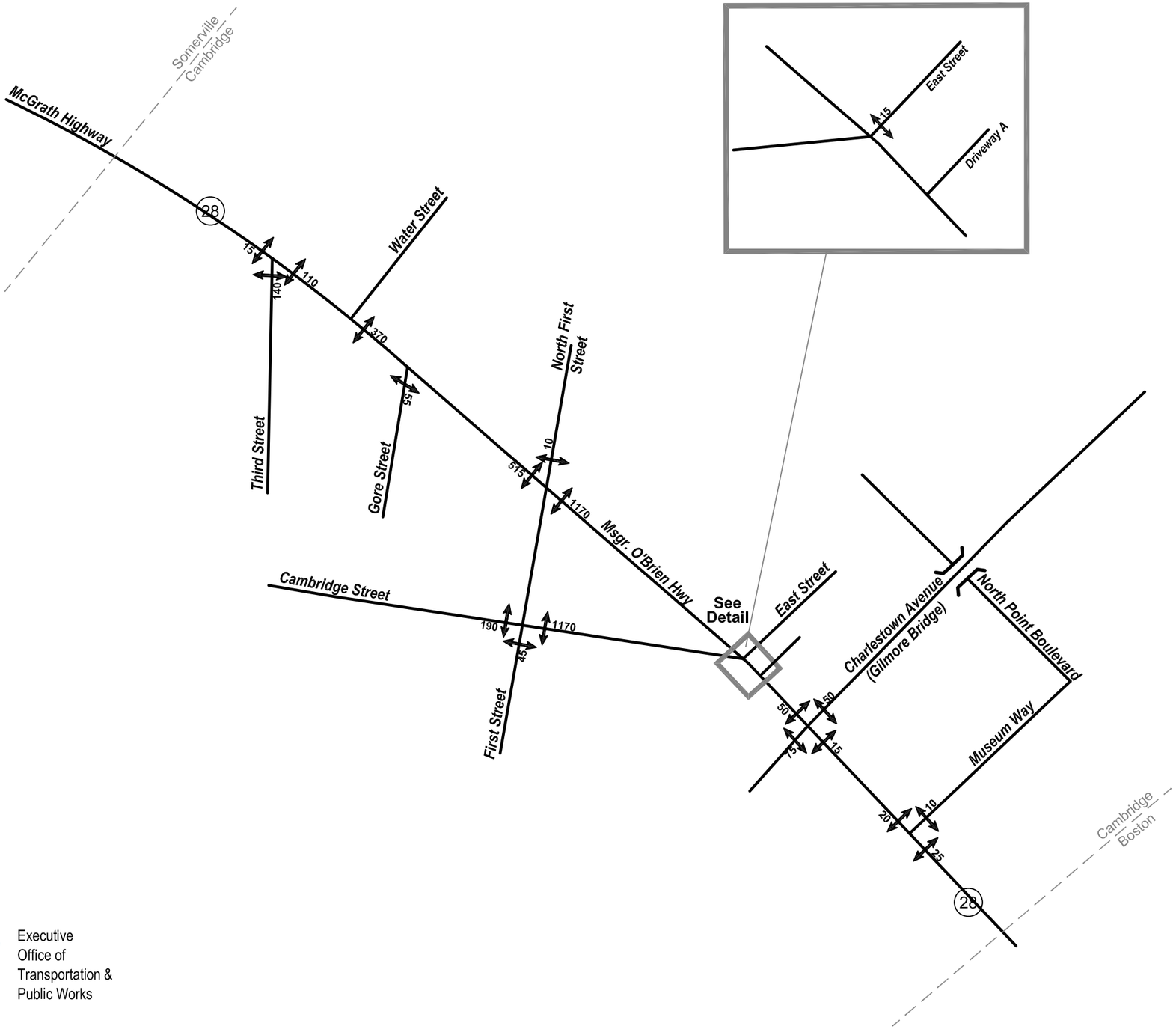
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 4 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

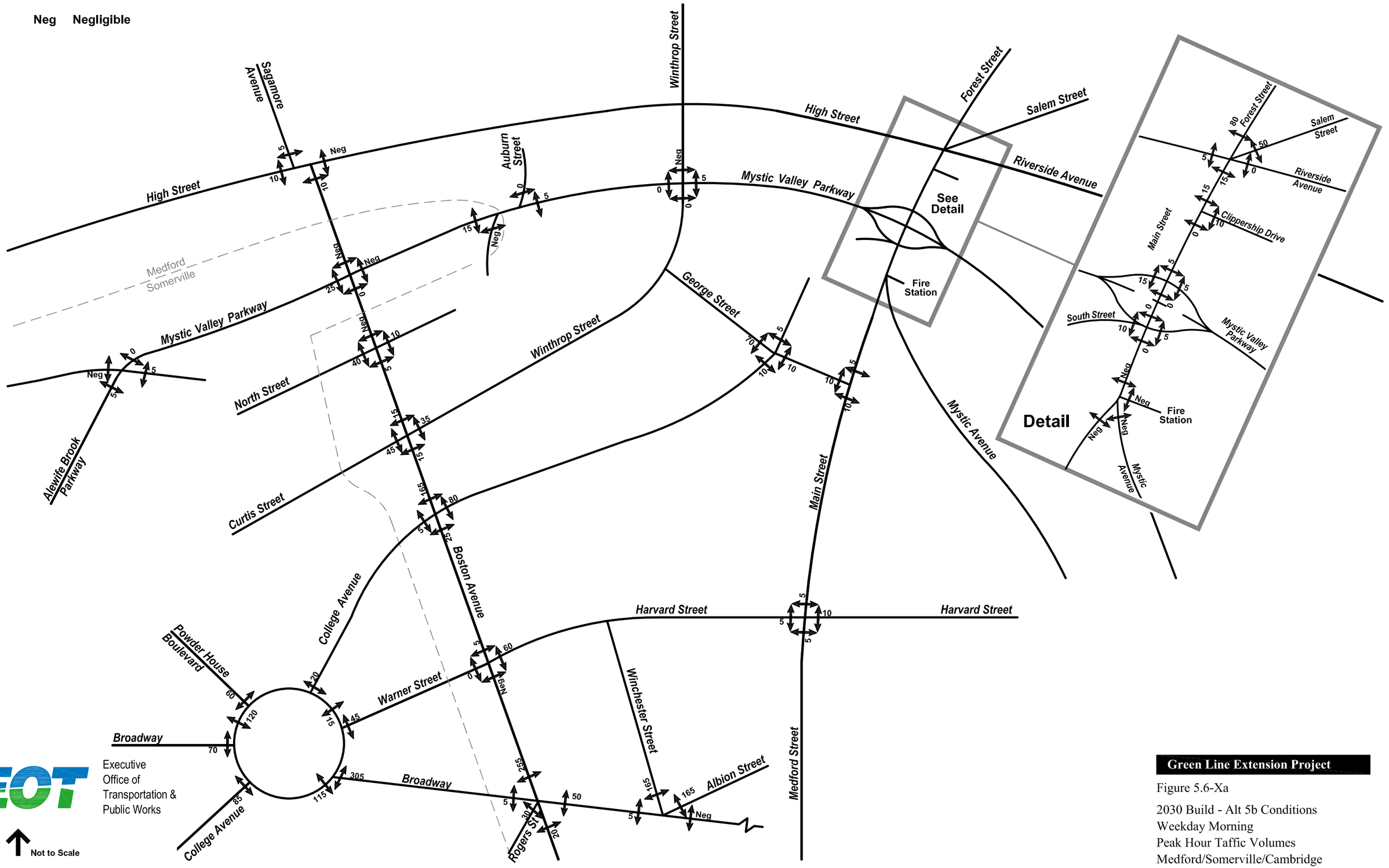
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 4 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg **Negligible**



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5b Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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Neg Negligible

Highland Avenue
Somerville Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
Broadway
Medford
Somerville
See Detail
Detail
Dunkin' Donuts
Dexter Street
Medford Street
Somerville
Cambridge
Kirkland Street
Washington Street
Beacon Street
Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville Avenue
McGrath Highway
Medford Street
Innerbelt Road
Gilman Station
School Street
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street
Somerville
Cambridge

EOT Executive Office of Transportation & Public Works

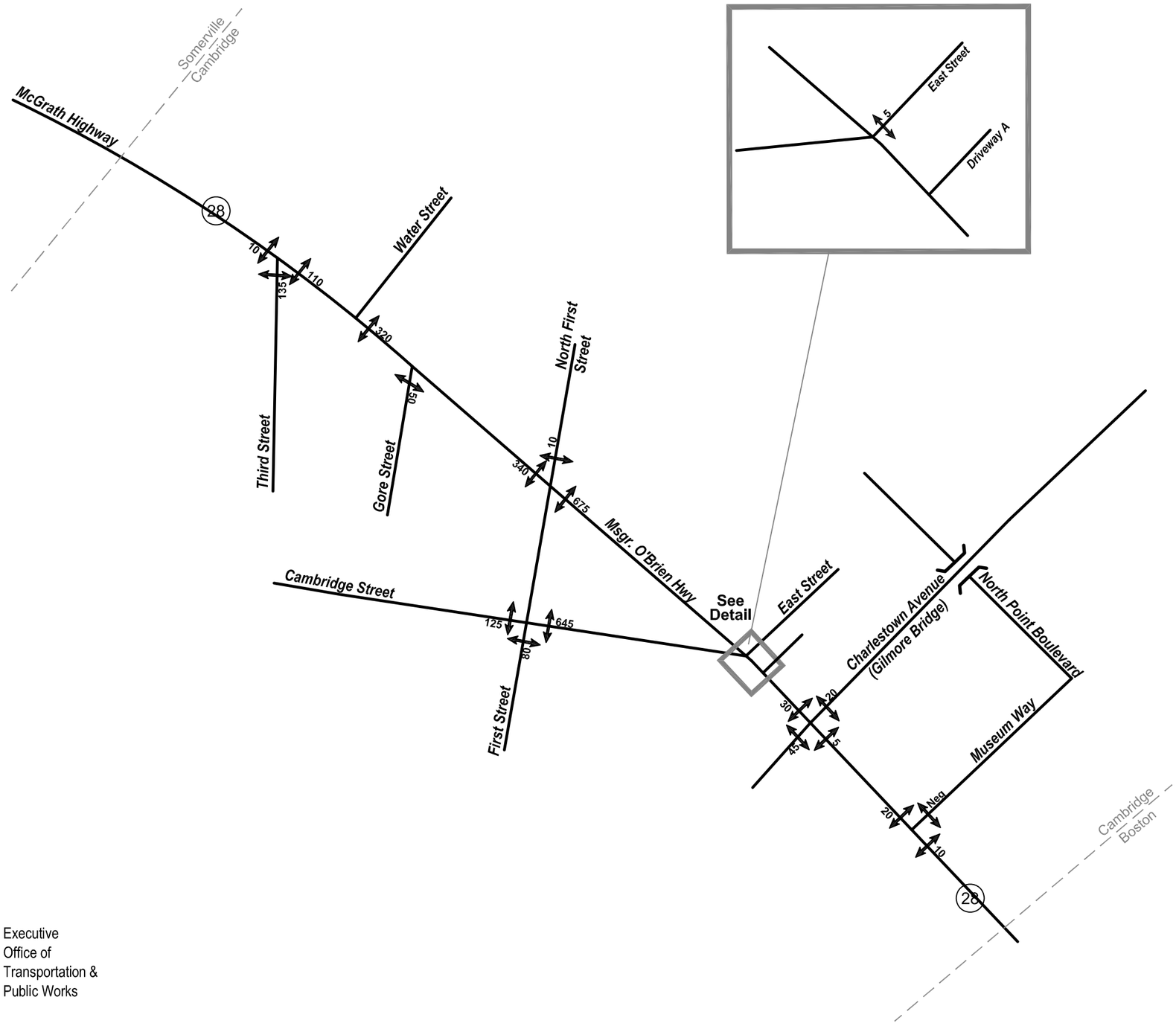
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 5b Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

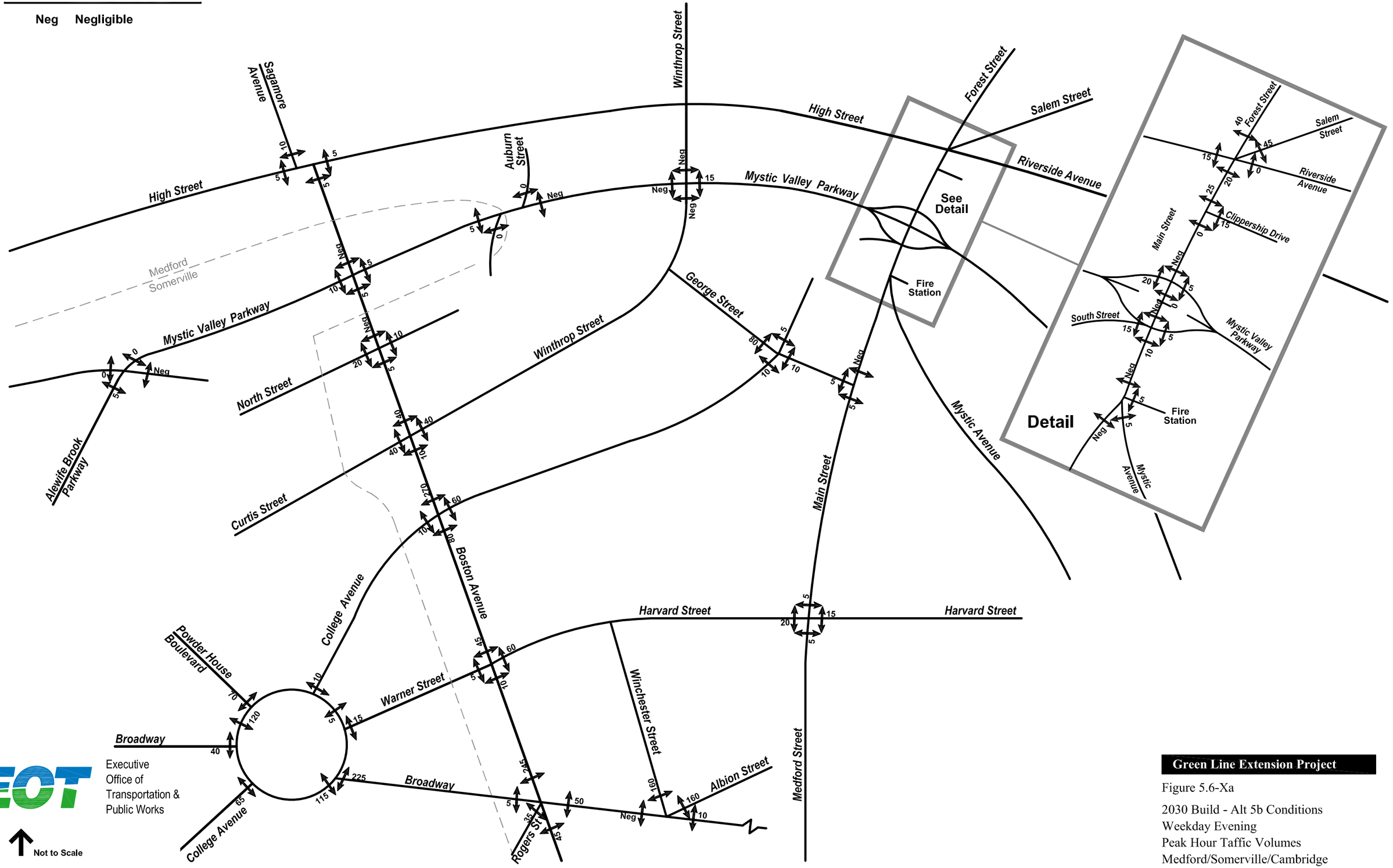
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 5b Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible



EOT Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5b Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville

Somerville
Cambridge

Kirkland Street
Washington Street
Beacon Street
Somerville Avenue
Highland Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
See Detail
Broadway
Medford
Somerville

Detail

School Street
Gilman Station
Pearl Street
Neg
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville
Cambridge

Washington Street
McGrath Highway
Innerbelt Road
Somerville Avenue
Medford Street
McGrath Highway
Somerville
Cambridge

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Executive Office of Transportation & Public Works

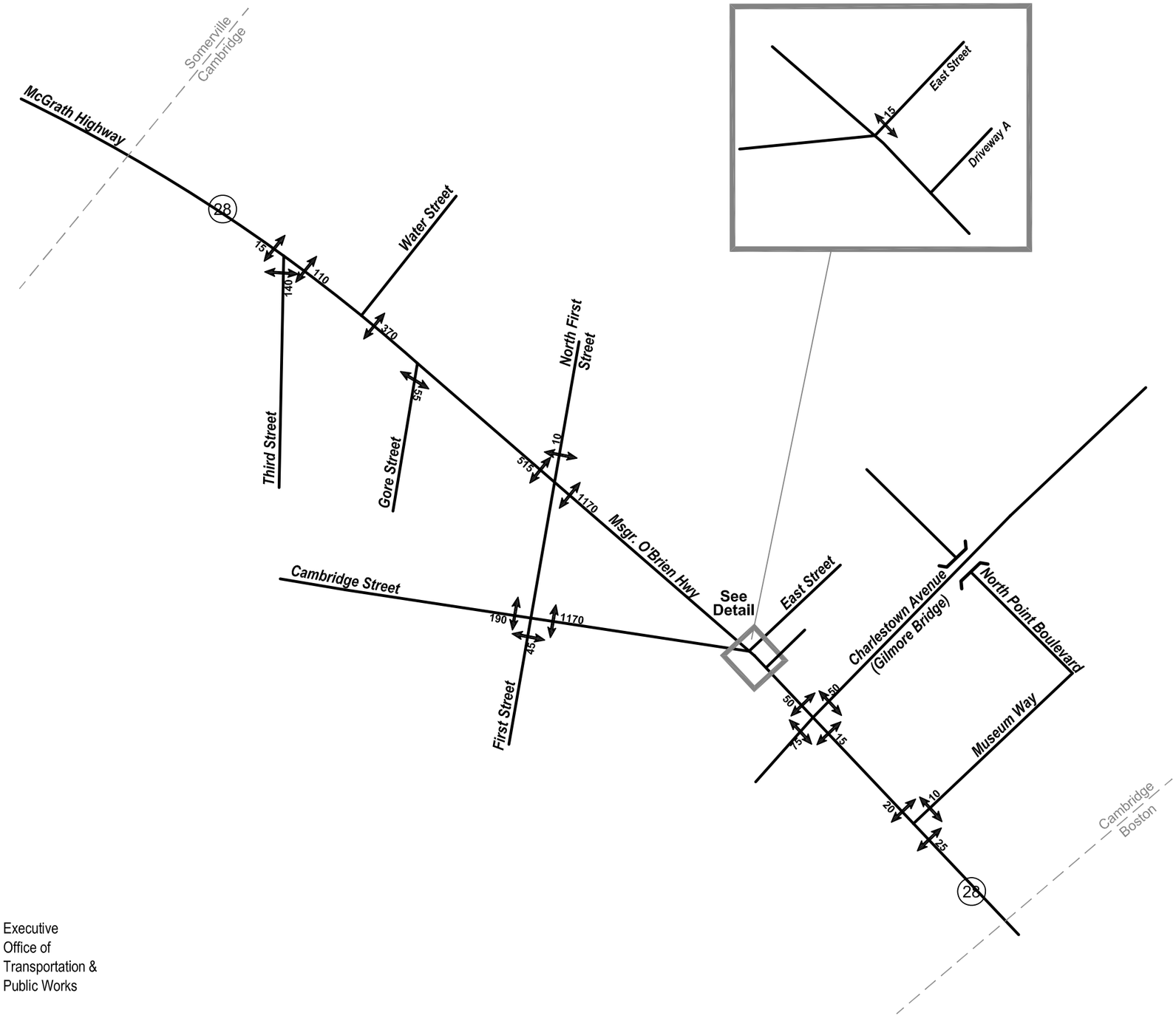
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 5b Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

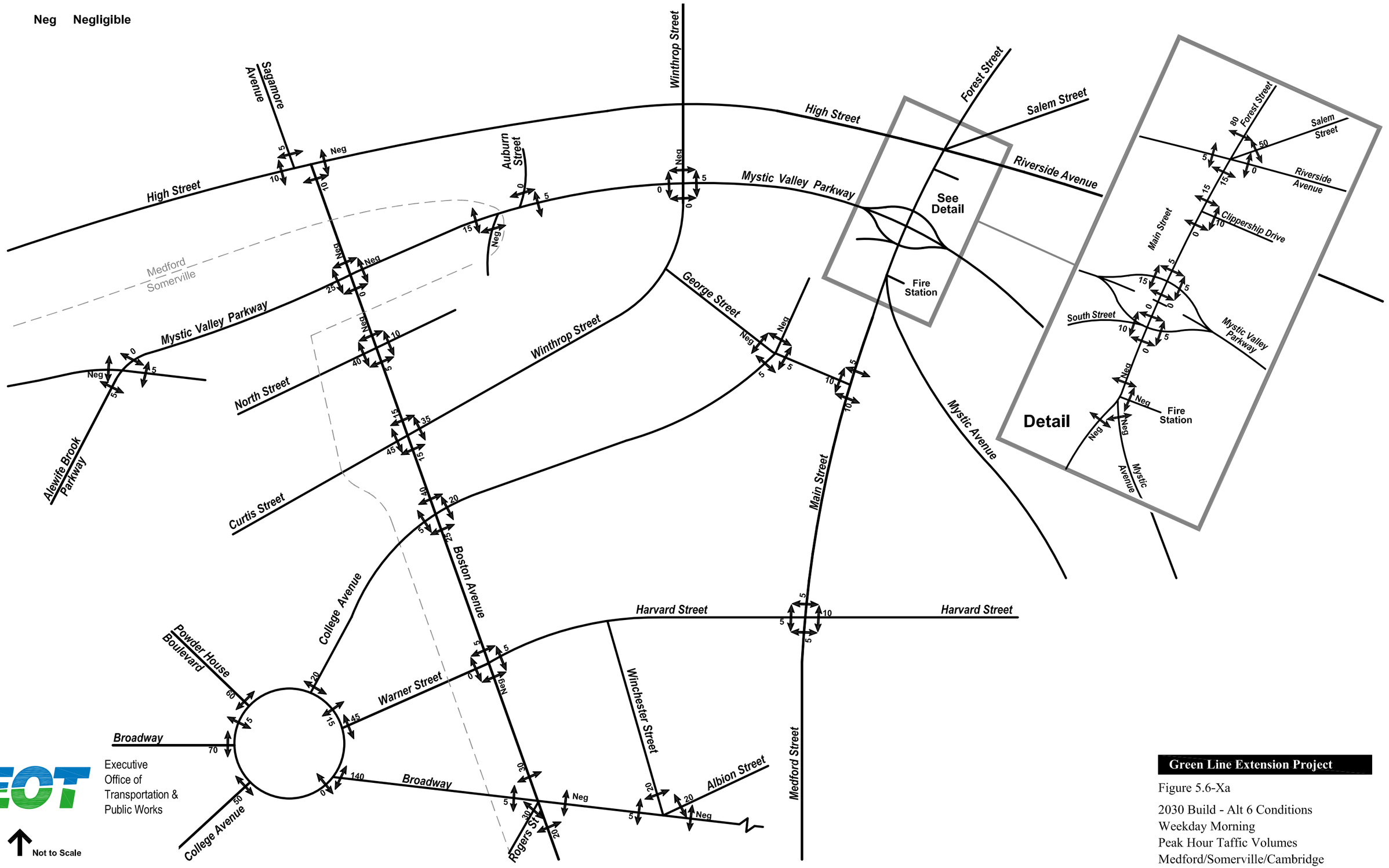
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 5b Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg **Negligible**



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 6 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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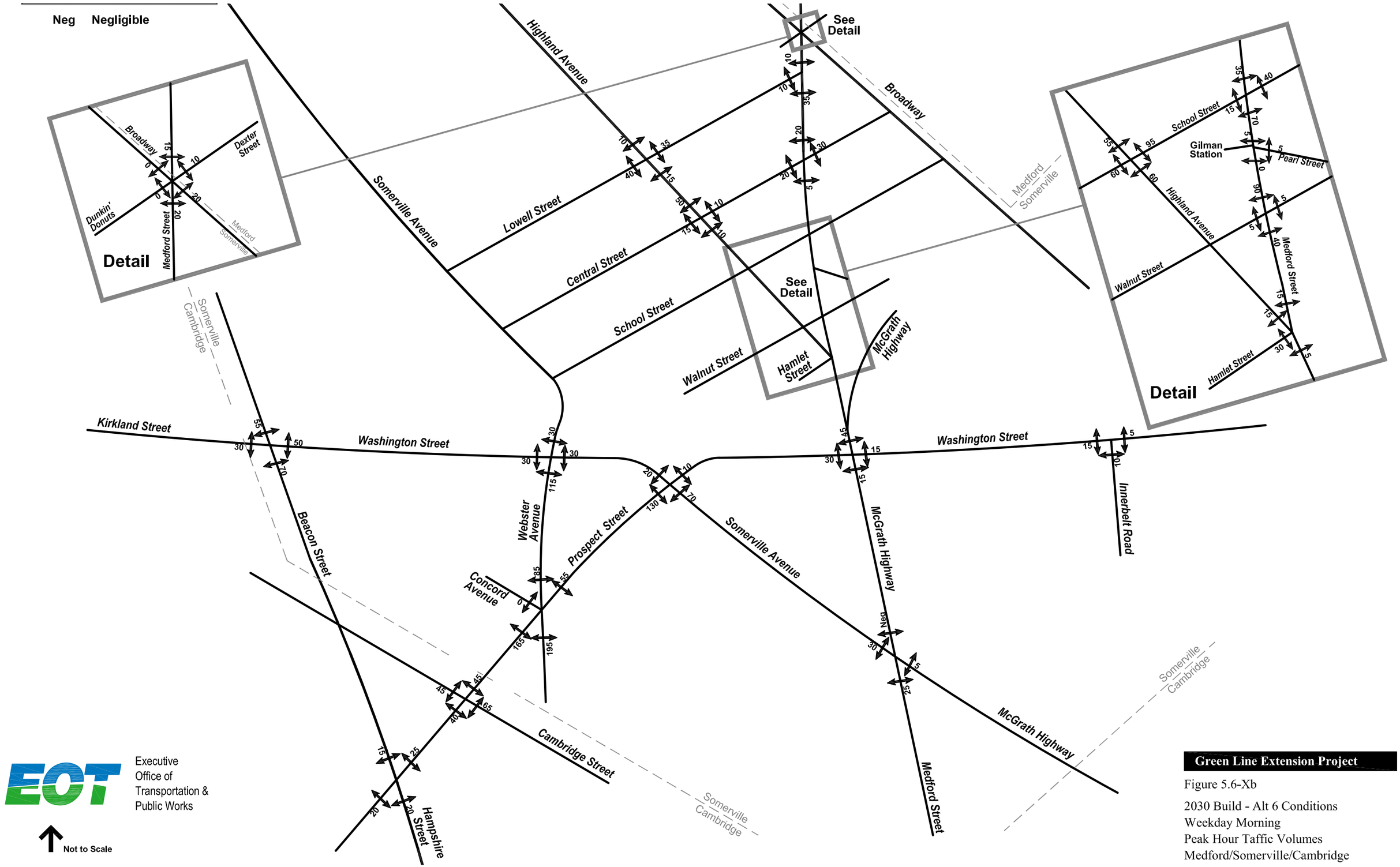


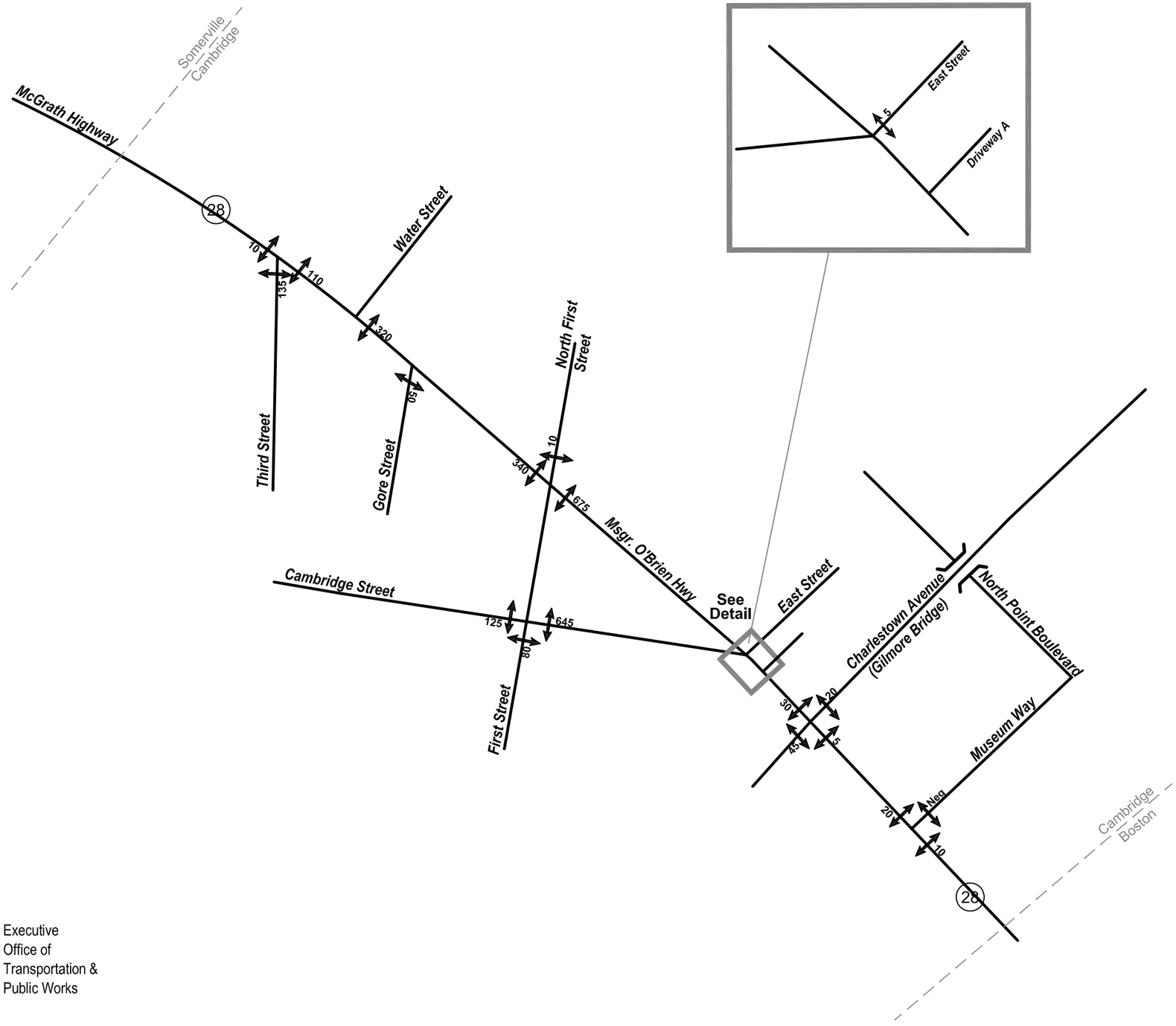
Executive Office of Transportation & Public Works

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 6 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

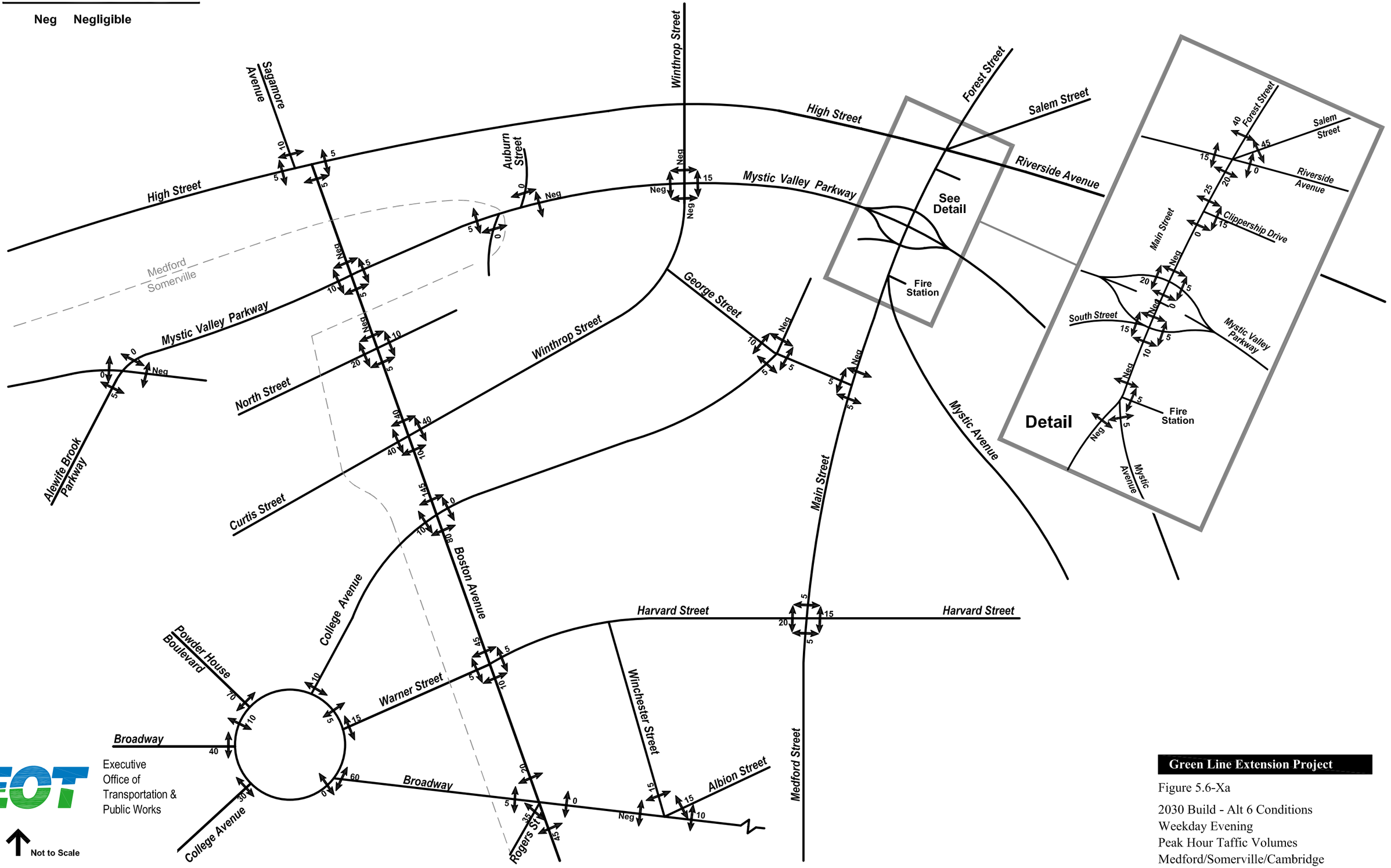
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 6 Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 6 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Highland Avenue
Somerville Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
Broadway
Medford
Somerville
McGrath Highway
See Detail
Detail
Dunkin' Donuts
Dexter Street
Medford Street
Somerville
Cambridge
Kirkland Street
Washington Street
Beacon Street
Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville Avenue
McGrath Highway
Medford Street
Innerbelt Road
School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

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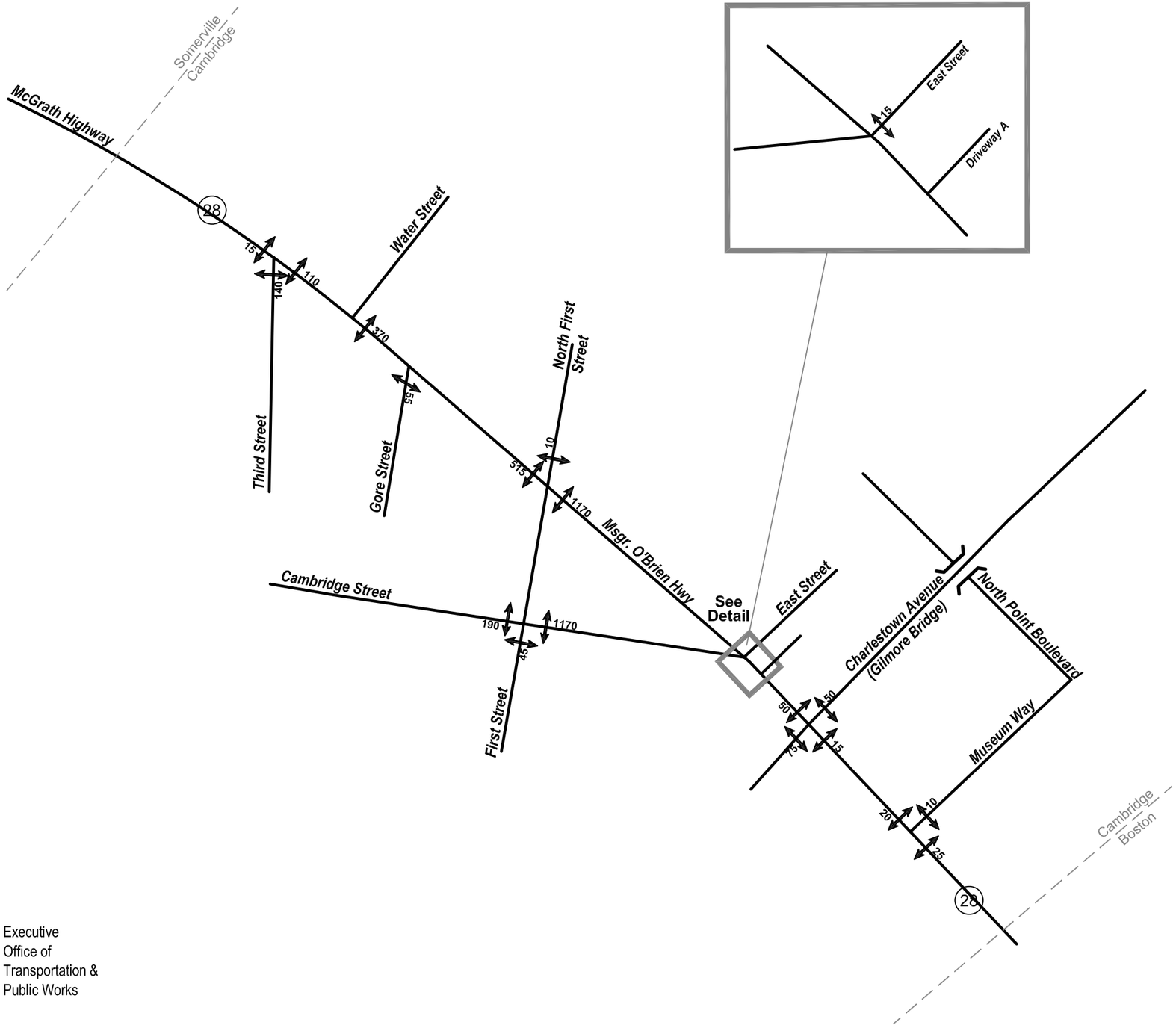
Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - Alt 6 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

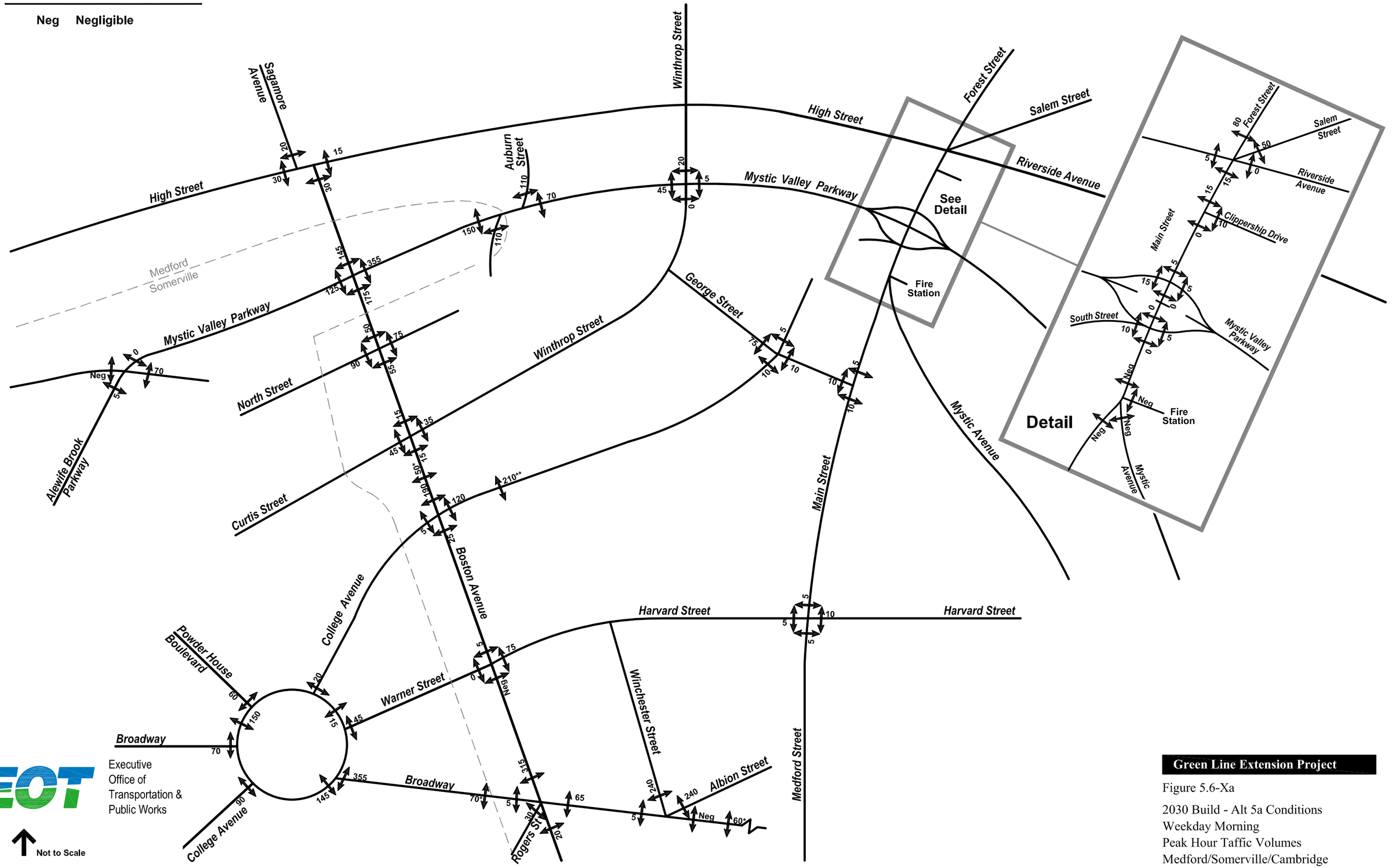
Not to Scale

Green Line Extension Project

Figure 5.6-Xc

2030 Build - Alt 6 Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

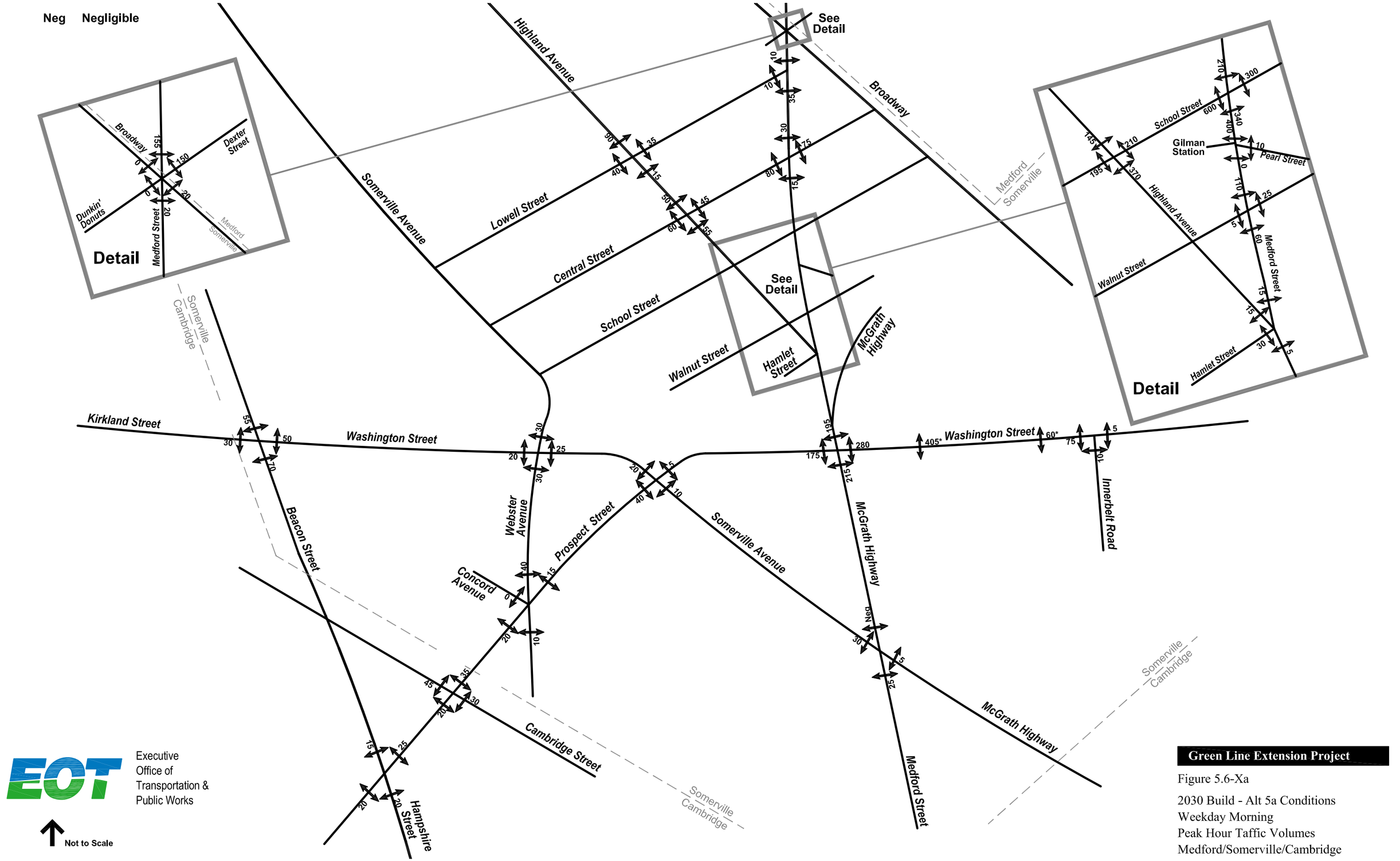


Executive Office of Transportation & Public Works

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5a Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge



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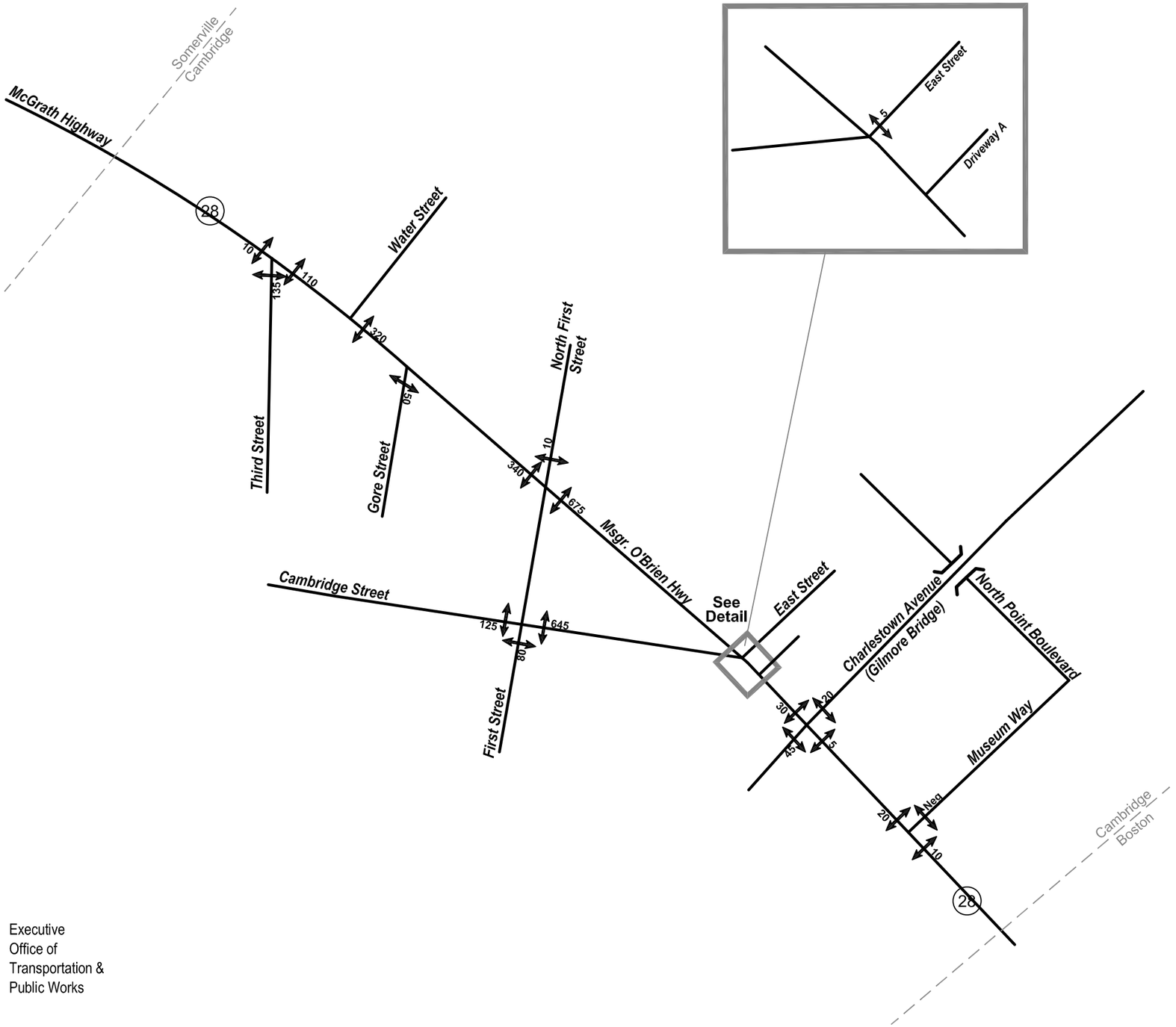
Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5a Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5a Conditions
Weekday Morning
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Neg Negligible

Sagamore Avenue
High Street
Winthrop Street
Auburn Street
Mystic Valley Parkway
Forest Street
Salem Street
Riverside Avenue
See Detail
Fire Station
Medford
Somerville
North Street
Winthrop Street
George Street
Alewife Brook Parkway
Curtis Street
Boston Avenue
College Avenue
Main Street
Mystic Avenue
Harvard Street
Powder House Boulevard
Warner Street
Winchester Street
Broadway
Albion Street
Medford Street
Rogers St
Detail
Clippership Drive
South Street
Mystic Valley Parkway
Mystic Avenue

Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5a Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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Neg Negligible

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville
Somerville
Cambridge

Highland Avenue
Somerville Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
McGrath Highway
See Detail

Detail

School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

Kirkland Street
Washington Street
Beacon Street
Webster Avenue
Prospect Street
Concord Avenue
Cambridge Street
Hampshire Street
Somerville Avenue
McGrath Highway
Innerbelt Road
Medford Street
Somerville
Cambridge

Executive Office of Transportation & Public Works

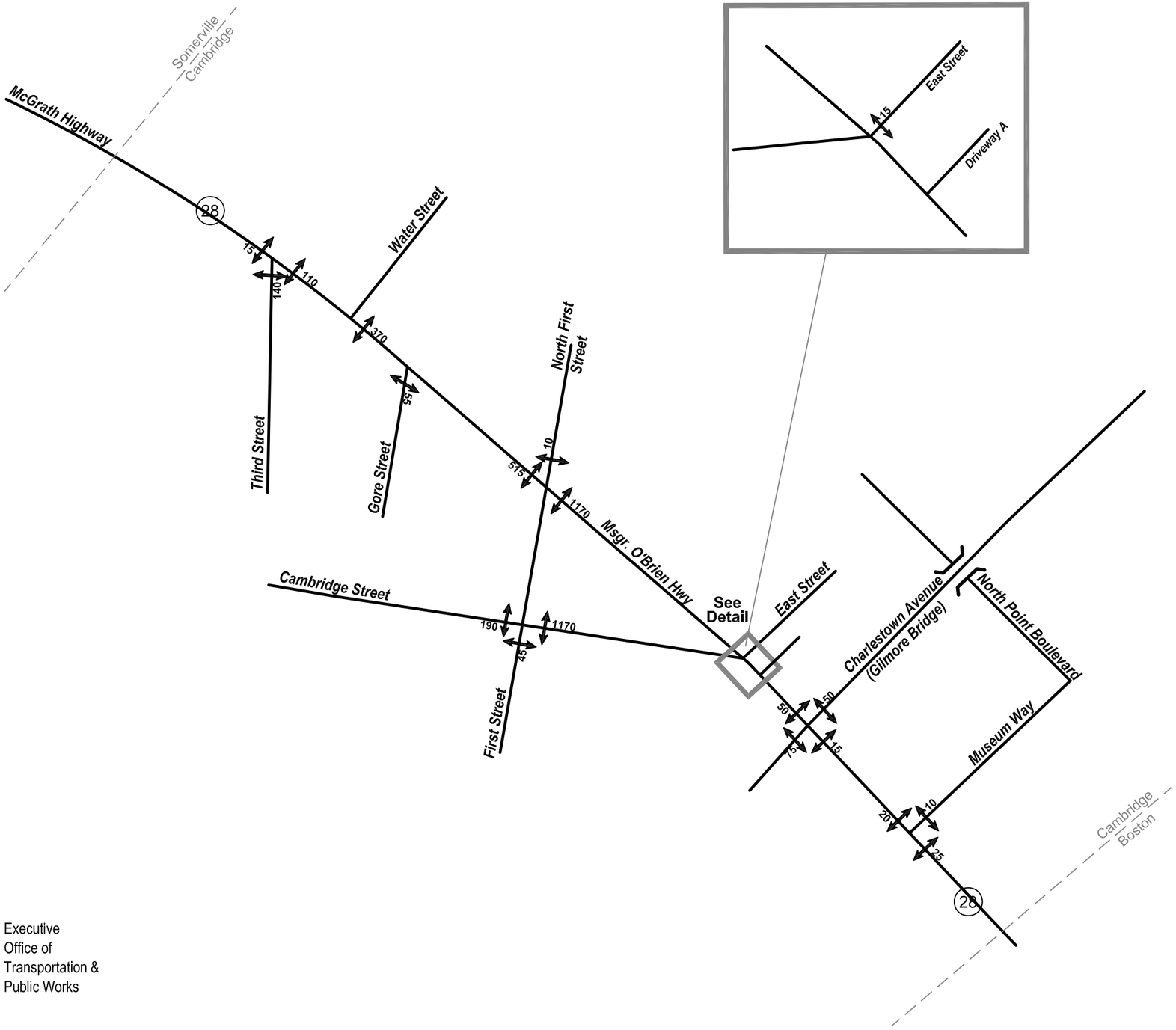
Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5a Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Negligible



Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xa

2030 Build - Alt 5a Conditions
Weekday Evening
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

Future Pedestrian Level of Service Analysis

Pedestrian LOS Calculations
Alternative 2a AM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Mystic Valley Parkway at Alewife Brook Parkway/Capen Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Auburn Street	North	120	60	18	19	-4	0	15	60	F
	South	120	46	14	15	0	4	15	56.1	E
	East		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Mystic Valley Parkway at Winthrop Street	North	120	74	22	23	-4	0	19	60	F
	South	120	61	18	19	0	4	19	56.1	E
	East	120	49	14	15	4	8	19	52.3	E
	West	120	66	19	20	-1	3	19	57	E
Boston Avenue at High Street/Sagamore Avenue	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	South									
	Middle									
	West									
Mystic Valley Parkway at Boston Avenue	North	120	50	15	16	-1	3	15	57	E
	South	120	50	15	16	-1	3	15	57	E
	East	120	50	15	16	-1	3	15	57	E
	West	120	55	16	17	-2	2	15	58	E
Boston Avenue at North Street	North	60	52	15	16	-1	3	15	27.1	C
	South	60	48	14	15	0	4	15	26.1	C
	East	60	42	12	13	2	6	15	24.3	C
	West	60	38	11	12	3	7	15	23.4	C
Boston Avenue at Winthrop Street	North	100	47	14	15	5	9	20	41.4	E
	South	100	37	11	12	8	12	20	38.7	D
	East	100	36	11	12	8	12	20	38.7	D
	West	100	26	8	9	11	15	20	36.1	D
Boston Avenue at College Avenue	North	135	56	16	17	5	9	22	58.8	E
	South	135	55	16	17	5	9	22	58.8	E
	East	135	41	12	13	9	13	22	55.1	E
	West	135	45	13	14	8	12	22	56	E
Boston Avenue at Harvard Street/Warner Street	North	120	31	9	10	9	13	19	47.7	E
	South	120	29	9	10	9	13	19	47.7	E
	East	120	41	12	13	6	10	19	50.4	E
	West	120	39	12	13	6	10	19	50.4	E
Powder House Blvd at Broadway/Warner Street/ College Avenue (East)	North	77	56	16	17	5	9	22	30	C
	South	77	45	13	14	8	12	22	27.4	C
	West	77	62	18	19	3	7	22	31.8	D
Powder House Blvd at Broadway/Warner Street/ College Avenue (West)	North	86	51	15	16	6	10	22	33.6	D
	West	86	62	18	19	3	7	22	36.3	D
Main Street at High Street/Salem Street/Forest Avenue/Riverside Avenuv	North	120	50	15	16	73	77	89	7.7	A
	South	120	64	19	20	14	18	34	43.4	E
	NorthEast	120	38	11	12	19	23	31	39.2	D
	East	120	36	11	12	43	47	55	22.2	C
	West	120	49	14	15	71	75	86	8.4	A

Pedestrian LOS Calculations
Alternative 2a AM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Main Street at South Street/Mystic Valley EB Ramps	South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Valley WB Ramps	North East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Avenue	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Harvard Street	North	120	58	17	18	4	8	22	52.3	E
	South	120	44	13	14	8	12	22	48.6	E
	East	120	44	13	14	8	12	22	48.6	E
	West	120	44	13	14	8	12	22	48.6	E
Medford Street at Broadway	North	120	67	20	21	-1	3	20	57	E
	South	120	52	15	16	4	8	20	52.3	E
	North West	120	78	23	24	-4	0	20	60	F
	South East	120	74	22	23	-3	1	20	59	E
	East	120	32	10	11	9	13	20	47.7	E
	West	120	44	13	14	6	10	20	50.4	E
Medford Street at Lowell Street	North West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Central Street	North	90	44	13	14	1	5	15	40.1	E
	South	90	39	12	13	2	6	15	39.2	D
	East	90	37	11	12	3	7	15	38.3	D
	West	90	58	17	18	-3	1	15	44	E
Medford Street at School Street	North	100	40	12	13	4	8	17	42.3	E
	South	100	40	12	13	4	8	17	42.3	E
	East	100	40	12	13	4	8	17	42.3	E
	West	100	42	12	13	4	8	17	42.3	E
Medford Street at Walnut Street	North	80	40	12	13	3	7	16	33.3	D
	South	80	40	12	13	3	7	16	33.3	D
	East	80	35	10	11	5	9	16	31.5	D
	West	80	33	10	11	5	9	16	31.5	D
Medford Street at Highland Avenue	East	100	46	14	15	0	4	15	46.1	E
	West	100	41	12	13	2	6	15	44.2	E
	North South		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Medford Street at Somerville Avenue/McGrath Highway	North South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Highland Avenue at Lowell Street	North	80	28	8	9	6	10	15	30.6	D
	South	80	28	8	9	6	10	15	30.6	D
	East	80	40	12	13	2	6	15	34.2	D
	West	80	42	12	13	2	6	15	34.2	D
Highland Avenue at Central Street	North	70	30	9	10	5	9	15	26.6	C
	South	70	30	9	10	5	9	15	26.6	C
	East	70	42	12	13	2	6	15	29.3	C
	West	70	41	12	13	2	6	15	29.3	C
Highland Avenue at School Street	North	90	36	11	12	9	13	21	32.9	D
	South	90	28	8	9	12	16	21	30.4	D
	East	90	42	12	13	8	12	21	33.8	D
	West	90	42	12	13	8	12	21	33.8	D
Washington Street at Innerbelt Road	South	100	74	22	23	3	7	26	43.2	E
	West	100	81	24	25	1	5	26	45.1	E
Washington Street at McGrath Highway (East)	North	135	45	13	14	30	34	44	37.8	D
	South East		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at McGrath Highway (West)	North	135	50	15	16	84	88	100	8.2	A
	South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at Somerville Avenue/Webster Street	North	120	72	21	22	9	13	31	47.7	E
	South	120	38	11	12	19	23	31	39.2	D
	East	120	84	24	25	6	10	31	50.4	E
	West	120	68	20	21	10	14	31	46.8	E
Washington Street at Beacon Street/Kirkland Street	North	100	55	16	17	-1	3	16	47	E
	South	100	56	16	17	-1	3	16	47	E
	East	100	51	15	16	0	4	16	46.1	E
	West	100	49	14	15	1	5	16	45.1	E
Prospect Street at Somerville Avenue Street	North	120	67	20	21	0	4	21	56.1	E
	South	120	43	13	14	7	11	21	49.5	E
	East	120	59	17	18	3	7	21	53.2	E
	West	120	73	21	22	-1	3	21	57	E
Prospect Street at Webster Street/Concord	North	120	44	13	14	11	15	25	45.9	E

Pedestrian LOS Calculations
Alternative 2a AM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Avenue	South	120	78	23	24	1	5	25	55.1	E
	South West	120	36	11	12	13	17	25	44.2	E
	West	120	35	10	11	14	18	25	43.4	E
Prospect Street at Cambridge Street	North	90	39	12	13	29	33	42	18.1	B
	South	90	40	12	13	29	33	42	18.1	B
	East	90	53	16	17	21	25	38	23.5	C
	West	90	54	16	17	21	25	38	23.5	C
Prospect Street at Hampshire Street	North	90	35	10	11	22	26	33	22.8	C
	South	90	37	11	12	21	25	33	23.5	C
	East	90	48	14	15	32	36	47	16.2	B
	West	90	45	13	14	33	37	47	15.6	B
George Street at College Avenue	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
George Street at Main Street	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Broadway at Boston Avenue/Rogers Street	North	65	67	20	21	20	24	41	12.9	B
	South	65	72	21	22	19	23	41	13.6	B
			Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Broadway at Winchester Street/Ablion Street	Northeast		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Pearl Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Alternative 2a PM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Mystic Valley Parkway at Alewife Brook Parkway/Capen Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Auburn Street	North	120	60	18	19	-4	0	15	60	F
	South	120	46	14	15	0	4	15	56.1	E
	East		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Mystic Valley Parkway at Winthrop Street	North	120	74	22	23	-4	0	19	60	F
	South	120	61	18	19	0	4	19	56.1	E
	East	120	49	14	15	4	8	19	52.3	E
	West	120	66	19	20	-1	3	19	57	E
Boston Avenue at High Street/Sagamore Avenue	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	South									
	Middle									
	West									
Mystic Valley Parkway at Boston Avenue	North	120	50	15	16	-1	3	15	57	E
	South	120	50	15	16	-1	3	15	57	E
	East	120	50	15	16	-1	3	15	57	E
	West	120	55	16	17	-2	2	15	58	E
Boston Avenue at North Street	North	60	52	15	16	-1	3	15	27.1	C
	South	60	48	14	15	0	4	15	26.1	C
	East	60	42	12	13	2	6	15	24.3	C
	West	60	38	11	12	3	7	15	23.4	C
Boston Avenue at Winthrop Street	North	120	47	14	15	5	9	20	51.3	E
	South	120	37	11	12	8	12	20	48.6	E
	East	120	36	11	12	8	12	20	48.6	E
	West	120	26	8	9	11	15	20	45.9	E
Boston Avenue at College Avenue	North	135	56	16	17	5	9	22	58.8	E
	South	135	55	16	17	5	9	22	58.8	E
	East	135	41	12	13	9	13	22	55.1	E
	West	135	45	13	14	8	12	22	56	E
Boston Avenue at Harvard Street/Warner Street	North	120	31	9	10	9	13	19	47.7	E
	South	120	29	9	10	9	13	19	47.7	E
	East	120	41	12	13	6	10	19	50.4	E
	West	120	39	12	13	6	10	19	50.4	E
Powder House Blvd at Broadway/Warner Street/ College Avenue (East)	North	77	56	16	17	5	9	22	30	C
	South	77	45	13	14	8	12	22	27.4	C
	West	77	62	18	19	3	7	22	31.8	D
Powder House Blvd at Broadway/Warner Street/ College Avenue (West)	North	86	51	15	16	6	10	22	33.6	D
	West	86	62	18	19	3	7	22	36.3	D
Main Street at High Street/Salem Street/Forest Avenue/Riverside Avenue	North	100	50	15	16	56	60	72	8	A
	South	100	64	19	20	13	17	33	34.4	D
	NorthEast	100	38	11	12	16	20	28	32	D
	East	100	36	11	12	27	31	39	23.8	C
	West	100	49	14	15	13	17	28	34.4	D

Pedestrian LOS Calculations
Alternative 2a PM

Intersection	Crosswalk	Cycle Length (sec)	Calculated: Crossing Distance (ft)	Min Crossing Interval (sec)	Min FDW Phase (sec)	Walk Interval (sec)	Effective Green (g) (sec)	Total Crossing Interval (sec)	Average Ped Delay (sec)	PLOS
Main Street at South Street/Mystic Valley EB Ramps	South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	East									
	West									
Main Street at Mystic Valley WB Ramps	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	East									
	West									
Main Street at Mystic Avenue	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	South									
Main Street at Harvard Street	North	120	58	17	18	4	8	22	52.3	E
	South	120	44	13	14	8	12	22	48.6	E
	East	120	44	13	14	8	12	22	48.6	E
	West	120	44	13	14	8	12	22	48.6	E
Medford Street at Broadway	North	120	67	20	21	-1	3	20	57	E
	South	120	52	15	16	4	8	20	52.3	E
	North West	120	78	23	24	-4	0	20	60	F
	South East	120	74	22	23	-3	1	20	59	E
	East	120	32	10	11	9	13	20	47.7	E
	West	120	44	13	14	6	10	20	50.4	E
Medford Street at Lowell Street	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	West									
Medford Street at Central Street	North	80	44	13	14	1	5	15	35.2	D
	South	80	39	12	13	2	6	15	34.2	D
	East	80	37	11	12	3	7	15	33.3	D
	West	80	58	17	18	-3	1	15	39	D
Medford Street at School Street	North	90	40	12	13	4	8	17	37.4	D
	South	90	40	12	13	4	8	17	37.4	D
	East	90	40	12	13	4	8	17	37.4	D
	West	90	42	12	13	4	8	17	37.4	D
Medford Street at Walnut Street	North	80	40	12	13	3	7	16	33.3	D
	South	80	40	12	13	3	7	16	33.3	D
	East	80	35	10	11	5	9	16	31.5	D
	West	80	33	10	11	5	9	16	31.5	D
Medford Street at Highland Avenue	East	90	46	14	15	0	4	15	41.1	E
	West	90	41	12	13	2	6	15	39.2	D
	North		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	South									
Medford Street at Somerville Avenue/McGrath Highway	North		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	South									
	West									
Highland Avenue at Lowell Street	North	60	28	8	9	6	10	15	20.8	C
	South	60	28	8	9	6	10	15	20.8	C
	East	60	40	12	13	2	6	15	24.3	C
	West	60	42	12	13	2	6	15	24.3	C
Highland Avenue at Central Street	North	70	30	9	10	5	9	15	26.6	C
	South	70	30	9	10	5	9	15	26.6	C
	East	70	42	12	13	2	6	15	29.3	C
	West	70	41	12	13	2	6	15	29.3	C
Highland Avenue at School Street	North	90	36	11	12	9	13	21	32.9	D
	South	90	28	8	9	12	16	21	30.4	D
	East	90	42	12	13	8	12	21	33.8	D
	West	90	42	12	13	8	12	21	33.8	D
Washington Street at Innerbelt Road	South	90	74	22	23	3	7	26	38.3	D
	West	90	81	24	25	1	5	26	40.1	E
Washington Street at McGrath Highway (East)	North	135	45	13	14	24	28	38	42.4	E
	South		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	East									
Washington Street at McGrath Highway (West)	North	135	50	15	16	95	99	111	4.8	A
	South		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Washington Street at Somerville Avenue/Webster Street	North	120	72	21	22	9	13	31	47.7	E
	South	120	38	11	12	19	23	31	39.2	D
	East	120	84	24	25	6	10	31	50.4	E
	West	120	68	20	21	10	14	31	46.8	E
Washington Street at Beacon Street/Kirkland Street	North	90	55	16	17	-1	3	16	42.1	E
	South	90	56	16	17	-1	3	16	42.1	E
	East	90	51	15	16	0	4	16	41.1	E
	West	90	49	14	15	1	5	16	40.1	E
Prospect Street at Somerville Avenue Street	North	120	67	20	21	0	4	21	56.1	E
	South	120	43	13	14	7	11	21	49.5	E
	East	120	59	17	18	3	7	21	53.2	E
	West	120	73	21	22	-1	3	21	57	E
Prospect Street at Webster Street/Concord	North	120	44	13	14	11	15	25	45.9	E

Pedestrian LOS Calculations
Alternative 2a PM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Avenue	South	120	78	23	24	1	5	25	55.1	E
	South West	120	36	11	12	13	17	25	44.2	E
	West	120	35	10	11	14	18	25	43.4	E
Prospect Street at Cambridge Street	North	90	39	12	13	26	30	39	20	B
	South	90	40	12	13	26	30	39	20	B
	East	90	53	16	17	24	28	41	21.4	C
	West	90	54	16	17	24	28	41	21.4	C
Prospect Street at Hampshire Street	North	90	35	10	11	30	34	41	17.4	B
	South	90	37	11	12	29	33	41	18.1	B
	East	90	48	14	15	23	27	38	22.1	C
	West	90	45	13	14	24	28	38	21.4	C
George Street at College Avenue	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
George Street at Main Street	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Broadway at Boston Avenue/Rogers Street	North	65	67	20	21	20	24	41	12.9	B
	South	65	72	21	22	19	23	41	13.6	B
			Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Broadway at Winchester Street/Ablion Street	Northeast		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Pearl Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Alternative 7 AM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Mystic Valley Parkway at Alewife Brook Parkway/Capen Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Auburn Street	North	120	60	18	19	-4	0	15	60	F
	South	120	46	14	15	0	4	15	56.1	E
	East		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Mystic Valley Parkway at Winthrop Street	North	120	74	22	23	-4	0	19	60	F
	South	120	61	18	19	0	4	19	56.1	E
	East	120	49	14	15	4	8	19	52.3	E
	West	120	66	19	20	-1	3	19	57	E
Boston Avenue at High Street/Sagamore Avenue	North									
	South									
	Middle		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	West									
Mystic Valley Parkway at Boston Avenue	North	120	50	15	16	-1	3	15	57	E
	South	120	50	15	16	-1	3	15	57	E
	East	120	50	15	16	-1	3	15	57	E
	West	120	55	16	17	-2	2	15	58	E
Boston Avenue at North Street	North	60	52	15	16	-1	3	15	27.1	C
	South	60	48	14	15	0	4	15	26.1	C
	East	60	42	12	13	2	6	15	24.3	C
	West	60	38	11	12	3	7	15	23.4	C
Boston Avenue at Winthrop Street	North	110	47	14	15	5	9	20	46.4	E
	South	110	37	11	12	8	12	20	43.7	E
	East	110	36	11	12	8	12	20	43.7	E
	West	110	26	8	9	11	15	20	41	E
Boston Avenue at College Avenue	North	135	56	16	17	5	9	22	58.8	E
	South	135	55	16	17	5	9	22	58.8	E
	East	135	41	12	13	9	13	22	55.1	E
	West	135	45	13	14	8	12	22	56	E
Boston Avenue at Harvard Street/Warner Street	North	120	31	9	10	9	13	19	47.7	E
	South	120	29	9	10	9	13	19	47.7	E
	East	120	41	12	13	6	10	19	50.4	E
	West	120	39	12	13	6	10	19	50.4	E
Powder House Blvd at Broadway/Warner Street/ College Avenue (East)	North	77	56	16	17	5	9	22	30	C
	South	77	45	13	14	8	12	22	27.4	C
	West	77	62	18	19	3	7	22	31.8	D
Powder House Blvd at Broadway/Warner Street/ College Avenue (West)	North	86	51	15	16	6	10	22	33.6	D
	West	86	62	18	19	3	7	22	36.3	D
Main Street at High Street/Salem Street/Forest Avenue/Riverside Avenue	North	120	50	15	16	73	77	89	7.7	A
	South	120	64	19	20	13	17	33	44.2	E
	NorthEast	120	38	11	12	19	23	31	39.2	D
	East	120	36	11	12	44	48	56	21.6	C
	West	120	49	14	15	16	20	31	41.7	E

Pedestrian LOS Calculations
Alternative 7 AM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Main Street at South Street/Mystic Valley EB Ramps	South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Valley WB Ramps	North East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Mystic Avenue	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Main Street at Harvard Street	North	120	58	17	18	4	8	22	52.3	E
	South	120	44	13	14	8	12	22	48.6	E
	East	120	44	13	14	8	12	22	48.6	E
	West	120	44	13	14	8	12	22	48.6	E
Medford Street at Broadway	North	120	67	20	21	-1	3	20	57	E
	South	120	52	15	16	4	8	20	52.3	E
	North West	120	78	23	24	-4	0	20	60	F
	South East	120	74	22	23	-3	1	20	59	E
	East	120	32	10	11	9	13	20	47.7	E
	West	120	44	13	14	6	10	20	50.4	E
Medford Street at Lowell Street	North West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Central Street	North	80	44	13	14	1	5	15	35.2	D
	South	80	39	12	13	2	6	15	34.2	D
	East	80	37	11	12	3	7	15	33.3	D
	West	80	58	17	18	-3	1	15	39	D
Medford Street at School Street	North	100	40	12	13	4	8	17	42.3	E
	South	100	40	12	13	4	8	17	42.3	E
	East	100	40	12	13	4	8	17	42.3	E
	West	100	42	12	13	4	8	17	42.3	E
Medford Street at Walnut Street	North	80	40	12	13	3	7	16	33.3	D
	South	80	40	12	13	3	7	16	33.3	D
	East	80	35	10	11	5	9	16	31.5	D
	West	80	33	10	11	5	9	16	31.5	D
Medford Street at Highland Avenue	East	90	46	14	15	0	4	15	41.1	E
	West	90	41	12	13	2	6	15	39.2	D
	North South		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Medford Street at Somerville Avenue/McGrath Highway	North South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Highland Avenue at Lowell Street	North	80	28	8	9	6	10	15	30.6	D
	South	80	28	8	9	6	10	15	30.6	D
	East	80	40	12	13	2	6	15	34.2	D
	West	80	42	12	13	2	6	15	34.2	D
Highland Avenue at Central Street	North	70	30	9	10	5	9	15	26.6	C
	South	70	30	9	10	5	9	15	26.6	C
	East	70	42	12	13	2	6	15	29.3	C
	West	70	41	12	13	2	6	15	29.3	C
Highland Avenue at School Street	North	100	36	11	12	9	13	21	37.8	D
	South	100	28	8	9	12	16	21	35.3	D
	East	100	42	12	13	8	12	21	38.7	D
	West	100	42	12	13	8	12	21	38.7	D
Washington Street at Innerbelt Road	South	110	74	22	23	3	7	26	48.2	E
	West	110	81	24	25	1	5	26	50.1	E
Washington Street at McGrath Highway (East)	North	135	45	13	14	30	34	44	37.8	D
	South East		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at McGrath Highway (West)	North	135	50	15	16	83	87	99	8.5	A
	South West		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Washington Street at Somerville Avenue/Webster Street	North	120	72	21	22	9	13	31	47.7	E
	South	120	38	11	12	19	23	31	39.2	D
	East	120	84	24	25	6	10	31	50.4	E
	West	120	68	20	21	10	14	31	46.8	E
Washington Street at Beacon Street/Kirkland Street	North	90	55	16	17	-1	3	16	42.1	E
	South	90	56	16	17	-1	3	16	42.1	E
	East	90	51	15	16	0	4	16	41.1	E
	West	90	49	14	15	1	5	16	40.1	E
Prospect Street at Somerville Avenue Street	North	120	67	20	21	0	4	21	56.1	E
	South	120	43	13	14	7	11	21	49.5	E
	East	120	59	17	18	3	7	21	53.2	E
	West	120	73	21	22	-1	3	21	57	E
Prospect Street at Webster Street/Concord	North	120	44	13	14	11	15	25	45.9	E

Pedestrian LOS Calculations
Alternative 7 AM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Avenue	South	120	78	23	24	1	5	25	55.1	E
	South West	120	36	11	12	13	17	25	44.2	E
	West	120	35	10	11	14	18	25	43.4	E
Prospect Street at Cambridge Street	North	90	39	12	13	26	30	39	20	B
	South	90	40	12	13	26	30	39	20	B
	East	90	53	16	17	24	28	41	21.4	C
	West	90	54	16	17	24	28	41	21.4	C
Prospect Street at Hampshire Street	North	90	35	10	11	29	33	40	18.1	B
	South	90	37	11	12	28	32	40	18.7	B
	East	90	48	14	15	25	29	40	20.7	C
	West	90	45	13	14	26	30	40	20	B
George Street at College Avenue	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
George Street at Main Street	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Broadway at Boston Avenue/Rogers Street	North	65	67	20	21	20	24	41	12.9	B
	South	65	72	21	22	19	23	41	13.6	B
			Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Broadway at Winchester Street/Ablion Street	Northeast		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Pearl Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Alternative 7 PM

			Calculated							
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Mystic Valley Parkway at Alewife Brook Parkway/Capen Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Mystic Valley Parkway at Auburn Street	North	120	60	18	19	-4	0	15	60	F
	South	120	46	14	15	0	4	15	56.1	E
	East		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Mystic Valley Parkway at Winthrop Street	North	120	74	22	23	-4	0	19	60	F
	South	120	61	18	19	0	4	19	56.1	E
	East	120	49	14	15	4	8	19	52.3	E
	West	120	66	19	20	-1	3	19	57	E
Boston Avenue at High Street/Sagamore Avenue	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	South									
	Middle									
	West									
Mystic Valley Parkway at Boston Avenue	North	120	50	15	16	-1	3	15	57	E
	South	120	50	15	16	-1	3	15	57	E
	East	120	50	15	16	-1	3	15	57	E
	West	120	55	16	17	-2	2	15	58	E
Boston Avenue at North Street	North	60	52	15	16	-1	3	15	27.1	C
	South	60	48	14	15	0	4	15	26.1	C
	East	60	42	12	13	2	6	15	24.3	C
	West	60	38	11	12	3	7	15	23.4	C
Boston Avenue at Winthrop Street	North	120	47	14	15	5	9	20	51.3	E
	South	120	37	11	12	8	12	20	48.6	E
	East	120	36	11	12	8	12	20	48.6	E
	West	120	26	8	9	11	15	20	45.9	E
Boston Avenue at College Avenue	North	135	56	16	17	5	9	22	58.8	E
	South	135	55	16	17	5	9	22	58.8	E
	East	135	41	12	13	9	13	22	55.1	E
	West	135	45	13	14	8	12	22	56	E
Boston Avenue at Harvard Street/Warner Street	North	120	31	9	10	9	13	19	47.7	E
	South	120	29	9	10	9	13	19	47.7	E
	East	120	41	12	13	6	10	19	50.4	E
	West	120	39	12	13	6	10	19	50.4	E
Powder House Blvd at Broadway/Warner Street/ College Avenue (East)	North	0	56	16	17	5	9	22	#DIV/0!	#DIV/0!
	South	0	45	13	14	8	12	22	#DIV/0!	#DIV/0!
	West	0	62	18	19	3	7	22	#DIV/0!	#DIV/0!
Powder House Blvd at Broadway/Warner Street/ College Avenue (West)	North	0	51	15	16	6	10	22	#DIV/0!	#DIV/0!
	West	0	62	18	19	3	7	22	#DIV/0!	#DIV/0!
Main Street at High Street/Salem Street/Forest Avenue/Riverside Avenuv	North	100	50	15	16	58	62	74	7.2	A
	South	100	64	19	20	16	20	36	32	D
	NorthEast	100	38	11	12	14	18	26	33.6	D
	East	100	36	11	12	14	18	26	33.6	D
	West	100	49	14	15	11	15	26	36.1	D

Pedestrian LOS Calculations
Alternative 7 PM

Intersection	Crosswalk	Cycle Length (sec)	Calculated: Crossing Distance (ft)	Min Crossing Interval (sec)	Min FDW Phase (sec)	Walk Interval (sec)	Effective Green (g) (sec)	Total Crossing Interval (sec)	Average Ped Delay (sec)	PLOS
Main Street at South Street/Mystic Valley EB Ramps	South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	East									
	West									
Main Street at Mystic Valley WB Ramps	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	East									
	West									
Main Street at Mystic Avenue	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	South									
Main Street at Harvard Street	North	120	58	17	18	4	8	22	52.3	E
	South	120	44	13	14	8	12	22	48.6	E
	East	120	44	13	14	8	12	22	48.6	E
	West	120	44	13	14	8	12	22	48.6	E
Medford Street at Broadway	North	120	67	20	21	-1	3	20	57	E
	South	120	52	15	16	4	8	20	52.3	E
	North West	120	78	23	24	-4	0	20	60	F
	South East	120	74	22	23	-3	1	20	59	E
	East	120	32	10	11	9	13	20	47.7	E
	West	120	44	13	14	6	10	20	50.4	E
Medford Street at Lowell Street	North		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
	West									
Medford Street at Central Street	North	80	44	13	14	1	5	15	35.2	D
	South	80	39	12	13	2	6	15	34.2	D
	East	80	37	11	12	3	7	15	33.3	D
	West	80	58	17	18	-3	1	15	39	D
Medford Street at School Street	North	90	40	12	13	4	8	17	37.4	D
	South	90	40	12	13	4	8	17	37.4	D
	East	90	40	12	13	4	8	17	37.4	D
	West	90	42	12	13	4	8	17	37.4	D
Medford Street at Walnut Street	North	80	40	12	13	3	7	16	33.3	D
	South	80	40	12	13	3	7	16	33.3	D
	East	80	35	10	11	5	9	16	31.5	D
	West	80	33	10	11	5	9	16	31.5	D
Medford Street at Highland Avenue	East	70	46	14	15	0	4	15	31.1	D
	West	70	41	12	13	2	6	15	29.3	C
	North		Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	South									
Medford Street at Somerville Avenue/McGrath Highway	North		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	South									
	West									
Highland Avenue at Lowell Street	North	70	28	8	9	6	10	15	25.7	C
	South	70	28	8	9	6	10	15	25.7	C
	East	70	40	12	13	2	6	15	29.3	C
	West	70	42	12	13	2	6	15	29.3	C
Highland Avenue at Central Street	North	80	30	9	10	5	9	15	31.5	D
	South	80	30	9	10	5	9	15	31.5	D
	East	80	42	12	13	2	6	15	34.2	D
	West	80	41	12	13	2	6	15	34.2	D
Highland Avenue at School Street	North	90	36	11	12	9	13	21	32.9	D
	South	90	28	8	9	12	16	21	30.4	D
	East	90	42	12	13	8	12	21	33.8	D
	West	90	42	12	13	8	12	21	33.8	D
Washington Street at Innerbelt Road	South	80	74	22	23	3	7	26	33.3	D
	West	80	81	24	25	1	5	26	35.2	D
Washington Street at McGrath Highway (East)	North	135	45	13	14	24	28	38	42.4	E
	South		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	East									
Washington Street at McGrath Highway (West)	North	135	50	15	16	95	99	111	4.8	A
	South		Crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
	West									
Washington Street at Somerville Avenue/Webster Street	North	120	72	21	22	9	13	31	47.7	E
	South	120	38	11	12	19	23	31	39.2	D
	East	120	84	24	25	6	10	31	50.4	E
	West	120	68	20	21	10	14	31	46.8	E
Washington Street at Beacon Street/Kirkland Street	North	90	55	16	17	-1	3	16	42.1	E
	South	90	56	16	17	-1	3	16	42.1	E
	East	90	51	15	16	0	4	16	41.1	E
	West	90	49	14	15	1	5	16	40.1	E
Prospect Street at Somerville Avenue Street	North	120	67	20	21	0	4	21	56.1	E
	South	120	43	13	14	7	11	21	49.5	E
	East	120	59	17	18	3	7	21	53.2	E
	West	120	73	21	22	-1	3	21	57	E
Prospect Street at Webster Street/Concord	North	120	44	13	14	11	15	25	45.9	E

Pedestrian LOS Calculations
Alternative 7 PM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
Avenue	South	120	78	23	24	1	5	25	55.1	E
	South West	120	36	11	12	13	17	25	44.2	E
	West	120	35	10	11	14	18	25	43.4	E
Prospect Street at Cambridge Street	North	90	39	12	13	27	31	40	19.3	B
	South	90	40	12	13	27	31	40	19.3	B
	East	90	53	16	17	23	27	40	22.1	C
	West	90	54	16	17	23	27	40	22.1	C
Prospect Street at Hampshire Street	North	90	35	10	11	29	33	40	18.1	B
	South	90	37	11	12	28	32	40	18.7	B
	East	90	48	14	15	25	29	40	20.7	C
	West	90	45	13	14	26	30	40	20	B
George Street at College Avenue	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
George Street at Main Street	North South		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Broadway at Boston Avenue/Rogers Street	North	65	67	20	21	19	23	40	13.6	B
	South	65	72	21	22	18	22	40	14.2	B
			Minor Streets crossings are unsignalized. Pedestrians have right-of-way, therefore no pedestrian delay. PLOS = A							
Broadway at Winchester Street/Ablion Street	Northeast		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
Medford Street at Pearl Street	East		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Build AM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
O'Brien Highway at Cambridge Street	North Between Islands East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
O'Brien Highway at Third Street	North	120								
	South	120	62	18	19	56	60	75	15	B
	East	120	98	28	29	16	20	45	41.7	E
	West	120								
O'Brien Highway at Water Street	North	120	32	10	11	72	76	83	8.1	A
	South	120								
	East	120	76	22	23	14	18	37	43.4	E
	West	120								
O'Brien Highway at First Street Extension	North	120	63	18	19	56	60	75	15	B
	South	120								
	East	120	98	28	29	-4	0	25	60	F
	West	120	111	32	33	-13	-9	20	69.3	F
Cambridge Street at First Street	North	120	64	19	20	16	20	36	41.7	E
	South	120	55	16	17	19	23	36	39.2	D
	East	120	26	8	9	75	79	84	7	A
	West	120	47	14	15	69	73	84	9.2	A
Land Boulevard at Charlestown Avenue	North	120	77	22	23	12	16	35	45.1	E
	South	120	69	20	21	14	18	35	43.4	E
	East	120	81	24	25	5	9	30	51.3	E
	West	120	76	22	23	7	11	30	49.5	E
O'Brien Highway at Industrial Avenue	North	120	65	19	20	40	44	60	24.1	C
	South	120								
	East	120								
	West	120	80	23	24	4	8	28	52.3	E
O'Brien Highway at Gore Street	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Pedestrian LOS Calculations
Build PM

		Calculated								
Intersection	**Crosswalk**	**Cycle Length (sec)**	**Crossing Distance (ft)**	**Min Crossing Interval (sec)**	**Min FDW Phase (sec)**	**Walk Interval (sec)**	**Effective Green (g) (sec)**	**Total Crossing Interval (sec)**	**Average Ped Delay (sec)**	**PLOS**
O'Brien Highway at Cambridge Street	North Between Islands East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							
O'Brien Highway at Third Street	North	120								
	South	120	62	18	19	56	60	75	15	B
	East	120	98	28	29	16	20	45	41.7	E
	West	120								
O'Brien Highway at Water Street	North	120	32	10	11	62	66	73	12.2	B
	South	120								
	East	120	76	22	23	24	28	47	35.3	D
	West	120								
O'Brien Highway at First Street Extension	North	120	63	18	19	56	60	75	15	B
	South	120								
	East	120	98	28	29	-4	0	25	60	F
	West	120	111	32	33	-13	-9	20	69.3	F
Cambridge Street at First Street	North	120	64	19	20	16	20	36	41.7	E
	South	120	55	16	17	19	23	36	39.2	D
	East	120	26	8	9	75	79	84	7	A
	West	120	47	14	15	69	73	84	9.2	A
Land Boulevard at Charlestown Avenue	North	120	77	22	23	12	16	35	45.1	E
	South	120	69	20	21	14	18	35	43.4	E
	East	120	81	24	25	5	9	30	51.3	E
	West	120	76	22	23	7	11	30	49.5	E
O'Brien Highway at Industrial Avenue	North	120	65	19	20	40	44	60	24.1	C
	South	120								
	East	120								
	West	120	80	23	24	12	16	36	45.1	E
O'Brien Highway at Gore Street	North South East West		Minor Street approach to intersection operates under STOP sign control. Pedestrials have right-of-way, therefore no pedestrial delay. PLOS = A							

Bicycle Operation Worksheets

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Neg Negligible

Detail

Broadway
Dexter Street
Dunkin' Donuts
Medford Street
Medford
Somerville

Somerville Avenue
Highland Avenue
Lowell Street
Central Street
School Street
Walnut Street
Hamlet Street
See Detail
McGrath Highway
Broadway
Medford
Somerville

Detail

School Street
Gilman Station
Pearl Street
Highland Avenue
Walnut Street
Medford Street
Hamlet Street

Kirkland Street
Washington Street
Beacon Street
Somerville
Cambridge
Webster Avenue
Prospect Street
Concord Avenue
Somerville Avenue
Cambridge Street
Hampshire Street
Somerville
Cambridge
Washington Street
McGrath Highway
Innerbelt Road
Medford Street
McGrath Highway
Somerville
Cambridge

AM (PM)

EOT Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

Figure 5.6-Xb

2030 Build - ~~Alt1 Conditions~~
Weekday ~~Morning~~ Bike Networks
Peak Hour Taffic Volumes
Medford/Somerville/Cambridge

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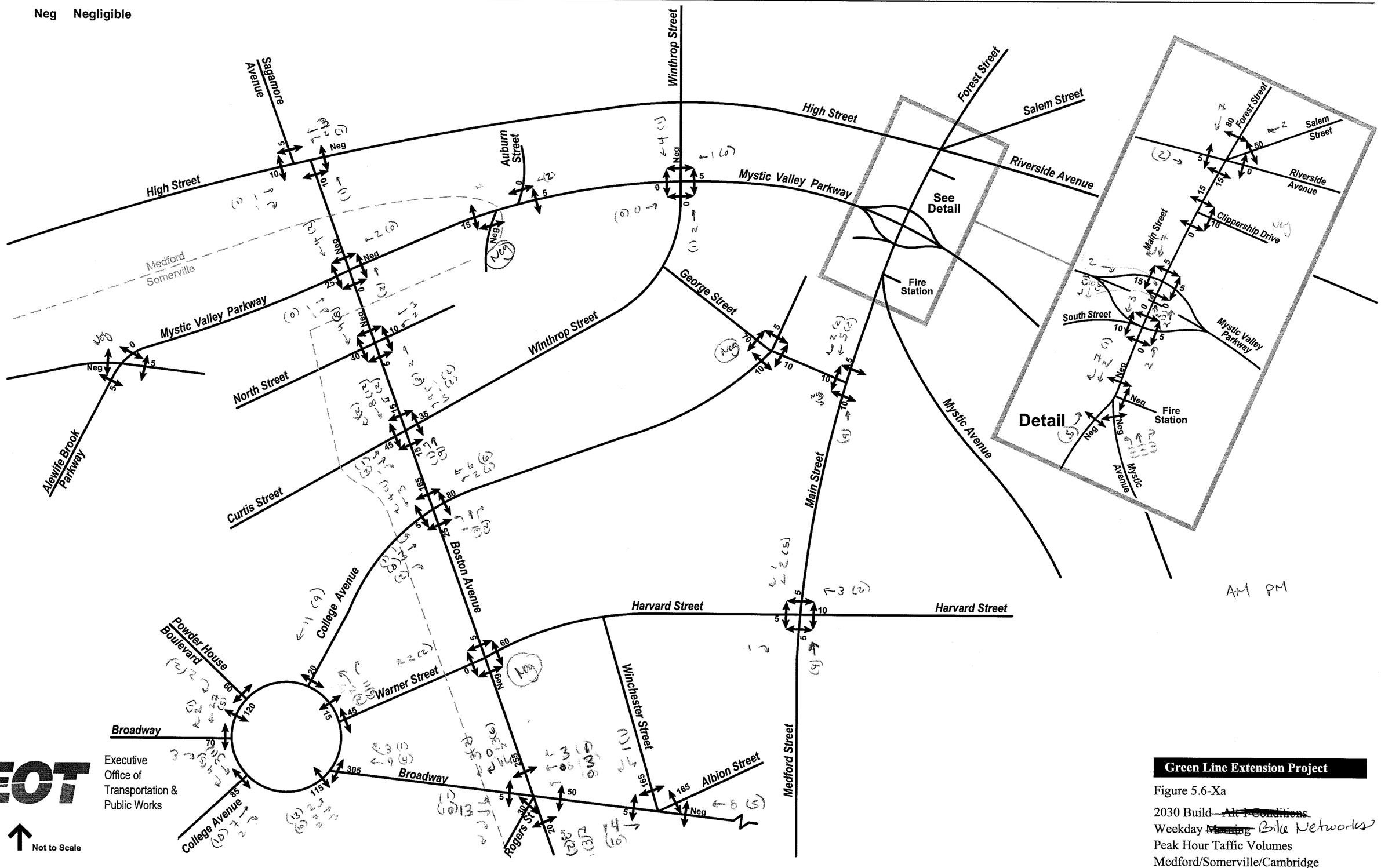
Neg Negligible



EOT

Executive Office of Transportation & Public Works

Not to Scale

Green Line Extension Project

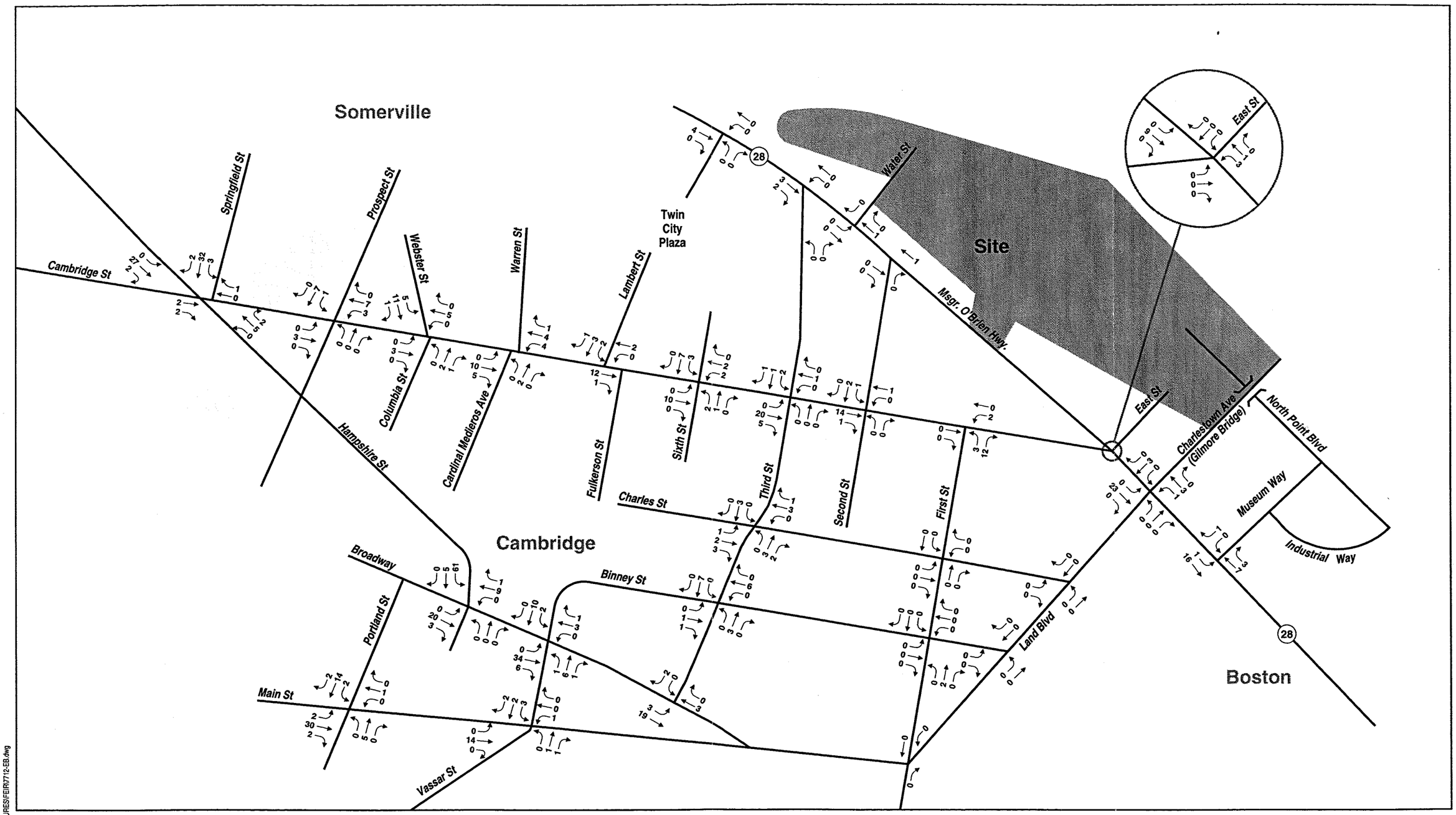
Figure 5.6-Xa

2030 Build ~~– Alt 1 Conditions~~

Weekday ~~Morning~~ Bike Networks

Peak Hour Taffic Volumes

Medford/Somerville/Cambridge



N

Not to Scale

North Point

Existing Conditions
Morning Peak Hour
Bike Volumes

Figure 8.1

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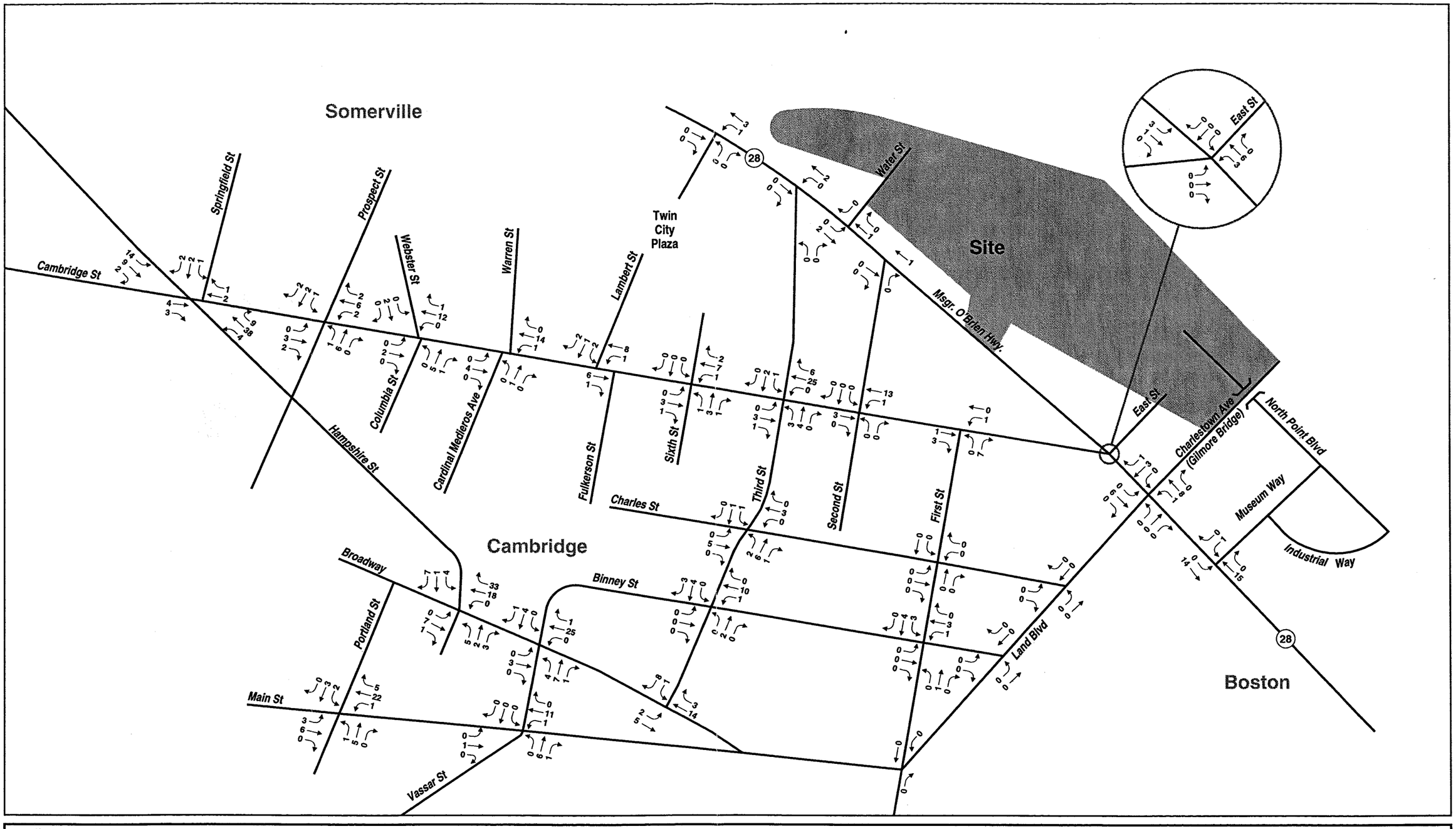

N

Not to Scale

Existing Conditions
Evening Peak Hour
Bike Volumes

Figure 8.2

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Medford - Journy to work by workplace

MEANS18 GEO_ID	Total, Means of Transportation (18)	Drove alone	2-person carpool	3-person carpool	4-person carpool	5-or-6-person carpool	7-or-more-person carpool	Bus or trolley bus	Streetcar or trolley car	Subway or elevated	Railroad	Ferryboat	Bicycle	Walked	Taxicab	Motorcycle	Other means	Worked at home
MA, Medford-MA, Boston	6995	3325	490	90	15	0	0	1055	35	1750	180	20	20	4	0	0	15	0
MA, Medford-MA, Medford	4960	2795	275	55	4	0	0	315	4	50	10	0	40	875	0	0	0	535
MA, Medford-MA, Cambridge	3055	1810	310	15	4	0	0	505	4	310	4	0	40	25	4	4	15	0
MA, Medford-MA, Somerville	1335	835	115	4	10	0	4	110	0	10	10	0	0	215	10	0	15	0
MA, Medford-MA, Woburn	1020	870	105	10	0	0	0	20	0	0	10	0	0	4	0	0	0	0
MA, Medford-MA, Malden	820	505	95	45	10	0	0	120	0	0	0	0	10	15	0	0	15	0
MA, Medford-MA, Waltham	755	715	15	4	0	0	0	4	0	15	0	0	0	4	0	0	0	0
MA, Medford-MA, Burlington	625	600	15	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Everett	495	415	15	15	0	0	0	45	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Winchester	415	325	35	15	0	0	0	25	0	0	0	0	0	10	0	0	0	0
MA, Medford-MA, Lexington	390	345	20	4	0	0	0	10	0	0	0	0	0	10	0	0	0	0
MA, Medford-MA, Newton	365	215	50	35	10	0	0	25	0	15	20	0	0	0	0	0	0	0
MA, Medford-MA, Watertown	320	240	35	20	0	0	0	20	0	10	0	0	0	0	0	0	0	0
MA, Medford-MA, Stoneham	285	250	20	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0
MA, Medford-MA, Arlington	280	245	10	0	0	0	0	20	0	0	0	0	0	0	4	0	0	0
MA, Medford-MA, Wilmington	275	260	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Wakefield	260	225	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Chelsea	255	230	15	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
MA, Medford-MA, Framingham	230	180	45	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
MA, Medford-MA, Lowell	215	165	10	0	0	0	4	0	0	4	20	0	0	10	0	0	0	0
MA, Medford-MA, Quincy	205	150	4	10	0	0	0	0	0	40	0	0	0	0	0	0	0	0
MA, Medford-MA, Brookline	185	95	20	0	0	0	0	20	0	40	0	0	0	0	0	0	15	0
MA, Medford-MA, Melrose	185	145	15	0	0	0	0	10	0	0	0	0	10	0	0	0	0	0
MA, Medford-MA, Peabody	160	95	50	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0
MA, Medford-MA, Belmont	155	85	40	0	0	0	0	10	0	15	0	0	10	0	0	0	0	0
MA, Medford-MA, Saugus	140	120	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0
MA, Medford-MA, Lynn	135	120	10	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Reading	120	90	15	0	0	10	0	0	0	0	0	0	0	10	0	0	0	0
MA, Medford-MA, Marlborough	110	75	30	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
MA, Medford-MA, Beverly	105	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Danvers	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Pinehurst	85	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Needham	80	55	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Wellesley	75	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Lawrence	70	65	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Haverhill	65	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Braintree	60	35	10	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0
MA, Medford-MA, Revere	60	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Randolph	50	35	10	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Lynnfield	45	35	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Andover	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Dedham	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Brockton	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Methuen	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, West Concord	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Weymouth	30	15	0	0	0	0	0	0	0	10	0	0	0	4	0	0	0	0
MA, Medford-MA, Fall River	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Hopkinton	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Salem	25	20	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Maynard	20	15	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Milton	20	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Medford-MA, Worcester	20	15	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0

Mode Split Summary for Medford

Total	25865	
Total Non-Motorized	1953	8%
Bike	134	1%
Walk	1209	5%

Somerville - Journy to work by workplace

MEANS18 GEO_ID	Total, Means of Transportation (18)	Drove alone	2-person carpool	3-person carpool	4-person carpool	5-or-6-person carpool	7-or-more-person carpool	Bus or trolley bus	Streetcar or trolley car	Subway or elevated	Railroad	Ferryboat	Bicycle	Walked	Taxicab	Motorcycle	Other means	Worked at home
MA, Somerville-MA, Boston	12490	3790	705	90	35	25	0	1435	185	5550	60	0	395	155	10	4	50	0
MA, Somerville-MA, Cambridge	9085	3010	900	95	4	0	0	1075	20	1865	15	0	530	1500	10	4	55	0
MA, Somerville-MA, Somerville	7105	2785	640	60	35	10	30	530	20	135	0	0	95	1605	25	10	50	1075
MA, Somerville-MA, Medford	1615	640	140	10	0	0	10	220	10	50	0	0	15	495	15	10	0	0
MA, Somerville-MA, Newton	1020	610	135	30	0	20	0	70	0	105	10	0	25	15	0	0	0	0
MA, Somerville-MA, Waltham	970	695	85	35	0	0	0	40	0	30	60	0	4	30	0	0	0	0
MA, Somerville-MA, Burlington	830	660	95	0	0	0	0	55	0	15	0	0	0	4	0	0	0	0
MA, Somerville-MA, Woburn	695	510	110	4	10	4	0	30	0	4	4	0	0	10	0	0	0	0
MA, Somerville-MA, Watertown	540	315	65	0	0	0	0	110	0	4	0	0	25	30	0	0	0	0
MA, Somerville-MA, Everett	530	240	65	15	0	0	0	80	0	95	0	0	20	0	10	0	4	0
MA, Somerville-MA, Lexington	515	375	40	0	0	0	0	50	0	0	0	0	10	40	0	0	0	0
MA, Somerville-MA, Malden	490	265	25	10	0	0	0	95	0	65	0	0	0	25	0	0	0	0
MA, Somerville-MA, Arlington	430	300	20	0	0	0	25	65	0	0	0	0	0	20	0	0	0	0
MA, Somerville-MA, Brookline	420	210	25	20	0	0	0	40	0	100	0	0	25	0	0	0	0	0
MA, Somerville-MA, Framingham	345	275	25	0	0	0	0	0	0	20	0	0	0	20	0	0	0	0
MA, Somerville-MA, Quincy	285	200	10	0	0	0	0	10	0	55	0	0	10	0	0	0	0	0
MA, Somerville-MA, Wilmington	275	215	10	0	0	0	0	40	0	10	0	0	0	0	0	0	0	0
MA, Somerville-MA, Winchester	270	255	4	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Chelsea	260	190	25	0	0	0	0	20	0	10	0	0	4	10	0	0	0	0
MA, Somerville-MA, Belmont	250	155	10	15	0	0	0	35	0	0	0	0	35	0	0	0	0	0
MA, Somerville-MA, Lowell	215	165	20	0	0	0	0	15	0	0	0	0	0	15	0	0	0	0
MA, Somerville-MA, Marlborough	215	165	10	30	0	0	0	0	0	0	0	0	0	4	0	0	0	0
MA, Somerville-MA, Wellesley	205	195	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Stoneham	170	75	35	10	0	0	0	20	0	30	0	0	0	0	0	0	0	0
MA, Somerville-MA, Danvers	165	135	25	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
MA, Somerville-MA, Melrose	165	125	4	0	4	0	0	0	0	30	0	0	0	0	0	0	0	0
MA, Somerville-MA, Wakefield	135	95	4	4	0	0	0	4	0	10	4	0	0	10	0	0	0	0
MA, Somerville-MA, Beverly	120	115	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
MA, Somerville-MA, Lynn	120	90	25	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Needham	120	110	0	0	0	0	0	10	0	0	4	0	0	0	0	0	0	0
MA, Somerville-MA, Braintree	105	70	25	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
MA, Somerville-MA, Revere	105	30	0	0	0	4	0	40	0	10	0	0	0	10	0	0	4	0
MA, Somerville-MA, Brockton	80	60	4	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0
MA, Somerville-MA, Peabody	70	60	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Reading	70	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Dedham	65	35	4	0	4	0	0	15	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Lynnfield	65	45	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
MA, Somerville-MA, West Concord	65	15	20	0	0	0	0	0	0	10	10	0	10	0	0	0	0	0
MA, Somerville-MA, Norwood	60	55	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Andover	55	40	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Haverhill	55	45	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Methuen	55	25	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Saugus	55	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Salem	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Worcester	50	30	15	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0
MA, Somerville-MA, Hudson	45	40	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Milton	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Weymouth	45	10	25	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
MA, Somerville-MA, Lawrence	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Gloucester	30	15	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0
MA, Somerville-MA, Maynard	30	20	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
MA, Somerville-MA, Randolph	25	10	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
MA, Somerville-MA, Marblehead	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Somerville-MA, Pinehurst	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Mode Split Summary for Somerville

Total	41350	
Total Non-Motorized	6477	16%
Bike	1223	3%
Walk	4016	10%

Cambridge - Journy to work by workplace

MEANS18 GEO_ID	Total, Means of Transportation (18)	Drove alone	2-person carpool	3-person carpool	4-person carpool	5-or-6-person carpool	7-or-more-person carpool	Bus or trolley bus	Streetcar or trolley car	Subway or elevated	Railroad	Ferryboat	Bicycle	Walked	Taxicab	Motorcycle	Other means	Worked at home
MA, Cambridge-MA, Cambridge	25555	4860	1025	125	15	4	15	1440	20	1940	4	0	1380	11540	45	85	145	2900
MA, Cambridge-MA, Boston	14680	4375	585	85	15	30	4	1640	190	6330	55	0	490	740	50	35	45	0
MA, Cambridge-MA, Somerville	1305	655	100	4	4	0	4	110	0	85	0	4	40	260	20	0	10	0
MA, Cambridge-MA, Waltham	1195	850	45	15	10	0	0	105	0	40	50	0	20	55	0	0	4	0
MA, Cambridge-MA, Newton	995	615	55	15	0	0	0	55	0	120	0	4	35	75	0	0	15	0
MA, Cambridge-MA, Watertown	605	410	25	0	0	0	0	100	10	30	0	0	4	20	0	0	0	0
MA, Cambridge-MA, Burlington	560	490	25	0	10	0	0	20	0	0	0	0	4	15	0	0	0	0
MA, Cambridge-MA, Lexington	550	435	35	0	0	0	0	25	0	4	0	0	20	30	0	0	0	0
MA, Cambridge-MA, Medford	465	325	4	0	0	0	0	40	0	45	0	0	15	35	0	0	0	0
MA, Cambridge-MA, Brookline	420	240	30	4	0	0	0	35	0	60	0	0	20	25	4	0	0	0
MA, Cambridge-MA, Woburn	420	285	40	0	0	0	0	10	0	20	0	0	15	40	0	0	10	0
MA, Cambridge-MA, Belmont	355	210	15	10	0	0	0	85	15	4	0	0	0	15	0	0	0	0
MA, Cambridge-MA, Framingham	345	225	30	0	0	0	0	0	0	15	4	0	4	45	15	0	0	0
MA, Cambridge-MA, Everett	340	110	15	0	0	0	0	25	0	125	0	0	25	45	0	0	0	0
MA, Cambridge-MA, Wellesley	300	275	20	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Arlington	285	185	4	0	0	0	0	50	10	4	0	0	4	20	0	0	4	0
MA, Cambridge-MA, Marlborough	265	160	35	0	4	0	0	0	0	10	0	0	10	35	0	15	0	0
MA, Cambridge-MA, Lowell	255	175	25	0	0	0	0	0	0	15	4	0	10	10	10	0	0	0
MA, Cambridge-MA, Malden	255	175	0	0	0	0	0	35	0	35	0	0	0	10	0	0	0	0
MA, Cambridge-MA, Quincy	225	105	0	0	0	0	0	0	4	85	0	0	4	25	0	0	0	0
MA, Cambridge-MA, Wilmington	175	130	4	0	0	4	0	0	0	0	10	0	4	15	0	0	0	0
MA, Cambridge-MA, Chelsea	150	105	20	10	0	0	0	10	0	4	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Needham	145	125	0	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Wakefield	145	105	35	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
MA, Cambridge-MA, Melrose	135	90	15	10	0	0	0	10	0	15	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Lynn	100	85	4	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0
MA, Cambridge-MA, Braintree	85	60	0	0	0	0	0	10	0	15	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Norwood	75	70	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Winchester	70	40	0	0	0	0	0	15	0	10	0	0	0	10	0	0	0	0
MA, Cambridge-MA, Worcester	70	40	10	10	0	0	0	0	0	0	0	0	0	10	0	0	0	0
MA, Cambridge-MA, Beverly	65	55	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0
MA, Cambridge-MA, Dedham	60	50	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Lawrence	60	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Stoneham	60	50	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Brockton	55	45	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Reading	55	40	10	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Weymouth	55	15	4	0	0	0	0	4	0	20	0	0	0	4	0	0	0	0
MA, Cambridge-MA, Saugus	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Methuen	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Randolph	45	35	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Andover	40	35	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Maynard	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Revere	40	4	4	0	0	0	0	10	0	0	0	0	15	10	0	0	0	0
MA, Cambridge-MA, Franklin	35	20	0	0	0	0	0	0	0	0	10	0	4	0	0	0	0	0
MA, Cambridge-MA, Milton	30	25	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Peabody	30	15	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
MA, Cambridge-MA, West Concord	30	20	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
MA, Cambridge-MA, Gloucester	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Salem	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Danvers	20	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
MA, Cambridge-MA, Lynnfield	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA, Cambridge-MA, Pinehurst	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Mode Split Summary for Cambridge

Total	51430	
Total Non-Motorized	18353	36%
Bike	2123	4%
Walk	13093	25%

Bike and Walk Volumes

	Bike Percent
Somerville	5%
Medford	1%
Cambridge	5%

		Alternative 1				Alternative 2A				Alternative 2B				Alternative 3			
Green Line Station		Peak Boardings	Drive and Park	Peak Walk		Peak Boardings	Drive and Park	Peak Walk		Peak Boardings	Drive and Park	Peak Walk		Peak Boardings	Drive and Park	Peak Walk	
New Lechmere	106	3,200		2,120	109	3,200		2180	112	3300		2240	103	3200		2060	109
Brickbottom	33	700	0	655	38	800	0	753	38	800	0	753	33	700	0	655	38
Gilman Sq	71	1,500	0	1,427	76	1,600	0	1,525	76	1600	0	1,525	71	1500	0	1,427	76
Lowell St	24	500	0	479	24	500	0	479	24	500	0	479	24	500	0	479	24
Ball Sq	33	700	0	669	33	700	0	669	33	700	0	669	33	700	0	669	33
College Ave	38	800	0	760	33	700	0	665	33	700	0	665	38	800	0	760	33
MVP-Rte16	0	0	0	0	8	900	80	778	8	800	0	765	0	0	0	0	8
Union Square	33	700	0	653	33	700	0	662	33	700	0	662	38	800	0	762	38

	Alternative 4				Alternative 5A				Alternative 6				Alternative 7			
Green Line Station	Peak Boardings	Drive and Park	Peak Walk		Peak Boardings	Drive and Park	Peak Walk		Peak Boardings	Drive and Park	Peak Walk		Peak Boardings	Drive and Park	Peak Walk	
New Lechmere	3200		2180	103	3200		2060	91	3100		1810	119	3300		2370	
Brickbottom	800	0	753	47	1000	0	939	0	0	0	0	61	1300	0	1,216	
Gilman Sq	1600	0	1,525	76	1600	0	1,525	0	0	0	0	90	1900	0	1,809	
Lowell St	500	0	479	24	500	0	479	0	0	0	0	29	600	0	574	
Ball Sq	700	0	669	33	700	0	669	0	0	0	0	43	900	0	860	
College Ave	700	0	665	38	800	0	760	0	0	0	0	38	800	0	760	
MVP-Rte16	900	80	778	0	0	0	0	0	0	0	0	11	1200	80	1,068	
Union Square	800	0	762	0	0	0	0	57	1200	0	1,132	0	0	0	0	

Note: Alternative 5 is referred to as Alternative 5b in the Environmental Consequences Chapter
Alternative 7 is referred to as Alternative 5a in the Environmental Consequences Chapter

2000 Residents of Cambridge

Workplace Location[1]	As % of Resident Workers	Single Occupancy Vehicle	Public Transit	Car/Van Pool	Bike	Walk	Other Means	Work at Home
In Cambridge and Abutting Towns	78.7%	25.3%	28.3%	4.9%	4.5%	29.2%	1.0%	6.7%
In Cambridge	46.5%	19.0%	13.3%	4.6%	5.4%	45.2%	1.1%	11.4%
In Abutting Towns[2]	32.1%	34.5%	50.0%	5.2%	3.2%	6.1%	1.0%	0.0%
Elsewhere	21.3%	72.2%	12.1%	6.5%	1.8%	6.1%	1.2%	0.0%
All Locations	100.0%	35.3	24.9	5.2	3.9	24.3	1.1%	5.3%

1. Steps taken by the Census Bureau to protect individual confidentiality by suppressing data affect the accuracy of the only “worker flow” table to separate bicyclers, walkers, and several other “minor” modes of commuting. Thus, the 2000 Census does not provide accurate or useful individual figures for the "Bike", "Walk" and "Other" modes. The figures used here come from an analysis that weights various factors to generate useful mode splits for resident flows to different locations. As such, they do not have the same level of rigor as figures for the total labor force irregardless of work location.

2. Abutting towns include Arlington, Belmont, Boston, Brookline, Somerville, and Watertown.

From the website:

http://www.cambridgema.gov/cdd/data/trans/jtwmode_from_19902000.html

Parking Operation Worksheets

Mystic Valley Parkway

			Capacity				Occupancy				% Occupied				
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	
Mystic Valley Pkwy		N Side	0	0	0	0	0	0	0	0	-	-	-	-	
		S Side	0	0	0	0	0	0	0	0	-	-	-	-	
Boston Ave	South of Mystic	E Side	11	0	0	0	1	0	0	0	9%	-	-	-	
		W Side	11	0	0	0	3	0	0	0	27%	-	-	-	
Auburn St	South of Mystic	E Side	0	3	0	0	0	0	0	0	-	0%	-	-	
		W Side	0	3	0	0	0	0	0	0	-	0%	-	-	
Walking Circle	Dead-end	N Side	0	0	0	0	0	0	0	0	-	-	-	-	
		S Side	0	0	0	0	0	0	0	0	-	-	-	-	
TOTAL	-	-	*22*	*6*	*0*	*0*	*4*	*0*	*0*	*0*	*18%*	*0%*	*#DIV/0!*	*#DIV/0!*	14.3%

Tufts Parking

	Capacity				Occupancy				% Occupied				
Section	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	
NE Side	24	2	0	0	23	0	0	0	96%	0%	-	-	
SW Side	27	2	0	0	22	0	0	0	81%	0%	-	-	
NB Side	0	0	0	0	0	0	0	0	-	-	-	-	
SB Side	17	0	0	0	6	0	0	0	35%	-	-	-	
N Side	0	0	13	0	0	0	5	0	-	-	38%	-	
S Side	0	0	0	0	0	0	0	0	-	-	-	-	
NE Side	0	0	10	0	0	0	9	0	-	-	90%	-	
SW Side	0	0	0	0	0	0	0	0	-	-	-	-	
E/S Side	20	0	0	0	4	0	0	0	20%	-	-	-	
N/W Side	18	0	0	0	8	0	0	0	44%	-	-	-	
NE Side	4	0	0	0	1	0	0	0	25%	-	-	-	
SW Side	4	0	0	0	3	0	0	0	75%	-	-	-	
E Side	10	0	0	0	4	0	0	0	40%	-	-	-	
W Side	8	0	0	0	3	0	0	0	38%	-	-	-	
E Side	8	0	0	0	4	0	0	0	50%	-	-	-	Total
W Side	8	0	0	0	3	0	0	0	38%	-	-	-	Occupancy
-	*148*	*4*	*23*	*0*	*81*	*0*	*14*	*0*	*55%*	*0%*	*61%*	*#DIV/0!*	54.3%

Tufts Parking			Capacity				Occupancy				% Occupied				
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	
Boston Ave	North of College	NE Side	14	0	0	0	7	0	0	0	50%	-	-	-	
		SW Side	12	1	0	0	9	0	0	0	75%	0%	-	-	
Boston Ave	South of College	NE Side	15	0	0	0	14	0	0	0	93%	-	-	-	
		SW Side	0	0	0	0	0	0	0	0	-	-	-	-	
College Ave	East of Boston Ave	N Side	12	3	0	0	9	0	0	0	75%	0%	-	-	
		S Side	0	0	0	0	0	0	0	0	-	-	-	-	
College Ave	West of Boston Ave	N Side	0	0	0	0	0	0	0	0	-	-	-	-	
		S Side	0	0	0	0	6	0	0	0	-	-	-	-	
Tufts Parking	Surface Lot		0	0	172	0	0	0	43	0	-	-	25%	-	
Burget Ave	East of Boston Ave	E/S Side	5	0	0	0	2	0	0	0	40%	-	-	-	
		N/W Side	5	0	0	0	3	0	0	0	60%	-	-	-	
TOTAL	-	-	*63*	*4*	*172*	*0*	*50*	*0*	*43*	*0*	*79%*	*0%*	*25%*	*#DIV/0!*	38.9%

Ball Square

			Capacity				Occupancy				% Occupied				
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	
Broadway	East of Boston Ave	SE Side	0	6	0	12	0	0	0	7	-	-	-	58%	
		NW Side	0	3	0	12	0	1	0	0	-	33%	-	-	
Broadway	West of Boston Ave	SE Side	21	0	0	0	8	0	0	0	38%	-	-	-	
		NW Side	17	0	0	0	6	0	0	0	35%	-	-	-	
Boston Ave	North of Boston Ave	NB Side	0	0	0	0	0	0	0	0	-	-	-	-	
		SB Side	17	0	0	0	6	0	0	0	35%	-	-	-	
Boston Ave	South of Broadway	NB Side	10	1	0	3	0	0	0	3	0%	0%	-	100%	
		SB Side	17	2	0	1	13	0	0	1	76%	0%	-	100%	
Rogers St	1-Way SB	Right Side	0	1	7	1	0	0	6	0	-	0%	86%	0%	
		Left Side	0	0	5	4	0	0	2	2	-	-	40%	50%	
Josephine St	1-Way NB	E Side	0	2	10	1	0	1	7	1	-	50%	70%	100%	
		W Side	0	1	11	2	0	0	5	2	-	0%	45%	100%	
Willow St	2-way	E Side	0	0	0	0	0	0	0	0	-	-	-	-	
		W Side	0	0	0	0	0	0	0	0	-	-	-	-	
Winchester St	2-way	E Side	34	0	0	0	21	0	0	0	62%	-	-	-	
		W Side	0	0	0	0	0	0	0	0	-	-	-	-	
Granville Ave	2-way	N Side	0	0	19	0	0	0	8	0	-	-	42%	-	
		S Side	0	0	19	0	0	0	5	0	-	-	26%	-	
Morton Ave	2-way	N Side	0	0	17	0	0	0	7	0	-	-	41%	-	
		S Side	0	0	17	0	0	0	4	0	-	-	24%	-	
Newbern Ave	2-way	N Side	8	0	0	0	6	0	0	0	75%	-	-	-	
		S Side	12	0	0	0	10	0	0	0	83%	-	-	-	
Winchester Pl	Dead-End	N Side	4	0	0	0	3	0	0	0	75%	-	-	-	
		S Side	4	0	0	0	0	0	0	0	0%	-	-	-	
Bristol Rd	2-way	E Side	7	1	0	3	2	0	0	2	29%	0%	-	67%	Total
		W Side	2	0	0	3	0	0	0	2	0%	-	-	67%	Occupancy
TOTAL	-	-	*153*	*17*	*105*	*42*	*75*	*2*	*44*	*20*	*49%*	*12%*	*42%*	*48%*	44.5%

Restricted Parking Notes	
CP, 4 15 min Parking & 1 Loading Z	
1 HCP, 2 Loading Zone	
-	
-	
-	
-	
HCP	
15 Min Parking	
HCP	
-	
1 HCP, 1 Loading	
Loading	
No parking	
No parking	

*Boston Ave (NB) and Pearson Ave (SB) both were scheduled for Street Sweeping during occupancy counts and therefore were designated as NO PARKING areas, accounting for low occupancy

Metered parking had a 2 hour MAX

Loading Zones were 20 min for Commercial plates & 5 min for passengers

Lowell Street

			Capacity				Occupancy				% Occupied					*Restricted Parking*
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**		*Notes*
Wilton St	1-way EB	N Side	0	0	10	0	0	0	2	0	-	-	20%	-		-
		S Side	0	0	8	0	0	0	1	0	-	-	13%	-		-
Nashua St	2-way	E Side	16	0	0	0	10	0	0	0	63%	-	-	-		-
		W Side	13	1	0	0	7	1	0	0	54%	100%	-	-		HCP
Henderson St	2-way	E Side	1	0	0	0	0	0	0	0	0%	-	-	-		
		W Side	7	0	0	0	1	0	0	0	14%	-	-	-		
Hinckley St	2-way	E Side	6	0	0	0	2	0	0	0	33%	-	-	-		
		W Side	6	0	0	0	2	0	0	0	33%	-	-	-		
Lowell St	North of Bridge	NB	13	0	0	0	6	0	0	0	46%	-	-	-		-
		SB	0	0	0	0	0	0	0	0	-	-	-	-		-
Vernon St	Park EB Side Only	EB	14	0	0	0	7	0	0	0	50%	-	-	-		-
		WB	0	0	0	0	0	0	0	0	-	-	-	-		-
Princeton St	2-way	NB	0	0	11	0	0	0	7	0	-	-	64%	-		
		SB	0	0	11	0	0	0	0	0	-	-	0%	-		
Alpine St	2-way	NB	0	0	10	0	0	0	7	0	-	-	70%	-		
		SB	0	0	11	0	0	0	0	0	-	-	0%	-		
Warwick St	1-way NB	E Side	8	1	0	0	2	0	0	0	25%	0%	-	-		HCP
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Murdock St	2-way	E Side	7	0	0	0	3	0	0	0	43%	-	-	-		
		W Side	6	0	0	0	3	0	0	0	50%	-	-	-		
Trull St	1-way NB	Right Side	0	0	8	0	0	0	4	0	-	-	50%	-	Total	-
		Left Side	0	3	6	0	0	0	4	0	-	0%	67%	-	Occupancy	HCP
TOTAL	-	-	*97*	*5*	*75*	*0*	*43*	*1*	*25*	*0*	*44%*	*20%*	*33%*	-	39.0%	

Loading Zones were 20 min for Commercial plates & 5 min for passengers

Gillman Square

			Capacity				Occupancy				% Occupied					
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**		*Restricted Parking Notes*
Medford St	North of Bridge	East Side	11	0	0	0	3	0	0	0	27%	-	-	-		-
		West Side	0	0	0	0	0	0	0	0	-	-	-	-		*No parking*
Medford St	South of Bridge	East Side	0	0	22	0	0	0	18	0	-	-	82%	-		-
		West Side	0	0	0	0	0	0	0	0	-	-	-	-		*No Parking*
School St	1-way SB	E Side	12	0	10	0	8	0	7	0	67%	-	70%	-		*City Permit*
		W Side	16	0	0	0	7	0	0	0	44%	-	-	-		
Pearl St	2-way	EB	9	17	0	0	6	7	0	0	67%	41%	-	-		2 Hour Parking
		WB	17	3	0	0	10	2	0	0	59%	67%	-	-		Illegal Spaces
Marshall St	1-way SB	Right Side	9	0	0	0	6	0	0	0	67%	-	-	-		-
		Left Side	0	0	0	0	0	0	0	0	-	-	-	-		-
Bradley St	2-way	NB	12	0	0	0	3	0	0	0	25%	-	-	-		-
		SB	13	0	0	0	12	0	0	0	92%	-	-	-		-
Stickney Ave	2-way	N Side	9	0	0	0	8	0	0	0	89%	-	-	-		
		S Side	9	0	0	0	6	0	0	0	67%	-	-	-		
James St	1-way SB	Right Side	5	0	0	0	2	0	0	0	40%	-	-	-	Total Occupancy	-
		Left Side	5	0	0	0	2	0	0	0	40%	-	-	-		-
TOTAL	-	-	*127*	*20*	*32*	*0*	*73*	*9*	*25*	*0*	*57%*	*45%*	*78%*	*0%*	59.8%	

Brickbottom

			Capacity				Occupancy				% Occupied				
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	
Fitchburg St	Off- and On-Street	all	0	0	20	0	0	0	16	0	-	-	80%	-	
Washington St	East of McGrath	N Side	0	8	0	0	0	0	0	0	-	0%	-	-	
		S Side	0	2	0	0	0	0	0	0	-	0%	-	-	
Joy St	-	E Side	19	0	0	0	16	0	0	0	84%	-	-	-	
		W Side	25	0	0	0	21	0	0	0	84%	-	-	-	
New Washington St	2-way	E Side	0	0	0	0	0	0	0	0	-	-	-	-	
		W Side	8	8	0	0	0	2	0	0	0%	25%	-	-	
Knowlton St	2-way	N Side	5	0	0	0	3	0	0	0	60%	-	-	-	
		S Side	5	0	0	0	2	0	0	0	40%	-	-	-	
Tufts St	2-way	E Side	0	0	5	0	0	0	2	0	-	-	40%	-	
		W Side	0	0	0	0	0	0	0	0	-	-	-	-	
Inner Belt Rd	No Parking	all	0	0	0	0	0	0	0	0	-	-	-	-	Total Occupancy
McGrath Hwy	No Parking	all	0	0	0	0	0	0	0	0	-	-	-	-	
TOTAL	-	-	*62*	*18*	*25*	*0*	*42*	*2*	*18*	*0*	*68%*	*11%*	*72%*	*0%*	59.0%

Restricted Parking Notes
-
-
2-Hr Parking
2-Hr Parking
2-Hr Parking
-
-

Union Square

			Capacity				Occupancy				% Occupied					Restricted Parking Notes
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**		
Prospect St	South of Webster	E Side	0	0	6	0	0	0	4	0	-	-	67%	-		
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Prospect St	North of Webster	E Side	0	0	0	0	0	0	0	0	-	-	-	-		
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Webster St	South of Prospect	E Side	0	5	0	0	0	0	0	0	-	0%	-	-		*2-Hr*
		W Side	0	0	6	0	0	0	5	0	-	-	83%	-		
Webster St	North of Prospect	E Side	9	1	0	0	7	0	0	0	78%	0%	-	-		*Loading Zone*
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Concord Ave	One-Way	N Side	0	0	8	0	0	0	6	0	-	-	75%	-		
		S Side	0	0	6	0	0	0	4	0	-	-	67%	-		
Newton St	East of Webster	N Side	0	0	0	0	0	0	0	0	-	-	-	-		
		S Side	11	0	0	0	5	0	0	0	45%	-	-	-		
Newton St	West of Webster	N Side	0	0	0	0	0	0	0	0	-	-	-	-		
		S Side	0	0	5	0	0	0	4	0	-	-	80%	-		
Emerson St	2-way	E Side	6	0	0	0	4	0	0	0	67%	-	-	-		
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Everett St	One-Way	N Side	0	0	0	0	0	0	0	0	-	-	-	-		
		S Side	5	0	0	0	4	0	0	0	80%	-	-	-		
Clark St	One-Way	E Side	0	0	1	0	0	0	0	0	-	-	0%	-		
		W Side	0	0	3	0	0	0	1	0	-	-	33%	-		
Allen St	2-way	E Side	0	0	0	0	0	0	0	0	-	-	-	-		
		W Side	18	0	0	0	10	0	0	0	56%	-	-	-		
TOTAL	-	-	*49*	*6*	*35*	*0*	*30*	*0*	*24*	*0*	*61%*	*0%*	*69%*	*0%*	60.0%	

Union Square - loop

			Capacity				Occupancy				% Occupied					
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**		*Restricted Parking Notes*
Prospect St	One-Way	E Side	0	0	0	0	0	0	0	0	-	-	-	-		
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Washington St	West of Prospect	N Side	0	0	0	0	0	0	0	0	-	-	-	-		
		S Side	0	0	0	7	0	0	0	4	-	-	-	57%		
Washington St	North of Somerville	N/W Side	0	0	0	0	0	0	0	0	-	-	-	-		
		S/E Side	0	0	0	0	0	0	0	0	-	-	-	-		
Somerville Ave	East of Prospect	N Side	0	0	0	2	0	0	0	1	-	-	-	50%		
		S Side	0	0	0	4	0	0	0	0	-	-	-	0%		
Surface Lot	Off of Washington		0	0	0	41	0	0	0	22	-	-	-	54%		
Surface Lot	Corner of Somerville/Pr		0	9	9	0	0	5	2	0	-	56%	22%	-		*Business Permit (9), 2-Hr Parking (8) &*
Webster St	South of Newton	E Side	0	0	0	0	0	0	0	0	-	-	-	-		
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Webster St	North of Newton	E Side	10	1	0	0	7	0	0	0	70%	0%	-	-		*Loading Zone*
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Newton St	East of Webster	N Side	0	0	0	0	0	0	0	0	-	-	-	-		
		S Side	11	0	0	0	5	0	0	0	45%	-	-	-		
Emerson St	2-way	E Side	6	0	0	0	4	0	0	0	67%	-	-	-		
		W Side	0	0	0	0	0	0	0	0	-	-	-	-		
Everett St	One-Way	N Side	8	0	0	0	4	0	0	0	50%	-	-	-		
		S Side	5	0	0	0	4	0	0	0	80%	-	-	-		
Allen St	2-way	E Side	0	0	0	0	0	0	0	0	-	-	-	-		
		W Side	18	0	0	0	10	0	0	0	56%	-	-	-		
TOTAL	-	-	*58*	*10*	*9*	*54*	*34*	*5*	*2*	*27*	*59%*	*50%*	*22%*	*0%*	51.9%	

* Additional Parking Lot on Washington St under construction at time of inventory

Lechmere Square Parking Survey

MBTA Parking Lot

375 Total Spaces
0 marked as handicapped
18 Empty spaces

Note: some cars parked on the unpaved surface within the lot

Glass Factor Condo Lot - on O'Brien Highway

15 Total Spaces
Reserved for Glass Factory Condo Residents only
6 Empty Spaces

Behind Glass Factory Condos

4 Total Spaces
Reserved for Glass Factory Condo Residents only
1 Empty Space

No on-street parking on Monsignor O'Brien Highway
Mac Grey Parking lot gated - no parking

Area adjacent to Mac Grey Gated parking lot - Unmarked area which contained parked cars.
Total ~25 unmarked spaces
0 Empty spaces
No Signage

Area between Mac Grey building and hotel
16 Total Spaces
No Signage
1 Empty Space

Summary

Total Parking in Lechmere Square	435
Total Restricted	394
Total handicapped	0

			Capacity				Occupancy				% Occupied			
Roadway	**Description**	**Section**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**	**Unrestricted**	**Restricted***	**Permit Only**	**Metered**
Lechmere Parking Lot			0	375	0	0	0	357	0	0		95%		
Glass Factory Condo Lot			0	0	15	0	0	0	9	0			60%	
Lots Adjacent to MacGrey Gated			41	0	0	0	40	0	0	0	98%			
Total			41	375	15	0	40	357	9	0	98%	95%	60%	

Note: Lechmere spaces are restricted to MBTA parking only.

Traffic Signal Warrant Worksheets

2003 MUTCD

TRAFFIC SIGNAL WARRANT ANALYSIS (VOLUME BASED)

Intersection:

Major Street Direction: Eastbound-Westbound

Year: 2008 **Condition:** Alt 2A

Operating speed on major roadway: 30 mph

Number of approaches: 3

			Required approach volumes	
Warrant 1	**EIGHT-HOUR VEHICULAR VOLUME**		Minimum*	Adjusted Minimum**
Warrant 1A	MINIMUM VEHICULAR VOLUME (8 hours of day)			
	Major Street :	2 Lane(s) on each approach	600	600
	Minor Street :	1 Lane(s) on each approach	150	150
Warrant 1B	INTERRUPTION OF CONTINUOUS TRAFFIC (8 hours of day)			
	Major Street :	2 Lane(s) on each approach	900	900
	Minor Street :	1 Lane(s) on each approach	75	75
80 PERCENT SATISFACTION OF WARRANT 1A **AND** WARRANT 1B			Warrant 1A	Warrant 1B
	Major Street :	2 Lane(s) on each approach	480	720
	Minor Street :	1 Lane(s) on each approach	120	60

Warrant 2	**FOUR HOUR VEHICULAR VOLUME**		
	Major Street :	2 Lane(s) on each approach	If "verify" indicated, see Figure 4C-1 or 4C-2.
	Minor Street :	1 Lane(s) on each approach	25 = accuracy of regression equations

Warrant 3	**PEAK HOUR VOLUME**		
	Major Street :	2 Lane(s) on each approach	If "verify" indicated, see Figure 4C-3 or 4C-4.
	Minor Street :	1 Lane(s) on each approach	25 = accuracy of regression equations

Hour	Entering Vol. Minor Road+	Entering Vol. on Major Road Eastbound	Entering Vol. on Major Road Westbound	Tot. Ent. Vol. On Major Rd	Meets the following volume-based warrants? 1A	1B	80%(1A&1B)	2	3
6:00 - 7:00 AM	0	0	0	0	No	No	No	No	No
7:00 - 8:00 AM	0	0	0	0	No	No	No	No	No
8:00 - 9:00 AM	47	844	1327	2171	No	No	No	No	No
9:00 - 10:00 AM	0	0	0	0	No	No	No	No	No
10:00 - 11:00 AM	0	0	0	0	No	No	No	No	No
11:00 - 12:00 AM	0	0	0	0	No	No	No	No	No
12:00 - 1:00 PM	0	0	0	0	No	No	No	No	No
1:00 - 2:00 PM	0	0	0	0	No	No	No	No	No
2:00 - 3:00 PM	0	0	0	0	No	No	No	No	No
3:00 - 4:00 PM	0	0	0	0	No	No	No	No	No
4:00 - 5:00 PM	0	0	0	0	No	No	No	No	No
5:00 - 6:00 PM	97	1046	1283	2329	No	Yes	No	Verify	No
6:00 - 7:00 PM	0	0	0	0	No	No	No	No	No
					No	**No**	**No**	**No**	**No**
			Warrants Met?		**1**			**2**	**3**
					NO			**No**	**No**

*From the criteria described for the warrant in the MUTCD.

**If the operating speed is higher than 40mph then the volumes can be adjusted to 70%. (If no adjusted minimum, the minimum from the previous column is shown)

+If more than one approach, report the approach that has the higher volume.

NON-VOLUME-BASED WARRANTS

Warrant 4, Minimum Pedestrian Volume: No

Peak Four Hour Pedestrian Volumes: 0

(non-concurrent) 0

0

0

Warrant 5, School Crossing:

See MUTCD for details.

Warrant 7, Crash Experience: No

# of accidents "correctable by signalization" occuring in the last 12 months: 0

Warrant 6, Coordinated Signal System:

See MUTCD for details.

Warrant 8, Roadway Network:

See MUTCD for details.

Source: *Manual on Uniform Traffic Control Devices* (MUTCD); 2003 Edition [2003]

last updated: 08/05/05 [version]

2003 MUTCD

TRAFFIC SIGNAL WARRANT ANALYSIS (VOLUME BASED)

Intersection:

Major Street Direction: Eastbound-Westbound

Year: 2008 **Condition:** Alt 2B

Operating speed on major roadway: 30 mph

Number of approaches: 3

			Required approach volumes	
Warrant 1	**EIGHT-HOUR VEHICULAR VOLUME**		Minimum*	Adjusted Minimum**
Warrant 1A	MINIMUM VEHICULAR VOLUME (8 hours of day)			
	Major Street :	2 Lane(s) on each approach	600	600
	Minor Street :	1 Lane(s) on each approach	150	150
Warrant 1B	INTERRUPTION OF CONTINUOUS TRAFFIC (8 hours of day)			
	Major Street :	2 Lane(s) on each approach	900	900
	Minor Street :	1 Lane(s) on each approach	75	75
80 PERCENT SATISFACTION OF WARRANT 1A **AND** WARRANT 1B			Warrant 1A	Warrant 1B
	Major Street :	2 Lane(s) on each approach	480	720
	Minor Street :	1 Lane(s) on each approach	120	60

Warrant 2	**FOUR HOUR VEHICULAR VOLUME**		
	Major Street :	2 Lane(s) on each approach	If "verify" indicated, see Figure 4C-1 or 4C-2.
	Minor Street :	1 Lane(s) on each approach	25 = accuracy of regression equations

Warrant 3	**PEAK HOUR VOLUME**		
	Major Street :	2 Lane(s) on each approach	If "verify" indicated, see Figure 4C-3 or 4C-4.
	Minor Street :	1 Lane(s) on each approach	25 = accuracy of regression equations

Hour	Entering Vol. Minor Road+	Entering Vol. on Major Road Eastbound	Entering Vol. on Major Road Westbound	Tot. Ent. Vol. On Major Rd	Meets the following volume-based warrants? 1A	1B	80%(1A&1B)	2	3
6:00 - 7:00 AM	0	0	0	0	No	No	No	No	No
7:00 - 8:00 AM	0	0	0	0	No	No	No	No	No
8:00 - 9:00 AM	31	850	1330	2180	No	No	No	No	No
9:00 - 10:00 AM	0	0	0	0	No	No	No	No	No
10:00 - 11:00 AM	0	0	0	0	No	No	No	No	No
11:00 - 12:00 AM	0	0	0	0	No	No	No	No	No
12:00 - 1:00 PM	0	0	0	0	No	No	No	No	No
1:00 - 2:00 PM	0	0	0	0	No	No	No	No	No
2:00 - 3:00 PM	0	0	0	0	No	No	No	No	No
3:00 - 4:00 PM	0	0	0	0	No	No	No	No	No
4:00 - 5:00 PM	0	0	0	0	No	No	No	No	No
5:00 - 6:00 PM	29	1059	1363	2422	No	No	No	No	No
6:00 - 7:00 PM	0	0	0	0	No	No	No	No	No
					No	**No**	**No**	**No**	**No**
			Warrants Met?		**1**			**2**	**3**
					NO			**No**	**No**

*From the criteria described for the warrant in the MUTCD.

**If the operating speed is higher than 40mph then the volumes can be adjusted to 70%. (If no adjusted minimum, the minimum from the previous column is shown)

+If more than one approach, report the approach that has the higher volume.

NON-VOLUME-BASED WARRANTS

Warrant 4, Minimum Pedestrian Volume: No

Peak Four Hour Pedestrian Volumes: 0

(non-concurrent) 0

0

0

Warrant 5, School Crossing:

See MUTCD for details.

Warrant 7, Crash Experience: No

# of accidents "correctable by signalization" occuring in the last 12 months: 0

Warrant 6, Coordinated Signal System:

See MUTCD for details.

Warrant 8, Roadway Network:

See MUTCD for details.

Source: *Manual on Uniform Traffic Control Devices* (MUTCD); 2003 Edition [2003]

last updated: 08/05/05 [version]

Traffic Capacity Results

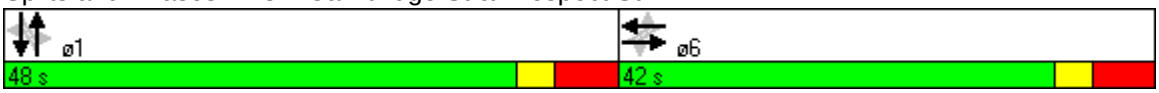
- Existing Analysis
- No-Build Analysis
- No-Build Bus Alternative Analysis
- 2030 Build Alternative 1 Analysis
- 2030 Build Alternative 2a Analysis
- 2030 Build Alternative 2b Analysis
- 2030 Build Alternative 3 Analysis
- 2030 Build Alternative 4 Analysis
- 2030 Build Alternative 5 Analysis
- 2030 Build Alternative 6 Analysis
- 2030 Build Alternative 7 Analysis

Existing Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	47	271	10	70	304	12	27	222	65	25	285	40
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

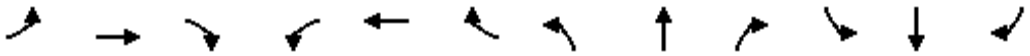
Splits and Phases: 37: Cambridge St & Prospect St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	349	407	383	397
v/c Ratio	0.57	0.71	0.50	0.49
Control Delay	26.6	31.7	12.3	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.6	31.7	12.3	20.3
Queue Length 50th (ft)	154	193	71	155
Queue Length 95th (ft)	243	303	m87	230
Internal Link Dist (ft)	1490	1090	305	1341
Turn Bay Length (ft)				
Base Capacity (vph)	615	577	772	812
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.71	0.50	0.49

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



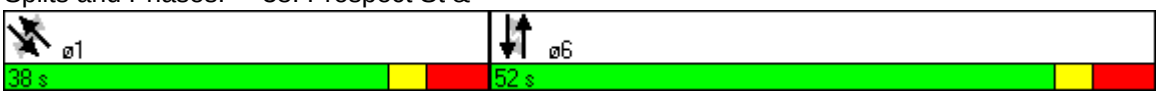
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1833			1794			1843			1913	
Flt Permitted		0.88			0.84			0.94			0.95	
Satd. Flow (perm)		1629			1527			1736			1828	
Volume (vph)	47	271	10	70	304	12	27	222	65	25	285	40
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	50	288	11	74	320	13	33	271	79	28	324	45
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	349	0	0	407	0	0	383	0	0	397	0
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		615			577			772			812	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.27			c0.22			0.22	
v/c Ratio		0.57			0.71			0.50			0.49	
Uniform Delay, d1		22.2			23.8			17.8			17.7	
Progression Factor		1.00			1.00			0.56			1.00	
Incremental Delay, d2		3.8			7.1			2.1			2.1	
Delay (s)		25.9			30.8			12.0			19.8	
Level of Service		C			C			B			B	
Approach Delay (s)		25.9			30.8			12.0			19.8	
Approach LOS		C			C			B			B	

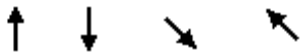
Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	93	281	28	20	335	10	16	415	72	35	231	17
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	52.0	52.0		52.0	52.0		38.0	38.0		38.0	38.0	
Total Split (s)	52.0	52.0	0.0	52.0	52.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0
Total Split (%)	57.8%	57.8%	0.0%	57.8%	57.8%	0.0%	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 38: Prospect St &





Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	473	401	535	326
v/c Ratio	0.39	0.47	0.90	0.66
Control Delay	15.7	8.0	49.6	33.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.7	8.0	49.6	33.5
Queue Length 50th (ft)	85	60	287	157
Queue Length 95th (ft)	114	82	#480	241
Internal Link Dist (ft)	862	42	2930	947
Turn Bay Length (ft)				
Base Capacity (vph)	1214	859	593	491
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.90	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3349			1830			1810			1795	
Flt Permitted		0.73			0.96			0.98			0.82	
Satd. Flow (perm)		2484			1759			1779			1472	
Volume (vph)	93	281	28	20	335	10	16	415	72	35	231	17
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	109	331	33	22	368	11	17	441	77	40	266	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	473	0	0	401	0	0	535	0	0	326	0
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		44.0			44.0			30.0			30.0	
Effective Green, g (s)		44.0			44.0			30.0			30.0	
Actuated g/C Ratio		0.49			0.49			0.33			0.33	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1214			860			593			491	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.23			c0.30			0.22	
v/c Ratio		0.39			0.47			0.90			0.66	
Uniform Delay, d1		14.5			15.2			28.6			25.7	
Progression Factor		1.00			0.41			1.00			1.00	
Incremental Delay, d2		0.9			1.6			19.4			6.9	
Delay (s)		15.5			7.8			48.0			32.6	
Level of Service		B			A			D			C	
Approach Delay (s)		15.5			7.8			48.0			32.6	
Approach LOS		B			A			D			C	

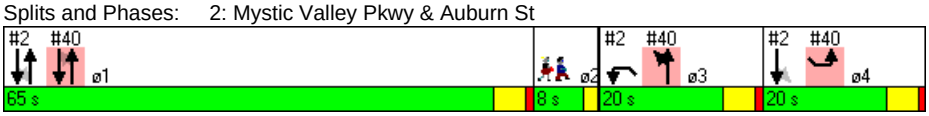
Intersection Summary			
HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	766	18	91	1125	115	66		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	65.0	0.0	85.0	85.0	20.0	0.0	8.0	20.0
Total Split (%)	57.5%	0.0%	75.2%	75.2%	17.7%	0.0%	7%	18%
Yellow Time (s)	4.0				4.0		2.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Recall Mode	Min				Min		None	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 113	
Actuated Cycle Length: 106.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St

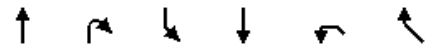


Lane Group	NBT	SBT	NWL
Lane Group Flow (vph)	881	1351	220
v/c Ratio	0.43	0.69	0.75
Control Delay	13.9	2.1	55.8
Queue Delay	0.0	0.0	2.6
Total Delay	13.9	2.1	58.4
Queue Length 50th (ft)	161	20	129
Queue Length 95th (ft)	241	m32	#220
Internal Link Dist (ft)	793	24	819
Turn Bay Length (ft)			
Base Capacity (vph)	2067	1968	297
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	162	0	24
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.46	0.69	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



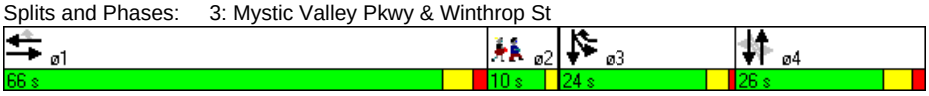
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3598			3324	1849	
Flt Permitted	1.00			0.78	0.97	
Satd. Flow (perm)	3598			2592	1849	
Volume (vph)	766	18	91	1125	115	66
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	861	20	101	1250	140	80
RTOR Reduction (vph)	1	0	0	0	18	0
Lane Group Flow (vph)	880	0	0	1351	202	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	60.1			80.1	14.8	
Effective Green, g (s)	61.1			81.1	15.8	
Actuated g/C Ratio	0.57			0.75	0.15	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2036			1946	271	
v/s Ratio Prot	0.24				c0.11	
v/s Ratio Perm				c0.52		
v/c Ratio	0.43			0.69	0.75	
Uniform Delay, d1	13.5			7.0	44.2	
Progression Factor	1.00			0.17	1.00	
Incremental Delay, d2	0.2			0.5	11.3	
Delay (s)	13.7			1.7	55.4	
Level of Service	B			A	E	
Approach Delay (s)	13.7			1.7	55.4	
Approach LOS	B			A	E	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	898	20	0	984	185	29	382	348	523	807	110	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	66.0	0.0	0.0	66.0	24.0	26.0	26.0	0.0	24.0	50.0	0.0	10.0
Total Split (%)	0.0%	52.4%	0.0%	0.0%	52.4%	19.0%	20.6%	20.6%	0.0%	19.0%	39.7%	0.0%	8%
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			2.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Recall Mode		Min			Min	None	None	None		None			None

Intersection Summary	
Area Type:	Other
Cycle Length: 126	
Actuated Cycle Length: 118	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St

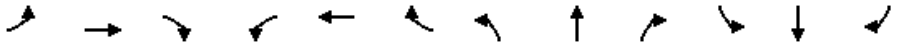


Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	976	1047	197	973	1548
v/c Ratio	0.93	1.08	0.17	2.14	1.64
Control Delay	43.3	80.2	1.5	543.4	318.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	80.2	1.5	543.4	318.0
Queue Length 50th (ft)	643	~860	6	~565	~716
Queue Length 95th (ft)	#1083	#1261	24	#625	#971
Internal Link Dist (ft)	1193	1177		552	745
Turn Bay Length (ft)					
Base Capacity (vph)	1046	973	1187	454	946
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.93	1.08	0.17	2.14	1.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



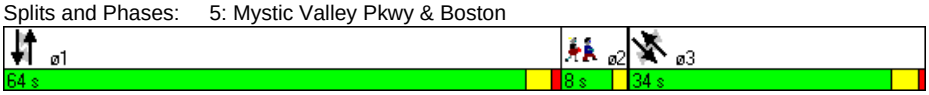
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3322			3470	
Flt Permitted		1.00			1.00	1.00		0.57			0.61	
Satd. Flow (perm)		2021			1881	1599		1901			2140	
Volume (vph)	0	898	20	0	984	185	29	382	348	523	807	110
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	955	21	0	1047	197	37	490	446	562	868	118
RTOR Reduction (vph)	0	0	0	0	0	54	0	120	0	0	5	0
Lane Group Flow (vph)	0	976	0	0	1047	143	0	853	0	0	1543	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		60.1			60.1	80.1		20.0			40.0	
Effective Green, g (s)		61.1			61.1	80.1		21.0			40.0	
Actuated g/C Ratio		0.51			0.51	0.67		0.18			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		1032			961	1071		334			927	
v/s Ratio Prot		0.48			c0.56	0.02					c0.26	
v/s Ratio Perm						0.07		c0.45			0.29	
v/c Ratio		0.95			1.09	0.13		2.55			1.66	
Uniform Delay, d1		27.7			29.2	7.2		49.3			39.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		16.2			56.5	0.0		707.5			304.0	
Delay (s)		43.9			85.8	7.2		756.8			343.8	
Level of Service		D			F	A		F			F	
Approach Delay (s)		43.9			73.3			756.8			343.8	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	295.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	119.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	127.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	39	730	173	45	1120	75	46	400	75	70	252	8	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	64.0	64.0	0.0	64.0	64.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0	8.0
Total Split (%)	60.4%	60.4%	0.0%	60.4%	60.4%	0.0%	32.1%	32.1%	0.0%	32.1%	32.1%	0.0%	8%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Recall Mode	Min	Min		Min	Min		None	None		None	None		None

Intersection Summary	
Area Type:	Other
Cycle Length: 106	
Actuated Cycle Length: 98.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: Mystic Valley Pkwy & Boston



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	1109	1393	644	393
v/c Ratio	0.70	0.80	1.22	1.41
Control Delay	16.2	19.6	148.1	235.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.2	19.6	148.1	235.0
Queue Length 50th (ft)	214	308	~497	~334
Queue Length 95th (ft)	316	483	#675	#518
Internal Link Dist (ft)	495	793	2598	1265
Turn Bay Length (ft)				
Base Capacity (vph)	1606	1770	527	278
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.69	0.79	1.22	1.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3503			3535			1921			1894	
Flt Permitted		0.77			0.85			0.89			0.52	
Satd. Flow (perm)		2718			3004			1726			998	
Volume (vph)	39	730	173	45	1120	75	46	400	75	70	252	8
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	46	859	204	51	1258	84	57	494	93	83	300	10
RTOR Reduction (vph)	0	17	0	0	4	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1092	0	0	1389	0	0	638	0	0	392	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		58.5			58.5			30.1			30.1	
Effective Green, g (s)		58.5			58.5			30.1			30.1	
Actuated g/C Ratio		0.59			0.59			0.30			0.30	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1595			1763			521			301	
v/s Ratio Prot												
v/s Ratio Perm		0.40			c0.46			0.37			c0.39	
v/c Ratio		0.68			0.79			1.23			1.30	
Uniform Delay, d1		14.2			15.8			34.8			34.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			2.6			117.6			158.6	
Delay (s)		15.6			18.4			152.4			193.4	
Level of Service		B			B			F			F	
Approach Delay (s)		15.6			18.4			152.4			193.4	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	99.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		

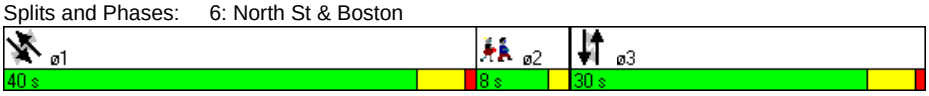
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	28	19	14	64	53	47	2	507	53	14	264	8	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	8.0
Total Split (%)	38.5%	38.5%	0.0%	38.5%	38.5%	0.0%	51.3%	51.3%	0.0%	51.3%	51.3%	0.0%	10%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None

Intersection Summary

Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 71.6
Natural Cycle: 60
Control Type: Semi Act-Uncoord

Splits and Phases: 6: North St & Boston



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	92	192	604	322
v/c Ratio	0.17	0.34	0.68	0.37
Control Delay	17.3	19.4	18.7	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.3	19.4	18.7	12.9
Queue Length 50th (ft)	26	58	178	77
Queue Length 95th (ft)	46	117	357	159
Internal Link Dist (ft)	911	582	1265	1376
Turn Bay Length (ft)				
Base Capacity (vph)	554	557	894	872
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.34	0.68	0.37

Intersection Summary

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1800			1756			1777			1789	
Flt Permitted		0.83			0.86			1.00			0.97	
Satd. Flow (perm)		1529			1538			1776			1733	
Volume (vph)	28	19	14	64	53	47	2	507	53	14	264	8
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	42	29	21	75	62	55	2	545	57	16	297	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	92	0	0	192	0	0	604	0	0	322	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		25.0			25.0			35.1			35.1	
Effective Green, g (s)		26.0			26.0			36.1			36.1	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		543			546			876			855	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.12			c0.34			0.19	
v/c Ratio		0.17			0.35			0.69			0.38	
Uniform Delay, d1		16.2			17.4			14.2			11.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			1.8			4.4			1.3	
Delay (s)		16.9			19.2			18.7			12.8	
Level of Service		B			B			B			B	
Approach Delay (s)		16.9			19.2			18.7			12.8	
Approach LOS		B			B			B			B	

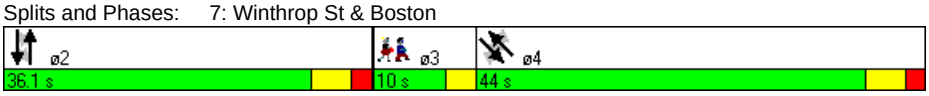
Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	8	310	60	125	122	88	189	380	23	32	170	82	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		10.0
Total Split (s)	36.1	36.1	0.0	36.1	36.1	0.0	44.0	44.0	0.0	44.0	44.0	0.0	10.0
Total Split (%)	40.1%	40.1%	0.0%	40.1%	40.1%	0.0%	48.8%	48.8%	0.0%	48.8%	48.8%	0.0%	11%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None

Intersection Summary

Area Type: Other
Cycle Length: 90.1
Actuated Cycle Length: 82.1
Natural Cycle: 135
Control Type: Semi Act-Uncoord

Splits and Phases: 7: Winthrop St & Boston



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	461	381	629	305
v/c Ratio	0.67	1.05	0.98	0.41
Control Delay	27.9	88.9	53.6	16.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.9	88.9	53.6	16.7
Queue Length 50th (ft)	185	~197	286	92
Queue Length 95th (ft)	300	#417	#608	190
Internal Link Dist (ft)	1216	2277	1376	2154
Turn Bay Length (ft)				
Base Capacity (vph)	685	364	645	748
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.67	1.05	0.98	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

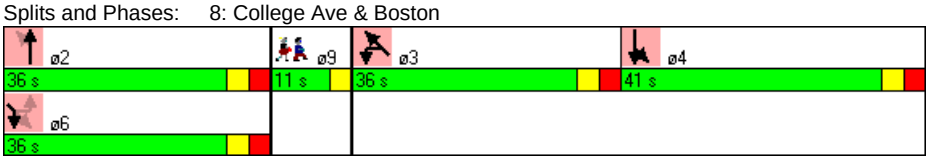
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✣			✣			✣			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1821			1881			1806			1729	
Flt Permitted		0.99			0.53			0.75			0.91	
Satd. Flow (perm)		1804			1021			1383			1576	
Volume (vph)	8	310	60	125	122	88	189	380	23	32	170	82
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	10	378	73	142	139	100	201	404	24	34	183	88
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	461	0	0	381	0	0	629	0	0	305	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.1			30.1			38.1			38.1	
Effective Green, g (s)		31.2			31.2			39.1			39.1	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		665			377			639			728	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.37			c0.45			0.19	
v/c Ratio		0.69			1.01			0.98			0.42	
Uniform Delay, d1		22.6			26.7			22.4			15.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.9			49.0			32.0			1.8	
Delay (s)		28.5			75.7			54.4			16.9	
Level of Service		C			E			D			B	
Approach Delay (s)		28.5			75.7			54.4			16.9	
Approach LOS		C			E			D			B	

Intersection Summary			
HCM Average Control Delay	45.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	14.3
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	69	123	2	55	300	74	61	309	193	8	165	32	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		11.0
Total Split (s)	36.0	36.0	0.0	41.0	41.0	0.0	36.0	36.0	36.0	36.0	36.0	0.0	11.0
Total Split (%)	29.0%	29.0%	0.0%	33.1%	33.1%	0.0%	29.0%	29.0%	29.0%	29.0%	29.0%	0.0%	9%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 98.6	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: College Ave & Boston



Lane Group	NBL	NBT	SBT	SET	SER	NWT
Lane Group Flow (vph)	77	139	482	425	222	277
v/c Ratio	0.13	0.24	0.82	1.04	0.41	0.78
Control Delay	30.6	30.8	39.8	93.4	19.0	42.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	30.8	39.8	93.4	19.0	42.1
Queue Length 50th (ft)	35	65	263	~301	54	164
Queue Length 95th (ft)	91	149	#531	#610	146	224
Internal Link Dist (ft)		984	1733	2154		1658
Turn Bay Length (ft)						
Base Capacity (vph)	586	580	664	407	547	536
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.24	0.73	1.04	0.41	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1859			1928			1833	1516		1938	
Flt Permitted	1.00	1.00			0.99			0.71	1.00		1.00	
Satd. Flow (perm)	1881	1859			1928			1306	1516		1938	
Volume (vph)	69	123	2	55	300	74	61	309	193	8	165	32
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	77	137	2	62	337	83	70	355	222	11	223	43
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	75	0	6	0
Lane Group Flow (vph)	77	138	0	0	476	0	0	425	147	0	271	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	30.7	30.7			29.9			30.7	30.7		17.8	
Effective Green, g (s)	30.7	30.7			29.9			30.7	30.7		17.8	
Actuated g/C Ratio	0.30	0.30			0.30			0.30	0.30		0.18	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	573	567			572			398	462		343	
v/s Ratio Prot		0.07			c0.25				0.10		c0.14	
v/s Ratio Perm	0.04							c0.33				
v/c Ratio	0.13	0.24			0.83			1.07	0.32		0.79	
Uniform Delay, d1	25.4	26.3			33.1			35.0	26.9		39.7	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			11.1			64.3	0.4		11.0	
Delay (s)	25.5	26.5			44.2			99.3	27.3		50.7	
Level of Service	C	C			D			F	C		D	
Approach Delay (s)		26.1			44.2			74.6			50.7	
Approach LOS		C			D			E			D	

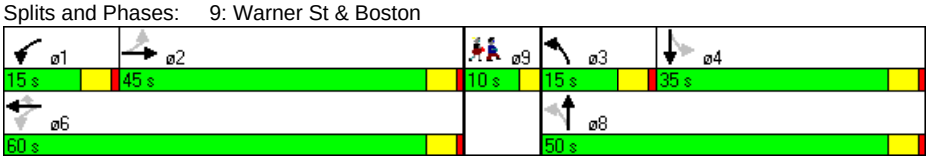
Intersection Summary			
HCM Average Control Delay	55.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.7	Sum of lost time (s)	22.3
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1438			1738		
Travel Time (s)		12.0			40.8			32.7			39.5		
Volume (vph)	5	340	40	59	455	143	25	36	59	281	47	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		11.0	15.0	15.0	11.0	11.0		11.0	11.0		10.0
Total Split (s)	45.0	45.0	0.0	15.0	60.0	60.0	15.0	50.0	0.0	35.0	35.0	0.0	10.0
Total Split (%)	37.5%	37.5%	0.0%	12.5%	50.0%	50.0%	12.5%	41.7%	0.0%	29.2%	29.2%	0.0%	8%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 75	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 9: Warner St & Boston



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	418	565	157	134	382
v/c Ratio	0.49	0.87	0.24	0.17	0.67
Control Delay	15.5	22.6	2.7	13.6	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	22.6	2.7	13.6	29.4
Queue Length 50th (ft)	120	209	0	21	125
Queue Length 95th (ft)	229	410	30	90	#414
Internal Link Dist (ft)	447	1715		1358	1658
Turn Bay Length (ft)					
Base Capacity (vph)	1008	862	818	961	572
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.66	0.19	0.14	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			0.99	1.00		0.99			0.96	
Satd. Flow (prot)		1958			1807	1301		1872			1905	
Flt Permitted		0.99			0.91	1.00		0.89			0.68	
Satd. Flow (perm)		1948			1661	1301		1687			1359	
Volume (vph)	5	340	40	59	455	143	25	36	59	281	47	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	370	43	65	500	157	28	40	66	327	55	0
RTOR Reduction (vph)	0	3	0	0	0	90	0	27	0	0	0	0
Lane Group Flow (vph)	0	415	0	0	565	67	0	107	0	0	382	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.7			31.7	31.7		31.4			31.4	
Effective Green, g (s)		32.7			32.7	32.7		32.4			32.4	
Actuated g/C Ratio		0.42			0.42	0.42		0.42			0.42	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		826			704	552		709			571	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.34	0.05		0.06			c0.28	
v/c Ratio		0.50			0.80	0.12		0.15			0.67	
Uniform Delay, d1		16.2			19.4	13.5		13.8			18.0	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2			6.2	0.0		0.0			2.3	
Delay (s)		16.4			25.6	13.5		13.9			20.3	
Level of Service		B			C	B		B			C	
Approach Delay (s)		16.4			23.0			13.9			20.3	
Approach LOS		B			C			B			C	

Intersection Summary					
HCM Average Control Delay	20.0	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.74				
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	12.0		
Intersection Capacity Utilization	82.5%	ICU Level of Service	E		
Analysis Period (min)	15				

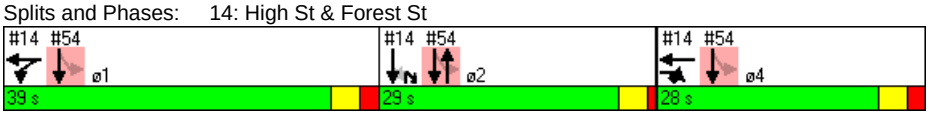
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	297	236	1155	488	65	75	31	375	14
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	28.0	28.0	39.0			29.0	29.0	29.0	
Total Split (s)	28.0	28.0	39.0	67.0	0.0	29.0	29.0	29.0	0.0
Total Split (%)	29.2%	29.2%	40.6%	69.8%	0.0%	30.2%	30.2%	30.2%	0.0%
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 100
Control Type: Pretimed

Splits and Phases: 14: High St & Forest St



Lane Group	EBR	EBR2	WBL	WBT	NBR2	SBT
Lane Group Flow (vph)	319	254	1298	621	94	429
v/c Ratio	0.87	0.74	1.09	0.53	0.10	0.84
Control Delay	60.7	38.9	84.8	11.0	0.3	50.0
Queue Delay	0.0	0.3	115.6	0.0	0.0	0.0
Total Delay	60.7	39.2	200.4	11.0	0.3	50.0
Queue Length 50th (ft)	188	104	~462	180	0	247
Queue Length 95th (ft)	#341	#224	#580	261	0	#409
Internal Link Dist (ft)				643		1362
Turn Bay Length (ft)						
Base Capacity (vph)	365	342	1192	1164	969	510
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	5	232	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.75	1.35	0.53	0.10	0.84

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		1.00	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1952	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1952	
Volume (vph)	297	236	1155	488	65	75	31	375	14
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	319	254	1298	548	73	94	32	383	14
RTOR Reduction (vph)	0	54	0	5	0	70	0	1	0
Lane Group Flow (vph)	319	200	1298	616	0	24	0	428	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	23.0	23.0	34.0	62.0		25.0		25.0	
Effective Green, g (s)	23.0	23.0	34.0	62.0		25.0		25.0	
Actuated g/C Ratio	0.24	0.24	0.35	0.65		0.26		0.26	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	365	288	1192	1159		431		508	
v/s Ratio Prot	c0.21	0.17	c0.39	0.34		0.01			
v/s Ratio Perm								0.22	
v/c Ratio	0.87	0.69	1.09	0.53		0.06		0.84	
Uniform Delay, d1	35.1	33.3	31.0	9.2		26.6		33.6	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	24.0	13.0	53.8	1.7		0.3		15.5	
Delay (s)	59.1	46.3	84.8	10.9		26.9		49.1	
Level of Service	E	D	F	B		C		D	
Approach Delay (s)				60.9				49.1	
Approach LOS				E				D	

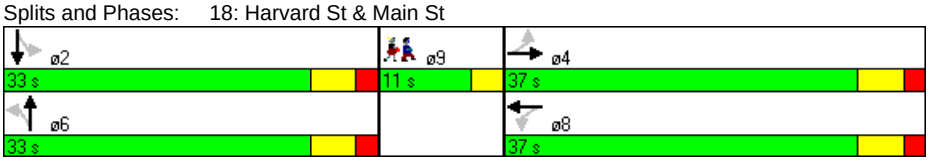
Intersection Summary			
HCM Average Control Delay	56.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	65	417	45	85	416	13	39	283	88	28	496	76	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	33.0	33.0	0.0	33.0	33.0	0.0	11.0
Total Split (%)	45.7%	45.7%	0.0%	45.7%	45.7%	0.0%	40.7%	40.7%	0.0%	40.7%	40.7%	0.0%	14%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode	None	None		None	None		Max	Max		Min	Min		None

Intersection Summary	
Area Type:	CBD
Cycle Length: 81	
Actuated Cycle Length: 72.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 18: Harvard St & Main St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	578	570	533	682
v/c Ratio	0.94	1.04	1.11	1.14
Control Delay	45.8	73.2	98.7	108.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	45.8	73.2	98.7	108.0
Queue Length 50th (ft)	220	~242	~262	~345
Queue Length 95th (ft)	#518	#541	#419	#628
Internal Link Dist (ft)	1715	1303	1231	2647
Turn Bay Length (ft)				
Base Capacity (vph)	618	548	482	596
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.94	1.04	1.11	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1612	
Flt Permitted		0.86			0.79			0.83			0.96	
Satd. Flow (perm)		1431			1292			1315			1551	
Volume (vph)	65	417	45	85	416	13	39	283	88	28	496	76
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	71	458	49	94	462	14	51	368	114	32	564	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	578	0	0	570	0	0	533	0	0	682	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		31.1			31.1			27.1			27.1	
Effective Green, g (s)		32.1			32.1			28.1			28.1	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		616			556			495			584	
v/s Ratio Prot												
v/s Ratio Perm		0.40			c0.44			0.41			c0.44	
v/c Ratio		0.94			1.03			1.08			1.17	
Uniform Delay, d1		20.3			21.2			23.2			23.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		21.8			44.7			62.7			92.9	
Delay (s)		42.1			66.0			85.9			116.2	
Level of Service		D			E			F			F	
Approach Delay (s)		42.1			66.0			85.9			116.2	
Approach LOS		D			E			F			F	

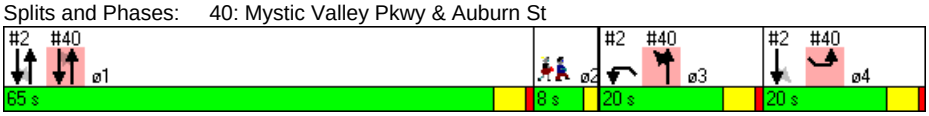
Intersection Summary			
HCM Average Control Delay	79.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	14.4
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	46	786	1091	23	13	125	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	20.0	85.0	65.0	0.0	20.0	0.0	8.0
Total Split (%)	17.7%	75.2%	57.5%	0.0%	17.7%	0.0%	7%
Yellow Time (s)	4.0		4.0		4.0		2.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Recall Mode	Min		Min		Min		None

Intersection Summary	
Area Type:	Other
Cycle Length: 113	
Actuated Cycle Length: 106.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Lane Group	NBL	NBT	SBT	SEL
Lane Group Flow (vph)	49	845	1136	167
v/c Ratio	0.14	0.59	0.99	0.53
Control Delay	10.5	5.6	47.6	33.5
Queue Delay	0.0	0.0	12.0	0.3
Total Delay	10.5	5.6	59.6	33.8
Queue Length 50th (ft)	3	157	694	66
Queue Length 95th (ft)	m23	271	#1162	127
Internal Link Dist (ft)		24	1020	205
Turn Bay Length (ft)				
Base Capacity (vph)	344	1435	1149	318
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	49	15
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.59	1.03	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1805	1900	2001		1771	
Flt Permitted	0.07	1.00	1.00		1.00	
Satd. Flow (perm)	124	1900	2001		1771	
Volume (vph)	46	786	1091	23	13	125
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	49	845	1113	23	16	151
RTOR Reduction (vph)	0	0	0	0	51	0
Lane Group Flow (vph)	49	845	1136	0	116	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	74.9	74.9	60.1		15.0	
Effective Green, g (s)	76.9	76.9	61.1		16.0	
Actuated g/C Ratio	0.71	0.71	0.57		0.15	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	334	1353	1132		262	
v/s Ratio Prot	0.02	c0.44	c0.57		c0.07	
v/s Ratio Perm	0.08					
v/c Ratio	0.15	0.62	1.00		0.44	
Uniform Delay, d1	39.4	8.1	23.4		41.9	
Progression Factor	1.15	0.74	1.00		1.00	
Incremental Delay, d2	0.3	0.9	27.5		1.6	
Delay (s)	45.7	6.9	51.0		43.6	
Level of Service	D	A	D		D	
Approach Delay (s)		9.0	51.0		43.6	
Approach LOS		A	D		D	

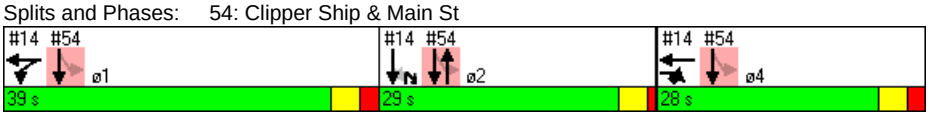
Intersection Summary			
HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	75	385	21	1745		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			29.0				39.0	28.0
Total Split (s)	0.0	0.0	29.0	0.0	96.0	96.0	39.0	28.0
Total Split (%)	0.0%	0.0%	30.2%	0.0%	100.0%	100.0%	41%	29%
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 100
Control Type: Pretimed

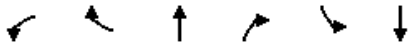
Splits and Phases: 54: Clipper Ship & Main St



Lane Group	NBT	NBR	SBT
Lane Group Flow (vph)	81	414	1821
v/c Ratio	0.17	0.27	0.61
Control Delay	28.8	0.4	3.0
Queue Delay	0.0	0.0	0.0
Total Delay	28.8	0.4	3.0
Queue Length 50th (ft)	38	0	67
Queue Length 95th (ft)	77	0	m55
Internal Link Dist (ft)	240		1
Turn Bay Length (ft)			
Base Capacity (vph)	463	1509	2985
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	6	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.27	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



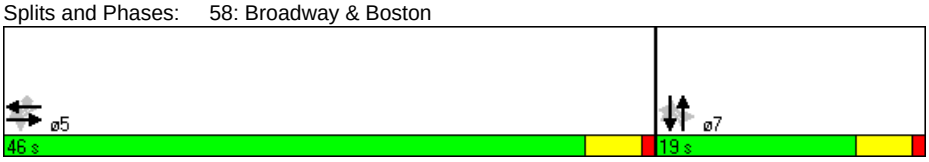
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3134
Flt Permitted			1.00	1.00		0.95
Satd. Flow (perm)			1776	1509		2985
Volume (vph)	0	0	75	385	21	1745
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	81	414	22	1799
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	81	414	0	1821
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			25.0	96.0		96.0
Effective Green, g (s)			25.0	96.0		96.0
Actuated g/C Ratio			0.26	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			463	1509		2985
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.27		c0.61
v/c Ratio			0.17	0.27		0.61
Uniform Delay, d1			27.5	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			0.8	0.5		0.2
Delay (s)			28.3	0.5		0.2
Level of Service			C	A		A
Approach Delay (s)	0.0		5.0			0.2
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		618					646				554			1438
Travel Time (s)		14.0					14.7				12.6			32.7
Volume (vph)	8	786	28	16	10	5	550	140	5	12	43	63	287	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	14.0	14.0			14.0	14.0	14.0	14.0	14.0	14.0	14.0		14.0	14.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0	24.0	19.0	19.0	19.0		19.0	19.0
Total Split (s)	46.0	46.0	0.0	0.0	46.0	46.0	46.0	46.0	19.0	19.0	19.0	0.0	19.0	19.0
Total Split (%)	70.8%	70.8%	0.0%	0.0%	70.8%	70.8%	70.8%	70.8%	29.2%	29.2%	29.2%	0.0%	29.2%	29.2%
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Recall Mode	Max	Max			Max	Max	Max	Max	Min	Min	Min		Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 58: Broadway & Boston



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	9	18
Peak Hour Factor	0.92	0.92
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode		

Intersection Summary

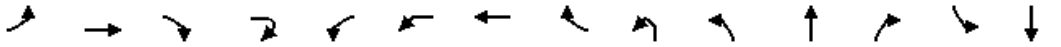


Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR2
Lane Group Flow (vph)	910	614	152	65	68	347	20
v/c Ratio	0.68	0.54	0.15	0.19	0.05	1.20	0.02
Control Delay	10.4	8.5	5.0	21.8	0.1	144.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	8.5	5.0	21.8	0.1	144.7	0.0
Queue Length 50th (ft)	191	112	20	21	0	~171	0
Queue Length 95th (ft)	304	185	39	50	0	#316	0
Internal Link Dist (ft)	538	566		474		1358	
Turn Bay Length (ft)							
Base Capacity (vph)	1348	1133	989	348	1322	290	1167
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.54	0.15	0.19	0.05	1.20	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		1.00
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.96
Satd. Flow (prot)		2095					1798	1531			2082	1322		1716
Flt Permitted		0.99					0.97	1.00			0.71	1.00		0.70
Satd. Flow (perm)		2085					1754	1531			1509	1322		1257
Volume (vph)	8	786	28	16	10	5	550	140	5	12	43	63	287	23
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	854	30	17	11	5	598	152	5	13	47	68	312	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	910	0	0	0	0	614	152	0	0	65	68	0	347
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		41.0					41.0	41.0			14.0	65.0		14.0
Effective Green, g (s)		42.0					42.0	42.0			15.0	65.0		15.0
Actuated g/C Ratio		0.65					0.65	0.65			0.23	1.00		0.23
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		4.0					4.0	4.0			4.0			4.0
Lane Grp Cap (vph)		1347					1133	989			348	1322		290
v/s Ratio Prot														
v/s Ratio Perm		c0.44					0.35	0.10			0.04	0.05		c0.28
v/c Ratio		0.68					0.54	0.15			0.19	0.05		1.20
Uniform Delay, d1		7.2					6.3	4.5			20.1	0.0		25.0
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		2.7					1.9	0.3			0.4	0.1		117.0
Delay (s)		10.0					8.1	4.8			20.5	0.1		142.0
Level of Service		A					A	A			C	A		F
Approach Delay (s)		10.0					7.5				10.0			134.3
Approach LOS		A					A				B			F

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

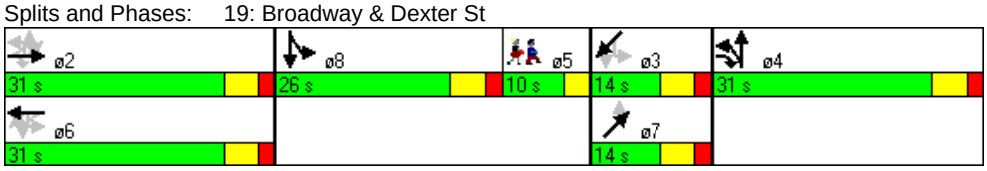
Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1167
Flt Permitted		1.00
Satd. Flow (perm)		1167
Volume (vph)	9	18
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	10	20
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	20
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		65.0
Effective Green, g (s)		65.0
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1167
v/s Ratio Prot		
v/s Ratio Perm		0.02
v/c Ratio		0.02
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14
Grade (%)			0%						0%			1%
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15	
Right Turn on Red					Yes							
Link Speed (mph)			30						30			30
Link Distance (ft)			1317						1176			419
Travel Time (s)			29.9						26.7			9.5
Volume (vph)	4	14	617	438	19	1	4	18	434	50	202	135
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split	
Protected Phases			2	4					6		4	4
Permitted Phases	2	2		2		6	6	6				
Detector Phases	2	2	2	4		6	6	6	6		4	4
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0
Total Split (s)	31.0	31.0	31.0	31.0	0.0	31.0	31.0	31.0	31.0	0.0	31.0	31.0
Total Split (%)	27.7%	27.7%	27.7%	27.7%	0.0%	27.7%	27.7%	27.7%	27.7%	0.0%	27.7%	27.7%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 112	
Actuated Cycle Length: 103.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 19: Broadway & Dexter St



Lane Group	NBR2	SBL	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	12	12	12	12	12	12	12
Grade (%)			1%			0%				1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)		50	50			50		50	50	50		
Trailing Detector (ft)		0	0			0		0	0	0		
Turning Speed (mph)	9	15		9	9		9	15	15		9	9
Right Turn on Red	Yes				Yes							Yes
Link Speed (mph)			30			30				30		
Link Distance (ft)			1711			342				975		
Travel Time (s)			38.9			7.8				22.2		
Volume (vph)	29	18	247	18	20	0	83	18	76	14	35	6
Peak Hour Factor	0.95	0.86	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	2%	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type		Split						Perm	Perm			
Protected Phases		8	8			7				3		
Permitted Phases								3	3			
Detector Phases		8	8			7		3	3	3		
Minimum Initial (s)		8.0	8.0			4.0		4.0	4.0	4.0		
Minimum Split (s)		14.0	14.0			10.0		10.0	10.0	10.0		
Total Split (s)	0.0	26.0	26.0	0.0	0.0	14.0	0.0	14.0	14.0	14.0	0.0	0.0
Total Split (%)	0.0%	23.2%	23.2%	0.0%	0.0%	12.5%	0.0%	12.5%	12.5%	12.5%	0.0%	0.0%
Yellow Time (s)		4.0	4.0			4.0		4.0	4.0	4.0		
All-Red Time (s)		2.0	2.0			2.0		2.0	2.0	2.0		
Lead/Lag		Lead	Lead									
Lead-Lag Optimize?		Yes	Yes									
Recall Mode		None	None			None		None	None	None		

Intersection Summary

Lane Group	ø5
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Turn Type	
Protected Phases	5
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	10.0
Total Split (s)	10.0
Total Split (%)	9%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	EBR	WBT	NBT	SBT	NET	SWT
Lane Group Flow (vph)	675	486	551	386	352	97	174
v/c Ratio	0.88	0.57	0.90	0.83	0.90	0.68	1.61
Control Delay	51.7	19.2	58.0	52.8	66.2	71.0	344.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	19.2	58.0	52.8	66.2	71.0	344.7
Queue Length 50th (ft)	221	191	182	234	222	62	~163
Queue Length 95th (ft)	#370	353	#324	#442	#406	#146	#306
Internal Link Dist (ft)	1237		1096	339	1631	262	895
Turn Bay Length (ft)							
Base Capacity (vph)	770	852	610	469	395	143	108
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.57	0.90	0.82	0.89	0.68	1.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14
Grade (%)			0%						0%			1%
Total Lost time (s)			5.0	5.0					5.0			5.0
Lane Util. Factor			0.95	1.00					0.95			1.00
Frt			1.00	0.85					0.99			0.99
Flt Protected			1.00	1.00					1.00			0.97
Satd. Flow (prot)			3500	1549					3264			1862
Flt Permitted			0.90	1.00					0.77			0.97
Satd. Flow (perm)			3158	1549					2531			1862
Volume (vph)	4	14	617	438	19	1	4	18	434	50	202	135
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95
Adj. Flow (vph)	4	15	656	466	20	1	4	20	472	54	213	142
RTOR Reduction (vph)	0	0	0	2	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	0	675	484	0	0	0	0	551	0	0	383
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split	
Protected Phases			2	4					6		4	4
Permitted Phases	2	2		2		6	6	6				
Actuated Green, G (s)			25.0	49.9					25.0			24.9
Effective Green, g (s)			26.0	51.9					26.0			25.9
Actuated g/C Ratio			0.25	0.49					0.25			0.24
Clearance Time (s)			6.0	6.0					6.0			6.0
Vehicle Extension (s)			4.0	6.0					4.0			6.0
Lane Grp Cap (vph)			774	831					620			455
v/s Ratio Prot				0.14								c0.21
v/s Ratio Perm			0.21	0.17					c0.22			
v/c Ratio			0.87	0.58					0.89			0.84
Uniform Delay, d1			38.5	19.4					38.7			38.1
Progression Factor			1.00	1.00					1.00			1.00
Incremental Delay, d2			10.9	2.0					14.9			15.1
Delay (s)			49.4	21.4					53.5			53.2
Level of Service			D	C					D			D
Approach Delay (s)			37.6						53.5			53.2
Approach LOS			D						D			D

Intersection Summary			
HCM Average Control Delay	67.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	106.1	Sum of lost time (s)	24.3
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

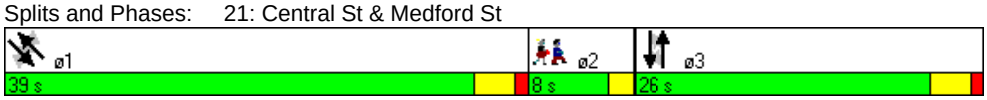
Movement	NBR2	SBL	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	12	12	12	12	12	12	12
Grade (%)			1%			0%				1%		
Total Lost time (s)			5.0			5.0				5.0		
Lane Util. Factor			1.00			1.00				1.00		
Frt			0.98			0.86				0.96		
Flt Protected			1.00			1.00				0.97		
Satd. Flow (prot)			1938			1644				1764		
Flt Permitted			1.00			1.00				0.71		
Satd. Flow (perm)			1938			1644				1286		
Volume (vph)	29	18	247	18	20	0	83	18	76	14	35	6
Peak-hour factor, PHF	0.95	0.86	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	31	21	287	21	23	0	97	21	89	16	41	7
RTOR Reduction (vph)	0	0	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	0	350	0	0	97	0	0	0	173	0	0
Heavy Vehicles (%)	3%	2%	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type		Split						Perm	Perm			
Protected Phases		8	8			7				3		
Permitted Phases								3	3			
Actuated Green, G (s)			19.9			8.0				8.0		
Effective Green, g (s)			20.9			9.0				9.0		
Actuated g/C Ratio			0.20			0.08				0.08		
Clearance Time (s)			6.0			6.0				6.0		
Vehicle Extension (s)			2.0			2.0				2.0		
Lane Grp Cap (vph)			382			139				109		
v/s Ratio Prot			c0.18			0.06						
v/s Ratio Perm										c0.13		
v/c Ratio			0.92			0.70				1.59		
Uniform Delay, d1			41.7			47.2				48.6		
Progression Factor			1.00			1.00				1.00		
Incremental Delay, d2			25.5			11.6				303.5		
Delay (s)			67.3			58.9				352.0		
Level of Service			E			E				F		
Approach Delay (s)			67.3			58.9				352.0		
Approach LOS			E			E				F		

Intersection Summary

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1721			833			1629			1556	
Travel Time (s)		39.1			18.9			37.0			35.4	
Volume (vph)	53	193	76	21	173	13	12	536	104	73	223	9
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phases	3	3		3	3		1	1		1	1	
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	53.4%	53.4%	0.0%	53.4%	53.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 66.6	
Natural Cycle: 65	
Control Type: Semi Act-Uncoord	

Splits and Phases: 21: Central St & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	11%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	393	244	716	335
v/c Ratio	0.71	0.43	0.75	0.48
Control Delay	27.7	20.9	19.7	13.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.7	20.9	19.7	13.4
Queue Length 50th (ft)	124	73	198	74
Queue Length 95th (ft)	#222	142	#469	172
Internal Link Dist (ft)	1641	753	1549	1476
Turn Bay Length (ft)				
Base Capacity (vph)	557	572	954	700
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.43	0.75	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1788			1820			1821			1798	
Flt Permitted		0.92			0.95			0.99			0.76	
Satd. Flow (perm)		1655			1738			1810			1391	
Volume (vph)	53	193	76	21	173	13	12	536	104	73	223	9
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	65	235	93	25	204	15	13	589	114	80	245	10
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	378	0	0	244	0	0	716	0	0	334	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		22.0			22.0			35.1			35.1	
Effective Green, g (s)		22.0			22.0			35.1			35.1	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		534			561			932			716	
v/s Ratio Prot												
v/s Ratio Perm		c0.23			0.14			c0.40			0.24	
v/c Ratio		0.71			0.43			0.77			0.47	
Uniform Delay, d1		20.3			18.2			13.3			10.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		7.7			2.4			6.1			2.2	
Delay (s)		28.0			20.6			19.3			12.7	
Level of Service		C			C			B			B	
Approach Delay (s)		28.0			20.6			19.3			12.7	
Approach LOS		C			C			B			B	

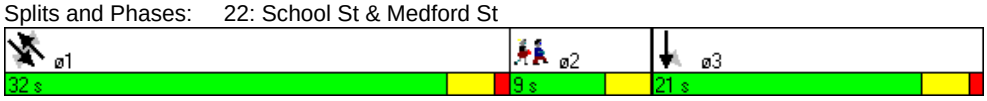
Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50		50	50	
Trailing Detector (ft)				0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		953			959			1556			564	
Travel Time (s)		21.7			21.8			35.4			12.8	
Volume (vph)	0	0	0	132	289	20	10	639	86	138	242	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Detector Phases				3	3		1	1		1	1	
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	0.0	0.0	0.0	21.0	21.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	33.9%	33.9%	0.0%	51.6%	51.6%	0.0%	51.6%	51.6%	0.0%
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode				Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 62	
Actuated Cycle Length: 54.8	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 22: School St & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	9.0
Total Split (s)	9.0
Total Split (%)	15%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	SBT	SET	NWT
Lane Group Flow (vph)	479	766	504
v/c Ratio	0.77	0.77	0.96
Control Delay	29.0	18.6	48.4
Queue Delay	0.0	0.0	0.0
Total Delay	29.0	18.6	48.4
Queue Length 50th (ft)	130	163	127
Queue Length 95th (ft)	#329	#452	#372
Internal Link Dist (ft)	879	1476	484
Turn Bay Length (ft)			
Base Capacity (vph)	621	1000	525
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.77	0.77	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1984			1950			1877	
Flt Permitted					0.99			0.99			0.59	
Satd. Flow (perm)					1984			1939			1116	
Volume (vph)	0	0	0	132	289	20	10	639	86	138	242	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	143	314	22	10	666	90	157	275	72
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	0	0	0	476	0	0	759	0	0	495	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					17.1			28.1			28.1	
Effective Green, g (s)					17.1			28.1			28.1	
Actuated g/C Ratio					0.30			0.49			0.49	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					592			951			547	
v/s Ratio Prot												
v/s Ratio Perm					0.24			0.39			c0.44	
v/c Ratio					0.80			0.80			0.90	
Uniform Delay, d1					18.6			12.2			13.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					11.1			6.9			21.0	
Delay (s)					29.7			19.2			34.3	
Level of Service					C			B			C	
Approach Delay (s)		0.0			29.7			19.2			34.3	
Approach LOS		A			C			B			C	

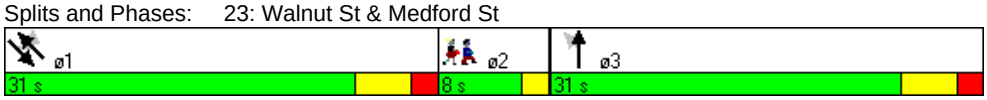
Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	12.1
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50			50	
Trailing Detector (ft)	0	0					0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		779			844			971			533	
Travel Time (s)		17.7			19.2			22.1			12.1	
Volume (vph)	67	176	7	0	0	0	7	509	0	0	144	18
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Detector Phases	3	3					1	1			1	
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0	
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0	
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0
Total Split (%)	44.3%	44.3%	0.0%	0.0%	0.0%	0.0%	44.3%	44.3%	0.0%	0.0%	44.3%	0.0%
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0	
Lead/Lag							Lead	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Recall Mode	Min	Min					Min	Min			Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 63.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	11%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	NBT	SET	NWT
Lane Group Flow (vph)	263	537	184
v/c Ratio	0.35	0.70	0.25
Control Delay	15.0	22.6	13.3
Queue Delay	0.0	0.0	0.0
Total Delay	15.0	22.6	13.3
Queue Length 50th (ft)	63	157	40
Queue Length 95th (ft)	138	#350	92
Internal Link Dist (ft)	699	891	453
Turn Bay Length (ft)			
Base Capacity (vph)	759	768	751
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.35	0.70	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1849						1880			1818	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		1849						1874			1818	
Volume (vph)	67	176	7	0	0	0	7	509	0	0	144	18
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	71	185	7	0	0	0	7	530	0	0	164	20
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	262	0	0	0	0	0	537	0	0	178	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.1						25.1			25.1	
Effective Green, g (s)		26.1						26.1			26.1	
Actuated g/C Ratio		0.40						0.40			0.40	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		739						749			727	
v/s Ratio Prot											0.10	
v/s Ratio Perm		0.14						c0.29				
v/c Ratio		0.35						0.72			0.24	
Uniform Delay, d1		13.7						16.5			13.0	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.4						3.5			0.2	
Delay (s)		14.1						20.0			13.3	
Level of Service		B						C			B	
Approach Delay (s)		14.1			0.0			20.0			13.3	
Approach LOS		B			A			C			B	

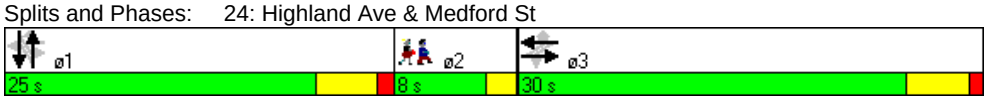
Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1836			1794			671			533	
Travel Time (s)		41.7			40.8			15.3			12.1	
Volume (vph)	0	571	22	29	353	162	3	0	17	484	29	5
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Detector Phases	3	3		3	3	1 3	1	1		1	1	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	55.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	47.6%	47.6%	0.0%	47.6%	47.6%	87.3%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 56.6	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

Splits and Phases: 24: Highland Ave & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	13%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	638	439	186	35	545
v/c Ratio	0.75	0.71	0.12	0.06	1.10
Control Delay	21.1	21.7	0.3	6.7	92.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	21.7	0.3	6.7	92.8
Queue Length 50th (ft)	155	104	0	1	~207
Queue Length 95th (ft)	#393	#272	6	8	#443
Internal Link Dist (ft)	1756	1714		591	453
Turn Bay Length (ft)					
Base Capacity (vph)	848	620	1577	582	496
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.71	0.12	0.06	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.88			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1835			1913	1632		1589			1777	
Flt Permitted		1.00			0.81	1.00		0.93			0.71	
Satd. Flow (perm)		1835			1554	1632		1496			1329	
Volume (vph)	0	571	22	29	353	162	3	0	17	484	29	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	614	24	33	406	186	5	0	30	509	31	5
RTOR Reduction (vph)	0	2	0	0	0	23	0	19	0	0	1	0
Lane Group Flow (vph)	0	636	0	0	439	163	0	16	0	0	544	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		25.1			25.1	50.2		20.1			20.1	
Effective Green, g (s)		26.1			26.1	51.2		21.1			21.1	
Actuated g/C Ratio		0.45			0.45	0.88		0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		822			696	1433		541			481	
v/s Ratio Prot		c0.35										
v/s Ratio Perm					0.28	0.10		0.01			c0.41	
v/c Ratio		0.77			0.63	0.11		0.03			1.13	
Uniform Delay, d1		13.6			12.4	0.5		12.0			18.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		7.0			4.3	0.2		0.1			82.4	
Delay (s)		20.6			16.7	0.6		12.1			101.0	
Level of Service		C			B	A		B			F	
Approach Delay (s)		20.6			11.9			12.1			101.0	
Approach LOS		C			B			B			F	

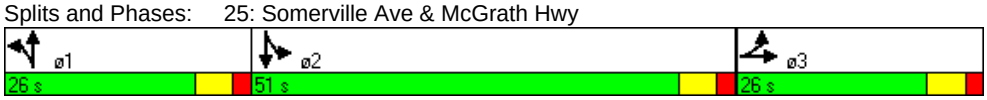
Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	81	293	96	0	0	0	39	175	24	171	1057	119
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	51.0	51.0	0.0
Total Split (%)	25.2%	25.2%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	49.5%	49.5%	0.0%
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	

Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 103	
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	505	232	26	182	1251
v/c Ratio	0.73	0.33	0.02	0.23	0.86
Control Delay	43.0	36.5	0.0	18.7	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	36.5	0.0	18.7	32.7
Queue Length 50th (ft)	155	68	0	72	375
Queue Length 95th (ft)	215	105	0	119	475
Internal Link Dist (ft)	1429	810			432
Turn Bay Length (ft)					
Base Capacity (vph)	696	708	1672	775	1455
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.33	0.02	0.23	0.86

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3304						3473	1672	1736	3238	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3304						3473	1672	1736	3238	
Volume (vph)	81	293	96	0	0	0	39	175	24	171	1057	119
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	87	315	103	0	0	0	42	190	26	182	1124	127
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	483	0	0	0	0	0	232	26	182	1243	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	103.0	45.0	45.0	
Effective Green, g (s)		21.0						21.0	103.0	46.0	46.0	
Actuated g/C Ratio		0.20						0.20	1.00	0.45	0.45	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		674						708	1672	775	1446	
v/s Ratio Prot		c0.15						c0.07		0.10	c0.38	
v/s Ratio Perm									0.02			
v/c Ratio		0.72						0.33	0.02	0.23	0.86	
Uniform Delay, d1		38.2						35.0	0.0	17.6	25.6	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		6.4						1.2	0.0	0.7	6.9	
Delay (s)		44.6						36.2	0.0	18.3	32.5	
Level of Service		D						D	A	B	C	
Approach Delay (s)		44.6			0.0			32.6			30.7	
Approach LOS		D			A			C			C	

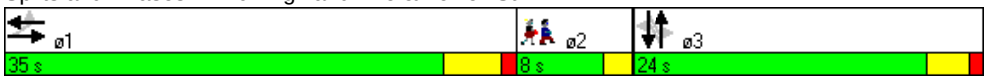
Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	103.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1198			1413			1810			2545	
Travel Time (s)		27.2			32.1			41.1			57.8	
Volume (vph)	28	367	0	0	427	25	24	67	39	168	0	140
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Detector Phases	1	1			1		3	3		3	3	
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0	
Total Split (s)	35.0	35.0	0.0	0.0	35.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	0.0%	52.2%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead			Lead							
Lead-Lag Optimize?	Yes	Yes			Yes							
Recall Mode	Max	Max			Max		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 67	
Actuated Cycle Length: 57.8	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	12%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	460	595	183	328
v/c Ratio	0.52	0.61	0.38	0.80
Control Delay	12.8	14.0	18.5	27.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.8	14.0	18.5	27.1
Queue Length 50th (ft)	99	135	47	79
Queue Length 95th (ft)	208	225	83	#230
Internal Link Dist (ft)	1118	1333	1730	2465
Turn Bay Length (ft)				
Base Capacity (vph)	877	982	541	452
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.61	0.34	0.73

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1813			1771			1694	
Flt Permitted		0.94			1.00			0.92			0.72	
Satd. Flow (perm)		1721			1813			1637			1258	
Volume (vph)	28	367	0	0	427	25	24	67	39	168	0	140
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	33	427	0	0	562	33	34	94	55	179	0	149
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	46	0
Lane Group Flow (vph)	0	460	0	0	595	0	0	183	0	0	282	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		30.3			30.3			17.1			17.1	
Effective Green, g (s)		31.3			31.3			17.1			17.1	
Actuated g/C Ratio		0.53			0.53			0.29			0.29	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		907			955			471			362	
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.27						0.11			c0.22	
v/c Ratio		0.51			0.62			0.39			0.78	
Uniform Delay, d1		9.1			9.9			17.0			19.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			3.1			0.7			11.0	
Delay (s)		11.1			13.0			17.7			30.4	
Level of Service		B			B			B			C	
Approach Delay (s)		11.1			13.0			17.7			30.4	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	59.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1413			1389			1040			1721	
Travel Time (s)		32.1			31.6			23.6			39.1	
Volume (vph)	25	379	33	26	282	22	36	190	42	26	219	47
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phases	1	1		1	1		3	3		3	3	
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	45.6%	45.6%	0.0%	45.6%	45.6%	0.0%	44.3%	44.3%	0.0%	44.3%	44.3%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead	Lead		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 79
Actuated Cycle Length: 53.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Highland Ave & Central St

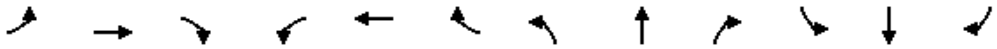


Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	10%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	503	446	305	384
v/c Ratio	0.67	0.62	0.52	0.64
Control Delay	16.9	16.1	16.4	17.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.9	16.1	16.4	17.7
Queue Length 50th (ft)	110	95	70	94
Queue Length 95th (ft)	301	206	172	180
Internal Link Dist (ft)	1333	1309	960	1641
Turn Bay Length (ft)				
Base Capacity (vph)	909	881	799	828
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.51	0.38	0.46

Intersection Summary



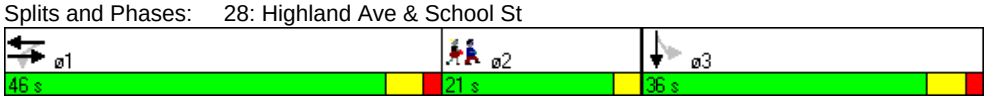
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1821			1803			1793			1805	
Flt Permitted		0.96			0.94			0.92			0.95	
Satd. Flow (perm)		1751			1705			1665			1720	
Volume (vph)	25	379	33	26	282	22	36	190	42	26	219	47
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	29	436	38	35	381	30	41	216	48	34	288	62
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	9	0
Lane Group Flow (vph)	0	500	0	0	443	0	0	296	0	0	375	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		21.5			21.5			18.5			18.5	
Effective Green, g (s)		22.5			22.5			18.5			18.5	
Actuated g/C Ratio		0.42			0.42			0.34			0.34	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		732			713			573			591	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.26			0.18			c0.22	
v/c Ratio		0.68			0.62			0.52			0.63	
Uniform Delay, d1		12.7			12.3			14.1			14.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.9			1.9			1.0			2.5	
Delay (s)		15.6			14.2			15.1			17.3	
Level of Service		B			B			B			B	
Approach Delay (s)		15.6			14.2			15.1			17.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	53.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1389			1836			970			953	
Travel Time (s)		31.6			41.7			22.0			21.7	
Volume (vph)	0	481	15	38	357	0	0	0	0	193	249	89
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Detector Phases		1		1	1					3	3	
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0	
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0	
Total Split (s)	0.0	46.0	0.0	46.0	46.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0
Total Split (%)	0.0%	44.7%	0.0%	44.7%	44.7%	0.0%	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0	
Lead/Lag		Lead		Lead	Lead							
Lead-Lag Optimize?		Yes		Yes	Yes							
Recall Mode		Min		Min	Min					Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 86.2	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

Splits and Phases: 28: Highland Ave & School St



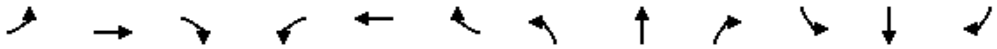
Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	20%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	SBT
Lane Group Flow (vph)	576	454	572
v/c Ratio	0.67	0.89	0.88
Control Delay	23.7	43.7	43.7
Queue Delay	0.0	0.0	0.0
Total Delay	23.7	43.7	43.7
Queue Length 50th (ft)	206	193	262
Queue Length 95th (ft)	442	#499	#626
Internal Link Dist (ft)	1309	1756	873
Turn Bay Length (ft)			
Base Capacity (vph)	858	511	651
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.67	0.89	0.88

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1774						1797	
Flt Permitted		1.00			0.78						0.98	
Satd. Flow (perm)		1786			1396						1797	
Volume (vph)	0	481	15	38	357	0	0	0	0	193	249	89
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	559	17	44	410	0	0	0	0	208	268	96
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	575	0	0	454	0	0	0	0	0	572	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		40.3			40.3						30.3	
Effective Green, g (s)		41.3			41.3						31.3	
Actuated g/C Ratio		0.47			0.47						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		833			651						635	
v/s Ratio Prot		0.32										
v/s Ratio Perm					c0.33						0.32	
v/c Ratio		0.69			0.70						0.90	
Uniform Delay, d1		18.6			18.7						27.2	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		2.5			3.3						18.3	
Delay (s)		21.1			22.0						45.4	
Level of Service		C			C						D	
Approach Delay (s)		21.1			22.0			0.0			45.4	
Approach LOS		C			C			A			D	

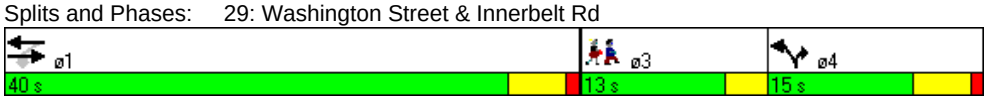
Intersection Summary				
HCM Average Control Delay	30.0	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	88.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	88.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	317	81	245	790	59	85	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	40.0	40.0	40.0	40.0	15.0	15.0	13.0
Total Split (%)	58.8%	58.8%	58.8%	58.8%	22.1%	22.1%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 68	
Actuated Cycle Length: 68.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 29: Washington Street & Innerbelt Rd



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	412	105	263	849	87	125
v/c Ratio	0.32	0.11	0.47	0.67	0.31	0.39
Control Delay	6.2	1.9	10.3	11.9	23.6	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	1.9	10.3	11.9	23.6	12.1
Queue Length 50th (ft)	43	0	32	131	22	9
Queue Length 95th (ft)	125	14	152	#529	52	33
Internal Link Dist (ft)	1			709	1231	
Turn Bay Length (ft)						
Base Capacity (vph)	1316	973	569	1291	299	340
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.11	0.46	0.66	0.29	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.49	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	894	1827	1719	1538
Volume (vph)	317	81	245	790	59	85
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	412	105	263	849	87	125
RTOR Reduction (vph)	0	34	0	0	0	75
Lane Group Flow (vph)	412	71	263	849	87	50
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	46.3	46.3	46.3	46.3	9.1	9.1
Effective Green, g (s)	47.3	47.3	47.3	47.3	10.1	10.1
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.14	0.14
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1252	896	601	1228	247	221
v/s Ratio Prot	0.22			c0.46	c0.05	0.03
v/s Ratio Perm		0.05	0.29			
v/c Ratio	0.33	0.08	0.44	0.69	0.35	0.22
Uniform Delay, d1	4.9	4.0	5.4	7.1	27.2	26.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.2	1.4	1.2	0.7
Delay (s)	4.9	4.0	5.6	8.4	28.4	27.4
Level of Service	A	A	A	A	C	C
Approach Delay (s)	4.7			7.8	27.8	
Approach LOS	A			A	C	

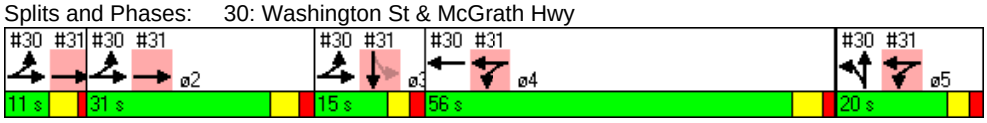
Intersection Summary			
HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	70.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		86			958			410			438	
Travel Time (s)		2.0			21.8			9.3			10.0	
Volume (vph)	445	253	0	0	966	80	20	178	417	0	0	0
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Minimum Split (s)					22.0		10.0	10.0				
Total Split (s)	57.0	57.0	0.0	0.0	56.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	0.0%	42.1%	0.0%	15.0%	15.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)					4.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lead/Lag					Lag							
Lead-Lag Optimize?					Yes							

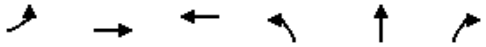
Intersection Summary	
Area Type:	Other
Cycle Length: 133	
Actuated Cycle Length: 133	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	

Splits and Phases: 30: Washington St & McGrath Hwy



Lane Group	ø1	ø2	ø3
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Total Lost Time (s)			
Turning Speed (mph)			
Right Turn on Red			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Peak Hour Factor			
Heavy Vehicles (%)			
Turn Type			
Protected Phases	1	2	3
Permitted Phases			
Minimum Split (s)	11.0	21.0	10.0
Total Split (s)	11.0	31.0	15.0
Total Split (%)	8%	23%	11%
Yellow Time (s)	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes

Intersection Summary



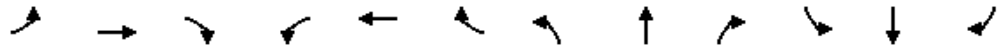
Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	484	284	1162	23	205	479
v/c Ratio	0.35	0.15	0.61	0.12	1.04	0.32
Control Delay	2.5	1.4	34.8	55.0	131.5	0.6
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0
Total Delay	2.5	1.4	34.8	55.0	131.5	0.6
Queue Length 50th (ft)	9	1	294	18	~191	0
Queue Length 95th (ft)	m10	m2	344	45	#335	0
Internal Link Dist (ft)		6	878		330	
Turn Bay Length (ft)						
Base Capacity (vph)	1391	1843	1893	187	197	1482
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	57	17	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.15	0.63	0.14	1.04	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4935		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4935		1656	1743	1482			
Volume (vph)	445	253	0	0	966	80	20	178	417	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	484	284	0	0	1073	89	23	205	479	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	484	284	0	0	1162	0	23	205	479	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			50.0		15.0	15.0	133.0			
Effective Green, g (s)	52.0	52.0			51.0		15.0	15.0	133.0			
Actuated g/C Ratio	0.39	0.39			0.38		0.11	0.11	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1391	1843			1892		187	197	1482			
v/s Ratio Prot	c0.14	0.06			c0.24		0.01	c0.12				
v/s Ratio Perm									c0.32			
v/c Ratio	0.35	0.15			0.61		0.12	1.04	0.32			
Uniform Delay, d1	28.5	26.2			33.1		53.1	59.0	0.0			
Progression Factor	0.07	0.05			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.6	0.2			1.5		1.3	75.2	0.6			
Delay (s)	2.5	1.4			34.6		54.4	134.2	0.6			
Level of Service	A	A			C		D	F	A			
Approach Delay (s)		2.1			34.6			41.1			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

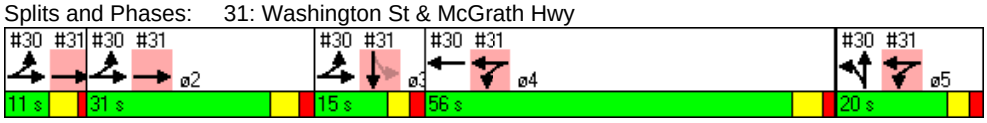
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			86			216			1794	
Travel Time (s)		25.6			2.0			4.9			40.8	
Volume (vph)	0	698	26	452	532	0	0	0	0	34	123	393
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Minimum Split (s)										10.0	10.0	
Total Split (s)	0.0	42.0	0.0	76.0	76.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0
Total Split (%)	0.0%	31.6%	0.0%	57.1%	57.1%	0.0%	0.0%	0.0%	0.0%	11.3%	11.3%	0.0%
Yellow Time (s)										3.0	3.0	
All-Red Time (s)										2.0	2.0	
Lead/Lag										Lead	Lead	
Lead-Lag Optimize?										Yes	Yes	

Intersection Summary

Area Type: Other
Cycle Length: 133
Actuated Cycle Length: 133
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Total Lost Time (s)				
Turning Speed (mph)				
Right Turn on Red				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Peak Hour Factor				
Heavy Vehicles (%)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Minimum Split (s)	11.0	21.0	22.0	10.0
Total Split (s)	11.0	31.0	56.0	20.0
Total Split (%)	8%	23%	42%	15%
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	

Intersection Summary

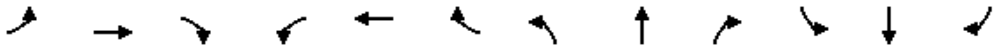
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	788	481	605	634
v/c Ratio	0.42	0.52	0.33	2.34dr
Control Delay	39.6	3.9	0.5	534.1
Queue Delay	0.0	0.0	0.0	171.1
Total Delay	39.7	3.9	0.5	705.2
Queue Length 50th (ft)	136	45	0	~424
Queue Length 95th (ft)	163	90	0	#532
Internal Link Dist (ft)	1045		6	1714
Turn Bay Length (ft)				
Base Capacity (vph)	1889	918	1818	301
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	33	0	0	46
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.52	0.33	2.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6775		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6775		1719	3406						3007	
Volume (vph)	0	698	26	452	532	0	0	0	0	34	123	393
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	759	29	481	605	0	0	0	0	47	140	447
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	75	0
Lane Group Flow (vph)	0	783	0	481	605	0	0	0	0	0	559	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		36.0		71.0	71.0						10.0	
Effective Green, g (s)		37.0		71.0	71.0						10.0	
Actuated g/C Ratio		0.28		0.53	0.53						0.08	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1885		918	1818						226	
v/s Ratio Prot		c0.12		c0.28	0.18							
v/s Ratio Perm											0.19	
v/c Ratio		0.42		0.52	0.33						2.34dr	
Uniform Delay, d1		39.2		20.1	17.6						61.5	
Progression Factor		1.00		0.11	0.00						1.00	
Incremental Delay, d2		0.7		1.7	0.4						676.3	
Delay (s)		39.8		3.9	0.5						737.8	
Level of Service		D		A	A						F	
Approach Delay (s)		39.8			2.0			0.0			737.8	
Approach LOS		D			A			A			F	

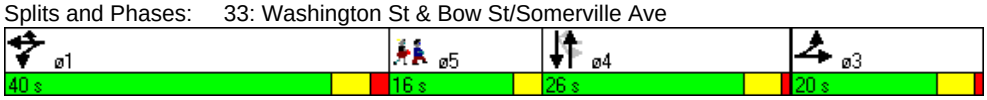
Intersection Summary					
HCM Average Control Delay	199.9	HCM Level of Service		F	
HCM Volume to Capacity ratio	0.66				
Actuated Cycle Length (s)	133.0	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	71.7%	ICU Level of Service		C	
Analysis Period (min)	15				

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50		50		50	50	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2793			626			1049			820	
Travel Time (s)		63.5			14.2			23.8			18.6	
Volume (vph)	33	282	60	455	392	369	0	0	0	309	295	55
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Detector Phases	3	3		1	1	1		4		4	4	
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0	
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0	
Total Split (s)	20.0	20.0	0.0	40.0	40.0	40.0	0.0	26.0	0.0	26.0	26.0	0.0
Total Split (%)	19.6%	19.6%	0.0%	39.2%	39.2%	39.2%	0.0%	25.5%	0.0%	25.5%	25.5%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0	
Lead/Lag								Lag		Lag	Lag	
Lead-Lag Optimize?								Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max	Max		Max		Max	Max	

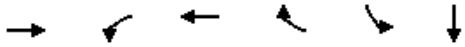
Intersection Summary	
Area Type:	CBD
Cycle Length: 102	
Actuated Cycle Length: 89.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Lane Group	ø5
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	5
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	16.0
Total Split (s)	16.0
Total Split (%)	16%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary



Lane Group	EBT	WBL	WBT	WBR	SBL	SBT
Lane Group Flow (vph)	403	500	431	405	202	500
v/c Ratio	0.81	0.83	0.68	0.38	0.73	0.83
Control Delay	50.6	39.0	30.1	1.7	49.0	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	39.0	30.1	1.7	49.0	45.0
Queue Length 50th (ft)	110	232	184	0	108	135
Queue Length 95th (ft)	#232	#523	#401	20	#278	#284
Internal Link Dist (ft)	2713		546			740
Turn Bay Length (ft)						
Base Capacity (vph)	495	604	635	1059	278	605
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.83	0.68	0.38	0.73	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2744		1533	1613	1371				1408	2724	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.87	
Satd. Flow (perm)		2744		1533	1613	1371				1122	2405	
Volume (vph)	33	282	60	455	392	369	0	0	0	309	295	55
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	35	303	65	500	431	405	0	0	0	329	314	59
RTOR Reduction (vph)	0	0	0	0	0	156	0	0	0	0	9	0
Lane Group Flow (vph)	0	403	0	500	431	249	0	0	0	202	491	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		15.1		34.2	34.2	55.3				21.1	21.1	
Effective Green, g (s)		16.1		35.2	35.2	56.3				22.1	22.1	
Actuated g/C Ratio		0.18		0.38	0.38	0.61				0.24	0.24	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		482		588	619	842				270	580	
v/s Ratio Prot		c0.15		c0.33	0.27	0.11						
v/s Ratio Perm						0.07				0.18	c0.20	
v/c Ratio		0.84		0.85	0.70	0.30				0.75	0.85	
Uniform Delay, d1		36.5		25.8	23.8	8.3				32.2	33.2	
Progression Factor		1.00		1.00	1.00	1.00				1.00	1.00	
Incremental Delay, d2		15.7		14.3	6.4	0.9				17.2	14.2	
Delay (s)		52.2		40.2	30.1	9.2				49.4	47.4	
Level of Service		D		D	C	A				D	D	
Approach Delay (s)		52.2			27.6			0.0			48.0	
Approach LOS		D			C			A			D	

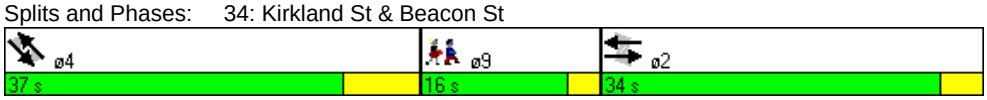
Intersection Summary			
HCM Average Control Delay	37.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	18.3
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1033			2793			1241			3010	
Travel Time (s)		23.5			63.5			28.2			68.4	
Volume (vph)	49	188	33	43	314	55	34	448	125	24	241	26
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phases	2	2		2	2		4	4		4	4	
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	34.0	34.0	0.0	34.0	34.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0
Total Split (%)	39.1%	39.1%	0.0%	39.1%	39.1%	0.0%	42.5%	42.5%	0.0%	42.5%	42.5%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 87	
Actuated Cycle Length: 74.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 34: Kirkland St & Beacon St



Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	16.0
Total Split (s)	16.0
Total Split (%)	18%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	SET	NWT
Lane Group Flow (vph)	342	458	675	316
v/c Ratio	0.59	0.70	0.92	0.49
Control Delay	23.2	26.4	41.9	19.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.2	26.4	41.9	19.8
Queue Length 50th (ft)	107	152	256	92
Queue Length 95th (ft)	211	#387	#628	221
Internal Link Dist (ft)	953	2713	1161	2930
Turn Bay Length (ft)				
Base Capacity (vph)	578	656	731	647
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.70	0.92	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1747			1703			1771			1731	
Flt Permitted		0.85			0.94			0.96			0.92	
Satd. Flow (perm)		1505			1605			1712			1602	
Volume (vph)	49	188	33	43	314	55	34	448	125	24	241	26
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	62	238	42	48	349	61	38	498	139	26	262	28
RTOR Reduction (vph)	0	5	0	0	6	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	337	0	0	452	0	0	665	0	0	312	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.2			30.2			30.2			30.2	
Effective Green, g (s)		30.2			30.2			31.2			31.2	
Actuated g/C Ratio		0.39			0.39			0.41			0.41	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		593			633			697			653	
v/s Ratio Prot												
v/s Ratio Perm		0.22			c0.28			c0.39			0.19	
v/c Ratio		0.57			0.71			0.95			0.48	
Uniform Delay, d1		18.1			19.6			22.0			16.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.9			6.7			24.5			2.5	
Delay (s)		22.0			26.3			46.5			19.2	
Level of Service		C			C			D			B	
Approach Delay (s)		22.0			26.3			46.5			19.2	
Approach LOS		C			C			D			B	

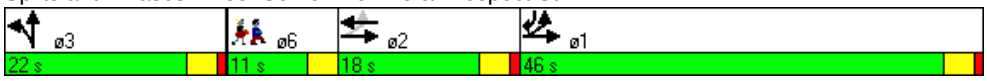
Intersection Summary			
HCM Average Control Delay	31.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50				50
Trailing Detector (ft)	0	0			0		0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		626			1509			930			200	
Travel Time (s)		14.2			34.3			21.1			4.5	
Volume (vph)	202	389	0	0	158	37	127	468	61	0	0	979
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Detector Phases	1	1 2			2		3	3				1
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0
Total Split (s)	46.0	64.0	0.0	0.0	18.0	0.0	22.0	22.0	0.0	0.0	0.0	46.0
Total Split (%)	47.4%	66.0%	0.0%	0.0%	18.6%	0.0%	22.7%	22.7%	0.0%	0.0%	0.0%	47.4%
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0
Lead/Lag	Lag				Lead							Lag
Lead-Lag Optimize?	Yes				Yes							Yes
Recall Mode	C-Max				Max		Max	Max				C-Max

Intersection Summary	
Area Type:	CBD
Cycle Length: 97	
Actuated Cycle Length: 97	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 35: Somerville Ave & Prospect St



Lane Group	ø6
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	6
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	11%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Lane Group	EBT	WBT	NBL	NBT	SBR
Lane Group Flow (vph)	635	220	140	581	1100
v/c Ratio	0.35	0.31	0.54	1.07	1.05
Control Delay	7.3	29.6	44.5	95.7	71.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	29.6	44.5	95.7	71.2
Queue Length 50th (ft)	58	50	86	~215	~423
Queue Length 95th (ft)	123	95	156	#331	#551
Internal Link Dist (ft)	546	1429		850	
Turn Bay Length (ft)					
Base Capacity (vph)	1816	712	259	545	1045
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.31	0.54	1.07	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2949		1395	2885				2413
Flt Permitted		0.75			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2278			2949		1395	2885				2413
Volume (vph)	202	389	0	0	158	37	127	468	61	0	0	979
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	217	418	0	0	178	42	140	514	67	0	0	1100
RTOR Reduction (vph)	0	0	0	0	19	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	635	0	0	201	0	140	571	0	0	0	1100
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		62.4			22.8		18.0	18.0				39.6
Effective Green, g (s)		62.4			22.8		18.0	18.0				39.6
Actuated g/C Ratio		0.64			0.24		0.19	0.19				0.41
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1754			693		259	535				985
v/s Ratio Prot		0.15			0.07		0.10	c0.20				c0.46
v/s Ratio Perm		c0.09										
v/c Ratio		0.36			0.29		0.54	1.07				1.12
Uniform Delay, d1		8.0			30.5		35.8	39.5				28.7
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.6			1.1		7.9	58.2				66.4
Delay (s)		8.6			31.5		43.6	97.7				95.1
Level of Service		A			C		D	F				F
Approach Delay (s)		8.6			31.5			87.2			95.1	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM Average Control Delay	67.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

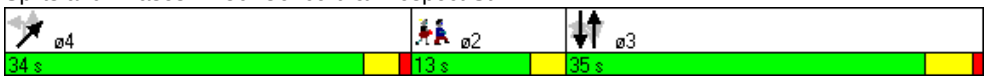
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	50	0	159	95	410	300	5	19	294	19	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		13.0
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	0.0	34.0	34.0	0.0	13.0
Total Split (%)	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	0.0%	41.5%	41.5%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Recall Mode	Min	Min		Min	Min			Min	Min		None

Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 71.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 36: Concord & Prospect St



Lane Group	NBT	SBL	SBT	NET
Lane Group Flow (vph)	233	98	737	378
v/c Ratio	1.11	0.20	0.92	0.45
Control Delay	115.5	15.3	39.3	17.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	115.5	15.3	39.3	17.7
Queue Length 50th (ft)	~94	24	273	106
Queue Length 95th (ft)	#263	69	#631	223
Internal Link Dist (ft)	1076		969	1341
Turn Bay Length (ft)				
Base Capacity (vph)	210	486	802	838
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.11	0.20	0.92	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

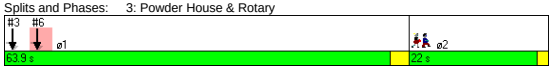
Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1680		1869	1842				1985	
Flt Permitted		0.37		0.59	1.00				1.00	
Satd. Flow (perm)		628		1162	1842				1985	
Volume (vph)	50	0	159	95	410	300	5	19	294	19
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	56	0	177	98	423	309	5	22	334	22
RTOR Reduction (vph)	0	44	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	189	0	98	737	0	0	0	376	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		30.1		30.1	30.1				30.1	
Effective Green, g (s)		31.1		31.1	31.1				30.1	
Actuated g/C Ratio		0.42		0.42	0.42				0.41	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		264		489	775				809	
v/s Ratio Prot					c0.40					
v/s Ratio Perm		0.30		0.08					0.19	
v/c Ratio		0.72		0.20	0.95				0.46	
Uniform Delay, d1		17.7		13.5	20.7				16.0	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		7.5		0.1	21.0				0.2	
Delay (s)		25.2		13.6	41.7				16.2	
Level of Service		C		B	D				B	
Approach Delay (s)		25.2			38.4				16.2	
Approach LOS		C			D				B	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	12.7
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	525	0	0	1170	355	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	565	0	0	1206	366	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.36			0.72	0.24	
Control Delay		0.6			8.2	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			8.2	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			756	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		11			12	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.36			0.73	0.24	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	525	0	0	1170	355
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	565	0	0	1206	366
RTOR Reduction (vph)	0	65	0	0	0	0
Lane Group Flow (vph)	0	500	0	0	1206	366
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.66	
v/s Ratio Perm		0.31				c0.24
v/c Ratio		0.35			0.75	0.24
Uniform Delay, d1		1.2			2.4	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			3.2	0.4
Delay (s)		1.8			5.6	0.4
Level of Service		A			A	A
Approach Delay (s)	1.8			0.0	4.4	
Approach LOS	A			A	A	

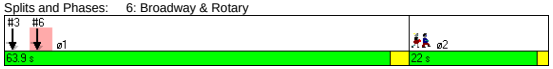
Intersection Summary			
HCM Average Control Delay	3.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	118.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	365	0	0	1035	660	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	415	0	0	1101	702	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.27			0.65	0.45	
Control Delay		0.4			3.0	0.7	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.4			3.0	0.7	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			132	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.27			0.65	0.45	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	365	0	0	1035	660
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	415	0	0	1101	702
RTOR Reduction (vph)	0	48	0	0	0	0
Lane Group Flow (vph)	0	367	0	0	1101	702
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.60	
v/s Ratio Perm		0.23				c0.45
v/c Ratio		0.26			0.67	0.45
Uniform Delay, d1		1.1			2.0	0.0
Progression Factor		1.00			0.34	1.00
Incremental Delay, d2		0.5			1.8	0.7
Delay (s)		1.5			2.5	0.7
Level of Service		A			A	A
Approach Delay (s)	1.5			0.0	1.8	
Approach LOS	A			A	A	

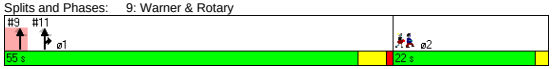
Intersection Summary			
HCM Average Control Delay	1.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	480	770	385	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	552	794	397	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.35	0.46	0.25			
Control Delay		0.6	1.9	0.3			
Queue Delay		0.0	0.0	0.0			
Total Delay		0.6	1.9	0.3			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	200	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	35	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.35	0.46	0.25			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



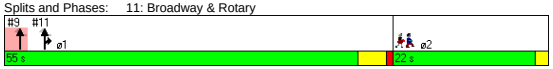
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	480	770	385	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	552	794	397	0	0
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	507	794	397	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.44			
v/s Ratio Perm		0.32		c0.25		
v/c Ratio		0.35	0.47	0.25		
Uniform Delay, d1		0.6	0.7	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		0.7	0.9	0.3		
Delay (s)		1.3	1.4	0.3		
Level of Service		A	A	A		
Approach Delay (s)	1.3		1.1			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	665	490	755	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	853	505	778	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.53	0.29	0.51			
Control Delay		1.2	1.6	1.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.3	1.6	1.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	135	23			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1529			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		31	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.54	0.29	0.51			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	665	490	755	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	853	505	778	0	0
RTOR Reduction (vph)	0	70	0	64	0	0
Lane Group Flow (vph)	0	783	505	714	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.27	0.46		
v/s Ratio Perm		c0.48				
v/c Ratio		0.52	0.30	0.50		
Uniform Delay, d1		0.8	0.6	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.3	0.5	1.2		
Delay (s)		2.1	1.0	2.0		
Level of Service		A	A	A		
Approach Delay (s)	2.1		1.6			0.0
Approach LOS	A		A			A

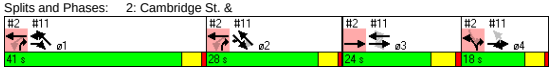
Intersection Summary			
HCM Average Control Delay	1.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			88			
Travel Time (s)		4.1			8.0			13.0			2.0			
Volume (vph)	0	208	50	361	253	0	29	0	126	19	0	0		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.79	0.79	0.79		
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	16%	16%	16%	5%	5%	5%		
Lane Group Flow (vph)	0	269	0	0	675	0	32	0	140	24	0	0		
Turn Type				Perm			custom		custom	custom				
Protected Phases		3			1 2		4		1 2 4				1	2
Permitted Phases				1 2	2		4		1 2 4	4				
Minimum Split (s)		15.0					18.0			18.0			10.0	10.0
Total Split (s)	0.0	24.0	0.0	69.0	69.0	0.0	18.0	0.0	87.0	18.0	0.0	0.0	41.0	28.0
Total Split (%)	0.0%	21.6%	0.0%	62.2%	62.2%	0.0%	16.2%	0.0%	78.4%	16.2%	0.0%	0.0%	37%	25%
Maximum Green (s)		18.0					13.0			13.0			36.0	23.0
Yellow Time (s)		5.0					4.0			4.0			4.0	4.0
All-Red Time (s)		1.0					1.0			1.0			1.0	1.0
Lead/Lag		Lead					Lag			Lag			Lead	Lag
Lead-Lag Optimize?		Yes					Yes			Yes			Yes	Yes
Walk Time (s)							5.0			5.0				
Flash Dont Walk (s)							7.0			7.0				
Pedestrian Calls (#/hr)							0			0				
v/c Ratio		0.44			6.30dl		0.17		0.13	0.11				
Control Delay		39.6			5.8		45.8		0.9	44.5				
Queue Delay		0.0			0.4		0.0		0.0	0.0				
Total Delay		39.6			6.2		45.8		0.9	44.5				
Queue Length 50th (ft)		72			54		18		0	14				
Queue Length 95th (ft)		110			63		45		12	32				
Internal Link Dist (ft)		101			270			491			8			
Turn Bay Length (ft)														
Base Capacity (vph)		609			1203		190		1042	217				
Starvation Cap Reductn		0			178		0		0	0				
Spillback Cap Reductn		0			0		0		0	0				
Storage Cap Reductn		0			0		0		0	0				
Reduced v/c Ratio		0.44			0.66		0.17		0.13	0.11				

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 111
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 80
Control Type: Pretimed
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 2: Cambridge St. &



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0		
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00		
Frt		0.97			1.00		1.00		0.85	1.00		
Flt Protected		1.00			0.97		0.95		1.00	0.95		
Satd. Flow (prot)		3276			3229		1504		1346	1719		
Flt Permitted		1.00			0.62		0.95		1.00	0.95		
Satd. Flow (perm)		3276			2054		1504		1346	1719		
Volume (vph)	0	208	50	361	253	0	29	0	126	19	0	0
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.79	0.79	0.79
Adj. Flow (vph)	0	217	52	397	278	0	32	0	140	24	0	0
RTOR Reduction (vph)	0	19	0	0	0	0	0	0	35	0	0	0
Lane Group Flow (vph)	0	250	0	0	675	0	32	0	105	24	0	0
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	16%	16%	16%	5%	5%	5%
Turn Type				Perm			custom		custom	custom		
Protected Phases		3			1 2		4		1 2 4			
Permitted Phases				1 2	2		4		1 2 4	4		
Actuated Green, G (s)		18.0			64.0		13.0		82.0	13.0		
Effective Green, g (s)		20.0			65.0		14.0		83.0	14.0		
Actuated g/C Ratio		0.18			0.59		0.13		0.75	0.13		
Clearance Time (s)		6.0					5.0			5.0		
Lane Grp Cap (vph)		590			1203		190		1006	217		
v/s Ratio Prot		c0.08					c0.02		0.08			
v/s Ratio Perm					c0.33					0.01		
v/c Ratio		0.42			6.30dl		0.17		0.10	0.11		
Uniform Delay, d1		40.4			14.2		43.3		3.8	43.0		
Progression Factor		1.00			0.28		1.00		1.00	1.00		
Incremental Delay, d2		2.2			1.7		1.9		0.2	1.0		
Delay (s)		42.6			5.7		45.2		4.0	44.0		
Level of Service		D			A		D		A	D		
Approach Delay (s)		42.6			5.7			11.7			44.0	
Approach LOS		D			A			B			D	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

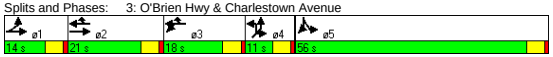
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	11	11	12	10	12	11	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30		30				30		
Link Distance (ft)		899			243		1697				858		
Travel Time (s)		20.4			5.5		38.6				19.5		
Volume (vph)	141	1214	358	251	692	223	426	730	83	126	394	252	
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	4%	4%	4%	
Lane Group Flow (vph)	155	1334	393	270	744	240	696	607	0	159	499	319	
Turn Type	Prot		Free	Prot		custom	custom			custom		custom	
Protected Phases	1	1 2		3	2 3	2 3	5	5		4	4	4	2
Permitted Phases		1 2	Free		2 3	2 3	5	5		4	4	4	
Minimum Split (s)	11.0			11.0			21.0	21.0		11.0	11.0	11.0	11.0
Total Split (s)	14.0	35.0	0.0	18.0	39.0	39.0	56.0	56.0	0.0	11.0	11.0	11.0	21.0
Total Split (%)	11.7%	29.2%	0.0%	15.0%	32.5%	32.5%	46.7%	46.7%	0.0%	9.2%	9.2%	9.2%	18%
Maximum Green (s)	9.0			13.0			51.0	51.0		6.0	6.0	6.0	16.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lead			Lead						Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes						Yes	Yes	Yes	Yes
Walk Time (s)	5.0						5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)	0.0						11.0	11.0		1.0	1.0	1.0	0.0
Pedestrian Calls (#/hr)	0						0	0		0	0	0	0
v/c Ratio	1.12	1.05	0.24	1.40	0.77	0.40	1.00	0.95		1.67	2.47	0.82	
Control Delay	163.2	82.7	0.3	243.4	39.3	13.6	68.3	57.8		379.2	700.0	23.9	
Queue Delay	0.0	19.5	0.0	0.0	11.9	0.9	117.0	0.0		0.0	0.0	36.1	
Total Delay	163.2	102.2	0.3	243.4	51.2	14.6	185.4	57.8		379.2	700.0	60.0	
Queue Length 50th (ft)	~122	~363	0	~248	244	45	489	406		~159	~296	0	
Queue Length 95th (ft)	#243	#447	0	#401	310	121	#735	#633		#239	#337	41	
Internal Link Dist (ft)		819			163		1617				778		
Turn Bay Length (ft)													
Base Capacity (vph)	138	1270	1636	193	963	601	697	641		95	202	388	
Starvation Cap Reductn	0	0	0	0	204	166	0	0		0	0	0	
Spillback Cap Reductn	0	56	0	0	0	0	158	0		0	0	84	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0	
Reduced v/c Ratio	1.12	1.10	0.24	1.40	0.98	0.55	1.29	0.95		1.67	2.47	1.05	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: O'Brien Hwy & Charlestown Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	11	11	12	10	12	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	*0.95	0.95		1.00	*0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	0.95	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.98	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	4916	1636	1652	3303	1478	1607	1468		1620	3471	1501
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.98	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1652	4916	1636	1652	3303	1478	1607	1468		1620	3471	1501
Volume (vph)	141	1214	358	251	692	223	426	730	83	126	394	252
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79
Adj. Flow (vph)	155	1334	393	270	744	240	448	768	87	159	499	319
RTOR Reduction (vph)	0	0	0	0	0	170	0	5	0	0	0	300
Lane Group Flow (vph)	155	1334	393	270	744	70	696	602	0	159	499	19
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	custom			custom		custom
Protected Phases	1	1 2		3	2 3	2 3	5	5		4	4	4
Permitted Phases		1 2	Free		2 3	2 3	5	5		4	4	4
Actuated Green, G (s)	9.0	30.0	120.0	13.0	34.0	34.0	51.0	51.0		6.0	6.0	6.0
Effective Green, g (s)	10.0	31.0	120.0	14.0	35.0	35.0	52.0	52.0		7.0	7.0	7.0
Actuated g/C Ratio	0.08	0.26	1.00	0.12	0.29	0.29	0.43	0.43		0.06	0.06	0.06
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	138	1270	1636	193	963	431	696	636		95	202	88
v/s Ratio Prot	0.09	c0.27		c0.16	0.23	0.05	c0.43	0.41		0.10	c0.14	0.01
v/s Ratio Perm			0.24									
v/c Ratio	1.12	1.05	0.24	1.40	0.77	0.16	1.00	0.95		1.67	2.47	0.21
Uniform Delay, d1	55.0	44.5	0.0	53.0	38.9	31.6	34.0	32.7		56.5	56.5	53.9
Progression Factor	1.00	1.00	1.00	0.89	0.85	2.82	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	113.5	39.6	0.3	206.7	5.8	0.8	34.1	24.7		344.6	676.3	5.4
Delay (s)	168.5	84.1	0.3	254.2	38.9	89.8	68.1	57.4		401.1	732.8	59.3
Level of Service	F	F	A	F	D	F	E	E		F	F	E
Approach Delay (s)		73.6			95.0		63.1				458.9	
Approach LOS		E			F		E				F	

Intersection Summary

HCM Average Control Delay	145.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

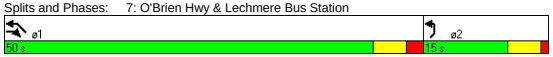
c Critical Lane Group

Lane Group	EBR	NWL	NEL	NER
Lane Configurations				
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	
Trailing Detector (ft)	0	0	0	
Turning Speed (mph)	9	15	15	9
Right Turn on Red				Yes
Link Speed (mph)	30	30	30	
Link Distance (ft)	326	424	131	
Travel Time (s)	7.4	9.6	3.0	
Volume (vph)	1552	411	22	0
Peak Hour Factor	0.94	0.93	0.70	0.70
Heavy Vehicles (%)	2%	5%	0%	0%
Lane Group Flow (vph)	1651	442	31	0
Turn Type				
Protected Phases	1	1	2	
Permitted Phases				
Detector Phases	1	1	2	
Minimum Initial (s)	30.0	30.0	8.0	
Minimum Split (s)	36.0	36.0	15.0	
Total Split (s)	50.0	50.0	15.0	0.0
Total Split (%)	76.9%	76.9%	23.1%	0.0%
Maximum Green (s)	44.0	44.0	10.0	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	
Lead/Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	
Recall Mode	None	None	None	
Walk Time (s)	10.0	10.0	5.0	
Flash Dont Walk (s)	10.0	10.0	5.0	
Pedestrian Calls (#/hr)	0	0	0	
v/c Ratio	0.52	0.10	0.10	
Control Delay	3.1	1.6	21.8	
Queue Delay	0.0	0.0	0.0	
Total Delay	3.1	1.6	21.8	
Queue Length 50th (ft)	0	0	4	
Queue Length 95th (ft)	124	17	21	
Internal Link Dist (ft)	246	344	51	
Turn Bay Length (ft)				
Base Capacity (vph)	3220	4552	365	
Starvation Cap Reductn	0	0	0	
Spillback Cap Reductn	0	0	0	
Storage Cap Reductn	0	0	0	
Reduced v/c Ratio	0.51	0.10	0.08	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 45.1
Natural Cycle: 55
Control Type: Semi Act-Uncoord

Splits and Phases: 7: O'Brien Hwy & Lechmere Bus Station



Movement	EBR	NWL	NEL	NER
Lane Configurations				
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	0.76	0.94	1.00	
Frt	0.85	1.00	1.00	
Flt Protected	1.00	1.00	0.95	
Satd. Flow (prot)	3610	5103	1805	
Flt Permitted	1.00	1.00	0.95	
Satd. Flow (perm)	3610	5103	1805	
Volume (vph)	1552	411	22	0
Peak-hour factor, PHF	0.94	0.93	0.70	0.70
Adj. Flow (vph)	1651	442	31	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	1651	442	31	0
Heavy Vehicles (%)	2%	5%	0%	0%
Turn Type				
Protected Phases	1	1	2	
Permitted Phases				
Actuated Green, G (s)	34.7	34.7	2.5	
Effective Green, g (s)	36.7	36.7	3.5	
Actuated g/C Ratio	0.76	0.76	0.07	
Clearance Time (s)	6.0	6.0	5.0	
Vehicle Extension (s)	2.0	2.0	2.0	
Lane Grp Cap (vph)	2749	3885	131	
v/s Ratio Prot	c0.46	0.09	c0.02	
v/s Ratio Perm				
v/c Ratio	0.60	0.11	0.24	
Uniform Delay, d1	2.5	1.5	21.1	
Progression Factor	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.0	0.3	
Delay (s)	2.8	1.5	21.4	
Level of Service	A	A	C	
Approach Delay (s)	2.8	1.5	21.4	
Approach LOS	A	A	C	

Intersection Summary

HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

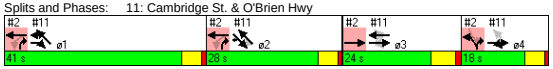
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø4
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12	
Storage Length (ft)	0		0	0		0	180		180	0		0	
Storage Lanes	0		2	0		0	1		1	2		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		350			344			424			899		
Travel Time (s)		8.0			7.8			9.6			20.4		
Volume (vph)	50	2	311	10	13	12	39	1366	148	456	387	46	
Peak Hour Factor	0.96	0.96	0.96	0.88	0.88	0.88	0.97	0.97	0.97	0.91	0.91	0.91	
Heavy Vehicles (%)	8%	8%	8%	26%	26%	26%	2%	2%	2%	3%	3%	3%	
Lane Group Flow (vph)	0	54	324	0	40	0	40	1408	153	501	476	0	
Turn Type	Perm		custom	Perm			Perm		Prot	Prot			
Protected Phases		3 4	1 4		3			2	2	1	1 2		4
Permitted Phases	3 4		1 3 4	3	3		2						
Minimum Split (s)				15.0	15.0		10.0	10.0	10.0	10.0			18.0
Total Split (s)	42.0	42.0	59.0	24.0	24.0	0.0	28.0	28.0	28.0	41.0	69.0	0.0	18.0
Total Split (%)	37.8%	37.8%	53.2%	21.6%	21.6%	0.0%	25.2%	25.2%	25.2%	36.9%	62.2%	0.0%	16%
Maximum Green (s)				18.0	18.0		23.0	23.0	23.0	36.0			13.0
Yellow Time (s)				5.0	5.0		4.0	4.0	4.0	4.0			4.0
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0			1.0
Lead/Lag				Lead	Lead		Lag	Lag	Lag	Lead			Lag
Lead-Lag Optimize?				Yes	Yes		Yes	Yes	Yes	Yes			Yes
Walk Time (s)													5.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.12	0.18		0.15		0.21	1.32	0.46	0.47	0.23		
Control Delay		11.0	2.3		29.4		39.4	188.6	43.2	31.1	10.9		
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		11.0	2.3		29.4		39.4	188.6	43.2	31.1	10.9		
Queue Length 50th (ft)		10	13		14		21	~420	84	127	67		
Queue Length 95th (ft)		19	17		40		49	#504	142	171	92		
Internal Link Dist (ft)		270			264			344			819		
Turn Bay Length (ft)							180		180				
Base Capacity (vph)		460	1811		267		187	1063	331	1058	2028		
Starvation Cap Reductn		0	0		0		0	0	0	0	0		
Spillback Cap Reductn		0	0		0		0	0	0	0	0		
Storage Cap Reductn		0	0		0		0	0	0	0	0		
Reduced v/c Ratio		0.12	0.18		0.15		0.21	1.32	0.46	0.47	0.23		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 111
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 80
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Cambridge St. & O'Brien Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	12	11	11	11	10	12	12
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	0.88		1.00		1.00	0.91	1.00	0.97	0.95	
Frt		1.00	0.85		0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1678	2544		1417		1711	4916	1531	3173	3449	
Flt Permitted		0.76	1.00		0.98		0.48	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1344	2544		1415		864	4916	1531	3173	3449	
Volume (vph)	50	2	311	10	13	12	39	1366	148	456	387	46
Peak-hour factor, PHF	0.96	0.96	0.96	0.88	0.88	0.88	0.97	0.97	0.97	0.91	0.91	0.91
Adj. Flow (vph)	52	2	324	11	15	14	40	1408	153	501	425	51
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	54	324	0	29	0	40	1408	153	501	468	0
Heavy Vehicles (%)	8%	8%	8%	26%	26%	26%	2%	2%	2%	3%	3%	3%
Turn Type	Perm		custom	Perm			Perm		Prot	Prot		
Protected Phases		3 4	1 4		3			2	2	1	1 2	
Permitted Phases	3 4		1 3 4	3	3		2					
Actuated Green, G (s)		37.0	72.0		18.0		23.0	23.0	23.0	36.0	64.0	
Effective Green, g (s)		38.0	75.0		20.0		24.0	24.0	24.0	37.0	65.0	
Actuated g/C Ratio		0.34	0.68		0.18		0.22	0.22	0.22	0.33	0.59	
Clearance Time (s)					6.0		5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)		460	1811		255		187	1063	331	1058	2020	
v/s Ratio Prot			c0.09					c0.29	0.10	c0.16	0.14	
v/s Ratio Perm		0.04	0.04		0.02		0.05					
v/c Ratio		0.12	0.18		0.11		0.21	1.32	0.46	0.47	0.23	
Uniform Delay, d1		25.0	6.6		38.1		35.7	43.5	37.9	29.3	11.0	
Progression Factor		0.41	0.39		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.5	0.2		0.9		2.6	152.7	4.6	1.5	0.3	
Delay (s)		10.8	2.8		39.0		38.3	196.2	42.5	30.8	11.3	
Level of Service		B	A		D		D	F	D	C	B	
Approach Delay (s)		3.9			39.0			177.5			21.3	
Approach LOS		A			D			F			C	

Intersection Summary

HCM Average Control Delay	102.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

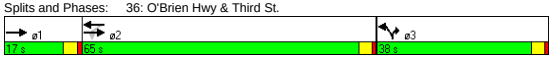
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø1
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	399			338	279		
Travel Time (s)	9.1			7.7	6.3		
Volume (vph)	1669	645	62	374	184	15	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.64	0.64	
Heavy Vehicles (%)	1%	1%	4%	4%	1%	1%	
Lane Group Flow (vph)	2386	0	0	474	288	23	
Turn Type			Perm			Prot	
Protected Phases	1 2			2	3	3	1
Permitted Phases	2		2				
Minimum Split (s)			22.0	22.0	37.0	37.0	17.0
Total Split (s)	82.0	0.0	65.0	65.0	38.0	38.0	17.0
Total Split (%)	68.3%	0.0%	54.2%	54.2%	31.7%	31.7%	14%
Maximum Green (s)			61.0	61.0	34.0	34.0	13.0
Yellow Time (s)			3.0	3.0	3.0	3.0	3.0
All-Red Time (s)			1.0	1.0	1.0	1.0	1.0
Lead/Lag			Lag	Lag			Lead
Lead-Lag Optimize?			Yes	Yes			Yes
Walk Time (s)					15.0	15.0	7.0
Flash Dont Walk (s)					14.0	14.0	6.0
Pedestrian Calls (#/hr)					32	32	32
v/c Ratio	0.73			1.08dl	0.61	0.05	
Control Delay	14.6			17.5	43.7	12.2	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	14.6			17.5	43.7	12.2	
Queue Length 50th (ft)	343			65	170	0	
Queue Length 95th (ft)	392			87	166	9	
Internal Link Dist (ft)	319			258	199		
Turn Bay Length (ft)							
Base Capacity (vph)	3256			1686	473	439	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.73			0.28	0.61	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 80
Control Type: Pretimed
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.91			0.91	1.00	1.00
Frt	0.96			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	4921			4952	1668	1492
Flt Permitted	1.00			0.66	0.95	1.00
Satd. Flow (perm)	4921			3316	1668	1492
Volume (vph)	1669	645	62	374	184	15
Peak-hour factor, PHF	0.97	0.97	0.92	0.92	0.64	0.64
Adj. Flow (vph)	1721	665	67	407	288	23
RTOR Reduction (vph)	58	0	0	0	0	16
Lane Group Flow (vph)	2328	0	0	474	288	7
Heavy Vehicles (%)	1%	1%	4%	4%	1%	1%
Turn Type			Perm			Prot
Protected Phases	1 2			2	3	3
Permitted Phases	2		2			
Actuated Green, G (s)	78.0			61.0	34.0	34.0
Effective Green, g (s)	78.0			61.0	34.0	34.0
Actuated g/C Ratio	0.65			0.51	0.28	0.28
Clearance Time (s)				4.0	4.0	4.0
Lane Grp Cap (vph)	3199			1686	473	423
v/s Ratio Prot	c0.47				c0.17	0.00
v/s Ratio Perm				0.14		
v/c Ratio	0.73			1.08dl	0.61	0.02
Uniform Delay, d1	13.9			16.9	37.2	31.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.5			0.4	5.7	0.1
Delay (s)	15.4			17.3	43.0	31.0
Level of Service	B			B	D	C
Approach Delay (s)	15.4			17.3	42.1	
Approach LOS	B			B	D	

Intersection Summary

HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	149			326	249	
Travel Time (s)	3.4			7.4	5.7	
Volume (vph)	1527	158	0	430	0	29
Peak Hour Factor	0.94	0.94	0.91	0.91	0.56	0.56
Heavy Vehicles (%)	2%	2%	5%	5%	0%	0%
Parking (#/hr)						0
Lane Group Flow (vph)	1792	0	0	473	0	52
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1527	158	0	430	0	29
Peak Hour Factor	0.94	0.94	0.91	0.91	0.56	0.56
Hourly flow rate (vph)	1624	168	0	473	0	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	487			326		
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			1793		1866	626
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1330		1432	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			361		92	789

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NE 1
Volume Total	650	650	493	158	158	158	52
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	168	0	0	0	52
cSH	1700	1700	1700	1700	1700	1700	789
Volume to Capacity	0.38	0.38	0.29	0.09	0.09	0.09	0.07
Queue Length 95th (ft)	0	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.9
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.9
Approach LOS							A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		338	149		322	
Travel Time (s)		7.7	3.4		7.3	
Volume (vph)	0	1685	413	20	0	26
Peak Hour Factor	0.94	0.94	0.91	0.91	0.89	0.89
Heavy Vehicles (%)	2%	2%	5%	5%	4%	4%
Lane Group Flow (vph)	0	1793	476	0	0	29
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1685	413	20	0	26
Peak Hour Factor	0.94	0.94	0.91	0.91	0.89	0.89
Hourly flow rate (vph)	0	1793	454	22	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		338	475			
pX, platoon unblocked					0.71	
vC, conflicting volume	476				1062	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476				266	162
tC, single (s)	4.1				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	97
cM capacity (veh/h)	1083				493	848

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SW 1
Volume Total	598	598	598	182	182	113	29
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	22	29
cSH	1700	1700	1700	1700	1700	1700	848
Volume to Capacity	0.35	0.35	0.35	0.11	0.11	0.07	0.03
Queue Length 95th (ft)	0	0	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.4
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.4
Approach LOS							A

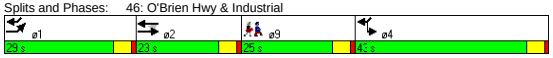
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	35.9%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	10	11	12	10	11	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50	50	
Trailing Detector (ft)	0	0	0		0	0	
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		243	610		205		
Travel Time (s)		5.5	13.9		4.7		
Volume (vph)	119	1773	1113	63	53	53	
Peak Hour Factor	0.91	0.91	0.94	0.94	0.83	0.83	
Heavy Vehicles (%)	1%	1%	2%	2%	7%	7%	
Lane Group Flow (vph)	131	1948	1251	0	64	64	
Turn Type	pm+pt					pt+ov	
Protected Phases	1	2	2		4	4 1	9
Permitted Phases	2						
Detector Phases	1	2	2		4	4 1	
Minimum Initial (s)	4.0	4.0	4.0		4.0		4.0
Minimum Split (s)	21.0	21.0	21.0		21.0		9.0
Total Split (s)	29.0	23.0	23.0	0.0	43.0	72.0	25.0
Total Split (%)	24.2%	19.2%	19.2%	0.0%	35.8%	60.0%	21%
Maximum Green (s)	24.0	18.0	18.0		38.0		20.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lead/Lag	Lead	Lag	Lag		Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	None	C-Max	C-Max		None		None
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		11.0	11.0		11.0		
Pedestrian Calls (#/hr)		0	0		0		
v/c Ratio	0.29	0.79	0.35		0.46	0.19	
Control Delay	2.3	13.6	6.7		61.7	9.4	
Queue Delay	0.0	67.8	0.1		0.0	0.0	
Total Delay	2.3	81.4	6.7		61.7	9.4	
Queue Length 50th (ft)	2	187	100		42	0	
Queue Length 95th (ft)	m3	m233	159		74	25	
Internal Link Dist (ft)		163	530		125		
Turn Bay Length (ft)							
Base Capacity (vph)	632	2473	3617		512	534	
Starvation Cap Reductn	41	775	0		0	0	
Spillback Cap Reductn	0	0	714		0	9	
Storage Cap Reductn	0	0	0		0	0	
Reduced v/c Ratio	0.22	1.15	0.43		0.13	0.12	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 13 (11%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	3336	4876		1574	1459
Flt Permitted	0.19	1.00	1.00		0.95	1.00
Satd. Flow (perm)	365	3336	4876		1574	1459
Volume (vph)	119	1773	1113	63	53	53
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.83	0.83
Adj. Flow (vph)	131	1948	1184	67	64	64
RTOR Reduction (vph)	0	0	2	0	0	51
Lane Group Flow (vph)	131	1948	1249	0	64	13
Heavy Vehicles (%)	1%	1%	2%	2%	7%	7%
Turn Type	pm+pt					pt+ov
Protected Phases	1	2	2		4	4 1
Permitted Phases	2					
Actuated Green, G (s)	96.5	86.9	86.9		8.5	23.1
Effective Green, g (s)	98.5	87.9	87.9		9.5	24.1
Actuated g/C Ratio	0.82	0.73	0.73		0.08	0.20
Clearance Time (s)	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	425	2444	3572		125	293
v/s Ratio Prot	c0.03	c0.58	0.26		c0.04	0.01
v/s Ratio Perm	0.23					
v/c Ratio	0.31	0.80	0.35		0.51	0.04
Uniform Delay, d1	2.4	10.3	5.8		53.0	38.7
Progression Factor	1.13	1.09	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.3	0.3		3.5	0.1
Delay (s)	2.7	11.5	6.0		56.5	38.7
Level of Service	A	B	A		E	D
Approach Delay (s)		10.9	6.0		47.6	
Approach LOS		B	A		D	

Intersection Summary

HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	9	348	143	215	491	5	3	18	19	110	10	63
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	9	348	143	215	491	5	3	18	19	110	10	63
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	10	391	161	256	585	6	4	25	27	141	13	81
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	590			552			1678	1671	588	1630	1594	471
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	590			552			1678	1671	588	1630	1594	471
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			74			91	64	95	0	83	86
cM capacity (veh/h)	961			1003			45	70	507	44	78	586

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	562	846	56	154	81
Volume Left	10	256	4	141	0
Volume Right	161	6	27	0	81
cSH	961	1003	111	46	586
Volume to Capacity	0.01	0.26	0.51	3.36	0.14
Queue Length 95th (ft)	1	25	58	Err	12
Control Delay (s)	0.3	5.6	66.8	Err	12.1
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	5.6	66.8	6560.9	
Approach LOS			F	F	

Intersection Summary				
Average Delay	911.0			
Intersection Capacity Utilization	88.8%	ICU Level of Service	E	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	105	39	70	81	390	0	0	1510	235
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	105	39	70	81	390	0	0	1510	235
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	130	42	86	88	464	0	0	1541	255
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2289	2181	1541	2181	2437	464	1796			464		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	71457	65574	30566	65574	79539	464	44530			464		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	85	0			100		
cM capacity (veh/h)	0	0	0	0	0	588	0			1087		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	258	88	464	1541	255
Volume Left	130	88	0	0	0
Volume Right	86	0	0	0	255
cSH	0	0	1700	1700	1700
Volume to Capacity	1.46691730823E08	448E21	0.27	0.91	0.15
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1593.9		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	106.1%	ICU Level of Service	G	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	85	242	270	0	0	0	0	386	420	150	1465	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	85	242	270	0	0	0	0	386	420	150	1465	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	94	269	300	0	0	0	0	411	447	153	1495	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.04	0.04	0.04	0.04	0.04		0.04					
vC, conflicting volume	2212	2658	1495	2646	2212	411	1495			857		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31225	42370	13345	42062	31225	411	13345			857		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			80		
cM capacity (veh/h)	0	0	0	0	0	641	0			775		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	229	434	411	447	153	1495
Volume Left	94	0	0	0	153	0
Volume Right	0	300	0	447	0	0
cSH	0	0	1700	1700	775	1700
Volume to Capacity	Err	Err	0.24	0.26	0.20	0.88
Queue Length 95th (ft)	Err	Err	0	0	18	0
Control Delay (s)	Err	Err	0.0	0.0	10.8	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.0	
Approach LOS	F					

Intersection Summary				
Average Delay	2093.7			
Intersection Capacity Utilization	106.1%	ICU Level of Service	G	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	355	2	24	0	1	10	39	440	0	5	820	910
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	355	2	24	0	1	10	39	440	0	5	820	910
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	386	2	26	0	2	20	44	494	0	5	901	1000
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1515	1494	901	1521	1494	494	901			494		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1515	1494	901	1521	1494	494	901			494		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	98	92	100	98	97	94			99		
cM capacity (veh/h)	88	114	334	85	116	579	738			1064		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	414	22	538	907	1000
Volume Left	386	0	44	5	0
Volume Right	26	20	0	0	1000
cSH	92	425	738	1064	1700
Volume to Capacity	4.49	0.05	0.06	0.01	0.59
Queue Length 95th (ft)	Err	4	5	0	0
Control Delay (s)	Err	13.9	1.6	0.1	0.0
Lane LOS	F	B	A	A	
Approach Delay (s)	Err	13.9	1.6	0.1	
Approach LOS	F	B			

Intersection Summary				
Average Delay	1437.8			
Intersection Capacity Utilization	95.0%	ICU Level of Service	F	
Analysis Period (min)	15			

Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	54	317	704	149	74	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	54	317	704	149	74	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	59	348	774	164	97	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	937				1323	855
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	925				1385	827
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				19	79
cM capacity (veh/h)	615				121	313

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	408	937	163
Volume Left	59	0	97
Volume Right	0	164	66
cSH	615	1700	160
Volume to Capacity	0.10	0.55	1.02
Queue Length 95th (ft)	8	0	200
Control Delay (s)	2.9	0.0	132.6
Lane LOS	A		F
Approach Delay (s)	2.9	0.0	132.6
Approach LOS			F

Intersection Summary			
Average Delay	15.1		
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	180	126	310	175	7	40	15	100	3	10	3
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	126	310	175	7	40	15	100	3	10	3
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	186	130	326	184	7	47	18	118	4	14	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	331	518	182	23
Volume Left (vph)	15	326	47	4
Volume Right (vph)	130	7	118	4
Hadj (s)	-0.19	0.19	-0.32	-0.07
Departure Headway (s)	5.1	5.2	5.7	6.4
Degree Utilization, x	0.47	0.74	0.29	0.04
Capacity (veh/h)	672	681	553	473
Control Delay (s)	12.4	21.6	11.1	9.7
Approach Delay (s)	12.4	21.6	11.1	9.7
Approach LOS	B	C	B	A

Intersection Summary			
Delay	16.7		
HCM Level of Service	C		
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	160	123	83	371	461	409
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Sign Control	Stop			Free	Free	

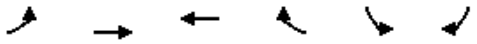
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	160	123	83	371	461	409
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	168	129	112	501	475	422
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1412	686	897			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1412	686	897			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	71	85			
cM capacity (veh/h)	128	446	740			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	298	614	897
Volume Left	168	112	0
Volume Right	129	0	422
cSH	186	740	1700
Volume to Capacity	1.60	0.15	0.53
Queue Length 95th (ft)	492	13	0
Control Delay (s)	339.4	3.8	0.0
Lane LOS	F	A	
Approach Delay (s)	339.4	3.8	0.0
Approach LOS	F		

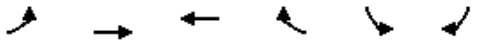
Intersection Summary			
Average Delay	57.2		
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		646	1317		608	
Travel Time (s)		14.7	29.9		13.8	
Volume (vph)	36	1100	630	39	113	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	36	1100	630	39	113	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	1196	685	42	123	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		646	1317			
pX, platoon unblocked	0.79				0.72	0.79
vC, conflicting volume	727				1980	706
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	655				1919	628
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	79
cM capacity (veh/h)	737				51	382

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1235	727	204
Volume Left	39	0	123
Volume Right	0	42	82
cSH	737	1700	78
Volume to Capacity	0.05	0.43	2.63
Queue Length 95th (ft)	4	0	493
Control Delay (s)	2.1	0.0	854.4
Lane LOS	A		F
Approach Delay (s)	2.1	0.0	854.4
Approach LOS			F

Intersection Summary			
Average Delay	81.8		
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	10	10
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	597			564	971	
Travel Time (s)	13.6			12.8	22.1	
Volume (vph)	45	272	234	537	171	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	7%	1%	4%	10%
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	45	272	234	537	171	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	296	254	584	186	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				564	971	
pX, platoon unblocked	0.65					
vC, conflicting volume	1281	189	191			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1430	189	191			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	38	65	81			
cM capacity (veh/h)	79	848	1353			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	345	838	191
Volume Left	49	254	0
Volume Right	296	0	5
cSH	357	1353	1700
Volume to Capacity	0.96	0.19	0.11
Queue Length 95th (ft)	265	17	0
Control Delay (s)	73.7	4.2	0.0
Lane LOS	F	A	
Approach Delay (s)	73.7	4.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	21.0		
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2007 - Existing AM - May 2008

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	268	1.1	0.384	12.2	LOS B	82	0.74	0.82	23.5
8T	T	598	1.0	0.857	18.5	LOS B	415	1.00	1.28	20.8
Approach		**866**	**1.0**	**0.857**	**16.5**	**LOS B**	**415**	**0.92**	**1.14**	**21.6**
Mystic Valley Parkway										
4T	T	891	0.0	0.810	9.0	LOS A	384	0.94	0.88	24.7
4R	R	478	0.0	0.545	7.3	LOS A	137	0.70	0.70	25.2
Approach		**1369**	**0.0**	**0.810**	**8.4**	**LOS A**	**384**	**0.86**	**0.82**	**24.8**
Mystic Valley Parkway										
5L	L	429	0.0	1.017	70.4	LOS E	628	1.00	1.90	11.6
2R	R	468	0.0	0.998	59.1	LOS E	628	1.00	1.87	12.4
Approach		**897**	**0.0**	**1.017**	**64.5**	**LOS E**	**628**	**1.00**	**1.88**	**12.0**
All Vehicles		**3132**	**0.3**	**1.017**	**26.7**	**LOS C**	**628**	**0.92**	**1.21**	**18.4**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Mystic&Alewife - May 08' aap
Processed May 29, 2008 11:21:42AM

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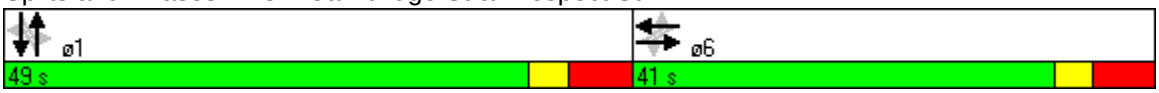
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	91	247	20	40	319	25	60	395	72	30	230	60
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	41.0	41.0		41.0	41.0		49.0	49.0		49.0	49.0	
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0
Total Split (%)	45.6%	45.6%	0.0%	45.6%	45.6%	0.0%	54.4%	54.4%	0.0%	54.4%	54.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

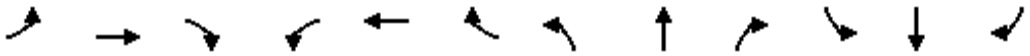
Splits and Phases: 37: Cambridge St & Prospect St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	416	417	579	352
v/c Ratio	0.88	0.68	0.71	0.44
Control Delay	48.2	30.7	23.8	18.8
Queue Delay	0.0	0.0	2.0	0.0
Total Delay	48.2	30.7	25.8	18.8
Queue Length 50th (ft)	217	197	334	131
Queue Length 95th (ft)	#361	303	447	204
Internal Link Dist (ft)	1490	1090	267	1341
Turn Bay Length (ft)				
Base Capacity (vph)	475	615	812	803
Starvation Cap Reductn	0	0	114	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.88	0.68	0.83	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



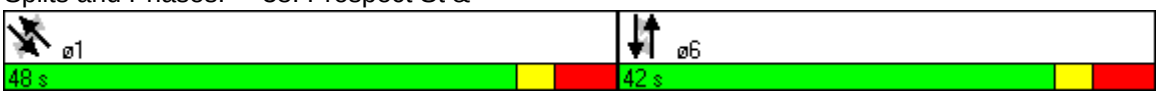
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1801			1821			1938			1920	
Flt Permitted		0.71			0.92			0.91			0.91	
Satd. Flow (perm)		1296			1676			1782			1763	
Volume (vph)	91	247	20	40	319	25	60	395	72	30	230	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	106	287	23	43	347	27	66	434	79	33	253	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	416	0	0	417	0	0	579	0	0	352	0
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		33.0			33.0			41.0			41.0	
Effective Green, g (s)		33.0			33.0			41.0			41.0	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		475			615			812			803	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.25			c0.32			0.20	
v/c Ratio		0.88			0.68			0.71			0.44	
Uniform Delay, d1		26.6			24.0			19.8			16.7	
Progression Factor		1.00			1.00			0.96			1.00	
Incremental Delay, d2		19.7			5.9			4.1			1.7	
Delay (s)		46.3			29.9			23.1			18.4	
Level of Service		D			C			C			B	
Approach Delay (s)		46.3			29.9			23.1			18.4	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	121	477	37	25	250	15	25	241	60	18	300	25
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 38: Prospect St &



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	683	318	366	377
v/c Ratio	0.67	0.50	0.48	0.47
Control Delay	27.1	37.4	20.2	20.0
Queue Delay	0.3	0.0	0.2	0.2
Total Delay	27.4	37.4	20.4	20.2
Queue Length 50th (ft)	166	171	142	146
Queue Length 95th (ft)	230	m249	217	224
Internal Link Dist (ft)	862	80	2930	947
Turn Bay Length (ft)				
Base Capacity (vph)	1027	634	769	800
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	54	0	69	72
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.50	0.52	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		3488			1854			1817			1856	
Flt Permitted		0.77			0.90			0.95			0.97	
Satd. Flow (perm)		2720			1679			1731			1801	
Volume (vph)	121	477	37	25	250	15	25	241	60	18	300	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	130	513	40	27	275	16	28	271	67	20	330	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	683	0	0	318	0	0	366	0	0	377	0
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1028			634			769			800	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.19			c0.21			0.21	
v/c Ratio		0.66			0.50			0.48			0.47	
Uniform Delay, d1		23.3			21.5			17.6			17.6	
Progression Factor		1.00			1.58			1.00			1.00	
Incremental Delay, d2		3.4			2.5			2.1			2.0	
Delay (s)		26.7			36.4			19.7			19.6	
Level of Service		C			D			B			B	
Approach Delay (s)		26.7			36.4			19.7			19.6	
Approach LOS		C			D			B			B	

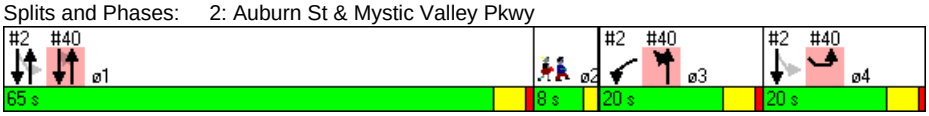
Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	170	87	917	35	58	1027		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	20.0	0.0	65.0	0.0	85.0	85.0	8.0	20.0
Total Split (%)	17.7%	0.0%	57.5%	0.0%	75.2%	75.2%	7%	18%
Yellow Time (s)	4.0		4.0				2.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Recall Mode	Min		Min				None	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 113	
Actuated Cycle Length: 106.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy





Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	334	1058	1166
v/c Ratio	1.12	0.51	0.56
Control Delay	130.1	15.1	1.4
Queue Delay	6.2	0.1	8.7
Total Delay	136.3	15.2	10.1
Queue Length 50th (ft)	~246	207	21
Queue Length 95th (ft)	#365	311	m23
Internal Link Dist (ft)	821	788	49
Turn Bay Length (ft)			
Base Capacity (vph)	297	2057	2078
Starvation Cap Reductn	0	0	878
Spillback Cap Reductn	4	175	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	1.14	0.56	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



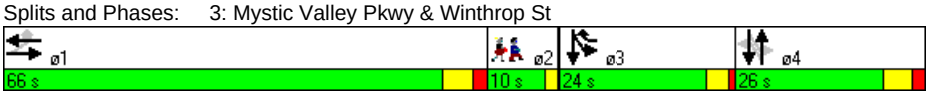
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1872		3590			3360
Flt Permitted	0.97		1.00			0.81
Satd. Flow (perm)	1872		3590			2742
Volume (vph)	170	87	917	35	58	1027
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	221	113	1019	39	62	1104
RTOR Reduction (vph)	16	0	2	0	0	0
Lane Group Flow (vph)	318	0	1056	0	0	1166
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	15.0		60.1			80.1
Effective Green, g (s)	16.0		61.1			81.1
Actuated g/C Ratio	0.15		0.56			0.75
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	277		2027			2055
v/s Ratio Prot	c0.17		0.29			
v/s Ratio Perm						c0.43
v/c Ratio	1.15		0.52			0.57
Uniform Delay, d1	46.1		14.5			5.9
Progression Factor	1.00		1.00			0.19
Incremental Delay, d2	99.9		0.3			0.1
Delay (s)	146.0		14.8			1.2
Level of Service	F		B			A
Approach Delay (s)	146.0		14.8			1.2
Approach LOS	F		B			A

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	3	980	6	0	1036	402	18	395	159	410	502	49	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	66.0	66.0	0.0	0.0	66.0	24.0	26.0	26.0	0.0	24.0	50.0	0.0	10.0
Total Split (%)	52.4%	52.4%	0.0%	0.0%	52.4%	19.0%	20.6%	20.6%	0.0%	19.0%	39.7%	0.0%	8%
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			2.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Recall Mode	Min	Min			Min	None	None	None		None			None

Intersection Summary	
Area Type:	Other
Cycle Length: 126	
Actuated Cycle Length: 118	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



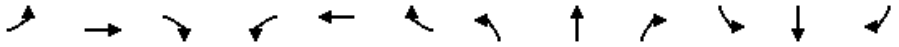
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1087	1102	428	698	1118
v/c Ratio	1.45	1.12	0.34	1.49	1.33dl
Control Delay	234.5	96.5	2.1	266.9	115.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	234.5	96.5	2.1	266.9	115.0
Queue Length 50th (ft)	~1098	~938	19	~367	~473
Queue Length 95th (ft)	#1504	#1348	45	#474	#511
Internal Link Dist (ft)	1176	937		552	745
Turn Bay Length (ft)					
Base Capacity (vph)	752	983	1246	467	966
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.45	1.12	0.34	1.49	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3420			3508	
Flt Permitted		0.72			1.00	1.00		0.78			0.62	
Satd. Flow (perm)		1462			1900	1615		2668			2214	
Volume (vph)	3	980	6	0	1036	402	18	395	159	410	502	49
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	3	1077	7	0	1102	428	22	482	194	477	584	57
RTOR Reduction (vph)	0	0	0	0	0	108	0	31	0	0	3	0
Lane Group Flow (vph)	0	1087	0	0	1102	320	0	667	0	0	1115	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		60.1			60.1	80.1		20.0			40.0	
Effective Green, g (s)		61.1			61.1	80.1		21.0			40.0	
Actuated g/C Ratio		0.51			0.51	0.67		0.18			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		747			971	1082		468			946	
v/s Ratio Prot					0.58	0.05					c0.19	
v/s Ratio Perm		c0.74				0.15		c0.25			0.21	
v/c Ratio		1.46			1.13	0.30		1.42			1.33dl	
Uniform Delay, d1		29.2			29.2	8.1		49.3			39.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		212.3			73.6	0.1		203.2			91.6	
Delay (s)		241.5			102.8	8.2		252.5			131.4	
Level of Service		F			F	A		F			F	
Approach Delay (s)		241.5			76.4			252.5			131.4	
Approach LOS		F			E			F			F	

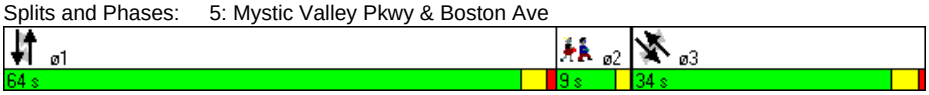
Intersection Summary			
HCM Average Control Delay	158.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	119.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	77	847	134	42	1085	70	51	224	35	125	304	54	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		9.0
Total Split (s)	64.0	64.0	0.0	64.0	64.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0	9.0
Total Split (%)	59.8%	59.8%	0.0%	59.8%	59.8%	0.0%	31.8%	31.8%	0.0%	31.8%	31.8%	0.0%	8%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Recall Mode	Min	Min		Min	Min		None	None		None	None		None

Intersection Summary	
Area Type:	Other
Cycle Length: 107	
Actuated Cycle Length: 97.9	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	1138	1260	393	619
v/c Ratio	0.83	0.70	0.89	1.71
Control Delay	22.1	16.6	56.3	355.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.1	16.6	56.3	355.2
Queue Length 50th (ft)	257	251	230	~577
Queue Length 95th (ft)	#455	405	#365	#720
Internal Link Dist (ft)	593	788	2598	1265
Turn Bay Length (ft)				
Base Capacity (vph)	1394	1815	443	363
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.82	0.69	0.89	1.71

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3529			3572			1922			1904	
Flt Permitted		0.67			0.86			0.76			0.63	
Satd. Flow (perm)		2377			3085			1464			1218	
Volume (vph)	77	847	134	42	1085	70	51	224	35	125	304	54
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	83	911	144	44	1142	74	65	284	44	160	390	69
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	1128	0	0	1256	0	0	389	0	0	615	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		58.2			58.2			30.1			30.1	
Effective Green, g (s)		58.2			58.2			30.1			30.1	
Actuated g/C Ratio		0.58			0.58			0.30			0.30	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1390			1804			443			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.47			0.41			0.27			c0.50	
v/c Ratio		0.81			0.70			0.88			1.67	
Uniform Delay, d1		16.3			14.5			33.0			34.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.9			1.3			18.0			313.5	
Delay (s)		20.2			15.7			50.9			348.2	
Level of Service		C			B			D			F	
Approach Delay (s)		20.2			15.7			50.9			348.2	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM Average Control Delay	81.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.3%	ICU Level of Service	H
Analysis Period (min)	15		

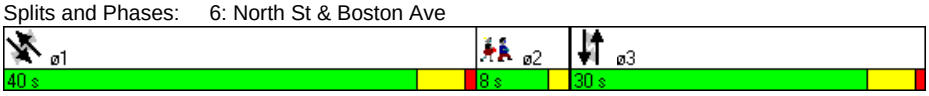
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	34	8	29	29	47	22	9	336	46	45	392	15	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	8.0
Total Split (%)	38.5%	38.5%	0.0%	38.5%	38.5%	0.0%	51.3%	51.3%	0.0%	51.3%	51.3%	0.0%	10%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None

Intersection Summary

Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 71.6
Natural Cycle: 45
Control Type: Semi Act-Uncoord

Splits and Phases: 6: North St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	106	124	460	465
v/c Ratio	0.19	0.20	0.52	0.55
Control Delay	17.6	17.5	15.1	15.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.6	17.5	15.1	15.7
Queue Length 50th (ft)	30	35	121	125
Queue Length 95th (ft)	53	71	225	254
Internal Link Dist (ft)	911	582	1265	1376
Turn Bay Length (ft)				
Base Capacity (vph)	546	605	890	852
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.20	0.52	0.55

Intersection Summary

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✣			✣			✣			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1754			1815			1787			1819	
Flt Permitted		0.84			0.90			0.99			0.93	
Satd. Flow (perm)		1505			1667			1768			1694	
Volume (vph)	34	8	29	29	47	22	9	336	46	45	392	15
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	51	12	43	37	59	28	11	395	54	46	404	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	0	124	0	0	460	0	0	465	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		25.0			25.0			35.1			35.1	
Effective Green, g (s)		26.0			26.0			36.1			36.1	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		535			592			872			835	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.07			0.26			c0.27	
v/c Ratio		0.20			0.21			0.53			0.56	
Uniform Delay, d1		16.4			16.4			12.7			13.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.8			2.3			2.7	
Delay (s)		17.2			17.2			15.0			15.6	
Level of Service		B			B			B			B	
Approach Delay (s)		17.2			17.2			15.0			15.6	
Approach LOS		B			B			B			B	

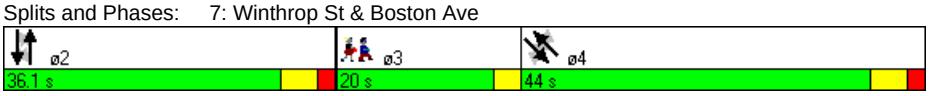
Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	69	96	117	30	381	53	50	329	145	178	315	27	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		20.0
Total Split (s)	36.1	36.1	0.0	36.1	36.1	0.0	44.0	44.0	0.0	44.0	44.0	0.0	20.0
Total Split (%)	36.1%	36.1%	0.0%	36.1%	36.1%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	20%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None

Intersection Summary

Area Type: Other
Cycle Length: 100.1
Actuated Cycle Length: 84.1
Natural Cycle: 145
Control Type: Semi Act-Uncoord

Splits and Phases: 7: Winthrop St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	306	540	576	553
v/c Ratio	0.82	0.76	0.76	1.26
Control Delay	46.0	32.8	28.6	157.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	46.0	32.8	28.6	157.9
Queue Length 50th (ft)	132	225	219	~343
Queue Length 95th (ft)	#369	#486	#558	#700
Internal Link Dist (ft)	1216	2277	1376	2136
Turn Bay Length (ft)				
Base Capacity (vph)	371	713	753	440
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.82	0.76	0.76	1.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

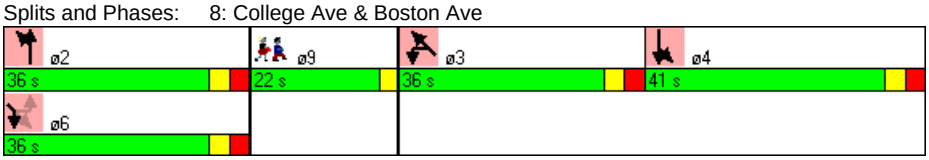
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1754			1989			1785			1818	
Flt Permitted		0.67			0.96			0.91			0.57	
Satd. Flow (perm)		1182			1918			1636			1053	
Volume (vph)	69	96	117	30	381	53	50	329	145	178	315	27
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	75	104	127	35	443	62	55	362	159	189	335	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	306	0	0	540	0	0	576	0	0	553	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.2			30.2			38.3			38.3	
Effective Green, g (s)		31.3			31.3			39.3			39.3	
Actuated g/C Ratio		0.36			0.36			0.45			0.45	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		428			694			743			478	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.28			0.35			c0.53	
v/c Ratio		0.71			0.78			0.78			1.16	
Uniform Delay, d1		23.8			24.5			19.9			23.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.8			8.4			7.8			91.9	
Delay (s)		33.6			32.9			27.6			115.5	
Level of Service		C			C			C			F	
Approach Delay (s)		33.6			32.9			27.6			115.5	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	86.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	144	227	1	32	210	118	98	174	111	9	258	54	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	36.0	36.0	0.0	41.0	41.0	0.0	36.0	36.0	36.0	36.0	36.0	0.0	22.0
Total Split (%)	26.7%	26.7%	0.0%	30.4%	30.4%	0.0%	26.7%	26.7%	26.7%	26.7%	26.7%	0.0%	16%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 106.2	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: College Ave & Boston Ave



Lane Group	NBL	NBT	SBT	SET	SER	NWT
Lane Group Flow (vph)	155	248	396	306	125	361
v/c Ratio	0.29	0.45	0.82	0.96	0.23	0.87
Control Delay	37.5	39.6	43.6	83.4	11.8	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	39.6	43.6	83.4	11.8	48.9
Queue Length 50th (ft)	72	122	214	183	7	206
Queue Length 95th (ft)	186	290	#444	#521	64	#442
Internal Link Dist (ft)		950	1718	2136		1658
Turn Bay Length (ft)						
Base Capacity (vph)	527	555	604	318	532	533
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.45	0.66	0.96	0.23	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.96			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1891			1830	1531		1951	
Flt Permitted	0.95	1.00			1.00			0.64	1.00		1.00	
Satd. Flow (perm)	1770	1862			1891			1183	1531		1951	
Volume (vph)	144	227	1	32	210	118	98	174	111	9	258	54
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	155	247	1	35	231	130	110	196	125	10	290	61
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	76	0	6	0
Lane Group Flow (vph)	155	248	0	0	382	0	0	306	49	0	355	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	31.6	31.6			26.4			31.6	31.6		22.2	
Effective Green, g (s)	31.6	31.6			26.4			31.6	31.6		22.2	
Actuated g/C Ratio	0.29	0.29			0.25			0.29	0.29		0.21	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	522	549			466			349	451		404	
v/s Ratio Prot	0.09	0.13			c0.20				0.03		c0.18	
v/s Ratio Perm								c0.26				
v/c Ratio	0.30	0.45			0.82			0.88	0.11		0.88	
Uniform Delay, d1	29.2	30.8			38.2			35.9	27.5		41.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.6			12.3			21.1	0.1		18.6	
Delay (s)	29.5	31.3			50.5			57.0	27.6		59.8	
Level of Service	C	C			D			E	C		E	
Approach Delay (s)		30.6			50.5			48.5			59.8	
Approach LOS		C			D			D			E	

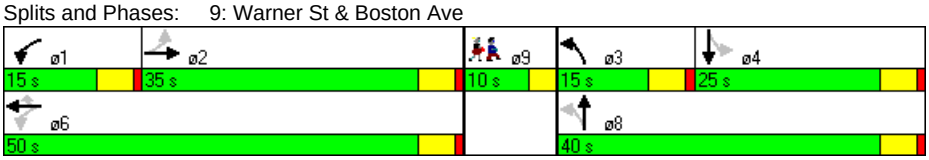
Intersection Summary			
HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	27.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1453			1738		
Travel Time (s)		11.7			40.8			33.0			39.5		
Volume (vph)	12	449	10	78	405	142	18	258	32	97	163	7	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		11.0	15.0	15.0	11.0	11.0		11.0	11.0		10.0
Total Split (s)	35.0	35.0	0.0	15.0	50.0	50.0	15.0	40.0	0.0	25.0	25.0	0.0	10.0
Total Split (%)	35.0%	35.0%	0.0%	15.0%	50.0%	50.0%	15.0%	40.0%	0.0%	25.0%	25.0%	0.0%	10%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 73	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 9: Warner St & Boston Ave



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	535	575	169	349	311
v/c Ratio	0.49	0.88	0.20	0.58	0.69
Control Delay	12.3	28.5	2.5	25.2	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	28.5	2.5	25.2	33.1
Queue Length 50th (ft)	118	183	0	139	131
Queue Length 95th (ft)	292	#492	26	250	238
Internal Link Dist (ft)	435	1715		1373	1658
Turn Bay Length (ft)					
Base Capacity (vph)	1107	688	865	825	460
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.84	0.20	0.42	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1857	1340		1993			1984	
Flt Permitted		0.98			0.86	1.00		0.97			0.60	
Satd. Flow (perm)		1949			1603	1340		1948			1204	
Volume (vph)	12	449	10	78	405	142	18	258	32	97	163	7
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	14	510	11	93	482	169	20	293	36	113	190	8
RTOR Reduction (vph)	0	0	0	0	0	77	0	4	0	0	0	0
Lane Group Flow (vph)	0	535	0	0	575	92	0	345	0	0	311	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		40.0			40.0	40.0		21.1			21.1	
Effective Green, g (s)		41.0			41.0	41.0		22.1			22.1	
Actuated g/C Ratio		0.55			0.55	0.55		0.29			0.29	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1063			874	731		572			354	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.36	0.07		0.18			c0.26	
v/c Ratio		0.50			0.66	0.13		0.60			0.88	
Uniform Delay, d1		10.7			12.1	8.4		22.8			25.3	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			1.4	0.0		1.2			20.5	
Delay (s)		10.9			13.5	8.4		24.0			45.8	
Level of Service		B			B	A		C			D	
Approach Delay (s)		10.9			12.3			24.0			45.8	
Approach LOS		B			B			C			D	

Intersection Summary					
HCM Average Control Delay	19.4	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.74				
Actuated Cycle Length (s)	75.2	Sum of lost time (s)		12.1	
Intersection Capacity Utilization	94.7%	ICU Level of Service		F	
Analysis Period (min)	15				

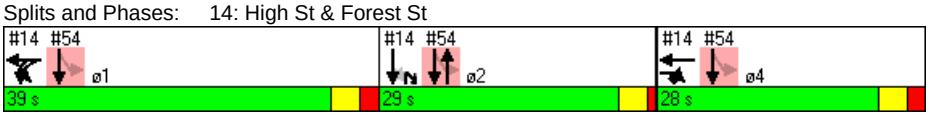
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	333	130	2	750	594	188	200	78	190	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	28.0	28.0	39.0	39.0			29.0	29.0	29.0	
Total Split (s)	28.0	28.0	39.0	39.0	67.0	0.0	29.0	29.0	29.0	0.0
Total Split (%)	29.2%	29.2%	40.6%	40.6%	69.8%	0.0%	30.2%	30.2%	30.2%	0.0%
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 33 (34%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 100
Control Type: Pretimed

Splits and Phases: 14: High St & Forest St



Lane Group	EBR	EBR2	WBL	WBT	NBR2	SBT
Lane Group Flow (vph)	362	141	817	850	217	329
v/c Ratio	0.96	0.35	0.67	0.73	0.22	0.65
Control Delay	74.0	7.9	29.6	15.4	0.6	37.9
Queue Delay	0.0	0.1	97.4	0.0	0.0	0.0
Total Delay	74.0	8.0	127.0	15.4	0.6	37.9
Queue Length 50th (ft)	218	0	214	299	1	176
Queue Length 95th (ft)	#396	47	281	452	3	269
Internal Link Dist (ft)				649		1362
Turn Bay Length (ft)						
Base Capacity (vph)	379	407	1216	1172	970	508
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	22	540	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.37	1.21	0.73	0.22	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



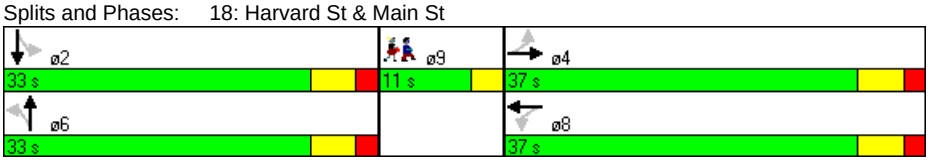
Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1796		1719		1932	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1796		1719		1932	
Volume (vph)	333	130	2	750	594	188	200	78	190	34
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	362	141	2	815	646	204	217	85	207	37
RTOR Reduction (vph)	0	107	0	0	12	0	160	0	4	0
Lane Group Flow (vph)	362	34	0	817	838	0	57	0	325	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	23.0	23.0		34.0	62.0		25.0		25.0	
Effective Green, g (s)	23.0	23.0		34.0	62.0		25.0		25.0	
Actuated g/C Ratio	0.24	0.24		0.35	0.65		0.26		0.26	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	379	299		1216	1160		448		503	
v/s Ratio Prot	c0.23	0.03		0.24	c0.47		0.03			
v/s Ratio Perm									0.17	
v/c Ratio	0.96	0.11		0.67	0.72		0.13		0.65	
Uniform Delay, d1	36.0	28.5		26.3	11.3		27.1		31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	36.2	0.8		3.0	3.9		0.5		6.3	
Delay (s)	72.2	29.3		29.2	15.2		27.7		37.8	
Level of Service	E	C		C	B		C		D	
Approach Delay (s)					22.1				37.8	
Approach LOS					C				D	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	82	421	56	84	450	33	40	308	59	64	402	107	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	33.0	33.0	0.0	33.0	33.0	0.0	11.0
Total Split (%)	45.7%	45.7%	0.0%	45.7%	45.7%	0.0%	40.7%	40.7%	0.0%	40.7%	40.7%	0.0%	14%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode	None	None		None	None		Max	Max		Min	Min		None

Intersection Summary	
Area Type:	CBD
Cycle Length: 81	
Actuated Cycle Length: 72.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 18: Harvard St & Main St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	595	616	428	652
v/c Ratio	1.04	1.07	0.80	1.20
Control Delay	71.0	79.7	34.5	130.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	71.0	79.7	34.5	130.0
Queue Length 50th (ft)	~250	~293	156	~341
Queue Length 95th (ft)	#559	#580	#377	#619
Internal Link Dist (ft)	1715	1303	1231	2650
Turn Bay Length (ft)				
Base Capacity (vph)	574	578	534	545
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.04	1.07	0.80	1.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1658			1667			1636			1625	
Flt Permitted		0.81			0.81			0.87			0.88	
Satd. Flow (perm)		1345			1354			1430			1445	
Volume (vph)	82	421	56	84	450	33	40	308	59	64	402	107
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	87	448	60	91	489	36	42	324	62	73	457	122
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	595	0	0	616	0	0	428	0	0	652	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		31.1			31.1			27.1			27.1	
Effective Green, g (s)		32.1			32.1			28.1			28.1	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		579			583			539			544	
v/s Ratio Prot												
v/s Ratio Perm		0.44			c0.45			0.30			c0.45	
v/c Ratio		1.03			1.06			0.79			1.20	
Uniform Delay, d1		21.2			21.2			20.7			23.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		44.6			53.1			11.5			106.2	
Delay (s)		65.9			74.4			32.1			129.4	
Level of Service		E			E			C			F	
Approach Delay (s)		65.9			74.4			32.1			129.4	
Approach LOS		E			E			C			F	

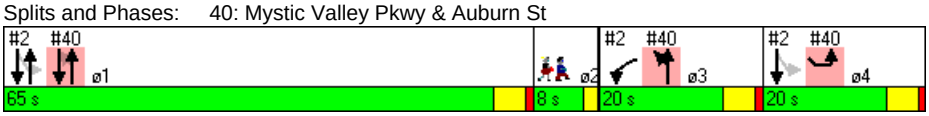
Intersection Summary			
HCM Average Control Delay	79.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	14.4
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	23	981	1058	31	8	27	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	20.0	85.0	65.0	0.0	20.0	0.0	8.0
Total Split (%)	17.7%	75.2%	57.5%	0.0%	17.7%	0.0%	7%
Yellow Time (s)	4.0		4.0		4.0		2.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Recall Mode	Min		Min		Min		None

Intersection Summary	
Area Type:	Other
Cycle Length: 113	
Actuated Cycle Length: 106.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Lane Group	NBL	NBT	SBT	SEL
Lane Group Flow (vph)	25	1055	1171	49
v/c Ratio	0.07	0.74	1.01	0.17
Control Delay	2.0	9.7	53.3	18.9
Queue Delay	1.7	2.1	0.0	0.0
Total Delay	3.6	11.8	53.3	18.9
Queue Length 50th (ft)	0	260	735	6
Queue Length 95th (ft)	m1	m409	#1210	28
Internal Link Dist (ft)		49	1078	208
Turn Bay Length (ft)				
Base Capacity (vph)	343	1432	1157	296
Starvation Cap Reductn	243	233	0	0
Spillback Cap Reductn	0	0	0	3
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.88	1.01	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

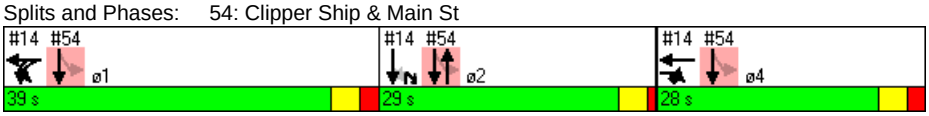
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2019		1759	
Flt Permitted	0.07	1.00	1.00		0.99	
Satd. Flow (perm)	124	1900	2019		1759	
Volume (vph)	23	981	1058	31	8	27
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	25	1055	1138	33	11	38
RTOR Reduction (vph)	0	0	1	0	32	0
Lane Group Flow (vph)	25	1055	1170	0	17	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	75.1	75.1	60.1		15.0	
Effective Green, g (s)	77.1	77.1	61.1		16.0	
Actuated g/C Ratio	0.71	0.71	0.56		0.15	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	337	1354	1140		260	
v/s Ratio Prot	0.01	c0.56	c0.58		c0.01	
v/s Ratio Perm	0.04					
v/c Ratio	0.07	0.78	1.03		0.06	
Uniform Delay, d1	39.3	10.0	23.5		39.7	
Progression Factor	0.35	0.90	1.00		1.00	
Incremental Delay, d2	0.1	2.6	33.6		0.1	
Delay (s)	13.7	11.6	57.1		39.8	
Level of Service	B	B	E		D	
Approach Delay (s)		11.7	57.1		39.8	
Approach LOS		B	E		D	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	200	722	47	1023		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			29.0				39.0	28.0
Total Split (s)	0.0	0.0	29.0	0.0	96.0	96.0	39.0	28.0
Total Split (%)	0.0%	0.0%	30.2%	0.0%	100.0%	100.0%	41%	29%
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	

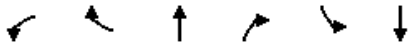
Intersection Summary	
Area Type:	Other
Cycle Length: 96	
Actuated Cycle Length: 96	
Offset: 33 (34%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St



Lane Group	NBT	NBR	SBT
Lane Group Flow (vph)	230	830	1230
v/c Ratio	0.47	0.52	0.47
Control Delay	33.8	1.2	3.2
Queue Delay	0.0	0.0	0.0
Total Delay	33.9	1.2	3.2
Queue Length 50th (ft)	119	0	83
Queue Length 95th (ft)	183	0	55
Internal Link Dist (ft)	240		1
Turn Bay Length (ft)			
Base Capacity (vph)	485	1583	2616
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	6	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.48	0.52	0.47

Intersection Summary



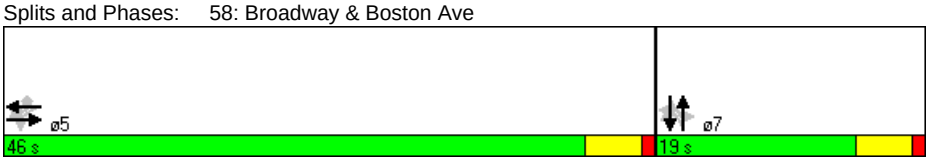
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3191
Flt Permitted			1.00	1.00		0.82
Satd. Flow (perm)			1863	1583		2616
Volume (vph)	0	0	200	722	47	1023
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	230	830	54	1176
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	230	830	0	1230
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			25.0	96.0		96.0
Effective Green, g (s)			25.0	96.0		96.0
Actuated g/C Ratio			0.26	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			485	1583		2616
v/s Ratio Prot			0.12			
v/s Ratio Perm				c0.52		0.47
v/c Ratio			0.47	0.52		0.47
Uniform Delay, d1			30.0	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			3.3	1.2		0.5
Delay (s)			33.3	1.2		0.5
Level of Service			C	A		A
Approach Delay (s)	0.0		8.2			0.5
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	4.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		755					873				636			1453
Travel Time (s)		17.2					19.8				14.5			33.0
Volume (vph)	5	584	26	22	16	22	541	202	5	6	41	45	165	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	14.0	14.0			14.0	14.0	14.0	14.0	14.0	14.0	14.0		14.0	14.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0	24.0	19.0	19.0	19.0		19.0	19.0
Total Split (s)	46.0	46.0	0.0	0.0	46.0	46.0	46.0	46.0	19.0	19.0	19.0	0.0	19.0	19.0
Total Split (%)	70.8%	70.8%	0.0%	0.0%	70.8%	70.8%	70.8%	70.8%	29.2%	29.2%	29.2%	0.0%	29.2%	29.2%
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Recall Mode	Max	Max			Max	Max	Max	Max	Min	Min	Min		Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	

Splits and Phases: 58: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	11
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	15	13
Peak Hour Factor	0.92	0.92
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode		

Intersection Summary



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR2
Lane Group Flow (vph)	692	629	220	57	49	258	14
v/c Ratio	0.51	0.58	0.22	0.13	0.04	0.83	0.01
Control Delay	7.8	9.2	5.5	20.8	0.0	48.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	9.2	5.5	20.8	0.0	48.5	0.0
Queue Length 50th (ft)	123	119	30	18	0	98	0
Queue Length 95th (ft)	192	199	56	44	0	#216	0
Internal Link Dist (ft)	675	793		556		1373	
Turn Bay Length (ft)							
Base Capacity (vph)	1347	1089	989	445	1322	312	1128
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.58	0.22	0.13	0.04	0.83	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		0.99
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.97
Satd. Flow (prot)		2089					1795	1531			2089	1322		1724
Flt Permitted		1.00					0.94	1.00			0.91	1.00		0.76
Satd. Flow (perm)		2083					1686	1531			1930	1322		1351
Volume (vph)	5	584	26	22	16	22	541	202	5	6	41	45	165	58
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	635	28	24	17	24	588	220	5	7	45	49	179	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	692	0	0	0	0	629	220	0	0	57	49	0	258
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		41.0					41.0	41.0			14.0	65.0		14.0
Effective Green, g (s)		42.0					42.0	42.0			15.0	65.0		15.0
Actuated g/C Ratio		0.65					0.65	0.65			0.23	1.00		0.23
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		3.0					3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		1346					1089	989			445	1322		312
v/s Ratio Prot														
v/s Ratio Perm		0.33					c0.37	0.14			0.03	0.04		c0.19
v/c Ratio		0.51					0.58	0.22			0.13	0.04		0.83
Uniform Delay, d1		6.1					6.5	4.8			19.8	0.0		23.8
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		1.4					2.2	0.5			0.1	0.1		16.2
Delay (s)		7.5					8.7	5.3			19.9	0.1		40.0
Level of Service		A					A	A			B	A		D
Approach Delay (s)		7.5					7.8				10.8			37.9
Approach LOS		A					A				B			D

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

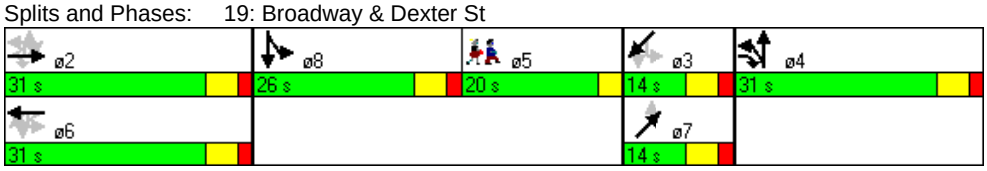
Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	11
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1128
Flt Permitted		1.00
Satd. Flow (perm)		1128
Volume (vph)	15	13
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	16	14
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	14
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		65.0
Effective Green, g (s)		65.0
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1128
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.01
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1800	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14
Grade (%)			0%						0%			1%
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15	
Right Turn on Red					Yes							
Link Speed (mph)			30						30			30
Link Distance (ft)			1069						1176			419
Travel Time (s)			24.3						26.7			9.5
Volume (vph)	2	22	367	214	10	1	15	17	563	114	217	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split	
Protected Phases			2	4					6		4	4
Permitted Phases	2	2		2		6	6	6				
Detector Phases	2	2	2	4		6	6	6	6		4	4
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0
Total Split (s)	31.0	31.0	31.0	31.0	0.0	31.0	31.0	31.0	31.0	0.0	31.0	31.0
Total Split (%)	25.4%	25.4%	25.4%	25.4%	0.0%	25.4%	25.4%	25.4%	25.4%	0.0%	25.4%	25.4%
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 122	
Actuated Cycle Length: 97.9	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 19: Broadway & Dexter St



Lane Group	NBR2	SBL	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	12	12	12	12	12	12	12
Grade (%)			1%			0%				1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)		50	50			50		50	50	50		
Trailing Detector (ft)		0	0			0		0	0	0		
Turning Speed (mph)	9	15		9	9		9	15	15		9	9
Right Turn on Red	Yes				Yes							Yes
Link Speed (mph)			30			30				30		
Link Distance (ft)			1711			342				975		
Travel Time (s)			38.9			7.8				22.2		
Volume (vph)	6	26	153	5	57	0	50	5	21	5	32	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	1%	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type		Split						Perm	Perm			
Protected Phases		8	8			7				3		
Permitted Phases								3	3			
Detector Phases		8	8			7		3	3	3		
Minimum Initial (s)		8.0	8.0			4.0		4.0	4.0	4.0		
Minimum Split (s)		14.0	14.0			10.0		10.0	10.0	10.0		
Total Split (s)	0.0	26.0	26.0	0.0	0.0	14.0	0.0	14.0	14.0	14.0	0.0	0.0
Total Split (%)	0.0%	21.3%	21.3%	0.0%	0.0%	11.5%	0.0%	11.5%	11.5%	11.5%	0.0%	0.0%
Yellow Time (s)		4.0	4.0			4.0		4.0	4.0	4.0		
All-Red Time (s)		2.0	2.0			2.0		2.0	2.0	2.0		
Lead/Lag		Lead	Lead									
Lead-Lag Optimize?		Yes	Yes									
Recall Mode		None	None			None		None	None	None		

Intersection Summary

Lane Group	ø5
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Turn Type	
Protected Phases	5
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	20.0
Total Split (%)	16%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	EBR	WBT	NBT	SBT	NET	SWT
Lane Group Flow (vph)	425	244	763	370	259	60	84
v/c Ratio	0.71	0.27	1.02	0.77	0.76	0.44	0.65
Control Delay	43.1	14.2	77.6	46.1	46.4	56.2	65.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	14.2	77.6	46.1	46.4	56.2	65.1
Queue Length 50th (ft)	130	73	~286	216	149	37	50
Queue Length 95th (ft)	#271	180	#534	#471	#310	85	#137
Internal Link Dist (ft)	989		1096	339	1631	262	895
Turn Bay Length (ft)							
Base Capacity (vph)	602	918	745	506	412	149	138
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.27	1.02	0.73	0.63	0.40	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1800	1800	1800	1800	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14
Grade (%)			0%						0%			1%
Total Lost time (s)			5.0	5.0					5.0			5.0
Lane Util. Factor			0.95	1.00					0.95			1.00
Frt			1.00	0.85					0.98			1.00
Flt Protected			1.00	1.00					1.00			0.97
Satd. Flow (prot)			3528	1564					3264			1889
Flt Permitted			0.74	1.00					0.91			0.97
Satd. Flow (perm)			2636	1564					2979			1889
Volume (vph)	2	22	367	214	10	1	15	17	563	114	217	122
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	24	399	233	11	1	16	18	605	123	233	131
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	0	425	243	0	0	0	0	763	0	0	369
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split	
Protected Phases			2	4					6		4	4
Permitted Phases	2	2		2		6	6	6				
Actuated Green, G (s)			25.9	49.7					25.9			23.8
Effective Green, g (s)			26.9	51.7					26.9			24.8
Actuated g/C Ratio			0.27	0.51					0.27			0.24
Clearance Time (s)			6.0	6.0					6.0			6.0
Vehicle Extension (s)			4.0	6.0					4.0			6.0
Lane Grp Cap (vph)			700	875					791			462
v/s Ratio Prot				0.07								c0.20
v/s Ratio Perm			0.16	0.09					c0.26			
v/c Ratio			0.61	0.28					0.96			0.80
Uniform Delay, d1			32.6	14.1					36.7			35.9
Progression Factor			1.00	1.00					1.00			1.00
Incremental Delay, d2			1.7	0.5					23.6			11.3
Delay (s)			34.3	14.6					60.3			47.2
Level of Service			C	B					E			D
Approach Delay (s)			27.1						60.3			47.2
Approach LOS			C						E			D

Intersection Summary			
HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	101.3	Sum of lost time (s)	25.7
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

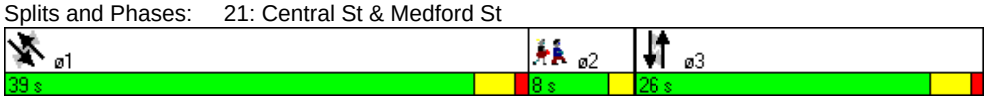
Movement	NBR2	SBL	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	12	12	12	12	12	12	12
Grade (%)			1%			0%				1%		
Total Lost time (s)			5.0			5.0				5.0		
Lane Util. Factor			1.00			1.00				1.00		
Frt			0.97			0.86				0.92		
Flt Protected			0.99			1.00				0.98		
Satd. Flow (prot)			1918			1644				1699		
Flt Permitted			0.99			1.00				0.85		
Satd. Flow (perm)			1918			1644				1476		
Volume (vph)	6	26	153	5	57	0	50	5	21	5	32	8
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	6	28	165	5	61	0	60	6	25	6	38	9
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	4	0	0
Lane Group Flow (vph)	0	0	250	0	0	60	0	0	0	80	0	0
Heavy Vehicles (%)	2%	1%	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type		Split						Perm	Perm			
Protected Phases		8	8			7				3		
Permitted Phases								3	3			
Actuated Green, G (s)			15.9			6.0				6.0		
Effective Green, g (s)			16.9			7.0				7.0		
Actuated g/C Ratio			0.17			0.07				0.07		
Clearance Time (s)			6.0			6.0				6.0		
Vehicle Extension (s)			2.0			2.0				2.0		
Lane Grp Cap (vph)			320			114				102		
v/s Ratio Prot			c0.13			0.04						
v/s Ratio Perm										c0.05		
v/c Ratio			0.78			0.53				0.79		
Uniform Delay, d1			40.4			45.5				46.4		
Progression Factor			1.00			1.00				1.00		
Incremental Delay, d2			10.8			2.0				29.8		
Delay (s)			51.3			47.6				76.3		
Level of Service			D			D				E		
Approach Delay (s)			51.3			47.6				76.3		
Approach LOS			D			D				E		

Intersection Summary

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1721			833			1629			1556	
Travel Time (s)		39.1			18.9			37.0			35.4	
Volume (vph)	87	254	81	5	105	3	15	346	57	51	383	21
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phases	3	3		3	3		1	1		1	1	
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	53.4%	53.4%	0.0%	53.4%	53.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 66.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 21: Central St & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	11%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	454	140	485	506
v/c Ratio	0.80	0.23	0.51	0.57
Control Delay	33.7	18.1	13.2	14.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.7	18.1	13.2	14.2
Queue Length 50th (ft)	153	39	111	119
Queue Length 95th (ft)	#354	80	219	256
Internal Link Dist (ft)	1641	753	1549	1476
Turn Bay Length (ft)				
Base Capacity (vph)	565	616	943	892
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.80	0.23	0.51	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1814			1889			1825			1841	
Flt Permitted		0.91			0.98			0.98			0.91	
Satd. Flow (perm)		1665			1858			1792			1688	
Volume (vph)	87	254	81	5	105	3	15	346	57	51	383	21
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	94	273	87	6	130	4	17	402	66	57	426	23
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	442	0	0	140	0	0	485	0	0	504	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		22.0			22.0			35.1			35.1	
Effective Green, g (s)		22.0			22.0			35.1			35.1	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		537			599			922			869	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.08			0.27			c0.30	
v/c Ratio		0.82			0.23			0.53			0.58	
Uniform Delay, d1		21.3			16.9			11.0			11.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.4			0.9			2.1			2.8	
Delay (s)		34.7			17.8			13.2			14.3	
Level of Service		C			B			B			B	
Approach Delay (s)		34.7			17.8			13.2			14.3	
Approach LOS		C			B			B			B	

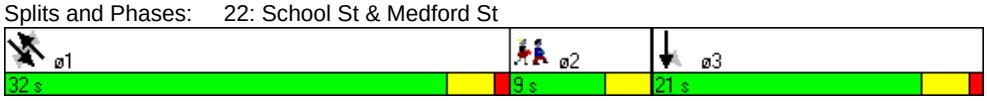
Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)				50	50		50	50		50	50	
Trailing Detector (ft)				0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		953			959			1556			621	
Travel Time (s)		21.7			21.8			35.4			14.1	
Volume (vph)	0	0	0	54	218	23	39	356	93	147	449	127
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Detector Phases				3	3		1	1		1	1	
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	0.0	0.0	0.0	21.0	21.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	33.9%	33.9%	0.0%	51.6%	51.6%	0.0%	51.6%	51.6%	0.0%
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode				Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 62	
Actuated Cycle Length: 54.8	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 22: School St & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	9.0
Total Split (s)	9.0
Total Split (%)	15%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	SBT	SET	NWT
Lane Group Flow (vph)	335	542	746
v/c Ratio	0.54	0.59	0.99
Control Delay	19.9	12.9	47.1
Queue Delay	0.0	0.0	0.0
Total Delay	19.9	12.9	47.1
Queue Length 50th (ft)	82	97	194
Queue Length 95th (ft)	177	244	#523
Internal Link Dist (ft)	879	1476	541
Turn Bay Length (ft)			
Base Capacity (vph)	618	917	756
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.54	0.59	0.99

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.97			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1968			1905			1916	
Flt Permitted					0.99			0.92			0.78	
Satd. Flow (perm)					1968			1768			1519	
Volume (vph)	0	0	0	54	218	23	39	356	93	147	449	127
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	61	248	26	43	396	103	152	463	131
RTOR Reduction (vph)	0	0	0	0	5	0	0	13	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	330	0	0	529	0	0	734	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					17.1			28.1			28.1	
Effective Green, g (s)					17.1			28.1			28.1	
Actuated g/C Ratio					0.30			0.49			0.49	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					587			867			745	
v/s Ratio Prot												
v/s Ratio Perm					0.17			0.30			c0.48	
v/c Ratio					0.56			0.61			0.99	
Uniform Delay, d1					16.9			10.6			14.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					3.9			3.2			29.7	
Delay (s)					20.8			13.8			44.1	
Level of Service					C			B			D	
Approach Delay (s)		0.0			20.8			13.8			44.1	
Approach LOS		A			C			B			D	

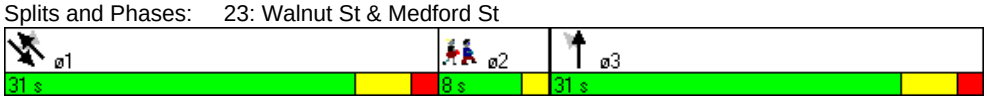
Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	12.1
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50			50	
Trailing Detector (ft)	0	0					0	0			0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		779			844			914			533	
Travel Time (s)		17.7			19.2			20.8			12.1	
Volume (vph)	102	245	8	0	0	0	4	232	0	0	285	10
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Detector Phases	3	3					1	1			1	
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0	
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0	
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0
Total Split (%)	44.3%	44.3%	0.0%	0.0%	0.0%	0.0%	44.3%	44.3%	0.0%	0.0%	44.3%	0.0%
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0	
Lead/Lag							Lead	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Recall Mode	Min	Min					Min	Min			Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 63.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	11%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	NBT	SET	NWT
Lane Group Flow (vph)	474	299	335
v/c Ratio	0.63	0.39	0.43
Control Delay	20.1	15.7	16.1
Queue Delay	0.0	0.0	0.0
Total Delay	20.1	15.7	16.1
Queue Length 50th (ft)	133	74	84
Queue Length 95th (ft)	206	133	171
Internal Link Dist (ft)	699	834	453
Turn Bay Length (ft)			
Base Capacity (vph)	751	766	777
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.63	0.39	0.43

Intersection Summary

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1831						1880			1892	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1831						1870			1892	
Volume (vph)	102	245	8	0	0	0	4	232	0	0	285	10
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	136	327	11	0	0	0	5	294	0	0	324	11
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	473	0	0	0	0	0	299	0	0	333	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.1						25.1			25.1	
Effective Green, g (s)		26.1						26.1			26.1	
Actuated g/C Ratio		0.40						0.40			0.40	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		732						747			756	
v/s Ratio Prot											c0.18	
v/s Ratio Perm		0.26						0.16				
v/c Ratio		0.65						0.40			0.44	
Uniform Delay, d1		15.9						14.0			14.3	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		2.2						0.5			0.6	
Delay (s)		18.1						14.5			14.8	
Level of Service		B						B			B	
Approach Delay (s)		18.1			0.0			14.5			14.8	
Approach LOS		B			A			B			B	

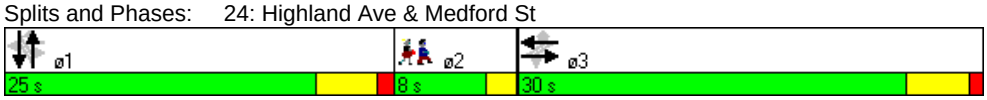
Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1836			1794			671			533	
Travel Time (s)		41.7			40.8			15.3			12.1	
Volume (vph)	0	425	18	42	479	295	4	0	17	206	20	14
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Detector Phases	3	3		3	3	1 3	1	1		1	1	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	55.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	47.6%	47.6%	0.0%	47.6%	47.6%	87.3%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 56.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 24: Highland Ave & Medford St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	13%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	515	572	324	28	276
v/c Ratio	0.61	0.76	0.20	0.05	0.54
Control Delay	15.8	22.5	0.4	7.2	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	22.5	0.4	7.2	19.3
Queue Length 50th (ft)	114	141	0	1	66
Queue Length 95th (ft)	234	#365	8	12	150
Internal Link Dist (ft)	1756	1714		591	453
Turn Bay Length (ft)					
Base Capacity (vph)	847	753	1628	611	509
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.76	0.20	0.05	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1835			1969	1680		1674			1772	
Flt Permitted		1.00			0.91	1.00		0.95			0.74	
Satd. Flow (perm)		1835			1804	1680		1603			1361	
Volume (vph)	0	425	18	42	479	295	4	0	17	206	20	14
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	494	21	46	526	324	5	0	23	237	23	16
RTOR Reduction (vph)	0	2	0	0	0	39	0	15	0	0	3	0
Lane Group Flow (vph)	0	513	0	0	572	285	0	13	0	0	273	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		25.1			25.1	50.2		20.1			20.1	
Effective Green, g (s)		26.1			26.1	51.2		21.1			21.1	
Actuated g/C Ratio		0.45			0.45	0.88		0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		822			808	1475		580			493	
v/s Ratio Prot		0.28										
v/s Ratio Perm					c0.32	0.17		0.01			c0.20	
v/c Ratio		0.62			0.71	0.19		0.02			0.55	
Uniform Delay, d1		12.3			13.0	0.5		12.0			14.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		3.6			5.2	0.3		0.1			4.4	
Delay (s)		15.9			18.2	0.8		12.0			19.3	
Level of Service		B			B	A		B			B	
Approach Delay (s)		15.9			11.9			12.0			19.3	
Approach LOS		B			B			B			B	

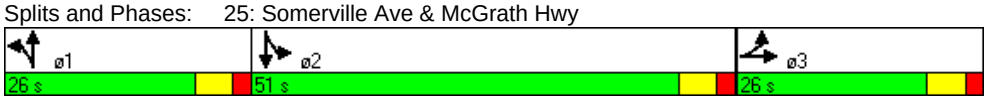
Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	168	195	85	0	0	0	87	421	51	176	596	222
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	51.0	51.0	0.0
Total Split (%)	25.2%	25.2%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	49.5%	49.5%	0.0%
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 103	
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	510	541	54	189	880
v/c Ratio	0.71	0.75	0.03	0.24	0.60
Control Delay	42.6	45.9	0.0	18.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	45.9	0.0	18.7	21.8
Queue Length 50th (ft)	157	177	0	75	206
Queue Length 95th (ft)	210	238	0	123	270
Internal Link Dist (ft)	1429	810			432
Turn Bay Length (ft)					
Base Capacity (vph)	715	722	1706	790	1473
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.75	0.03	0.24	0.60

Intersection Summary

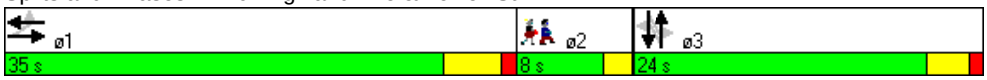
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3408						3544	1706	1770	3216	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3408						3544	1706	1770	3216	
Volume (vph)	168	195	85	0	0	0	87	421	51	176	596	222
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	191	222	97	0	0	0	93	448	54	189	641	239
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	490	0	0	0	0	0	541	54	189	843	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	103.0	45.0	45.0	
Effective Green, g (s)		21.0						21.0	103.0	46.0	46.0	
Actuated g/C Ratio		0.20						0.20	1.00	0.45	0.45	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		695						723	1706	790	1436	
v/s Ratio Prot		c0.14						c0.15		0.11	c0.26	
v/s Ratio Perm									0.03			
v/c Ratio		0.71						0.75	0.03	0.24	0.59	
Uniform Delay, d1		38.1						38.5	0.0	17.7	21.4	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.9						7.0	0.0	0.7	1.8	
Delay (s)		44.1						45.5	0.0	18.4	23.1	
Level of Service		D						D	A	B	C	
Approach Delay (s)		44.1			0.0			41.4			22.3	
Approach LOS		D			A			D			C	

Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	103.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1198			1413			1810			2545	
Travel Time (s)		27.2			32.1			41.1			57.8	
Volume (vph)	40	383	0	0	487	45	49	92	38	48	0	75
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Detector Phases	1	1			1		3	3		3	3	
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0	
Total Split (s)	35.0	35.0	0.0	0.0	35.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	0.0%	52.2%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lead			Lead							
Lead-Lag Optimize?	Yes	Yes			Yes							
Recall Mode	Max	Max			Max		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 67	
Actuated Cycle Length: 54.7	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	12%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	459	548	213	146
v/c Ratio	0.48	0.50	0.55	0.35
Control Delay	10.4	10.4	20.5	9.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.4	10.4	20.5	9.4
Queue Length 50th (ft)	65	80	56	14
Queue Length 95th (ft)	222	262	117	50
Internal Link Dist (ft)	1118	1333	1730	2465
Turn Bay Length (ft)				
Base Capacity (vph)	965	1087	529	541
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.48	0.50	0.40	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1842			1803			1702	
Flt Permitted		0.93			1.00			0.90			0.82	
Satd. Flow (perm)		1726			1842			1646			1425	
Volume (vph)	40	383	0	0	487	45	49	92	38	48	0	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	43	416	0	0	502	46	58	110	45	57	0	89
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	68	0
Lane Group Flow (vph)	0	459	0	0	548	0	0	213	0	0	78	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		31.3			31.3			13.0			13.0	
Effective Green, g (s)		32.3			32.3			13.0			13.0	
Actuated g/C Ratio		0.57			0.57			0.23			0.23	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		990			1057			380			329	
v/s Ratio Prot					c0.30							
v/s Ratio Perm		0.27						c0.13			0.05	
v/c Ratio		0.46			0.52			0.56			0.24	
Uniform Delay, d1		7.0			7.3			19.1			17.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.6			1.8			2.3			0.5	
Delay (s)		8.5			9.1			21.4			18.1	
Level of Service		A			A			C			B	
Approach Delay (s)		8.5			9.1			21.4			18.1	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1413			1389			1040			1721	
Travel Time (s)		32.1			31.6			23.6			39.1	
Volume (vph)	38	330	22	26	399	38	48	308	87	16	90	44
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phases	1	1		1	1		3	3		3	3	
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0	
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	45.6%	45.6%	0.0%	45.6%	45.6%	0.0%	44.3%	44.3%	0.0%	44.3%	44.3%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead	Lead		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 79
Actuated Cycle Length: 56.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Highland Ave & Central St

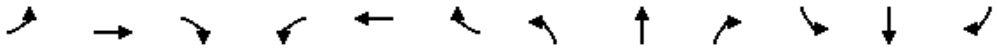


Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	10%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	424	514	487	172
v/c Ratio	0.61	0.70	0.74	0.26
Control Delay	17.4	18.7	19.8	12.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.4	18.7	19.8	12.6
Queue Length 50th (ft)	107	136	138	33
Queue Length 95th (ft)	262	325	308	86
Internal Link Dist (ft)	1333	1309	960	1641
Turn Bay Length (ft)				
Base Capacity (vph)	831	880	827	816
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.58	0.59	0.21

Intersection Summary



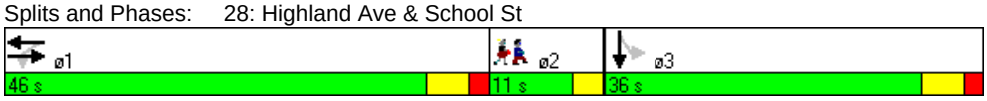
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1822			1837			1821			1805	
Flt Permitted		0.93			0.96			0.95			0.94	
Satd. Flow (perm)		1698			1770			1737			1698	
Volume (vph)	38	330	22	26	399	38	48	308	87	16	90	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	41	359	24	29	443	42	53	338	96	18	103	51
RTOR Reduction (vph)	0	2	0	0	4	0	0	11	0	0	20	0
Lane Group Flow (vph)	0	422	0	0	510	0	0	476	0	0	152	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		22.2			22.2			21.1			21.1	
Effective Green, g (s)		23.2			23.2			21.1			21.1	
Actuated g/C Ratio		0.41			0.41			0.37			0.37	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		689			718			641			626	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.29			c0.27			0.09	
v/c Ratio		0.61			0.71			0.74			0.24	
Uniform Delay, d1		13.4			14.2			15.7			12.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			3.6			4.9			0.3	
Delay (s)		15.3			17.7			20.6			12.8	
Level of Service		B			B			C			B	
Approach Delay (s)		15.3			17.7			20.6			12.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	57.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1389			1836			970			953	
Travel Time (s)		31.6			41.7			22.0			21.7	
Volume (vph)	0	428	15	53	467	0	0	0	0	98	214	106
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Detector Phases		1		1	1					3	3	
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0	
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0	
Total Split (s)	0.0	46.0	0.0	46.0	46.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0
Total Split (%)	0.0%	49.5%	0.0%	49.5%	49.5%	0.0%	0.0%	0.0%	0.0%	38.7%	38.7%	0.0%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0	
Lead/Lag		Lead		Lead	Lead							
Lead-Lag Optimize?		Yes		Yes	Yes							
Recall Mode		Min		Min	Min					Max	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 93	
Actuated Cycle Length: 79.8	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 28: Highland Ave & School St



Lane Group	ø2
Lane Configurations	
Ideal Flow (vphpl)	
Grade (%)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Turn Type	
Protected Phases	2
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	12%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	SBT
Lane Group Flow (vph)	498	553	422
v/c Ratio	0.61	0.86	0.61
Control Delay	19.6	30.9	26.2
Queue Delay	0.0	0.0	0.0
Total Delay	19.6	30.9	26.2
Queue Length 50th (ft)	167	222	174
Queue Length 95th (ft)	321	#501	328
Internal Link Dist (ft)	1309	1756	873
Turn Bay Length (ft)			
Base Capacity (vph)	880	687	689
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.57	0.80	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1799			1816						1752	
Flt Permitted		1.00			0.80						0.99	
Satd. Flow (perm)		1799			1459						1752	
Volume (vph)	0	428	15	53	467	0	0	0	0	98	214	106
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	481	17	56	497	0	0	0	0	99	216	107
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	497	0	0	553	0	0	0	0	0	422	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		35.4			35.4						30.4	
Effective Green, g (s)		36.4			36.4						31.4	
Actuated g/C Ratio		0.44			0.44						0.38	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		797			646						669	
v/s Ratio Prot		0.28										
v/s Ratio Perm					c0.38						0.24	
v/c Ratio		0.62			0.86						0.63	
Uniform Delay, d1		17.6			20.5						20.7	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.5			10.8						4.5	
Delay (s)		19.2			31.3						25.2	
Level of Service		B			C						C	
Approach Delay (s)		19.2			31.3			0.0			25.2	
Approach LOS		B			C			A			C	

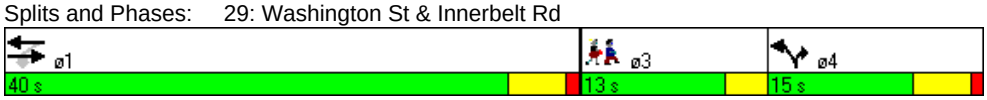
Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	14.4
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	570	31	81	697	179	148	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	40.0	40.0	40.0	40.0	15.0	15.0	13.0
Total Split (%)	58.8%	58.8%	58.8%	58.8%	22.1%	22.1%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 68	
Actuated Cycle Length: 55.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 29: Washington St & Innerbelt Rd



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	740	40	87	749	263	218
v/c Ratio	0.65	0.04	0.41	0.67	0.76	0.57
Control Delay	11.1	2.6	14.5	11.8	39.8	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	2.6	14.5	11.8	39.8	20.8
Queue Length 50th (ft)	111	0	11	115	76	35
Queue Length 95th (ft)	265	9	67	#375	#153	73
Internal Link Dist (ft)	1			709	1231	
Turn Bay Length (ft)						
Base Capacity (vph)	1172	1011	217	1150	347	381
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.04	0.40	0.65	0.76	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.24	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	442	1827	1719	1538
Volume (vph)	570	31	81	697	179	148
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	740	40	87	749	263	218
RTOR Reduction (vph)	0	16	0	0	0	71
Lane Group Flow (vph)	740	24	87	749	263	147
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	32.9	32.9	32.9	32.9	10.1	10.1
Effective Green, g (s)	33.9	33.9	33.9	33.9	11.1	11.1
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.19	0.19
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1096	932	260	1075	331	296
v/s Ratio Prot	0.40			c0.41	c0.15	0.10
v/s Ratio Perm		0.01	0.20			
v/c Ratio	0.68	0.03	0.33	0.70	0.79	0.50
Uniform Delay, d1	8.1	4.9	6.1	8.3	22.2	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.0	0.3	1.6	13.0	1.8
Delay (s)	9.4	5.0	6.3	9.9	35.2	22.5
Level of Service	A	A	A	A	D	C
Approach Delay (s)	9.2			9.5	29.5	
Approach LOS	A			A	C	

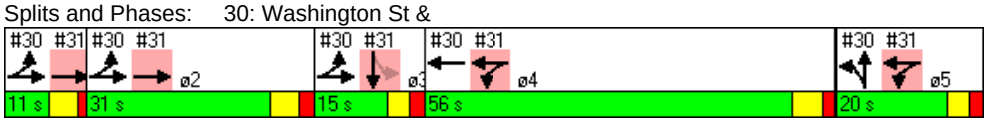
Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	12.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		86			812			410			438	
Travel Time (s)		2.0			18.5			9.3			10.0	
Volume (vph)	696	349	0	0	787	135	49	469	603	0	0	0
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Minimum Split (s)					22.0		10.0	10.0				
Total Split (s)	57.0	57.0	0.0	0.0	56.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	0.0%	42.1%	0.0%	15.0%	15.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)					4.0		3.0	3.0				
All-Red Time (s)					2.0		2.0	2.0				
Lead/Lag					Lag							
Lead-Lag Optimize?					Yes							

Intersection Summary	
Area Type:	Other
Cycle Length: 133	
Actuated Cycle Length: 133	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 120	
Control Type: Pretimed	

Splits and Phases: 30: Washington St &



Lane Group	ø1	ø2	ø3
Lane Configurations			
Ideal Flow (vphpl)			
Lane Width (ft)			
Total Lost Time (s)			
Turning Speed (mph)			
Right Turn on Red			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Volume (vph)			
Peak Hour Factor			
Heavy Vehicles (%)			
Turn Type			
Protected Phases	1	2	3
Permitted Phases			
Minimum Split (s)	11.0	21.0	10.0
Total Split (s)	11.0	31.0	15.0
Total Split (%)	8%	23%	11%
Yellow Time (s)	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	733	360	1060	52	494	635
v/c Ratio	0.51	0.18	0.55	0.27	2.40	0.41
Control Delay	3.5	0.8	33.4	57.9	668.6	0.8
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	3.5	0.8	33.4	58.2	668.6	0.8
Queue Length 50th (ft)	45	1	259	42	~701	0
Queue Length 95th (ft)	m51	m1	293	85	#919	0
Internal Link Dist (ft)		6	732		330	
Turn Bay Length (ft)						
Base Capacity (vph)	1446	1950	1927	196	206	1553
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	9	17	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.18	0.55	0.29	2.40	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5026		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5026		1736	1827	1553			
Volume (vph)	696	349	0	0	787	135	49	469	603	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	733	360	0	0	905	155	52	494	635	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	733	360	0	0	1060	0	52	494	635	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			50.0		15.0	15.0	133.0			
Effective Green, g (s)	52.0	52.0			51.0		15.0	15.0	133.0			
Actuated g/C Ratio	0.39	0.39			0.38		0.11	0.11	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1446	1950			1927		196	206	1553			
v/s Ratio Prot	c0.20	0.07			c0.21		0.03	c0.27				
v/s Ratio Perm									c0.41			
v/c Ratio	0.51	0.18			0.55		0.27	2.40	0.41			
Uniform Delay, d1	30.8	26.6			32.0		54.0	59.0	0.0			
Progression Factor	0.08	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	1.0	0.2			1.1		3.3	643.8	0.8			
Delay (s)	3.5	0.8			33.2		57.2	702.8	0.8			
Level of Service	A	A			C		E	F	A			
Approach Delay (s)		2.6			33.2			296.9			0.0	
Approach LOS		A			C			F			A	

Intersection Summary			
HCM Average Control Delay	116.6	HCM Level of Service	F
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

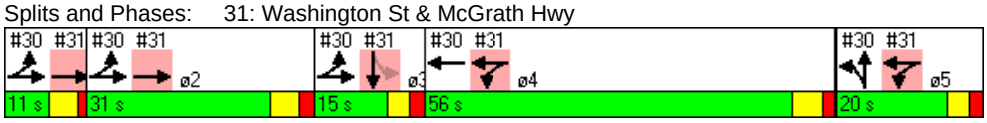
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1125			86			285			1794	
Travel Time (s)		25.6			2.0			6.5			40.8	
Volume (vph)	0	1045	34	338	524	0	0	0	0	27	122	311
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Minimum Split (s)										10.0	10.0	
Total Split (s)	0.0	42.0	0.0	76.0	76.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0
Total Split (%)	0.0%	31.6%	0.0%	57.1%	57.1%	0.0%	0.0%	0.0%	0.0%	11.3%	11.3%	0.0%
Yellow Time (s)										3.0	3.0	
All-Red Time (s)										2.0	2.0	
Lead/Lag										Lead	Lead	
Lead-Lag Optimize?										Yes	Yes	

Intersection Summary

Area Type: Other
Cycle Length: 133
Actuated Cycle Length: 133
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 120
Control Type: Pretimed

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø1	ø2	ø4	ø5
Lane Configurations				
Ideal Flow (vphpl)				
Lane Width (ft)				
Total Lost Time (s)				
Turning Speed (mph)				
Right Turn on Red				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Volume (vph)				
Peak Hour Factor				
Heavy Vehicles (%)				
Turn Type				
Protected Phases	1	2	4	5
Permitted Phases				
Minimum Split (s)	11.0	21.0	22.0	10.0
Total Split (s)	11.0	31.0	56.0	20.0
Total Split (%)	8%	23%	42%	15%
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	

Intersection Summary

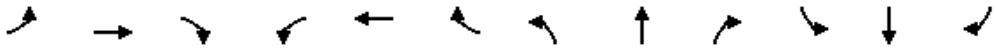
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	1135	376	582	503
v/c Ratio	0.57	0.41	0.31	1.72dr
Control Delay	42.3	1.5	0.4	319.4
Queue Delay	0.1	0.0	0.0	130.8
Total Delay	42.3	1.5	0.4	450.1
Queue Length 50th (ft)	207	0	0	~293
Queue Length 95th (ft)	239	12	0	#410
Internal Link Dist (ft)	1045		6	1714
Turn Bay Length (ft)				
Base Capacity (vph)	2000	927	1889	313
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	82	0	0	48
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.41	0.31	1.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3173	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3173	
Volume (vph)	0	1045	34	338	524	0	0	0	0	27	122	311
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1100	35	376	582	0	0	0	0	32	133	338
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	75	0
Lane Group Flow (vph)	0	1131	0	376	582	0	0	0	0	0	428	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		36.0		71.0	71.0						10.0	
Effective Green, g (s)		37.0		71.0	71.0						10.0	
Actuated g/C Ratio		0.28		0.53	0.53						0.08	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1997		927	1889						239	
v/s Ratio Prot		c0.16		c0.22	0.16							
v/s Ratio Perm											0.13	
v/c Ratio		0.57		0.41	0.31						1.72dr	
Uniform Delay, d1		41.1		18.4	17.3						61.5	
Progression Factor		1.00		0.02	0.00						1.00	
Incremental Delay, d2		1.2		1.1	0.4						372.3	
Delay (s)		42.3		1.5	0.4						433.8	
Level of Service		D		A	A						F	
Approach Delay (s)		42.3			0.8			0.0			433.8	
Approach LOS		D			A			A			F	

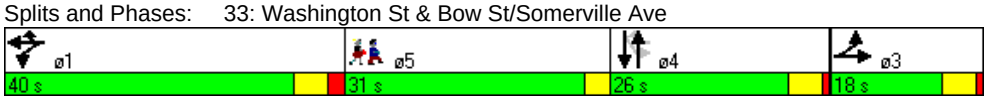
Intersection Summary			
HCM Average Control Delay	102.9	HCM Level of Service	F
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50		50		50	50	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2793			626			1049			820	
Travel Time (s)		63.5			14.2			23.8			18.6	
Volume (vph)	53	285	20	370	353	834	0	0	0	385	200	33
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Detector Phases	3	3		1	1	1		4		4	4	
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0	
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0	
Total Split (s)	18.0	18.0	0.0	40.0	40.0	40.0	0.0	26.0	0.0	26.0	26.0	0.0
Total Split (%)	15.7%	15.7%	0.0%	34.8%	34.8%	34.8%	0.0%	22.6%	0.0%	22.6%	22.6%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0	
Lead/Lag								Lag		Lag	Lag	
Lead-Lag Optimize?								Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max	Max		Max		Max	Max	

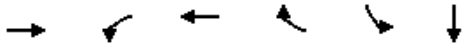
Intersection Summary	
Area Type:	CBD
Cycle Length: 115	
Actuated Cycle Length: 96.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Lane Group	ø5
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	5
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	31.0
Total Split (s)	31.0
Total Split (%)	27%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Recall Mode	None

Intersection Summary



Lane Group	EBT	WBL	WBT	WBR	SBL	SBT
Lane Group Flow (vph)	393	394	376	887	217	478
v/c Ratio	0.90	0.67	0.60	0.72	0.80	0.73
Control Delay	66.9	35.3	32.9	4.6	61.3	43.6
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	66.9	35.3	32.9	4.8	61.3	43.6
Queue Length 50th (ft)	106	157	145	0	114	121
Queue Length 95th (ft)	#275	#427	365	37	#345	#282
Internal Link Dist (ft)	2713		546			740
Turn Bay Length (ft)						
Base Capacity (vph)	438	592	623	1226	270	657
Starvation Cap Reductn	0	0	0	34	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.67	0.60	0.74	0.80	0.73

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2942		1593	1676	1425				1449	2794	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2942		1593	1676	1425				1155	2353	
Volume (vph)	53	285	20	370	353	834	0	0	0	385	200	33
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	58	313	22	394	376	887	0	0	0	433	225	37
RTOR Reduction (vph)	0	0	0	0	0	368	0	0	0	0	5	0
Lane Group Flow (vph)	0	393	0	394	376	519	0	0	0	217	473	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		13.3		34.8	34.8	56.3				21.5	21.5	
Effective Green, g (s)		14.3		35.8	35.8	57.3				22.5	22.5	
Actuated g/C Ratio		0.15		0.37	0.37	0.58				0.23	0.23	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		429		582	612	833				265	540	
v/s Ratio Prot		c0.13		c0.25	0.22	0.23						
v/s Ratio Perm						0.14				0.19	c0.20	
v/c Ratio		0.92		0.68	0.61	0.62				0.82	0.88	
Uniform Delay, d1		41.3		26.2	25.5	13.3				35.8	36.4	
Progression Factor		1.00		1.00	1.00	1.00				1.00	1.00	
Incremental Delay, d2		26.8		6.2	4.6	3.5				23.8	17.9	
Delay (s)		68.1		32.4	30.0	16.8				59.6	54.3	
Level of Service		E		C	C	B				E	D	
Approach Delay (s)		68.1			23.5			0.0			56.0	
Approach LOS		E			C			A			E	

Intersection Summary				
HCM Average Control Delay	38.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	25.4	
Intersection Capacity Utilization	76.7%	ICU Level of Service	D	
Analysis Period (min)	15			

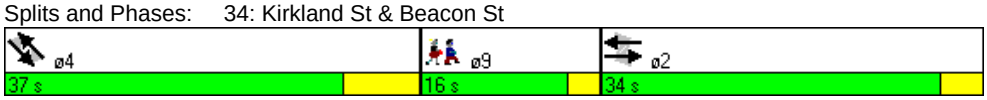
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1033			2793			1241			3010	
Travel Time (s)		23.5			63.5			28.2			68.4	
Volume (vph)	106	299	37	36	248	63	39	343	58	26	444	67
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phases	2	2		2	2		4	4		4	4	
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0	
Total Split (s)	34.0	34.0	0.0	34.0	34.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0
Total Split (%)	39.1%	39.1%	0.0%	39.1%	39.1%	0.0%	42.5%	42.5%	0.0%	42.5%	42.5%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 74.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 34: Kirkland St & Beacon St



Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	16.0
Total Split (s)	16.0
Total Split (%)	18%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary

Lane Group	EBT	WBT	SET	NWT
Lane Group Flow (vph)	470	395	473	554
v/c Ratio	0.88	0.58	0.70	0.74
Control Delay	41.6	21.8	25.6	26.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	41.6	21.8	25.6	26.9
Queue Length 50th (ft)	176	121	155	187
Queue Length 95th (ft)	#466	270	#396	#468
Internal Link Dist (ft)	953	2713	1161	2930
Turn Bay Length (ft)				
Base Capacity (vph)	535	682	677	746
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.88	0.58	0.70	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

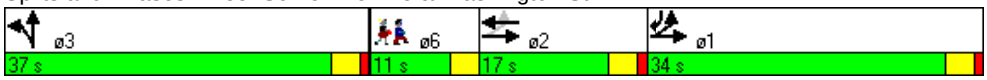
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1820			1808			1822			1827	
Flt Permitted		0.77			0.93			0.91			0.96	
Satd. Flow (perm)		1422			1690			1674			1762	
Volume (vph)	106	299	37	36	248	63	39	343	58	26	444	67
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	113	318	39	41	282	72	42	369	62	27	458	69
RTOR Reduction (vph)	0	4	0	0	8	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	466	0	0	387	0	0	467	0	0	549	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.2			30.2			30.2			30.2	
Effective Green, g (s)		30.2			30.2			31.2			31.2	
Actuated g/C Ratio		0.39			0.39			0.41			0.41	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		561			666			682			718	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.23			0.28			c0.31	
v/c Ratio		0.83			0.58			0.68			0.76	
Uniform Delay, d1		20.9			18.2			18.7			19.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.4			3.7			5.5			7.6	
Delay (s)		34.3			21.9			24.2			27.1	
Level of Service		C			C			C			C	
Approach Delay (s)		34.3			21.9			24.2			27.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50				50
Trailing Detector (ft)	0	0			0		0	0				0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		626			1509			930			200	
Travel Time (s)		14.2			34.3			21.1			4.5	
Volume (vph)	330	340	0	0	384	34	437	672	84	0	0	821
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Detector Phases	1	1 2			2		3	3				1
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0
Total Split (s)	34.0	51.0	0.0	0.0	17.0	0.0	37.0	37.0	0.0	0.0	0.0	34.0
Total Split (%)	34.3%	51.5%	0.0%	0.0%	17.2%	0.0%	37.4%	37.4%	0.0%	0.0%	0.0%	34.3%
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0
Lead/Lag	Lag				Lead							Lag
Lead-Lag Optimize?	Yes				Yes							Yes
Recall Mode	C-Max				Max		Max	Max				C-Max

Intersection Summary	
Area Type:	CBD
Cycle Length: 99	
Actuated Cycle Length: 99	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 35: Somerville Ave & Washington St



Lane Group	ø6
Lane Configurations	
Ideal Flow (vphpl)	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Turn Type	
Protected Phases	6
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	11%
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None

Intersection Summary



Lane Group	EBT	WBT	NBL	NBT	SBR
Lane Group Flow (vph)	770	509	407	848	864
v/c Ratio	0.55	0.72	0.83	0.83	1.14
Control Delay	17.8	43.5	47.2	38.7	110.6
Queue Delay	0.0	0.0	0.3	0.1	1.9
Total Delay	17.8	43.5	47.5	38.8	112.6
Queue Length 50th (ft)	131	150	258	265	~363
Queue Length 95th (ft)	216	#270	#438	#353	#494
Internal Link Dist (ft)	546	1429		850	
Turn Bay Length (ft)					
Base Capacity (vph)	1410	706	488	1016	760
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	4	8	3
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.72	0.84	0.84	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3109			3178		1464	3024				2508
Flt Permitted		0.58			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1834			3178		1464	3024				2508
Volume (vph)	330	340	0	0	384	34	437	672	84	0	0	821
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	379	391	0	0	468	41	460	707	88	0	0	864
RTOR Reduction (vph)	0	0	0	0	6	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	770	0	0	503	0	407	839	0	0	0	864
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		49.4			21.8		33.0	33.0				27.6
Effective Green, g (s)		49.4			21.8		33.0	33.0				27.6
Actuated g/C Ratio		0.50			0.22		0.33	0.33				0.28
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1271			700		488	1008				699
v/s Ratio Prot		0.17			c0.16		c0.28	0.28				c0.34
v/s Ratio Perm		0.13										
v/c Ratio		0.61			0.72		0.83	0.83				1.24
Uniform Delay, d1		17.8			35.8		30.5	30.5				35.7
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		2.2			6.2		15.4	8.0				118.3
Delay (s)		20.0			42.0		45.8	38.5				154.0
Level of Service		B			D		D	D				F
Approach Delay (s)		20.0			42.0			40.9			154.0	
Approach LOS		B			D			D			F	

Intersection Summary			
HCM Average Control Delay	65.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	99.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

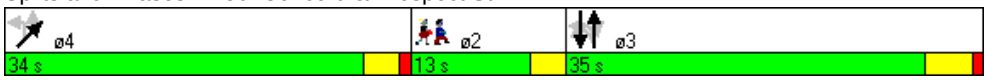
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	105	0	588	115	250	215	10	11	529	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		13.0
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	0.0	34.0	34.0	0.0	13.0
Total Split (%)	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	0.0%	41.5%	41.5%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Recall Mode	Min	Min		Min	Min			Min	Min		None

Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 71.6
Natural Cycle: 135
Control Type: Actuated-Uncoordinated

Splits and Phases: 36: Concord & Prospect St



Lane Group	NBT	SBL	SBT	NET
Lane Group Flow (vph)	745	126	522	580
v/c Ratio	1.89	0.61	0.65	0.69
Control Delay	430.6	33.0	21.6	23.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	430.6	33.0	21.6	23.4
Queue Length 50th (ft)	~480	38	161	187
Queue Length 95th (ft)	#665	#144	347	#425
Internal Link Dist (ft)	1076		969	1341
Turn Bay Length (ft)				
Base Capacity (vph)	394	208	804	842
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.89	0.61	0.65	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

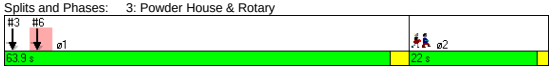
Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1846				1999	
Flt Permitted		0.57		0.27	1.00				1.00	
Satd. Flow (perm)		1006		544	1846				1999	
Volume (vph)	105	0	588	115	250	215	10	11	529	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	113	0	632	126	275	236	11	12	557	11
RTOR Reduction (vph)	0	44	0	0	1	0	0	0	1	0
Lane Group Flow (vph)	0	701	0	126	521	0	0	0	579	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		30.1		30.1	30.1				30.1	
Effective Green, g (s)		31.1		31.1	31.1				30.1	
Actuated g/C Ratio		0.42		0.42	0.42				0.41	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		423		229	777				814	
v/s Ratio Prot					0.28					
v/s Ratio Perm		c0.70		0.23					0.29	
v/c Ratio		1.66		0.55	0.67				0.71	
Uniform Delay, d1		21.4		16.1	17.3				18.3	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		306.1		1.6	1.8				2.5	
Delay (s)		327.5		17.8	19.1				20.7	
Level of Service		F		B	B				C	
Approach Delay (s)		327.5			18.8				20.7	
Approach LOS		F			B				C	

Intersection Summary			
HCM Average Control Delay	135.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	12.7
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	435	0	0	955	460	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	512	0	0	1005	484	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.32			0.56	0.31	
Control Delay		0.5			3.3	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			3.3	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			429	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		7			8	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.32			0.57	0.31	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	435	0	0	955	460
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	512	0	0	1005	484
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	0	470	0	0	1005	484
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.54	
v/s Ratio Perm		0.29				c0.31
v/c Ratio		0.31			0.59	0.31
Uniform Delay, d1		0.6			0.9	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.5			1.5	0.5
Delay (s)		1.1			2.4	0.5
Level of Service		A			A	A
Approach Delay (s)	1.1			0.0	1.8	
Approach LOS	A			A	A	

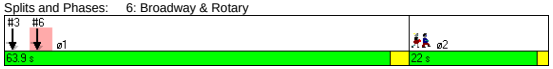
Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	380	0	0	970	420	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	418	0	0	1021	442	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.27			0.57	0.28	
Control Delay		0.4			2.0	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.4			2.0	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			111	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.27			0.57	0.28	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	380	0	0	970	420
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	418	0	0	1021	442
RTOR Reduction (vph)	0	34	0	0	0	0
Lane Group Flow (vph)	0	384	0	0	1021	442
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.55	
v/s Ratio Perm		0.24				c0.28
v/c Ratio		0.26			0.60	0.28
Uniform Delay, d1		0.5			0.9	0.0
Progression Factor		1.00			0.36	1.00
Incremental Delay, d2		0.4			1.4	0.4
Delay (s)		1.0			1.7	0.4
Level of Service		A			A	A
Approach Delay (s)	1.0			0.0	1.3	
Approach LOS	A			A	A	

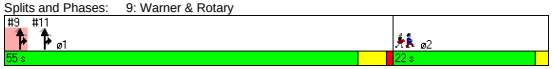
Intersection Summary			
HCM Average Control Delay	1.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	430	875	470	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	473	983	528	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.31	0.58	0.36			
Control Delay		0.5	2.7	0.6			
Queue Delay		0.0	0.0	0.0			
Total Delay		0.5	2.7	0.7			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	252	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1463			
Starvation Cap Reductn		0	0	79			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.31	0.58	0.38			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



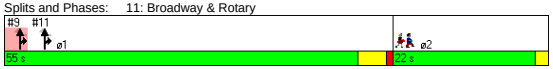
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	430	875	470	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	473	983	528	0	0
RTOR Reduction (vph)	0	39	0	43	0	0
Lane Group Flow (vph)	0	434	983	485	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.56	0.32		
v/s Ratio Perm		0.28				
v/c Ratio		0.30	0.60	0.35		
Uniform Delay, d1		0.6	0.9	0.6		
Progression Factor		1.00	0.64	0.02		
Incremental Delay, d2		0.5	1.5	0.6		
Delay (s)		1.1	2.1	0.6		
Level of Service		A	A	A		
Approach Delay (s)	1.1		1.6			0.0
Approach LOS	A		A			A

Intersection Summary				
HCM Average Control Delay	1.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	650	695	575	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	756	781	646	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.48	0.45	0.43			
Control Delay		1.0	2.4	1.1			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.0	2.4	1.1			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	261	20			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1492			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		32	2	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.49	0.45	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	650	695	575	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	756	781	646	0	0
RTOR Reduction (vph)	0	62	0	53	0	0
Lane Group Flow (vph)	0	694	781	593	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.43	0.39		
v/s Ratio Perm		0.43				
v/c Ratio		0.47	0.47	0.42		
Uniform Delay, d1		0.7	0.7	0.7		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.1	1.0	0.9		
Delay (s)		1.8	1.7	1.6		
Level of Service		A	A	A		
Approach Delay (s)	1.8		1.7			0.0
Approach LOS	A		A			A

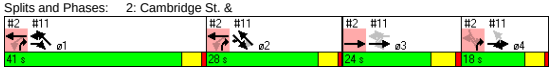
Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			92			
Travel Time (s)		4.1			8.0			13.0			2.1			
Volume (vph)	0	222	38	106	224	0	91	0	507	15	0	0		
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.85	0.85	0.85	0.94	0.94	0.94		
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%		
Lane Group Flow (vph)	0	317	0	0	375	0	107	0	596	16	0	0		
Turn Type				Perm			custom		custom	custom				
Protected Phases		3			1 2				1 2 4				1	2
Permitted Phases				1 2	2		4		1 2 4	4				
Minimum Split (s)		15.0					18.0			18.0			10.0	10.0
Total Split (s)	0.0	24.0	0.0	69.0	69.0	0.0	18.0	0.0	87.0	18.0	0.0	0.0	41.0	28.0
Total Split (%)	0.0%	21.6%	0.0%	62.2%	62.2%	0.0%	16.2%	0.0%	78.4%	16.2%	0.0%	0.0%	37%	25%
Maximum Green (s)		18.0					13.0			13.0			36.0	23.0
Yellow Time (s)		5.0					4.0			4.0			4.0	4.0
All-Red Time (s)		1.0					1.0			1.0			1.0	1.0
Lead/Lag		Lead					Lag			Lag			Lead	Lag
Lead-Lag Optimize?		Yes					Yes			Yes			Yes	Yes
Walk Time (s)							5.0			5.0				
Flash Dont Walk (s)							5.0			5.0				
Pedestrian Calls (#/hr)							0			0				
v/c Ratio		0.49			1.82dl		0.49		0.50	0.07				
Control Delay		41.9			4.1		53.6		5.6	43.7				
Queue Delay		0.0			0.0		0.0		0.0	0.0				
Total Delay		41.9			4.1		53.6		5.6	43.7				
Queue Length 50th (ft)		90			16		64		89	9				
Queue Length 95th (ft)		117			35		107		126	27				
Internal Link Dist (ft)		101			270			491			12			
Turn Bay Length (ft)														
Base Capacity (vph)		642			1044		218		1194	228				
Starvation Cap Reductn		0			0		0		0	0				
Spillback Cap Reductn		0			0		0		0	0				
Storage Cap Reductn		0			0		0		0	0				
Reduced v/c Ratio		0.49			0.36		0.49		0.50	0.07				

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 111
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 2: Cambridge St. &



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0		
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00		
Frt		0.98			1.00		1.00		0.85	1.00		
Flt Protected		1.00			0.98		0.95		1.00	0.95		
Satd. Flow (prot)		3496			3367		1728		1546	1805		
Flt Permitted		1.00			0.52		0.95		1.00	0.95		
Satd. Flow (perm)		3496			1783		1728		1546	1805		
Volume (vph)	0	222	38	106	224	0	91	0	507	15	0	0
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.85	0.85	0.85	0.94	0.94	0.94
Adj. Flow (vph)	0	271	46	120	255	0	107	0	596	16	0	0
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	38	0	0	0
Lane Group Flow (vph)	0	305	0	0	375	0	107	0	558	16	0	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type				Perm			custom		custom	custom		
Protected Phases		3			1 2				1 2 4			
Permitted Phases				1 2	2		4		1 2 4	4		
Actuated Green, G (s)		18.0			64.0		13.0		82.0	13.0		
Effective Green, g (s)		20.0			65.0		14.0		83.0	14.0		
Actuated g/C Ratio		0.18			0.59		0.13		0.75	0.13		
Clearance Time (s)		6.0					5.0			5.0		
Lane Grp Cap (vph)		630			1044		218		1156	228		
v/s Ratio Prot		c0.09							c0.36			
v/s Ratio Perm					0.21		0.06			0.01		
v/c Ratio		0.48			1.82dl		0.49		0.48	0.07		
Uniform Delay, d1		40.9			12.1		45.2		5.5	42.8		
Progression Factor		1.00			0.25		1.00		1.00	1.00		
Incremental Delay, d2		2.6			0.9		7.7		1.4	0.6		
Delay (s)		43.5			4.0		52.9		7.0	43.4		
Level of Service		D			A		D		A	D		
Approach Delay (s)		43.5			4.0			14.0			43.4	
Approach LOS		D			A			B			D	

Intersection Summary

HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

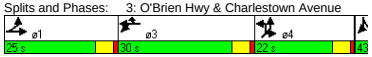
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	13	10	10	10	11	11	12	10	12	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		899			243		1697				858	
Travel Time (s)		20.4			5.5		38.6				19.5	
Volume (vph)	365	723	210	309	607	350	254	381	102	368	1093	557
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	401	795	231	312	613	354	411	364	0	391	1163	593
Turn Type	Split		Free	Split		custom	Split			Split		Prot
Protected Phases	1	1		3	3	3	5	5		4	4	4
Permitted Phases		1	Free		3	3						
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	21.0	21.0		11.0	11.0	11.0
Total Split (s)	25.0	25.0	0.0	30.0	30.0	30.0	43.0	43.0	0.0	22.0	22.0	22.0
Total Split (%)	20.8%	20.8%	0.0%	25.0%	25.0%	25.0%	35.8%	35.8%	0.0%	18.3%	18.3%	18.3%
Maximum Green (s)	20.0	20.0		25.0	25.0	25.0	38.0	38.0		17.0	17.0	17.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag				Lead	Lead	Lead				Lag	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes				Yes	Yes	Yes
Walk Time (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	0.0	0.0					11.0	11.0		1.0	1.0	1.0
Pedestrian Calls (#/hr)	0	0					0	0		0	0	0
v/c Ratio	1.37	0.91	0.14	0.86	0.85	0.59	0.79	0.74		1.56	2.17	1.07
Control Delay	226.4	64.6	0.2	81.6	70.7	24.4	48.9	44.8		307.1	558.3	78.0
Queue Delay	0.0	0.7	0.0	173.8	160.8	1.7	0.0	0.0		0.0	0.0	132.3
Total Delay	226.4	65.4	0.2	255.5	231.5	26.1	48.9	44.8		307.1	558.3	210.4
Queue Length 50th (ft)	~362	197	0	227	235	61	266	221		~377	~667	~217
Queue Length 95th (ft)	#535	#264	0	#356	#300	167	#408	331		#549	#787	#416
Internal Link Dist (ft)		819			163		1617				778	
Turn Bay Length (ft)												
Base Capacity (vph)	292	869	1652	361	723	601	523	490		250	536	552
Starvation Cap Reductn	0	0	0	136	271	117	0	0		0	0	0
Spillback Cap Reductn	0	10	0	0	0	0	0	0		0	0	123
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.37	0.93	0.14	1.39	1.36	0.73	0.79	0.74		1.56	2.17	1.38

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 8 (7%), Referenced to phase 2:, Start of Green
Natural Cycle: 120
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: O'Brien Hwy & Charlestown Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	11	11	12	10	12	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	*0.95	0.95		1.00	*0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	0.95	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.98	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1668	4964	1652	1668	3336	1492	1609	1468		1668	3574	1546
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.98	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1668	4964	1652	1668	3336	1492	1609	1468		1668	3574	1546
Volume (vph)	365	723	210	309	607	350	254	381	102	368	1093	557
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	401	795	231	312	613	354	267	401	107	391	1163	593
RTOR Reduction (vph)	0	0	0	0	0	277	0	13	0	0	0	320
Lane Group Flow (vph)	401	795	231	312	613	77	411	351	0	391	1163	273
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split		Free	Split		custom	Split			Split		Prot
Protected Phases	1	1		3	3	3	5	5		4	4	4
Permitted Phases		1	Free		3	3						
Actuated Green, G (s)	20.0	20.0	120.0	25.0	25.0	25.0	38.0	38.0		17.0	17.0	17.0
Effective Green, g (s)	21.0	21.0	120.0	26.0	26.0	26.0	39.0	39.0		18.0	18.0	18.0
Actuated g/C Ratio	0.18	0.18	1.00	0.22	0.22	0.22	0.32	0.32		0.15	0.15	0.15
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	292	869	1652	361	723	323	523	477		250	536	232
v/s Ratio Prot	c0.24	0.16		c0.19	0.18	0.05	c0.26	0.24		0.23	c0.33	0.18
v/s Ratio Perm			0.14									
v/c Ratio	1.37	0.91	0.14	0.86	0.85	0.24	0.79	0.74		1.56	2.17	1.18
Uniform Delay, d1	49.5	48.6	0.0	45.3	45.1	38.8	36.7	35.9		51.0	51.0	51.0
Progression Factor	1.00	1.00	1.00	1.31	1.31	4.77	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	188.2	15.8	0.2	22.2	11.4	1.7	11.3	9.7		272.4	532.6	115.8
Delay (s)	237.7	64.4	0.2	81.6	70.6	186.7	48.0	45.7		323.4	583.6	166.8
Level of Service	F	E	A	F	E	F	D	D		F	F	F
Approach Delay (s)		102.7			105.4		46.9				421.1	
Approach LOS		F			F		D				F	

Intersection Summary

HCM Average Control Delay	217.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

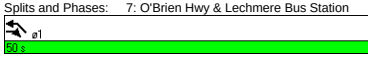
c Critical Lane Group

Lane Group	EBR	NWL	NEL	NER
Lane Configurations				
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	
Trailing Detector (ft)	0	0	0	
Turning Speed (mph)	9	15	15	9
Right Turn on Red				Yes
Link Speed (mph)	30	30	30	
Link Distance (ft)	326	424	131	
Travel Time (s)	7.4	9.6	3.0	
Volume (vph)	883	1002	16	0
Peak Hour Factor	0.93	0.95	0.80	0.80
Heavy Vehicles (%)	1%	1%	0%	0%
Lane Group Flow (vph)	949	1055	20	0
Turn Type				
Protected Phases	1	1	2	
Permitted Phases				
Detector Phases	1	1	2	
Minimum Initial (s)	30.0	30.0	8.0	
Minimum Split (s)	36.0	36.0	15.0	
Total Split (s)	50.0	50.0	15.0	0.0
Total Split (%)	76.9%	76.9%	23.1%	0.0%
Maximum Green (s)	44.0	44.0	10.0	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	
Lead/Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	
Recall Mode	None	None	None	
Walk Time (s)	10.0	10.0	5.0	
Flash Dont Walk (s)	10.0	10.0	5.0	
Pedestrian Calls (#/hr)	0	0	0	
v/c Ratio	0.28	0.21	0.06	
Control Delay	1.4	1.2	17.1	
Queue Delay	0.0	0.0	0.0	
Total Delay	1.4	1.2	17.1	
Queue Length 50th (ft)	0	0	3	
Queue Length 95th (ft)	55	43	14	
Internal Link Dist (ft)	246	344	51	
Turn Bay Length (ft)				
Base Capacity (vph)	3449	5019	389	
Starvation Cap Reductn	0	0	0	
Spillback Cap Reductn	0	0	0	
Storage Cap Reductn	0	0	0	
Reduced v/c Ratio	0.28	0.21	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 38.6
Natural Cycle: 55
Control Type: Semi Act-Uncoord

Splits and Phases: 7: O'Brien Hwy & Lechmere Bus Station



Movement	EBR	NWL	NEL	NER
Lane Configurations				
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	0.76	0.94	1.00	
Frt	0.85	1.00	1.00	
Flt Protected	1.00	1.00	0.95	
Satd. Flow (prot)	3646	5305	1805	
Flt Permitted	1.00	1.00	0.95	
Satd. Flow (perm)	3646	5305	1805	
Volume (vph)	883	1002	16	0
Peak-hour factor, PHF	0.93	0.95	0.80	0.80
Adj. Flow (vph)	949	1055	20	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	949	1055	20	0
Heavy Vehicles (%)	1%	1%	0%	0%
Turn Type				
Protected Phases	1	1	2	
Permitted Phases				
Actuated Green, G (s)	30.5	30.5	1.3	
Effective Green, g (s)	32.5	32.5	2.3	
Actuated g/C Ratio	0.76	0.76	0.05	
Clearance Time (s)	6.0	6.0	5.0	
Vehicle Extension (s)	2.0	2.0	2.0	
Lane Grp Cap (vph)	2769	4028	97	
v/s Ratio Prot	c0.26	0.20	c0.01	
v/s Ratio Perm				
v/c Ratio	0.34	0.26	0.21	
Uniform Delay, d1	1.7	1.5	19.4	
Progression Factor	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.0	0.4	
Delay (s)	1.7	1.6	19.8	
Level of Service	A	A	B	
Approach Delay (s)	1.7	1.6	19.8	
Approach LOS	A	A	B	

Intersection Summary

HCM Average Control Delay	1.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	42.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

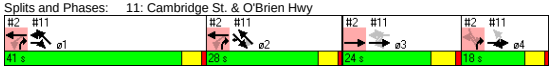
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø4
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12	
Storage Length (ft)	0		0	0		0	180		180	0		0	
Storage Lanes	0		2	0		0	1		1	2		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		350			344			424			899		
Travel Time (s)		8.0			7.8			9.6			20.4		
Volume (vph)	181	3	548	39	7	37	24	750	91	265	807	5	
Peak Hour Factor	0.88	0.88	0.88	0.59	0.59	0.59	0.90	0.90	0.90	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	209	623	0	141	0	27	833	101	279	854	0	
Turn Type	Perm		custom	custom			Perm		Prot	Prot			
Protected Phases		3 4	1 4					2	2	1	1 2		4
Permitted Phases	3 4		1 3 4	3	3		2						
Minimum Split (s)				15.0	15.0		10.0	10.0	10.0	10.0			18.0
Total Split (s)	42.0	42.0	59.0	24.0	24.0	0.0	28.0	28.0	28.0	41.0	69.0	0.0	18.0
Total Split (%)	37.8%	37.8%	53.2%	21.6%	21.6%	0.0%	25.2%	25.2%	25.2%	36.9%	62.2%	0.0%	16%
Maximum Green (s)				18.0	18.0		23.0	23.0	23.0	36.0			13.0
Yellow Time (s)				5.0	5.0		4.0	4.0	4.0	4.0			4.0
All-Red Time (s)				1.0	1.0		1.0	1.0	1.0	1.0			1.0
Lead/Lag				Lead	Lead		Lag	Lag	Lag	Lead			Lag
Lead-Lag Optimize?				Yes	Yes		Yes	Yes	Yes	Yes			Yes
Walk Time (s)													5.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.54	0.32		0.41		0.21	0.78	0.30	0.26	0.41		
Control Delay		31.0	4.1		35.1		40.6	46.8	39.4	27.8	13.2		
Queue Delay		0.0	0.3		0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		31.0	4.4		35.1		40.6	46.8	39.4	27.8	13.2		
Queue Length 50th (ft)		78	44		60		14	181	53	65	144		
Queue Length 95th (ft)		168	56		65		38	224	98	95	182		
Internal Link Dist (ft)		270			264			344			819		
Turn Bay Length (ft)							180		180				
Base Capacity (vph)		388	1938		340		130	1073	334	1079	2092		
Starvation Cap Reductn		0	674		0		0	0	0	0	0		
Spillback Cap Reductn		0	0		0		0	0	0	0	0		
Storage Cap Reductn		0	0		0		0	0	0	0	0		
Reduced v/c Ratio		0.54	0.49		0.41		0.21	0.78	0.30	0.26	0.41		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 111
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 60
Control Type: Pretimed

Splits and Phases: 11: Cambridge St. & O'Brien Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	12	11	11	11	10	12	12
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	0.88		1.00		1.00	0.91	1.00	0.97	0.95	
Frt		1.00	0.85		0.94		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00		0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1793	2720		1727		1728	4964	1546	3236	3571	
Flt Permitted		0.60	1.00		0.98		0.33	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1135	2720		1741		602	4964	1546	3236	3571	
Volume (vph)	181	3	548	39	7	37	24	750	91	265	807	5
Peak-hour factor, PHF	0.88	0.88	0.88	0.59	0.59	0.59	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	206	3	623	66	12	63	27	833	101	279	849	5
RTOR Reduction (vph)	0	0	3	0	26	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	209	620	0	115	0	27	833	101	279	854	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm		custom	custom			Perm		Prot	Prot		
Protected Phases		3 4	1 4					2	2	1	1 2	
Permitted Phases	3 4		1 3 4	3	3		2					
Actuated Green, G (s)		37.0	72.0		18.0		23.0	23.0	23.0	36.0	64.0	
Effective Green, g (s)		38.0	75.0		20.0		24.0	24.0	24.0	37.0	65.0	
Actuated g/C Ratio		0.34	0.68		0.18		0.22	0.22	0.22	0.33	0.59	
Clearance Time (s)					6.0		5.0	5.0	5.0	5.0		
Lane Grp Cap (vph)		389	1936		314		130	1073	334	1079	2091	
v/s Ratio Prot			0.16					c0.17	0.07	0.09	c0.24	
v/s Ratio Perm		c0.18	0.07		0.07		0.04					
v/c Ratio		0.54	0.32		0.37		0.21	0.78	0.30	0.26	0.41	
Uniform Delay, d1		29.4	7.5		39.9		35.7	41.0	36.5	27.0	12.5	
Progression Factor		0.87	0.62		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.7	0.4		3.3		3.6	5.5	2.3	0.6	0.6	
Delay (s)		30.1	5.0		43.2		39.3	46.5	38.8	27.6	13.1	
Level of Service		C	A		D		D	D	D	C	B	
Approach Delay (s)		11.3			43.2			45.5			16.7	
Approach LOS		B			D			D			B	

Intersection Summary

HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

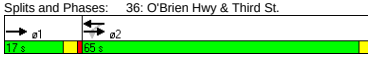
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø1
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	399			338	279		
Travel Time (s)	9.1			7.7	6.3		
Volume (vph)	813	277	18	969	785	15	
Peak Hour Factor	0.88	0.88	0.90	0.90	0.82	0.82	
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%	
Lane Group Flow (vph)	1239	0	0	1097	957	18	
Turn Type			Perm			Prot	
Protected Phases	1 2			2	3	3	1
Permitted Phases	2		2				
Minimum Split (s)			22.0	22.0	37.0	37.0	17.0
Total Split (s)	82.0	0.0	65.0	65.0	38.0	38.0	17.0
Total Split (%)	68.3%	0.0%	54.2%	54.2%	31.7%	31.7%	14%
Maximum Green (s)			61.0	61.0	34.0	34.0	13.0
Yellow Time (s)			3.0	3.0	3.0	3.0	3.0
All-Red Time (s)			1.0	1.0	1.0	1.0	1.0
Lead/Lag			Lag	Lag			Lead
Lead-Lag Optimize?			Yes	Yes			Yes
Walk Time (s)					15.0	15.0	7.0
Flash Dont Walk (s)					14.0	14.0	6.0
Pedestrian Calls (#/hr)					32	32	32
v/c Ratio	0.38			0.47	2.01	0.04	
Control Delay	8.8			19.9	485.9	21.5	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	8.8			19.9	485.9	21.5	
Queue Length 50th (ft)	114			170	~1019	4	
Queue Length 95th (ft)	133			205	#1100	19	
Internal Link Dist (ft)	319			258	199		
Turn Bay Length (ft)							
Base Capacity (vph)	3262			2336	477	433	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.38			0.47	2.01	0.04	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 130
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.91			0.91	1.00	1.00
Frt	0.96			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4940			5131	1685	1507
Flt Permitted	1.00			0.90	0.95	1.00
Satd. Flow (perm)	4940			4597	1685	1507
Volume (vph)	813	277	18	969	785	15
Peak-hour factor, PHF	0.88	0.88	0.90	0.90	0.82	0.82
Adj. Flow (vph)	924	315	20	1077	957	18
RTOR Reduction (vph)	51	0	0	0	0	6
Lane Group Flow (vph)	1188	0	0	1097	957	12
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Turn Type			Perm			Prot
Protected Phases	1 2			2	3	3
Permitted Phases	2		2			
Actuated Green, G (s)	78.0			61.0	34.0	34.0
Effective Green, g (s)	78.0			61.0	34.0	34.0
Actuated g/C Ratio	0.65			0.51	0.28	0.28
Clearance Time (s)				4.0	4.0	4.0
Lane Grp Cap (vph)	3211			2337	477	427
v/s Ratio Prot	c0.24				c0.57	0.01
v/s Ratio Perm				c0.24		
v/c Ratio	0.37			0.47	2.01	0.03
Uniform Delay, d1	9.7			19.0	43.0	31.1
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.3			0.7	460.2	0.1
Delay (s)	10.0			19.7	503.2	31.2
Level of Service	B			B	F	C
Approach Delay (s)	10.0			19.7	494.5	
Approach LOS	B			B	F	

Intersection Summary

HCM Average Control Delay	155.9	HCM Level of Service	F
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	149			326	249	
Travel Time (s)	3.4			7.4	5.7	
Volume (vph)	817	12	0	1018	0	55
Peak Hour Factor	0.93	0.93	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Parking (#/hr)						0
Lane Group Flow (vph)	891	0	0	1083	0	68
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	817	12	0	1018	0	55
Peak Hour Factor	0.93	0.93	0.94	0.94	0.81	0.81
Hourly flow rate (vph)	878	13	0	1083	0	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	487			326		
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			891		1246	299
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			771		1126	145
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			800		191	834

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NE 1
Volume Total	351	351	189	361	361	361	68
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	13	0	0	0	68
cSH	1700	1700	1700	1700	1700	1700	834
Volume to Capacity	0.21	0.21	0.11	0.21	0.21	0.21	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.7
Approach LOS							A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		338	149		322	
Travel Time (s)		7.7	3.4		7.3	
Volume (vph)	0	829	1007	11	0	10
Peak Hour Factor	0.93	0.93	0.94	0.94	0.63	0.63
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Lane Group Flow (vph)	0	891	1083	0	0	16
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	829	1007	11	0	10
Peak Hour Factor	0.93	0.93	0.94	0.94	0.63	0.63
Hourly flow rate (vph)	0	891	1071	12	0	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		338	475			
pX, platoon unblocked					0.93	
vC, conflicting volume	1083				1374	363
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1083				1248	363
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	646				156	640

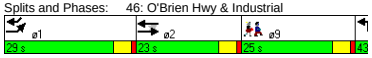
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SW 1
Volume Total	297	297	297	429	429	226	16
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	12	16
cSH	1700	1700	1700	1700	1700	1700	640
Volume to Capacity	0.17	0.17	0.17	0.25	0.25	0.13	0.02
Queue Length 95th (ft)	0	0	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.8
Approach LOS							B

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		29.7%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	10	11	12	10	11	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50	50	
Trailing Detector (ft)	0	0	0		0	0	
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		243	610		205		
Travel Time (s)		5.5	13.9		4.7		
Volume (vph)	49	1485	1186	37	60	77	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.76	0.76	
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%	
Lane Group Flow (vph)	53	1614	1287	0	79	101	
Turn Type	pm+pt					pt+ov	
Protected Phases	1	2	2		4	4 1	9
Permitted Phases	2						
Detector Phases	1	2	2		4	4 1	
Minimum Initial (s)	4.0	4.0	4.0		4.0		4.0
Minimum Split (s)	21.0	21.0	21.0		21.0		9.0
Total Split (s)	29.0	23.0	23.0	0.0	43.0	72.0	25.0
Total Split (%)	24.2%	19.2%	19.2%	0.0%	35.8%	60.0%	21%
Maximum Green (s)	24.0	18.0	18.0		38.0		20.0
Yellow Time (s)	4.0	4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0
Lead/Lag	Lead	Lag	Lag		Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0
Recall Mode	None	C-Max	C-Max		None		None
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		11.0	11.0		11.0		
Pedestrian Calls (#/hr)		0	0		0		
v/c Ratio	0.13	0.65	0.35		0.49	0.27	
Control Delay	1.6	13.1	5.8		61.5	9.2	
Queue Delay	0.0	30.7	0.1		0.0	0.1	
Total Delay	1.6	43.7	5.9		61.5	9.3	
Queue Length 50th (ft)	2	203	93		52	0	
Queue Length 95th (ft)	m4	m283	136		79	24	
Internal Link Dist (ft)		163	530		125		
Turn Bay Length (ft)							
Base Capacity (vph)	622	2490	3688		548	599	
Starvation Cap Reductn	0	963	0		0	0	
Spillback Cap Reductn	0	0	860		0	61	
Storage Cap Reductn	0	0	0		0	0	
Reduced v/c Ratio	0.09	1.06	0.46		0.14	0.19	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:EBWB, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	3336	4942		1685	1561
Flt Permitted	0.19	1.00	1.00		0.95	1.00
Satd. Flow (perm)	353	3336	4942		1685	1561
Volume (vph)	49	1485	1186	37	60	77
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.76	0.76
Adj. Flow (vph)	53	1614	1248	39	79	101
RTOR Reduction (vph)	0	0	1	0	0	82
Lane Group Flow (vph)	53	1614	1286	0	79	19
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Turn Type	pm+pt					pt+ov
Protected Phases	1	2	2		4	4 1
Permitted Phases	2					
Actuated Green, G (s)	94.6	88.5	88.5		10.4	21.5
Effective Green, g (s)	96.6	89.5	89.5		11.4	22.5
Actuated g/C Ratio	0.80	0.75	0.75		0.10	0.19
Clearance Time (s)	5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	369	2488	3686		160	293
v/s Ratio Prot	c0.01	c0.48	0.26		c0.05	0.01
v/s Ratio Perm	0.11					
v/c Ratio	0.14	0.65	0.35		0.49	0.06
Uniform Delay, d1	2.6	7.5	5.2		51.6	40.1
Progression Factor	0.68	1.55	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.4	0.3		2.4	0.1
Delay (s)	1.8	12.1	5.5		53.9	40.2
Level of Service	A	B	A		D	D
Approach Delay (s)		11.7	5.5		46.2	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	12	654	138	68	433	8	6	12	2	87	13	124
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Sign Control		Free			Free			Stop			Stop	

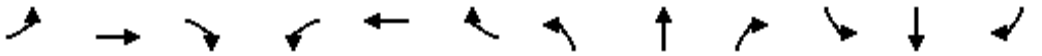
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	654	138	68	433	8	6	12	2	87	13	124
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	13	696	147	73	466	9	13	27	4	114	17	163
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	474			843			1583	1484	470	1429	1415	769
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474			843			1583	1484	470	1429	1415	769
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			91			69	76	99	0	86	59
cM capacity (veh/h)	1083			793			43	113	598	83	121	395

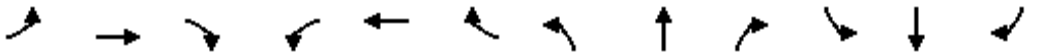
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	855	547	44	132	163
Volume Left	13	73	13	114	0
Volume Right	147	9	4	0	163
cSH	1083	793	80	86	395
Volume to Capacity	0.01	0.09	0.55	1.52	0.41
Queue Length 95th (ft)	1	8	60	260	49
Control Delay (s)	0.3	2.4	95.4	370.9	20.4
Lane LOS	A	A	F	F	C
Approach Delay (s)	0.3	2.4	95.4	176.9	
Approach LOS			F	F	

Intersection Summary				
Average Delay	33.3			
Intersection Capacity Utilization	83.5%	ICU Level of Service		E
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	139	35	80	240	900	0	0	848	175
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Sign Control		Stop			Stop			Free			Free	

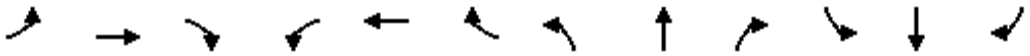
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	139	35	80	240	900	0	0	848	175
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	154	38	89	261	947	0	0	922	190
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked												
vC, conflicting volume	2499	2391	922	2391	2581	947	1112			947		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2499	2391	922	2391	2581	947	1112			947		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	100	0	0	72	58			100		
cM capacity (veh/h)	0	20	328	16	15	318	628			725		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	281	261	947	922	190
Volume Left	154	261	0	0	0
Volume Right	89	0	0	0	190
cSH	22	628	1700	1700	1700
Volume to Capacity	12.53	0.42	0.56	0.54	0.11
Queue Length 95th (ft)	Err	51	0	0	0
Control Delay (s)	Err	14.7	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	Err	3.2		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	1082.9			
Intersection Capacity Utilization	129.8%	ICU Level of Service	H	
Analysis Period (min)	15			



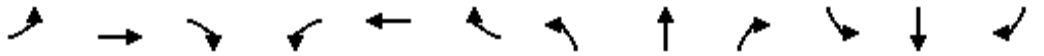
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	200	189	182	0	0	0	0	940	420	72	915	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	200	189	182	0	0	0	0	940	420	72	915	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	222	210	202	0	0	0	0	1044	467	76	963	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2159	2626	963	2466	2159	1044	963			1511		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2159	2626	963	2466	2159	1044	963			1511		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	35	0	100	100	100			83		
cM capacity (veh/h)	30	20	311	0	39	278	715			440		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	327	307	1044	467	76	963
Volume Left	222	0	0	0	76	0
Volume Right	0	202	0	467	0	0
cSH	26	52	1700	1700	440	1700
Volume to Capacity	12.69	5.93	0.61	0.27	0.17	0.57
Queue Length 95th (ft)	Err	Err	0	0	15	0
Control Delay (s)	Err	Err	0.0	0.0	14.9	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.1	
Approach LOS	F					

Intersection Summary				
Average Delay	1992.4			
Intersection Capacity Utilization	129.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	365	3	9	0	1	6	73	990	1	5	330	770
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	365	3	9	0	1	6	73	990	1	5	330	770
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	415	3	10	0	2	14	80	1088	1	5	337	786
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1611	1596	337	1608	1596	1088	337			1089		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1611	1596	337	1608	1596	1088	337			1089		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	97	99	100	98	95	93			99		
cM capacity (veh/h)	74	99	705	74	96	255	1228			641		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	428	16	1169	342	786
Volume Left	415	0	80	5	0
Volume Right	10	14	1	0	786
cSH	76	206	1228	641	1700
Volume to Capacity	5.67	0.08	0.07	0.01	0.46
Queue Length 95th (ft)	Err	6	5	1	0
Control Delay (s)	Err	23.9	1.9	0.3	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	23.9	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1563.8		
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	30	362	355	77	51	67
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Sign Control		Free	Free		Stop	

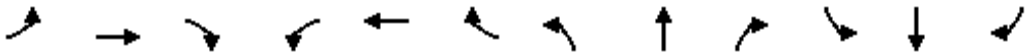
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	30	362	355	77	51	67
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	30	366	390	85	59	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	475				859	432
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433				848	388
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				80	87
cM capacity (veh/h)	1044				300	614

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	396	475	136
Volume Left	30	0	59
Volume Right	0	85	77
cSH	1044	1700	423
Volume to Capacity	0.03	0.28	0.32
Queue Length 95th (ft)	2	0	34
Control Delay (s)	0.9	0.0	17.5
Lane LOS	A		C
Approach Delay (s)	0.9	0.0	17.5
Approach LOS			C

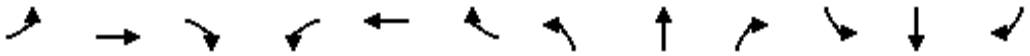
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	10	140	88	225	275	10	87	24	140	0	4	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

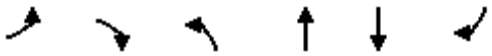
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	140	88	225	275	10	87	24	140	0	4	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	12	173	109	239	293	11	102	28	165	0	6	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	294	543	295	6
Volume Left (vph)	12	239	102	0
Volume Right (vph)	109	11	165	0
Hadj (s)	-0.20	0.11	-0.23	0.00
Departure Headway (s)	5.5	5.4	5.9	7.0
Degree Utilization, x	0.45	0.82	0.48	0.01
Capacity (veh/h)	613	650	573	440
Control Delay (s)	12.9	28.2	14.3	10.0
Approach Delay (s)	12.9	28.2	14.3	10.0
Approach LOS	B	D	B	B

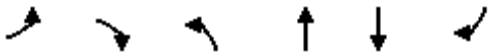
Intersection Summary			
Delay	20.6		
HCM Level of Service	C		
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	200	80	170	494	377	340
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

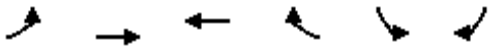
Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	200	80	170	494	377	340
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	211	84	185	537	405	366
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1495	588	771			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1495	588	771			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	83	78			
cM capacity (veh/h)	106	509	844			

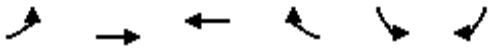
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	295	722	771
Volume Left	211	185	0
Volume Right	84	0	366
cSH	137	844	1700
Volume to Capacity	2.16	0.22	0.45
Queue Length 95th (ft)	608	21	0
Control Delay (s)	596.9	5.2	0.0
Lane LOS	F	A	
Approach Delay (s)	596.9	5.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	100.5		
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		873	1069		684	
Travel Time (s)		19.8	24.3		15.5	
Volume (vph)	61	733	727	53	51	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	61	733	727	53	51	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	797	790	58	55	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		873	1069			
pX, platoon unblocked	0.75				0.84	0.75
vC, conflicting volume	848				1748	819
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	796				1553	757
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				41	81
cM capacity (veh/h)	615				93	304

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	863	848	114
Volume Left	66	0	55
Volume Right	0	58	59
cSH	615	1700	145
Volume to Capacity	0.11	0.50	0.79
Queue Length 95th (ft)	9	0	122
Control Delay (s)	3.1	0.0	87.2
Lane LOS	A		F
Approach Delay (s)	3.1	0.0	87.2
Approach LOS			F

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	10	10
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		621	914		824	
Travel Time (s)		14.1	20.8		18.7	
Volume (vph)	178	232	401	9	25	322
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	1%	0%	0%	1%
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	178	232	401	9	25	322
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	193	252	436	10	27	350
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		621	914			
pX, platoon unblocked	0.94				0.93	0.94
vC, conflicting volume	446				1080	441
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	413				997	408
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				87	43
cM capacity (veh/h)	1082				208	610

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	446	446	377
Volume Left	193	0	27
Volume Right	0	10	350
cSH	1082	1700	535
Volume to Capacity	0.18	0.26	0.70
Queue Length 95th (ft)	16	0	140
Control Delay (s)	5.0	0.0	26.2
Lane LOS	A		D
Approach Delay (s)	5.0	0.0	26.2
Approach LOS			D

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2007 - Existing PM - May 2008

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	409	0.0	0.661	17.8	LOS B	203	0.94	1.09	21.4
8T	T	847	0.0	1.368	184.5	LOS F	2290	1.00	3.97	5.5
Approach		**1256**	**0.0**	**1.368**	**130.2**	**LOS F**	**2290**	**0.98**	**3.03**	**7.4**
Mystic Valley Parkway										
4T	T	727	0.0	0.801	12.0	LOS B	360	1.00	1.09	23.3
4R	R	525	0.0	0.658	10.7	LOS B	213	0.89	0.94	23.9
Approach		**1252**	**0.0**	**0.801**	**11.5**	**LOS B**	**360**	**0.95**	**1.03**	**23.5**
Mystic Valley Parkway										
5L	L	519	0.0	0.954	45.4	LOS D	552	1.00	1.69	14.8
2R	R	567	0.0	0.958	40.2	LOS D	587	1.00	1.71	15.3
Approach		**1086**	**0.0**	**0.957**	**42.7**	**LOS D**	**587**	**1.00**	**1.70**	**15.0**
All Vehicles		**3594**	**0.0**	**1.368**	**62.4**	**LOS E**	**2290**	**0.98**	**1.93**	**12.1**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303 00\tech\Sidra\Mystic&Alewife - May 08' aap
Processed May 29, 2008 11:21:40AM

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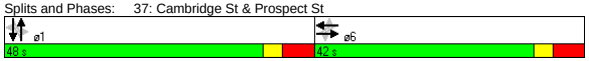
No-Build Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	53	306	11	81	354	14	32	265	78	30	337	47
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	473	0	0	457	0	0	470	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	27.0	27.0		27.0	27.0		30.0	30.0		30.0	30.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.66			0.86			0.60			0.59	
Control Delay		29.8			43.0			13.4			22.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		29.8			43.0			13.4			22.5	
Queue Length 50th (ft)		183			243			85			194	
Queue Length 95th (ft)		287			#422			m102			283	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		593			552			763			803	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.66			0.86			0.60			0.59	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1834			1795			1843			1913	
Flt Permitted		0.85			0.81			0.93			0.94	
Satd. Flow (perm)		1570			1461			1716			1806	
Volume (vph)	53	306	11	81	354	14	32	265	78	30	337	47
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	56	326	12	85	373	15	39	323	95	34	383	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	473	0	0	457	0	0	470	0
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		593			552			763			803	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.32			c0.27			0.26	
v/c Ratio		0.66			0.86			0.60			0.59	
Uniform Delay, d1		23.3			25.8			18.9			18.8	
Progression Factor		1.00			1.00			0.53			1.00	
Incremental Delay, d2		5.8			15.7			3.0			3.1	
Delay (s)		29.0			41.5			13.1			21.9	
Level of Service		C			D			B			C	
Approach Delay (s)		29.0			41.5			13.1			21.9	
Approach LOS		C			D			B			C	

Intersection Summary

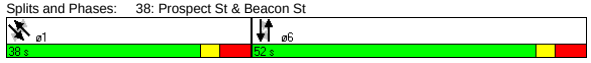
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	102	331	30	25	392	12	21	507	88	42	280	23
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	544	0	0	471	0	0	655	0	0	396	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	52.0	52.0		52.0	52.0		38.0	38.0		38.0	38.0	
Total Split (s)	52.0	52.0	0.0	52.0	52.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0
Total Split (%)	57.8%	57.8%	0.0%	57.8%	57.8%	0.0%	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	44.0	44.0		44.0	44.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	38.0	38.0		38.0	38.0		21.0	21.0		21.0	21.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.46			0.55			1.11			0.91	
Control Delay		16.8			8.1			100.9			57.3	
Queue Delay		0.0			0.1			0.0			0.0	
Total Delay		16.8			8.2			100.9			57.3	
Queue Length 50th (ft)		103			69			~430			214	
Queue Length 95th (ft)		135			m90			#638			#369	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1172			850			591			433	
Starvation Cap Reductn		0			29			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.46			0.57			1.11			0.91	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3355			1830			1810			1794	
Flt Permitted		0.71			0.95			0.98			0.72	
Satd. Flow (perm)		2399			1739			1773			1299	
Volume (vph)	102	331	30	25	392	12	21	507	88	42	280	23
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	120	389	35	27	431	13	22	539	94	48	322	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	544	0	0	471	0	0	655	0	0	396	0
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		44.0			44.0			30.0			30.0	
Effective Green, g (s)		44.0			44.0			30.0			30.0	
Actuated g/C Ratio		0.49			0.49			0.33			0.33	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1173			850			591			433	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			c0.37			0.30	
v/c Ratio		0.46			0.55			1.11			0.91	
Uniform Delay, d1		15.2			16.1			30.0			28.8	
Progression Factor		1.00			0.37			1.00			1.00	
Incremental Delay, d2		1.3			2.0			70.3			26.4	
Delay (s)		16.5			7.9			100.3			55.2	
Level of Service		B			A			F			E	
Approach Delay (s)		16.5			7.9			100.3			55.2	
Approach LOS		B			A			F			E	

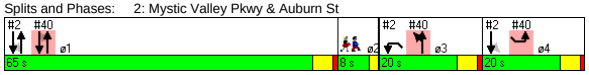
Intersection Summary					
HCM Average Control Delay	48.5	HCM Level of Service	D		
HCM Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	95.7%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	820	19	105	1206	117	68		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	942	0	0	1457	226	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	65.0	0.0	85.0	85.0	20.0	0.0	8.0	20.0
Total Split (%)	57.5%	0.0%	75.2%	75.2%	17.7%	0.0%	7%	18%
Maximum Green (s)	60.0				15.0		6.0	15.0
Yellow Time (s)	4.0				4.0		2.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	Min				Min		None	Min
Walk Time (s)							4.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.46			0.77	0.77			
Control Delay	14.3			4.0	57.9			
Queue Delay	0.1			0.0	3.2			
Total Delay	14.3			4.0	61.0			
Queue Length 50th (ft)	176			30	133			
Queue Length 95th (ft)	262			m32	#228			
Internal Link Dist (ft)	793			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2065			1888	296			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	175			0	24			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.50			0.77	0.83			

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 106.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3598			3323	1849	
Flt Permitted	1.00			0.75	0.97	
Satd. Flow (perm)	3598			2489	1849	
Volume (vph)	820	19	105	1206	117	68
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	921	21	117	1340	143	83
RTOR Reduction (vph)	1	0	0	0	19	0
Lane Group Flow (vph)	941	0	0	1457	207	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	60.1			80.1	14.9	
Effective Green, g (s)	61.1			81.1	15.9	
Actuated g/C Ratio	0.57			0.75	0.15	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2034			1867	272	
v/s Ratio Prot	0.26				c0.11	
v/s Ratio Perm				c0.59		
v/c Ratio	0.46			0.78	0.76	
Uniform Delay, d1	13.8			8.1	44.3	
Progression Factor	1.00			0.35	1.00	
Incremental Delay, d2	0.2			0.8	12.6	
Delay (s)	14.1			3.6	56.9	
Level of Service	B			A	E	
Approach Delay (s)	14.1			3.6	56.9	
Approach LOS	B			A	E	

Intersection Summary

HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	108.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

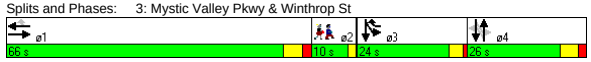
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	965	21	0	1066	201	30	402	366	565	872	119	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1049	0	0	1134	214	0	1022	0	0	1674	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	66.0	0.0	0.0	66.0	24.0	26.0	26.0	0.0	24.0	50.0	0.0	10.0
Total Split (%)	0.0%	52.4%	0.0%	0.0%	52.4%	19.0%	20.6%	20.6%	0.0%	19.0%	39.7%	0.0%	8%
Maximum Green (s)		60.0			60.0	20.0	20.0	20.0		20.0			8.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			2.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		Min			Min	None	None	None		None			None
Walk Time (s)													5.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.00			1.17	0.18		2.28			1.77		
Control Delay		57.6			113.9	1.7		602.0			376.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		57.6			113.9	1.7		602.0			376.2		
Queue Length 50th (ft)		742			~995	9		~608			~821		
Queue Length 95th (ft)		#1212			#1410	28		#666			#1085		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		1046			973	1187		449			946		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.00			1.17	0.18		2.28			1.77		

Intersection Summary	
Area Type:	Other
Cycle Length: 126	
Actuated Cycle Length: 118	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3322			3470	
Flt Permitted		1.00			1.00	1.00		0.56			0.61	
Satd. Flow (perm)		2021			1881	1599		1875			2140	
Volume (vph)	0	965	21	0	1066	201	30	402	366	565	872	119
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1027	22	0	1134	214	38	515	469	608	938	128
RTOR Reduction (vph)	0	0	0	0	0	54	0	120	0	0	5	0
Lane Group Flow (vph)	0	1049	0	0	1134	160	0	902	0	0	1669	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		60.1			60.1	80.1		20.0			40.0	
Effective Green, g (s)		61.1			61.1	80.1		21.0			40.0	
Actuated g/C Ratio		0.51			0.51	0.67		0.18			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		1032			961	1071		329			927	
v/s Ratio Prot		0.52			c0.60	0.02					c0.29	
v/s Ratio Perm						0.08		c0.48			0.32	
v/c Ratio		1.02			1.18	0.15		2.74			1.80	
Uniform Delay, d1		29.2			29.2	7.3		49.3			39.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		32.1			91.8	0.0		791.8			364.7	
Delay (s)		61.3			121.1	7.3		841.1			404.5	
Level of Service		E			F	A		F			F	
Approach Delay (s)		61.3			103.0			841.1			404.5	
Approach LOS		E			F			F			F	

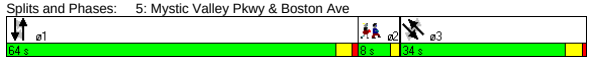
Intersection Summary					
HCM Average Control Delay	341.6	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.57				
Actuated Cycle Length (s)	119.6	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	136.7%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	39	773	174	47	1197	79	48	419	84	73	264	8	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1160	0	0	1487	0	0	680	0	0	411	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	64.0	64.0	0.0	64.0	64.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0	8.0
Total Split (%)	60.4%	60.4%	0.0%	60.4%	60.4%	0.0%	32.1%	32.1%	0.0%	32.1%	32.1%	0.0%	8%
Maximum Green (s)	60.0	60.0		60.0	60.0		30.0	30.0		30.0	30.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.75			0.86			1.33			1.61		
Control Delay		17.9			23.3			190.0			317.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.9			23.3			190.0			317.5		
Queue Length 50th (ft)		238			360			~548			~371		
Queue Length 95th (ft)		353			#595			#728			#557		
Internal Link Dist (ft)		495			793			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1556			1730			513			256		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.75			0.86			1.33			1.61		

Intersection Summary

Area Type: Other
Cycle Length: 106
Actuated Cycle Length: 99.6
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3507			3536			1919			1894	
Flt Permitted		0.75			0.83			0.88			0.48	
Satd. Flow (perm)		2648			2945			1704			913	
Volume (vph)	39	773	174	47	1197	79	48	419	84	73	264	8
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	46	909	205	53	1345	89	59	517	104	87	314	10
RTOR Reduction (vph)	0	16	0	0	4	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1144	0	0	1483	0	0	674	0	0	410	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		60.1			60.1			30.0			30.0	
Effective Green, g (s)		60.1			60.1			30.0			30.0	
Actuated g/C Ratio		0.59			0.59			0.30			0.30	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1573			1749			505			271	
v/s Ratio Prot												
v/s Ratio Perm		0.43			c0.50			0.40			c0.45	
v/c Ratio		0.73			0.85			1.33			1.51	
Uniform Delay, d1		14.7			16.8			35.6			35.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.8			4.2			163.4			249.4	
Delay (s)		16.5			21.0			199.0			285.0	
Level of Service		B			C			F			F	
Approach Delay (s)		16.5			21.0			199.0			285.0	
Approach LOS		B			C			F			F	

Intersection Summary

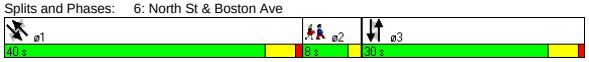
HCM Average Control Delay	81.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	29	20	15	68	56	50	2	539	56	15	281	8	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	97	0	0	205	0	0	642	0	0	342	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	8.0
Total Split (%)	38.5%	38.5%	0.0%	38.5%	38.5%	0.0%	51.3%	51.3%	0.0%	51.3%	51.3%	0.0%	10%
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.18			0.37			0.72			0.39		
Control Delay		17.4			19.8			20.4			13.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.4			19.8			20.4			13.2		
Queue Length 50th (ft)		27			63			196			83		
Queue Length 95th (ft)		48			124			#405			171		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		549			554			894			869		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.18			0.37			0.72			0.39		

Intersection Summary	
Area Type:	Other
Cycle Length: 78	
Actuated Cycle Length: 71.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1798			1756			1777			1790	
Flt Permitted		0.82			0.85			1.00			0.96	
Satd. Flow (perm)		1516			1530			1776			1728	
Volume (vph)	29	20	15	68	56	50	2	539	56	15	281	8
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	44	30	23	80	66	59	2	580	60	17	316	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	97	0	0	205	0	0	642	0	0	342	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		25.0			25.0			35.1			35.1	
Effective Green, g (s)		26.0			26.0			36.1			36.1	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		538			543			876			852	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.13			c0.36			0.20	
v/c Ratio		0.18			0.38			0.73			0.40	
Uniform Delay, d1		16.3			17.6			14.7			11.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			2.0			5.4			1.4	
Delay (s)		17.0			19.6			20.1			13.1	
Level of Service		B			B			C			B	
Approach Delay (s)		17.0			19.6			20.1			13.1	
Approach LOS		B			B			C			B	

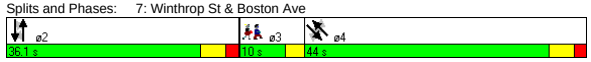
Intersection Summary					
HCM Average Control Delay	17.9	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.56				
Actuated Cycle Length (s)	73.2	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	50.9%	ICU Level of Service		A	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	9	334	64	134	131	94	201	405	25	34	183	88	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	496	0	0	408	0	0	672	0	0	329	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		10.0
Total Split (s)	36.1	36.1	0.0	36.1	36.1	0.0	44.0	44.0	0.0	44.0	44.0	0.0	10.0
Total Split (%)	40.1%	40.1%	0.0%	40.1%	40.1%	0.0%	48.8%	48.8%	0.0%	48.8%	48.8%	0.0%	11%
Maximum Green (s)	30.0	30.0		30.0	30.0		38.0	38.0		38.0	38.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													5.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.73			1.19			1.06			0.45		
Control Delay		30.1			139.0			78.3			17.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		30.1			139.0			78.3			17.4		
Queue Length 50th (ft)		205			~247			~369			102		
Queue Length 95th (ft)		329			#465			#671			209		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		684			342			632			739		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.73			1.19			1.06			0.45		

Intersection Summary	
Area Type:	Other
Cycle Length: 90.1	
Actuated Cycle Length: 82.1	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1821			1882			1806			1729	
Flt Permitted		0.99			0.51			0.74			0.90	
Satd. Flow (perm)		1802			968			1356			1562	
Volume (vph)	9	334	64	134	131	94	201	405	25	34	183	88
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	11	407	78	152	149	107	214	431	27	37	197	95
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	496	0	0	408	0	0	672	0	0	329	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.1			30.1			38.1			38.1	
Effective Green, g (s)		31.2			31.2			39.1			39.1	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		665			357			627			722	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.42			c0.50			0.21	
v/c Ratio		0.75			1.14			1.07			0.46	
Uniform Delay, d1		23.2			26.7			22.7			15.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		7.5			92.4			56.7			2.1	
Delay (s)		30.7			119.1			79.5			17.6	
Level of Service		C			F			E			B	
Approach Delay (s)		30.7			119.1			79.5			17.6	
Approach LOS		C			F			E			B	

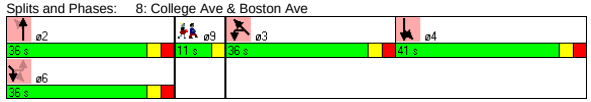
Intersection Summary					
HCM Average Control Delay	64.6	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.10				
Actuated Cycle Length (s)	84.6	Sum of lost time (s)		14.3	
Intersection Capacity Utilization	125.6%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	135	2	60	327	81	65	331	206	9	178	34	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	152	0	0	525	0	0	455	237	0	299	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		11.0
Total Split (s)	36.0	36.0	0.0	41.0	41.0	0.0	36.0	36.0	36.0	36.0	36.0	0.0	11.0
Total Split (%)	29.0%	29.0%	0.0%	33.1%	33.1%	0.0%	29.0%	29.0%	29.0%	29.0%	29.0%	0.0%	9%
Maximum Green (s)	30.0	30.0		35.0	35.0		30.0	30.0	30.0	30.0	30.0		8.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.15	0.28			0.84			1.19	0.45		0.80		
Control Delay	31.9	32.7			46.8			142.6	21.1		56.4		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	31.9	32.7			46.8			142.6	21.1		56.4		
Queue Length 50th (ft)	40	76			304			~364	66		184		
Queue Length 95th (ft)	98	164			#619			#672	163		241		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	555	549			653			383	523		520		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.15	0.28			0.80			1.19	0.45		0.57		

Intersection Summary

Area Type: Other
Cycle Length: 124
Actuated Cycle Length: 103.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1859			1928			1833	1516		1938	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1859			1928			1299	1516		1938	
Volume (vph)	75	135	2	60	327	81	65	331	206	9	178	34
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	150	2	67	367	91	75	380	237	12	241	46
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	77	0	6	0
Lane Group Flow (vph)	83	151	0	0	520	0	0	455	160	0	293	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	30.5	30.5			33.2			30.5	30.5		19.5	
Effective Green, g (s)	30.5	30.5			33.2			30.5	30.5		19.5	
Actuated g/C Ratio	0.29	0.29			0.31			0.29	0.29		0.18	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	544	537			607			376	438		358	
v/s Ratio Prot		0.08			c0.27				0.11		c0.15	
v/s Ratio Perm	0.04							c0.35				
v/c Ratio	0.15	0.28			0.86			1.21	0.37		0.82	
Uniform Delay, d1	27.9	29.0			33.9			37.5	29.8		41.3	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.3			12.4			116.9	0.5		12.9	
Delay (s)	28.0	29.3			46.3			154.4	30.3		54.2	
Level of Service	C	C			D			F	C		D	
Approach Delay (s)		28.9			46.3			111.9			54.2	
Approach LOS		C			D			F			D	

Intersection Summary

HCM Average Control Delay	71.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	105.5	Sum of lost time (s)	22.3
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

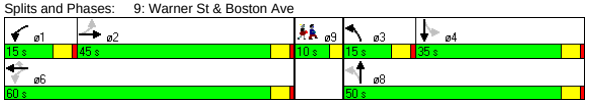
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1437			1738		
Travel Time (s)		12.0			40.8			32.7			39.5		
Volume (vph)	6	377	45	66	631	160	25	39	64	51	304	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	466	0	0	766	176	0	144	0	0	412	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		11.0	15.0	15.0	11.0	11.0		11.0	11.0		10.0
Total Split (s)	45.0	45.0	0.0	15.0	60.0	60.0	15.0	50.0	0.0	35.0	35.0	0.0	10.0
Total Split (%)	37.5%	37.5%	0.0%	12.5%	50.0%	50.0%	12.5%	41.7%	0.0%	29.2%	29.2%	0.0%	8%
Maximum Green (s)	40.0	40.0		10.0	55.0	55.0	10.0	45.0		30.0	30.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.43			0.86	0.21		0.30			0.80		
Control Delay		12.2			28.5	3.6		19.0			44.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		12.2			28.5	3.6		19.0			44.0		
Queue Length 50th (ft)		125			324	7		41			214		
Queue Length 95th (ft)		275			#763	44		98			345		
Internal Link Dist (ft)		447			1715			1357			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1078			892	855		685			592		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.43			0.86	0.21		0.21			0.70		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 91.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1872			1973	
Flt Permitted		0.99			0.92	1.00		0.82			0.94	
Satd. Flow (perm)		1939			1666	1301		1545			1866	
Volume (vph)	6	377	45	66	631	160	25	39	64	51	304	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	7	410	49	73	693	176	28	44	72	59	353	0
RTOR Reduction (vph)	0	2	0	0	0	57	0	36	0	0	0	0
Lane Group Flow (vph)	0	464	0	0	766	119	0	108	0	0	412	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		55.4			55.4	55.4		24.4			24.4	
Effective Green, g (s)		56.4			56.4	56.4		25.4			25.4	
Actuated g/C Ratio		0.60			0.60	0.60		0.27			0.27	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1163			1000	781		417			504	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.46	0.09		0.07			c0.22	
v/c Ratio		0.40			0.77	0.15		0.26			0.82	
Uniform Delay, d1		9.9			13.9	8.3		26.9			32.1	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			3.2	0.0		0.1			9.4	
Delay (s)		10.0			17.1	8.3		27.0			41.6	
Level of Service		A			B	A		C			D	
Approach Delay (s)		10.0			15.5			27.0			41.6	
Approach LOS		A			B			C			D	

Intersection Summary

HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

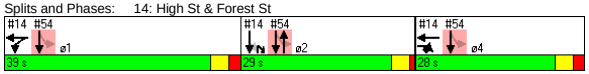
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	375	298	1370	604	81	90	39	428	18
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	403	320	1539	770	0	112	0	495	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	28.0	28.0	39.0			29.0	29.0	29.0	
Total Split (s)	28.0	28.0	39.0	67.0	0.0	29.0	29.0	29.0	0.0
Total Split (%)	29.2%	29.2%	40.6%	69.8%	0.0%	30.2%	30.2%	30.2%	0.0%
Maximum Green (s)	23.0	23.0	34.0			25.0	25.0	25.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Walk Time (s)	16.0	16.0	26.0			16.0	16.0	16.0	
Flash Dont Walk (s)	7.0	7.0	8.0			9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.10	0.98	1.29	0.66		0.12		0.97	
Control Delay	114.3	76.3	166.4	13.8		0.4		70.2	
Queue Delay	0.0	4.1	346.8	0.0		0.0		0.0	
Total Delay	114.3	80.4	513.2	13.8		0.4		70.2	
Queue Length 50th (ft)	~282	167	~621	257		0		298	
Queue Length 95th (ft)	#463	#343	#741	373		0		#504	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	365	328	1192	1164		947		509	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	6	446	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.10	0.99	2.06	0.66		0.12		0.97	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 130
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		1.00	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1950	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1950	
Volume (vph)	375	298	1370	604	81	90	39	428	18
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	403	320	1539	679	91	112	40	437	18
RTOR Reduction (vph)	0	40	0	5	0	83	0	1	0
Lane Group Flow (vph)	403	280	1539	765	0	29	0	494	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	23.0	23.0	34.0	62.0		25.0		25.0	
Effective Green, g (s)	23.0	23.0	34.0	62.0		25.0		25.0	
Actuated g/C Ratio	0.24	0.24	0.35	0.65		0.26		0.26	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	365	288	1192	1159		431		508	
v/s Ratio Prot	c0.26	0.23	c0.46	0.43		0.02			
v/s Ratio Perm								0.25	
v/c Ratio	1.10	0.97	1.29	0.66		0.07		0.97	
Uniform Delay, d1	36.5	36.2	31.0	10.5		26.7		35.1	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	78.2	46.8	137.4	3.0		0.3		33.5	
Delay (s)	114.7	83.0	168.4	13.5		27.0		68.6	
Level of Service	F	F	F	B		C		E	
Approach Delay (s)				116.7				68.6	
Approach LOS				F				E	

Intersection Summary

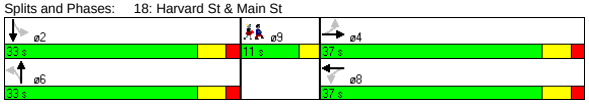
HCM Average Control Delay	104.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	73	466	50	101	495	16	44	320	100	33	590	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	647	0	0	680	0	0	603	0	0	810	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	33.0	33.0	0.0	33.0	33.0	0.0	11.0
Total Split (%)	45.7%	45.7%	0.0%	45.7%	45.7%	0.0%	40.7%	40.7%	0.0%	40.7%	40.7%	0.0%	14%
Maximum Green (s)	31.0	31.0		31.0	31.0		27.0	27.0		27.0	27.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		Max	Max		Min	Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.11			1.33			1.38			1.39		
Control Delay		94.0			185.0			207.6			210.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		94.0			185.0			207.6			210.5		
Queue Length 50th (ft)		~318			~383			~347			~469		
Queue Length 95th (ft)		#614			#687			#510			#780		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		584			511			438			582		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			1.33			1.38			1.39		

Intersection Summary	
Area Type:	CBD
Cycle Length: 81	
Actuated Cycle Length: 72.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1612	
Flt Permitted		0.82			0.74			0.77			0.94	
Satd. Flow (perm)		1360			1214			1217			1525	
Volume (vph)	73	466	50	101	495	16	44	320	100	33	590	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	80	512	55	112	550	18	57	416	130	38	670	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	647	0	0	680	0	0	603	0	0	810	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		31.1			31.1			27.1			27.1	
Effective Green, g (s)		32.1			32.1			28.1			28.1	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		585			522			458			574	
v/s Ratio Prot												
v/s Ratio Perm		0.48			c0.56			0.50			c0.53	
v/c Ratio		1.11			1.30			1.32			1.41	
Uniform Delay, d1		21.2			21.2			23.2			23.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		69.7			149.7			157.3			195.2	
Delay (s)		90.9			171.0			180.5			218.5	
Level of Service		F			F			F			F	
Approach Delay (s)		90.9			171.0			180.5			218.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	168.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	14.4
Intersection Capacity Utilization	110.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

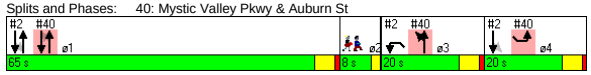
Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	49	829	1181	27	15	128	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	53	891	1233	0	172	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	20.0	85.0	65.0	0.0	20.0	0.0	8.0
Total Split (%)	17.7%	75.2%	57.5%	0.0%	17.7%	0.0%	7%
Maximum Green (s)	15.0		60.0		15.0		6.0
Yellow Time (s)	4.0		4.0		4.0		2.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		Min		Min		None
Walk Time (s)							4.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.16	0.62	1.07		0.54		
Control Delay	11.4	6.3	72.8		34.4		
Queue Delay	0.0	0.0	36.8		0.4		
Total Delay	11.4	6.3	109.6		34.8		
Queue Length 50th (ft)	4	174	~915		69		
Queue Length 95th (ft)	m26	302	#1314		132		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	343	1434	1148		318		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	86		16		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.15	0.62	1.16		0.57		

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 106.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2000		1772	
Flt Permitted	0.07	1.00	1.00		0.99	
Satd. Flow (perm)	124	1900	2000		1772	
Volume (vph)	49	829	1181	27	15	128
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	53	891	1205	28	18	154
RTOR Reduction (vph)	0	0	1	0	51	0
Lane Group Flow (vph)	53	891	1232	0	121	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	75.0	75.0	60.1		15.0	
Effective Green, g (s)	77.0	77.0	61.1		16.0	
Actuated g/C Ratio	0.71	0.71	0.57		0.15	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	336	1353	1130		262	
v/s Ratio Prot	0.02	c0.47	c0.62		c0.07	
v/s Ratio Perm	0.09					
v/c Ratio	0.16	0.66	1.09		0.46	
Uniform Delay, d1	40.5	8.4	23.5		42.1	
Progression Factor	1.13	0.78	1.00		1.00	
Incremental Delay, d2	0.3	1.2	54.9		1.8	
Delay (s)	46.2	7.7	78.4		43.9	
Level of Service	D	A	E		D	
Approach Delay (s)		9.9	78.4		43.9	
Approach LOS		A	E		D	

Intersection Summary

HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	108.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

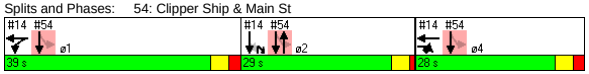
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	90	425	50	2046		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	97	457	0	2161		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			29.0				39.0	28.0
Total Split (s)	0.0	0.0	29.0	0.0	96.0	96.0	39.0	28.0
Total Split (%)	0.0%	0.0%	30.2%	0.0%	100.0%	100.0%	41%	29%
Maximum Green (s)			25.0				34.0	23.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			16.0				26.0	16.0
Flash Dont Walk (s)			9.0				8.0	7.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.21	0.30		0.79		
Control Delay			29.3	0.5		8.6		
Queue Delay			0.0	0.0		0.0		
Total Delay			29.3	0.5		8.6		
Queue Length 50th (ft)			46	0		286		
Queue Length 95th (ft)			88	0		m104		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			463	1509		2722		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			6	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.21	0.30		0.79		

Intersection Summary	
Area Type:	Other
Cycle Length: 96	
Actuated Cycle Length: 96	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 130	
Control Type: Pretimed	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.87
Satd. Flow (perm)			1776	1509		2722
Volume (vph)	0	0	90	425	50	2046
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	97	457	52	2109
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	97	457	0	2161
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			25.0	96.0		96.0
Effective Green, g (s)			25.0	96.0		96.0
Actuated g/C Ratio			0.26	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			463	1509		2722
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.30		c0.79
v/c Ratio			0.21	0.30		0.79
Uniform Delay, d1			27.8	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.0	0.5		0.2
Delay (s)			28.8	0.5		0.2
Level of Service			C	A		A
Approach Delay (s)	0.0		5.5			0.2
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1210						1176			419		
Travel Time (s)			27.5						26.7			9.5		
Volume (vph)	4	15	671	477	21	1	5	20	492	57	230	154	33	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	734	529	0	0	0	0	625	0	0	439	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	31.0	31.0	31.0	31.0	0.0	31.0	31.0	31.0	31.0	0.0	31.0	31.0	0.0	26.0
Total Split (%)	27.7%	27.7%	27.7%	27.7%	0.0%	27.7%	27.7%	27.7%	27.7%	0.0%	27.7%	27.7%	0.0%	23.2%
Maximum Green (s)	25.0	25.0	25.0	25.0		25.0	25.0	25.0	25.0		25.0	25.0		20.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			1.02	0.62					1.11			0.94		
Control Delay			78.8	20.6					108.7			67.7		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			78.8	20.6					108.7			67.7		
Queue Length 50th (ft)			~254	216					~242			277		
Queue Length 95th (ft)			#438	400					#403			#532		
Internal Link Dist (ft)			1130						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			718	852					564			469		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			1.02	0.62					1.11			0.94		

Intersection Summary

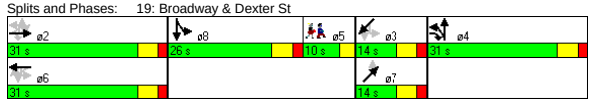
Area Type: Other
Cycle Length: 112
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 No-Build Condition - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	294	21	24	0	92	20	84	15	39	7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	418	0	0	107	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			10.0
Total Split (s)	26.0	0.0	0.0	14.0	0.0	14.0	14.0	14.0	0.0	0.0	10.0
Total Split (%)	23.2%	0.0%	0.0%	12.5%	0.0%	12.5%	12.5%	12.5%	0.0%	0.0%	9%
Maximum Green (s)	20.0			8.0		8.0	8.0	8.0			7.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											4.0
Flash Dont Walk (s)											3.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.06			0.75				1.97			
Control Delay	103.1			78.3				496.0			
Queue Delay	0.0			0.0				0.0			
Total Delay	103.1			78.3				496.0			
Queue Length 50th (ft)	~295			69				~199			
Queue Length 95th (ft)	#514			#164				#350			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	394			142				99			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.06			0.75				1.97			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build\2030 No-Build - AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3264			1862		
Flt Permitted			0.85	1.00					0.72			0.97		
Satd. Flow (perm)			2968	1549					2355			1862		
Volume (vph)	4	15	671	477	21	1	5	20	492	57	230	154	33	21
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	4	16	714	507	22	1	5	22	535	62	242	162	35	24
RTOR Reduction (vph)	0	0	0	2	0	0	0	0	0	0	0	3	0	0
Lane Group Flow (vph)	0	0	734	527	0	0	0	0	625	0	0	436	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			25.0	50.0					25.0			25.0		
Effective Green, g (s)			26.0	52.0					26.0			26.0		
Actuated g/C Ratio			0.24	0.49					0.24			0.24		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			726	831					576			455		
v/s Ratio Prot				0.16								c0.23		
v/s Ratio Perm			0.25	0.19					c0.27					
v/c Ratio			1.01	0.63					1.09			0.96		
Uniform Delay, d1			40.2	20.1					40.2			39.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			36.2	2.7					62.6			32.3		
Delay (s)			76.3	22.8					102.8			72.0		
Level of Service			E	C					F			E		
Approach Delay (s)			53.9						102.8			72.0		
Approach LOS			D						F			E		

Intersection Summary				
HCM Average Control Delay	104.1	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.14			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	24.3	
Intersection Capacity Utilization	111.7%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 No-Build Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1938			1644				1764		
Flt Permitted	1.00			1.00				0.65		
Satd. Flow (perm)	1938			1644				1183		
Volume (vph)	294	21	24	0	92	20	84	15	39	7
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	342	24	28	0	107	24	99	18	46	8
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	416	0	0	107	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	20.0			8.0				8.0		
Effective Green, g (s)	21.0			9.0				9.0		
Actuated g/C Ratio	0.20			0.08				0.08		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	383			139				100		
v/s Ratio Prot	c0.21			0.07						
v/s Ratio Perm								c0.16		
v/c Ratio	1.09			0.77				1.94		
Uniform Delay, d1	42.6			47.6				48.6		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	70.7			20.3				457.7		
Delay (s)	113.4			67.9				506.4		
Level of Service	F			E				F		
Approach Delay (s)	113.4			67.9				506.4		
Approach LOS	F			E				F		

Intersection Summary

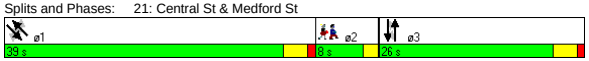
B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build\2030 No-Build - AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	199	79	22	177	13	13	607	118	84	256	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	406	0	0	249	0	0	811	0	0	384	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0	8.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	53.4%	53.4%	0.0%	53.4%	53.4%	0.0%	11%
Maximum Green (s)	22.0	22.0		22.0	22.0		35.0	35.0		35.0	35.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.73			0.44			0.85			0.60		
Control Delay		29.1			21.1			25.6			16.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		29.1			21.1			25.6			16.5		
Queue Length 50th (ft)		130			75			246			93		
Queue Length 95th (ft)		#252			146			#569			222		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		554			568			952			639		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.73			0.44			0.85			0.60		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 66.6	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1789			1820			1821			1798	
Flt Permitted		0.92			0.95			0.99			0.71	
Satd. Flow (perm)		1650			1732			1809			1288	
Volume (vph)	55	199	79	22	177	13	13	607	118	84	256	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	243	96	26	208	15	14	667	130	92	281	11
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	391	0	0	249	0	0	811	0	0	383	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		22.0			22.0			35.1			35.1	
Effective Green, g (s)		22.0			22.0			35.1			35.1	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		532			559			931			663	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.45			0.30	
v/c Ratio		0.74			0.45			0.87			0.58	
Uniform Delay, d1		20.5			18.3			14.6			11.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		8.7			2.6			11.0			3.6	
Delay (s)		29.3			20.8			25.5			15.1	
Level of Service		C			C			C			B	
Approach Delay (s)		29.3			20.8			25.5			15.1	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

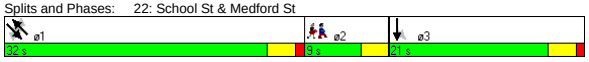
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			1535		
Travel Time (s)		21.7			21.8			35.4			34.9		
Volume (vph)	0	0	0	138	301	21	11	728	98	158	278	72	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	500	0	0	871	0	0	578	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		9.0
Total Split (s)	0.0	0.0	0.0	21.0	21.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0	9.0
Total Split (%)	0.0%	0.0%	0.0%	33.9%	33.9%	0.0%	51.6%	51.6%	0.0%	51.6%	51.6%	0.0%	15%
Maximum Green (s)				17.0	17.0		28.0	28.0		28.0	28.0		6.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio					0.81			0.87			1.28		
Control Delay					31.1			25.0			161.0		
Queue Delay					0.0			0.0			0.0		
Total Delay					31.1			25.0			161.0		
Queue Length 50th (ft)					138			205			~235		
Queue Length 95th (ft)					#349			#548			#469		
Internal Link Dist (ft)		873			879			1476			1455		
Turn Bay Length (ft)													
Base Capacity (vph)					621			1000			452		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.81			0.87			1.28		

Intersection Summary

Area Type: Other
Cycle Length: 62
Actuated Cycle Length: 54.8
Natural Cycle: 100
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1984			1950			1878	
Flt Permitted					0.99			0.99			0.51	
Satd. Flow (perm)					1984			1937			980	
Volume (vph)	0	0	0	138	301	21	11	728	98	158	278	72
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	150	327	23	11	758	102	180	316	82
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	0	0	0	497	0	0	864	0	0	569	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					17.1			28.1			28.1	
Effective Green, g (s)					17.1			28.1			28.1	
Actuated g/C Ratio					0.30			0.49			0.49	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					592			950			481	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.45			c0.58	
v/c Ratio					0.84			0.91			1.18	
Uniform Delay, d1					18.8			13.4			14.6	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					13.4			14.1			101.7	
Delay (s)					32.3			27.5			116.3	
Level of Service					C			C			F	
Approach Delay (s)		0.0			32.3			27.5			116.3	
Approach LOS		A			C			C			F	

Intersection Summary

HCM Average Control Delay	55.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	12.1
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

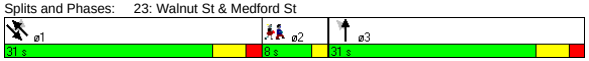
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1535			533		
Travel Time (s)		17.7			19.2			34.9			12.1		
Volume (vph)	77	201	8	0	0	0	8	585	0	0	165	21	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	301	0	0	0	0	0	617	0	0	212	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	44.3%	44.3%	0.0%	0.0%	0.0%	0.0%	44.3%	44.3%	0.0%	0.0%	44.3%	0.0%	11%
Maximum Green (s)	25.0	25.0					25.0	25.0			25.0		6.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		2.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.40						0.80			0.28		
Control Delay		15.7						27.7			13.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		15.7						27.7			13.8		
Queue Length 50th (ft)		74						192			47		
Queue Length 95th (ft)		158						#432			106		
Internal Link Dist (ft)		699			764			1455			453		
Turn Bay Length (ft)													
Base Capacity (vph)		759						768			751		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.40						0.80			0.28		

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 63.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.98	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1850						1880			1816	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		1850						1873			1816	
Volume (vph)	77	201	8	0	0	0	8	585	0	0	165	21
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	81	212	8	0	0	0	8	609	0	0	188	24
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	300	0	0	0	0	0	617	0	0	206	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.1						25.1			25.1	
Effective Green, g (s)		26.1						26.1			26.1	
Actuated g/C Ratio		0.40						0.40			0.40	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		739						749			726	
v/s Ratio Prot											0.11	
v/s Ratio Perm		0.16						c0.33				
v/c Ratio		0.41						0.82			0.28	
Uniform Delay, d1		14.0						17.5			13.3	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.5						7.7			0.3	
Delay (s)		14.5						25.2			13.6	
Level of Service		B						C			B	
Approach Delay (s)		14.5			0.0			25.2			13.6	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

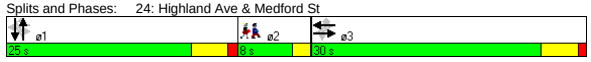
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	614	24	34	411	189	3	0	19	554	33	6	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	686	0	0	511	217	0	39	0	0	624	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	55.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	47.6%	47.6%	0.0%	47.6%	47.6%	87.3%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	13%
Maximum Green (s)	25.0	25.0		25.0	25.0		20.0	20.0		20.0	20.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.81			0.99	0.14		0.07			1.26		
Control Delay		24.1			59.1	0.3		6.5			156.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		24.1			59.1	0.3		6.5			156.0		
Queue Length 50th (ft)		174			151	0		1			~266		
Queue Length 95th (ft)		#439			#377	6		8			#520		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		848			514	1578		590			494		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.81			0.99	0.14		0.07			1.26		

Intersection Summary

Area Type: Other
Cycle Length: 63
Actuated Cycle Length: 56.6
Natural Cycle: 110
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.88			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1835			1913	1632		1586			1777	
Flt Permitted		1.00			0.70	1.00		0.94			0.71	
Satd. Flow (perm)		1835			1342	1632		1506			1324	
Volume (vph)	0	614	24	34	411	189	3	0	19	554	33	6
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	660	26	39	472	217	5	0	34	583	35	6
RTOR Reduction (vph)	0	2	0	0	0	26	0	22	0	0	1	0
Lane Group Flow (vph)	0	684	0	0	511	191	0	17	0	0	623	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		25.1			25.1	50.2		20.1			20.1	
Effective Green, g (s)		26.1			26.1	51.2		21.1			21.1	
Actuated g/C Ratio		0.45			0.45	0.88		0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		822			601	1433		545			479	
v/s Ratio Prot		0.37										
v/s Ratio Perm					c0.38	0.12		0.01			c0.47	
v/c Ratio		0.83			0.85	0.13		0.03			1.30	
Uniform Delay, d1		14.2			14.4	0.5		12.0			18.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		9.6			14.1	0.2		0.1			150.3	
Delay (s)		23.8			28.4	0.7		12.1			168.9	
Level of Service		C			C	A		B			F	
Approach Delay (s)		23.8			20.2			12.1			168.9	
Approach LOS		C			C			B			F	

Intersection Summary

HCM Average Control Delay	65.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

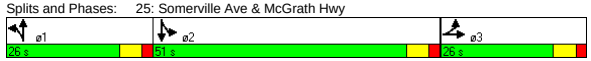
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	99	359	117	0	0	0	45	200	27	199	1233	139
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	618	0	0	0	0	0	266	29	212	1460	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	51.0	51.0	0.0
Total Split (%)	25.2%	25.2%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	49.5%	49.5%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		45.0	45.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.89						0.38	0.02	0.27	1.00	
Control Delay		54.3						37.2	0.0	19.2	53.4	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		54.3						37.2	0.0	19.2	53.4	
Queue Length 50th (ft)		201						80	0	86	~493	
Queue Length 95th (ft)		#301						119	0	139	#666	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		696						708	1672	775	1455	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.89						0.38	0.02	0.27	1.00	

Intersection Summary

Area Type: Other
Cycle Length: 103
Actuated Cycle Length: 103
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3305						3473	1672	1736	3238	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3305						3473	1672	1736	3238	
Volume (vph)	99	359	117	0	0	0	45	200	27	199	1233	139
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	106	386	126	0	0	0	49	217	29	212	1312	148
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	596	0	0	0	0	0	266	29	212	1452	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	103.0	45.0	45.0	
Effective Green, g (s)		21.0						21.0	103.0	46.0	46.0	
Actuated g/C Ratio		0.20						0.20	1.00	0.45	0.45	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		674						708	1672	775	1446	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.88						0.38	0.02	0.27	1.00	
Uniform Delay, d1		39.8						35.3	0.0	18.0	28.5	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		15.6						1.5	0.0	0.9	24.6	
Delay (s)		55.5						36.9	0.0	18.8	53.1	
Level of Service		E						D	A	B	D	
Approach Delay (s)		55.5			0.0			33.2			48.8	
Approach LOS		E			A			C			D	

Intersection Summary

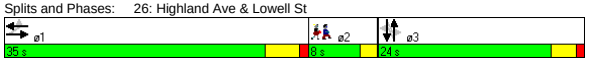
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	103.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	389	0	0	455	27	25	69	40	173	0	144	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	487	0	0	635	0	0	188	0	0	337	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	35.0	35.0	0.0	0.0	35.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	52.2%	52.2%	0.0%	0.0%	52.2%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%	12%
Maximum Green (s)	30.0	30.0			30.0		20.0	20.0		20.0	20.0		6.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.61			0.65			0.38			0.81		
Control Delay		15.0			15.4			19.1			33.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		15.0			15.4			19.1			33.8		
Queue Length 50th (ft)		110			150			49			83		
Queue Length 95th (ft)		239			246			85			#241		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		801			972			540			449		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.61			0.65			0.35			0.75		

Intersection Summary	
Area Type:	Other
Cycle Length: 67	
Actuated Cycle Length: 58.3	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



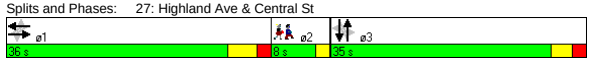
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1813			1771			1694	
Flt Permitted		0.94			1.00			0.91			0.72	
Satd. Flow (perm)		1712			1813			1634			1249	
Volume (vph)	30	389	0	0	455	27	25	69	40	173	0	144
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	452	0	0	599	36	35	97	56	184	0	153
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	45	0
Lane Group Flow (vph)	0	487	0	0	635	0	0	188	0	0	292	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		30.3			30.3			17.5			17.5	
Effective Green, g (s)		31.3			31.3			17.5			17.5	
Actuated g/C Ratio		0.52			0.52			0.29			0.29	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		896			949			478			366	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.28						0.12			c0.23	
v/c Ratio		0.54			0.67			0.39			0.80	
Uniform Delay, d1		9.5			10.5			16.9			19.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.4			3.7			0.7			12.0	
Delay (s)		11.9			14.2			17.6			31.6	
Level of Service		B			B			B			C	
Approach Delay (s)		11.9			14.2			17.6			31.6	
Approach LOS		B			B			B			C	

Intersection Summary					
HCM Average Control Delay	17.4	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.67				
Actuated Cycle Length (s)	59.8	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	76.9%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	27	405	35	28	300	23	37	197	44	27	226	49	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	537	0	0	474	0	0	316	0	0	397	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	45.6%	45.6%	0.0%	45.6%	45.6%	0.0%	44.3%	44.3%	0.0%	44.3%	44.3%	0.0%	10%
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.71			0.65			0.54			0.66		
Control Delay		20.8			19.0			19.1			21.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		20.8			19.0			19.1			21.9		
Queue Length 50th (ft)		128			109			80			107		
Queue Length 95th (ft)		329			224			179			187		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		899			861			783			811		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.60			0.55			0.40			0.49		

Intersection Summary	
Area Type:	Other
Cycle Length: 79	
Actuated Cycle Length: 55.2	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1821			1804			1793			1805	
Flt Permitted		0.96			0.94			0.92			0.95	
Satd. Flow (perm)		1746			1699			1659			1716	
Volume (vph)	27	405	35	28	300	23	37	197	44	27	226	49
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	31	466	40	38	405	31	42	224	50	36	297	64
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	9	0
Lane Group Flow (vph)	0	534	0	0	471	0	0	307	0	0	388	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		22.7			22.7			19.0			19.0	
Effective Green, g (s)		23.7			23.7			19.0			19.0	
Actuated g/C Ratio		0.43			0.43			0.34			0.34	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		746			726			568			587	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.23	
v/c Ratio		0.72			0.65			0.54			0.66	
Uniform Delay, d1		13.1			12.6			14.7			15.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.5			2.2			1.3			3.1	
Delay (s)		16.6			14.8			16.0			18.6	
Level of Service		B			B			B			B	
Approach Delay (s)		16.6			14.8			16.0			18.6	
Approach LOS		B			B			B			B	

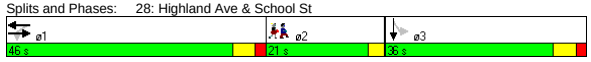
Intersection Summary					
HCM Average Control Delay	16.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	55.5	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	61.2%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	517	16	40	379	0	0	0	0	198	255	91	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	620	0	0	482	0	0	0	0	0	585	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	46.0	0.0	46.0	46.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0	21.0
Total Split (%)	0.0%	44.7%	0.0%	44.7%	44.7%	0.0%	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%	20%
Maximum Green (s)		40.0		40.0	40.0					30.0	30.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.10						0.90		
Control Delay		25.6			97.3						46.0		
Queue Delay		0.0			0.0						0.0		
Total Delay		25.6			97.3						46.0		
Queue Length 50th (ft)		230			~275						271		
Queue Length 95th (ft)		#530			#583						#643		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		858			439						651		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.72			1.10						0.90		

Intersection Summary

Area Type: Other
Cycle Length: 103
Actuated Cycle Length: 86.2
Natural Cycle: 130
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1797	
Flt Permitted		1.00			0.71						0.98	
Satd. Flow (perm)		1786			1275						1797	
Volume (vph)	0	517	16	40	379	0	0	0	0	198	255	91
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	601	19	46	436	0	0	0	0	213	274	98
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	619	0	0	482	0	0	0	0	0	585	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		40.3			40.3						30.3	
Effective Green, g (s)		41.3			41.3						31.3	
Actuated g/C Ratio		0.47			0.47						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		833			594						635	
v/s Ratio Prot		0.35										
v/s Ratio Perm					c0.38						0.33	
v/c Ratio		0.74			0.81						0.92	
Uniform Delay, d1		19.3			20.3						27.5	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.6			8.3						20.9	
Delay (s)		22.9			28.6						48.3	
Level of Service		C			C						D	
Approach Delay (s)		22.9			28.6			0.0			48.3	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	88.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	403	103	307	990	221	318	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	523	134	330	1065	325	468	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	40.0	40.0	40.0	40.0	15.0	15.0	13.0
Total Split (%)	58.8%	58.8%	58.8%	58.8%	22.1%	22.1%	19%
Maximum Green (s)	35.0	35.0	35.0	35.0	10.0	10.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							5.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.45	0.15	0.82	0.93	0.98	1.28	
Control Delay	8.0	2.0	30.6	27.0	74.3	165.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.0	2.0	30.6	27.0	74.3	165.8	
Queue Length 50th (ft)	66	0	62	231	106	~173	
Queue Length 95th (ft)	166	15	#287	#735	#204	#266	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	889	404	1150	331	367	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.45	0.15	0.82	0.93	0.98	1.28	

Intersection Summary

Area Type: Other
Cycle Length: 68
Actuated Cycle Length: 57.6
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.40	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	723	1827	1719	1538
Volume (vph)	403	103	307	990	221	318
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	523	134	330	1065	325	468
RTOR Reduction (vph)	0	53	0	0	0	72
Lane Group Flow (vph)	523	81	330	1065	325	396
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	35.3	35.3	35.3	35.3	10.1	10.1
Effective Green, g (s)	36.3	36.3	36.3	36.3	11.1	11.1
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.18	0.18
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1125	805	437	1103	317	284
v/s Ratio Prot	0.28			c0.58	0.19	c0.26
v/s Ratio Perm		0.06	0.46			
v/c Ratio	0.46	0.10	0.76	0.97	1.03	1.40
Uniform Delay, d1	6.6	5.0	8.7	11.3	24.5	24.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	6.5	19.0	57.2	198.0
Delay (s)	6.7	5.0	15.1	30.4	81.7	222.5
Level of Service	A	A	B	C	F	F
Approach Delay (s)	6.3			26.8	164.8	
Approach LOS	A			C	F	

Intersection Summary

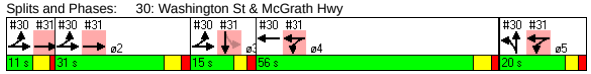
HCM Average Control Delay	60.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	12.7
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	560	319	0	0	1267	103	26	234	548	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	609	358	0	0	1522	0	30	269	630	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	56.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	11.0	31.0
Total Split (%)	42.9%	42.9%	0.0%	0.0%	42.1%	0.0%	15.0%	15.0%	0.0%	0.0%	0.0%	0.0%	8%	23%
Maximum Green (s)					50.0		15.0	15.0					6.0	25.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.44	0.19			0.80		0.16	1.37	0.43					
Control Delay	2.8	1.4			40.6		55.7	236.8	0.9					
Queue Delay	0.0	0.0			0.3		0.1	0.0	0.0					
Total Delay	2.8	1.4			40.9		55.8	236.8	0.9					
Queue Length 50th (ft)	15	2			425		24	~306	0					
Queue Length 95th (ft)	m12	m2			488		54	#462	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1391	1843			1893		187	197	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			74		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.44	0.19			0.84		0.18	1.37	0.43					

Intersection Summary	
Area Type:	Other
Cycle Length: 133	
Actuated Cycle Length: 133	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Green Line Extension
30: Washington St & McGrath Hwy
2030 No-Build Condition - AM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	15.0
Total Split (%)	11%
Maximum Green (s)	10.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build\2030 No-Build - AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4936		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4936		1656	1743	1482			
Volume (vph)	560	319	0	0	1267	103	26	234	548	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	609	358	0	0	1408	114	30	269	630	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	609	358	0	0	1522	0	30	269	630	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			50.0		15.0	15.0	133.0			
Effective Green, g (s)	52.0	52.0			51.0		15.0	15.0	133.0			
Actuated g/C Ratio	0.39	0.39			0.38		0.11	0.11	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1391	1843			1893		187	197	1482			
v/s Ratio Prot	c0.17	0.08			c0.31		0.02	c0.15				
v/s Ratio Perm									c0.43			
v/c Ratio	0.44	0.19			0.80		0.16	1.37	0.43			
Uniform Delay, d1	29.8	26.7			36.5		53.3	59.0	0.0			
Progression Factor	0.07	0.05			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.8	0.2			3.7		1.8	193.5	0.9			
Delay (s)	2.8	1.4			40.3		55.1	252.5	0.9			
Level of Service	A	A			D		E	F	A			
Approach Delay (s)		2.3			40.3			75.5			0.0	
Approach LOS		A			D			E			A	

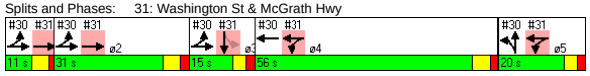
Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	879	33	582	685	0	0	0	0	43	157	500		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	992	0	619	778	0	0	0	0	0	805	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	42.0	0.0	76.0	76.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	11.0	31.0
Total Split (%)	0.0%	31.6%	0.0%	57.1%	57.1%	0.0%	0.0%	0.0%	0.0%	11.3%	11.3%	0.0%	8%	23%
Maximum Green (s)										10.0	10.0		6.0	25.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.53		0.67	0.43						2.97dr			
Control Delay		41.5		5.4	0.5						783.3			
Queue Delay		0.0		0.0	0.0						0.0			
Total Delay		41.5		5.4	0.5						783.3			
Queue Length 50th (ft)		178		61	0						~588			
Queue Length 95th (ft)		209		122	0						#700			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1889		918	1818						301			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		42		0	0						46			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.54		0.67	0.43						3.16			

Intersection Summary
Area Type: Other
Cycle Length: 133
Actuated Cycle Length: 133
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	56.0	20.0
Total Split (%)	42%	15%
Maximum Green (s)	50.0	15.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6775		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6775		1719	3406						3007	
Volume (vph)	0	879	33	582	685	0	0	0	0	43	157	500
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	955	37	619	778	0	0	0	0	59	178	568
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	75	0
Lane Group Flow (vph)	0	987	0	619	778	0	0	0	0	0	730	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		36.0		71.0	71.0						10.0	
Effective Green, g (s)		37.0		71.0	71.0						10.0	
Actuated g/C Ratio		0.28		0.53	0.53						0.08	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1885		918	1818						226	
v/s Ratio Prot		c0.15		c0.36	0.23							
v/s Ratio Perm											0.24	
v/c Ratio		0.52		0.67	0.43						2.97dr	
Uniform Delay, d1		40.6		22.6	18.7						61.5	
Progression Factor		1.00		0.13	0.00						1.00	
Incremental Delay, d2		1.0		2.3	0.4						1015.1	
Delay (s)		41.6		5.3	0.5						1076.6	
Level of Service		D		A	A						F	
Approach Delay (s)		41.6			2.6			0.0			1076.6	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	285.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

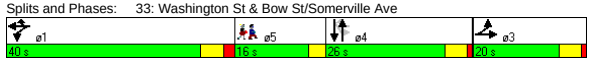
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	36	342	66	564	486	458	0	0	0	423	366	68	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	478	0	620	534	503	0	0	0	262	649	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		16.0
Total Split (s)	20.0	20.0	0.0	40.0	40.0	40.0	0.0	26.0	0.0	26.0	26.0	0.0	16.0
Total Split (%)	19.6%	19.6%	0.0%	39.2%	39.2%	39.2%	0.0%	25.5%	0.0%	25.5%	25.5%	0.0%	16%
Maximum Green (s)	15.0	15.0		34.0	34.0	34.0		21.0		21.0	21.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max	Max		Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.96		1.03	0.84	0.46				0.94	1.09		
Control Delay		70.7		72.5	39.5	2.0				77.1	95.5		
Queue Delay		0.0		0.0	0.0	0.0				0.0	0.0		
Total Delay		70.7		72.5	39.5	2.0				77.1	95.5		
Queue Length 50th (ft)		135		326	250	0				151	~210		
Queue Length 95th (ft)		#292		#700	#555	22				#384	#410		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		496		604	635	1091				278	598		
Starvation Cap Reductn		0		0	0	0				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		0.96		1.03	0.84	0.46				0.94	1.09		

Intersection Summary

Area Type: CBD
Cycle Length: 102
Actuated Cycle Length: 89.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2750		1533	1613	1371				1408	2722	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2750		1533	1613	1371				1122	2381	
Volume (vph)	36	342	66	564	486	458	0	0	0	423	366	68
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	39	368	71	620	534	503	0	0	0	450	389	72
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	0	0	8	0
Lane Group Flow (vph)	0	478	0	620	534	309	0	0	0	262	641	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		15.1		34.2	34.2	55.3				21.1	21.1	
Effective Green, g (s)		16.1		35.2	35.2	56.3				22.1	22.1	
Actuated g/C Ratio		0.18		0.38	0.38	0.61				0.24	0.24	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		483		588	619	842				270	574	
v/s Ratio Prot		c0.17		c0.40	0.33	0.14						
v/s Ratio Perm						0.08				0.23	c0.27	
v/c Ratio		0.99		1.05	0.86	0.37				0.97	1.12	
Uniform Delay, d1		37.7		28.3	26.0	8.8				34.5	34.8	
Progression Factor		1.00		1.00	1.00	1.00				1.00	1.00	
Incremental Delay, d2		38.5		52.3	14.7	1.2				47.7	73.6	
Delay (s)		76.2		80.5	40.8	10.1				82.2	108.4	
Level of Service		E		F	D	B				F	F	
Approach Delay (s)		76.2			46.3			0.0			100.9	
Approach LOS		E			D			A			F	

Intersection Summary

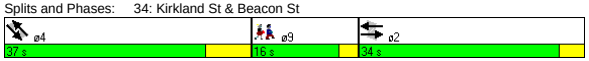
HCM Average Control Delay	67.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	18.3
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	56	213	37	44	321	56	38	497	138	27	277	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	388	0	0	468	0	0	747	0	0	363	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	34.0	34.0	0.0	34.0	34.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	16.0
Total Split (%)	39.1%	39.1%	0.0%	39.1%	39.1%	0.0%	42.5%	42.5%	0.0%	42.5%	42.5%	0.0%	18%
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.69			0.72			1.03			0.58		
Control Delay		27.4			27.7			65.1			22.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		27.4			27.7			65.1			22.1		
Queue Length 50th (ft)		128			158			306			112		
Queue Length 95th (ft)		249			#405			#721			267		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		561			646			726			624		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.69			0.72			1.03			0.58		

Intersection Summary	
Area Type:	Other
Cycle Length: 87	
Actuated Cycle Length: 74.2	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1747			1703			1771			1731	
Flt Permitted		0.83			0.93			0.96			0.90	
Satd. Flow (perm)		1469			1601			1704			1569	
Volume (vph)	56	213	37	44	321	56	38	497	138	27	277	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	71	270	47	49	357	62	42	552	153	29	301	33
RTOR Reduction (vph)	0	5	0	0	6	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	383	0	0	462	0	0	737	0	0	359	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.2			30.2			30.2			30.2	
Effective Green, g (s)		30.2			30.2			31.2			31.2	
Actuated g/C Ratio		0.39			0.39			0.41			0.41	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		579			631			694			639	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.29			c0.43			0.23	
v/c Ratio		0.66			0.73			1.06			0.56	
Uniform Delay, d1		19.0			19.8			22.7			17.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.8			7.3			51.8			3.6	
Delay (s)		24.8			27.1			74.5			21.0	
Level of Service		C			C			E			C	
Approach Delay (s)		24.8			27.1			74.5			21.0	
Approach LOS		C			C			E			C	

Intersection Summary					
HCM Average Control Delay	43.5	HCM Level of Service	D		
HCM Volume to Capacity ratio	0.90				
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	15.2		
Intersection Capacity Utilization	79.5%	ICU Level of Service	D		
Analysis Period (min)	15				

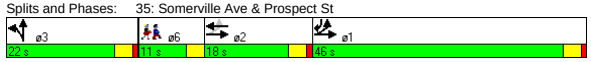
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	261	504	0	0	162	38	143	528	69	0	0	1253	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	823	0	0	225	0	157	656	0	0	0	1408	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	46.0	64.0	0.0	0.0	18.0	0.0	22.0	22.0	0.0	0.0	0.0	46.0	11.0
Total Split (%)	47.4%	66.0%	0.0%	0.0%	18.6%	0.0%	22.7%	22.7%	0.0%	0.0%	0.0%	47.4%	11%
Maximum Green (s)	42.0				14.0		18.0	18.0				42.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		Max	Max				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.32		0.61	1.20				1.35	
Control Delay		8.5			29.7		47.3	143.6				189.4	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		8.5			29.7		47.3	143.6				189.4	
Queue Length 50th (ft)		83			51		98	~270				~650	
Queue Length 95th (ft)		170			97		173	#390				#782	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1812			712		259	545				1045	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.32		0.61	1.20				1.35	

Intersection Summary	
Area Type:	CBD
Cycle Length: 97	
Actuated Cycle Length: 97	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2949		1395	2885				2413
Flt Permitted		0.75			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2267			2949		1395	2885				2413
Volume (vph)	261	504	0	0	162	38	143	528	69	0	0	1253
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	281	542	0	0	182	43	157	580	76	0	0	1408
RTOR Reduction (vph)	0	0	0	0	19	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	823	0	0	206	0	157	646	0	0	0	1408
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		62.4			22.8		18.0	18.0				39.6
Effective Green, g (s)		62.4			22.8		18.0	18.0				39.6
Actuated g/C Ratio		0.64			0.24		0.19	0.19				0.41
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1751			693		259	535				985
v/s Ratio Prot		0.19			0.07		0.11	c0.22				c0.58
v/s Ratio Perm		c0.11										
v/c Ratio		0.47			0.30		0.61	1.21				1.43
Uniform Delay, d1		8.8			30.5		36.2	39.5				28.7
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.9			1.1		10.1	110.2				199.2
Delay (s)		9.8			31.6		46.4	149.7				227.9
Level of Service		A			C		D	F				F
Approach Delay (s)		9.8			31.6			129.7			227.9	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM Average Control Delay	135.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

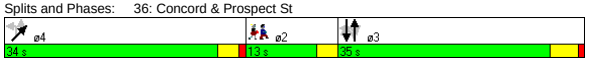
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	61	0	194	117	503	370	6	21	335	21	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	284	0	121	906	0	0	0	429	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		13.0
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	0.0	34.0	34.0	0.0	13.0
Total Split (%)	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	0.0%	41.5%	41.5%	0.0%	16%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											4.0
Flash Dont Walk (s)											6.0
Pedestrian Calls (#/hr)											12
v/c Ratio		1.59		0.27	1.13				0.51		
Control Delay		309.7		16.3	97.2				18.7		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		309.7		16.3	97.2				18.7		
Queue Length 50th (ft)		~157		31	~445				124		
Queue Length 95th (ft)		#289		86	#827				258		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		179		446	802				838		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.59		0.27	1.13				0.51		

Intersection Summary	
Area Type:	Other
Cycle Length: 82	
Actuated Cycle Length: 71.6	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1679		1869	1842				1986	
Flt Permitted		0.21		0.55	1.00				1.00	
Satd. Flow (perm)		351		1075	1842				1986	
Volume (vph)	61	0	194	117	503	370	6	21	335	21
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	68	0	216	121	519	381	6	24	381	24
RTOR Reduction (vph)	0	44	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	240	0	121	906	0	0	0	427	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		30.1		30.1	30.1				30.1	
Effective Green, g (s)		31.1		31.1	31.1				30.1	
Actuated g/C Ratio		0.42		0.42	0.42				0.41	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		148		452	775				809	
v/s Ratio Prot					0.49					
v/s Ratio Perm		c0.68		0.11					0.21	
v/c Ratio		1.62		0.27	1.17				0.53	
Uniform Delay, d1		21.4		14.0	21.4				16.5	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		308.5		0.1	89.7				0.3	
Delay (s)		329.9		14.1	111.1				16.8	
Level of Service		F		B	F				B	
Approach Delay (s)		329.9			99.7				16.8	
Approach LOS		F			F				B	

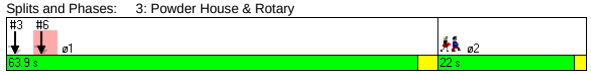
Intersection Summary			
HCM Average Control Delay	116.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	12.7
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	573	0	0	1509	492	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	616	0	0	1556	507	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.39			0.93	0.33	
Control Delay		0.7			21.6	0.6	
Queue Delay		0.0			0.2	0.0	
Total Delay		0.7			21.8	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1619	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		15			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.39			0.94	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	573	0	0	1509	492
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	616	0	0	1556	507
RTOR Reduction (vph)	0	71	0	0	0	0
Lane Group Flow (vph)	0	545	0	0	1556	507
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.85	
v/s Ratio Perm		0.33				c0.33
v/c Ratio		0.38			0.96	0.33
Uniform Delay, d1		1.2			5.5	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.8			15.1	0.6
Delay (s)		2.0			20.6	0.6
Level of Service		A			C	A
Approach Delay (s)	2.0			0.0	15.7	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	136.8%	ICU Level of Service	H
Analysis Period (min)	15		

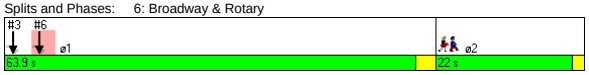
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	547	0	0	1257	825	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	622	0	0	1337	878	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.40			0.79	0.56	
Control Delay		0.8			6.0	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			6.0	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m#211	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.40			0.79	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	547	0	0	1257	825
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	622	0	0	1337	878
RTOR Reduction (vph)	0	72	0	0	0	0
Lane Group Flow (vph)	0	550	0	0	1337	878
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.72	
v/s Ratio Perm		0.35				c0.56
v/c Ratio		0.39			0.82	0.56
Uniform Delay, d1		1.2			2.9	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.8			3.0	0.9
Delay (s)		2.1			4.1	0.9
Level of Service		A			A	A
Approach Delay (s)	2.1			0.0	2.9	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	656	955	428	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	754	985	441	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.48	0.56	0.27			
Control Delay		1.1	2.6	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.6	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	423	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.48	0.56	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	656	955	428	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	754	985	441	0	0
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	0	692	985	441	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.54			
v/s Ratio Perm		0.44		c0.27		
v/c Ratio		0.48	0.59	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.3	0.4		
Delay (s)		1.9	2.0	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	737	646	949	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	945	666	978	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.58	0.38	0.64			
Control Delay		1.6	1.9	2.2			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.6	1.9	2.2			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	201	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1538			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.60	0.38	0.64			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



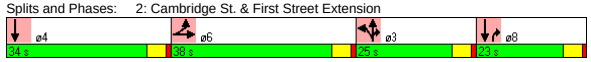
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	737	646	949	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	945	666	978	0	0
RTOR Reduction (vph)	0	78	0	80	0	0
Lane Group Flow (vph)	0	867	666	898	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.57		
v/s Ratio Perm		0.53				
v/c Ratio		0.57	0.39	0.63		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.6	0.7	2.1		
Delay (s)		2.5	1.3	3.0		
Level of Service		A	A	A		
Approach Delay (s)	2.5		2.4			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	130	225	55	0	0	0	60	125	100	0	320	560		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	135	291	0	0	0	0	0	206	111	0	978	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.37	0.78						0.73	0.25		0.50			
Control Delay	42.6	57.5						63.2	7.6		1.8			
Queue Delay	0.5	0.0						7.8	0.0		0.3			
Total Delay	43.1	57.5						71.0	7.6		2.2			
Queue Length 50th (ft)	80	184						134	0		11			
Queue Length 95th (ft)	121	248						205	39		m8			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						322	574		1945			
Starvation Cap Reductn	0	0						0	0		413			
Spillback Cap Reductn	138	0						79	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.37	0.57						0.85	0.19		0.64			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1790						1804	1459		3202	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1790						1804	1459		3202	
Volume (vph)	130	225	55	0	0	0	60	125	100	0	320	560
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	135	234	57	0	0	0	67	139	111	0	356	622
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	84	0	217	0
Lane Group Flow (vph)	135	283	0	0	0	0	0	206	27	0	761	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.5	23.5						17.8	28.3		63.7	
Effective Green, g (s)	24.5	24.5						18.8	29.3		64.7	
Actuated g/C Ratio	0.20	0.20						0.16	0.24		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	361	365						283	356		1726	
v/s Ratio Prot	0.08	c0.16						c0.11	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.37	0.78						0.73	0.08		0.44	
Uniform Delay, d1	41.1	45.1						48.2	34.9		16.7	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.9						9.0	0.1		0.1	
Delay (s)	41.8	55.0						57.2	35.0		2.2	
Level of Service	D	E						E	D		A	
Approach Delay (s)		50.8			0.0			49.4			2.2	
Approach LOS		D			A			D			A	

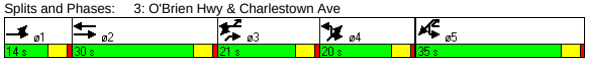
Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	175	1355	450	315	840	300	140	440	285	535	920	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	192	1489	495	346	923	330	147	463	300	560	1173	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.42	0.93	0.31	1.57	0.76	0.44	0.68	1.00	0.63	1.42	1.42		
Control Delay	267.3	49.6	0.5	308.6	54.2	3.0	66.4	94.0	39.4	238.4	231.9		
Queue Delay	0.0	671.2	0.0	33.2	499.3	0.5	0.0	0.0	0.6	0.0	0.8		
Total Delay	267.3	720.8	0.5	341.8	553.5	3.5	66.4	94.0	39.9	238.4	232.7		
Queue Length 50th (ft)	~177	356	0	~345	352	27	97	~168	161	~565	~595		
Queue Length 95th (ft)	#309	#441	0	m#420	m402	m28	#173	#268	249	#776	#722		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	756	216	463	479	394	824		
Starvation Cap Reductn	0	0	0	10	784	154	0	0	0	0	0		
Spillback Cap Reductn	0	1027	0	0	0	0	0	0	32	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.42	2.57	0.31	1.64	2.11	0.55	0.68	1.00	0.67	1.42	1.43		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	175	1355	450	315	840	300	140	440	285	535	920	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	192	1489	495	346	923	330	147	463	300	594	1022	117
RTOR Reduction (vph)	0	0	0	0	0	198	0	0	17	0	7	0
Lane Group Flow (vph)	192	1489	495	346	923	132	147	463	283	560	1166	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.30	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.31									
v/c Ratio	1.42	0.93	0.31	1.57	0.76	0.24	0.68	1.00	0.61	1.42	1.43	
Uniform Delay, d1	55.0	38.6	0.0	51.5	31.5	23.9	49.6	52.0	35.4	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.63	1.43	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	227.5	9.6	0.5	265.2	1.4	0.1	8.5	41.8	2.4	203.9	199.5	
Delay (s)	282.5	48.1	0.5	337.8	52.6	34.3	58.1	93.8	37.8	248.4	244.0	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		58.0			110.5			69.6			245.4	
Approach LOS		E			F			E			F	

Intersection Summary

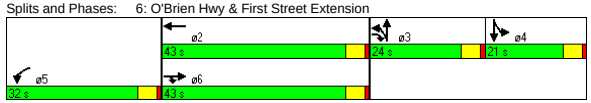
HCM Average Control Delay	123.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1545	165	445	490	70	30	225	0	110	270	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1717	183	494	622	0	33	250	0	0	439	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.92	0.20	0.76	0.48		0.11	0.80			0.89	
Control Delay		20.3	3.7	53.5	30.7		19.6	42.4			71.2	
Queue Delay		0.0	0.0	0.0	0.0		0.0	137.6			0.0	
Total Delay		20.3	3.7	53.5	30.7		19.6	180.0			71.2	
Queue Length 50th (ft)		308	26	165	166		13	180			155	
Queue Length 95th (ft)		#542	48	207	231		m26	m#257			#237	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	927	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	118			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.92	0.20	0.62	0.48		0.11	1.30			0.89	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: O'Brien Hwy & First Street Extension



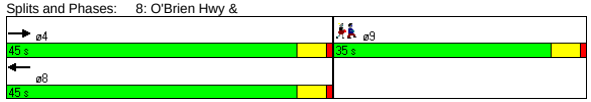
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3473		1770	1863			3470	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3473		1770	1863			3470	
Volume (vph)	0	1545	165	445	490	70	30	225	0	110	270	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1717	183	494	544	78	33	250	0	122	300	17
RTOR Reduction (vph)	0	0	28	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1717	155	494	613	0	33	250	0	0	436	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1279		295	311			492	
v/s Ratio Prot		c0.34	0.10	c0.14	0.18		0.02	c0.13			c0.13	
v/s Ratio Perm												
v/c Ratio		0.92	0.17	0.76	0.48		0.11	0.80			0.89	
Uniform Delay, d1		36.1	12.4	46.0	29.1		42.5	48.1			50.6	
Progression Factor		0.30	0.38	1.00	1.00		0.44	0.50			1.00	
Incremental Delay, d2		7.0	0.3	5.0	1.3		0.7	17.0			20.5	
Delay (s)		18.0	5.1	51.0	30.4		19.4	40.9			71.0	
Level of Service		B	A	D	C		B	D			E	
Approach Delay (s)		16.8			39.5			38.4			71.0	
Approach LOS		B			D			D			E	

Intersection Summary					
HCM Average Control Delay	31.6	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	78.9%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1980	0	0	1085	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2200	0	0	1206	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.48			0.38			
Control Delay	5.0			4.6			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.6			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	348			255			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.48			0.38			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1980	0	0	1085	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2200	0	0	1206	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2200	0	0	1206	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.9			30.9		
Effective Green, g (s)	31.9			31.9		
Actuated g/C Ratio	0.73			0.73		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3695			2572		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.60			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	325	0	0	5	0	1655	0	0	1000	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	339	0	0	6	0	1706	0	0	1192	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	325	0	0	5	0	1655	0	0	1000	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	339	0	0	6	0	1706	0	0	1099	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.76	0.76	0.68	0.76	0.76	0.85	0.85			0.68		
vC, conflicting volume	2261	2898	569	2053	2852	596	1192			1706		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1345	2187	0	1070	2125	355	1053			1107		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	54	100	100	99	100			100		
cM capacity (veh/h)	82	34	739	70	36	540	469			387		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	339	6	569	569	569	733	460
Volume Left	0	0	0	0	0	0	0
Volume Right	339	6	0	0	0	0	93
cSH	739	540	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.01	0.33	0.33	0.33	0.43	0.27
Queue Length 95th (ft)	53	1	0	0	0	0	0
Control Delay (s)	13.9	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.9	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	58.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1980	1045	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2200	1205	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1980	1045	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2200	1161	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.75				0.87	0.75
vC, conflicting volume	1206				1917	603
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946				854	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	544				258	659

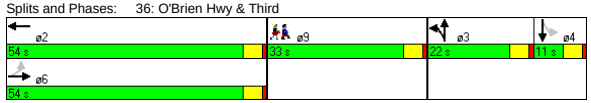
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	733	733	733	774	431	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	659
Volume to Capacity	0.43	0.43	0.43	0.46	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.9
Approach LOS						B

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	41.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	3	2255	675	0	655	15	175	1	35	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	3024	0	0	728	0	116	118	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.32			0.42		0.49	0.46			0.03		
Control Delay		173.5			28.4		54.8	46.0			48.0		
Queue Delay		51.8			0.4		0.0	0.0			0.0		
Total Delay		225.3			28.9		54.8	46.0			48.0		
Queue Length 50th (ft)		~948			207		77	66			1		
Queue Length 95th (ft)		#1133			312		134	123			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2297			1730		235	259			92		
Starvation Cap Reductn		0			505		0	0			0		
Spillback Cap Reductn		185			0		0	1			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.43			0.59		0.49	0.46			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 36: O'Brien Hwy & Third



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.95			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4909			3528		1569	1628			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4613			3528		1569	1628			1779	
Volume (vph)	3	2255	675	0	655	15	175	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	3	2325	696	0	712	16	194	1	39	1	1	1
RTOR Reduction (vph)	0	42	0	0	1	0	0	14	0	0	1	0
Lane Group Flow (vph)	0	2982	0	0	727	0	116	104	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2107			1611		235	244			33	
v/s Ratio Prot					0.21		c0.07	0.06				
v/s Ratio Perm		c0.65									c0.00	
v/c Ratio		1.42			0.45		0.49	0.42			0.06	
Uniform Delay, d1		32.6			22.3		46.8	46.3			57.9	
Progression Factor		1.00			1.36		1.00	1.00			1.00	
Incremental Delay, d2		189.8			0.9		7.2	5.3			0.8	
Delay (s)		222.4			31.2		54.1	51.6			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		222.4			31.2			52.8			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	177.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1680	170	0	500	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1968	0	0	549	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1680	170	0	500	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1787	181	0	549	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.80	0.74
vC, conflicting volume			1968		2152	686
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1609		1443	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			291		99	807

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	715	715	538	275	275	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	181	0	0	33
cSH	1700	1700	1700	1700	1700	807
Volume to Capacity	0.42	0.42	0.32	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

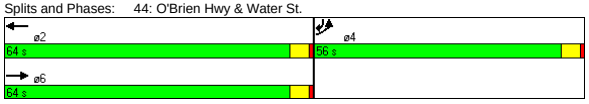
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	440	1850	0	0	435	65	0	0	0	0	0	235
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	468	1968	0	0	549	0	0	0	0	0	0	261
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.26							0.35
Control Delay	49.1	3.0			14.8							2.3
Queue Delay	15.7	1.2			0.0							0.0
Total Delay	64.8	4.2			14.8							2.3
Queue Length 50th (ft)	339	29			53							0
Queue Length 95th (ft)	m260	m31			m145							20
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	3025			2073							884
Starvation Cap Reductn	264	763			0							0
Spillback Cap Reductn	0	0			126							12
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.97	0.87			0.28							0.30

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3371							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3371							1627
Volume (vph)	440	1850	0	0	435	65	0	0	0	0	0	235
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	468	1968	0	0	478	71	0	0	0	0	0	261
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	177
Lane Group Flow (vph)	468	1968	0	0	541	0	0	0	0	0	0	84
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	37.5	72.5			72.5							37.5
Effective Green, g (s)	38.5	73.5			73.5							38.5
Actuated g/C Ratio	0.32	0.61			0.61							0.32
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	552	3026			2065							522
v/s Ratio Prot	c0.27	c0.40			0.16							0.05
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.26							0.16
Uniform Delay, d1	38.0	15.0			10.7							29.2
Progression Factor	1.28	0.17			1.26							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	49.8	2.7			13.8							29.3
Level of Service	D	A			B							C
Approach Delay (s)		11.8			13.8			0.0			29.3	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

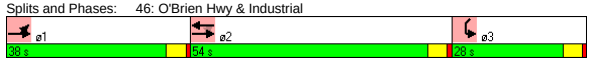
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1995	1315	305	285	140
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2390	1723	0	473	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.89	0.88		0.80	
Control Delay		19.7	38.0		51.4	
Queue Delay		125.2	102.2		160.1	
Total Delay		144.9	140.2		211.4	
Queue Length 50th (ft)		489	381		137	
Queue Length 95th (ft)		m455	444		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1947		656	
Starvation Cap Reductn		814	0		0	
Spillback Cap Reductn		0	543		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.28	1.23		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4597		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3004	4597		3013	
Volume (vph)	180	1995	1315	305	285	140
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2192	1399	324	317	156
RTOR Reduction (vph)	0	0	32	0	54	0
Lane Group Flow (vph)	0	2390	1692	0	419	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1915		535	
v/s Ratio Prot		c0.27	0.37		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.89	0.88		0.78	
Uniform Delay, d1		13.0	32.3		47.1	
Progression Factor		2.22	1.00		1.00	
Incremental Delay, d2		0.4	6.3		7.3	
Delay (s)		29.2	38.7		54.5	
Level of Service		C	D		D	
Approach Delay (s)		29.2	38.7		54.5	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	365	150	224	512	5	3	19	21	118	11	67
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	590	0	0	883	0	0	61	0	0	165	86
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	365	150	224	512	5	3	19	21	118	11	67
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	410	169	267	610	6	4	27	30	151	14	86
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	615			579			1756	1747	612	1706	1666	494
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	615			579			1756	1747	612	1706	1666	494
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			73			89	57	94	0	79	85
cM capacity (veh/h)	940			980			37	62	491	35	68	569

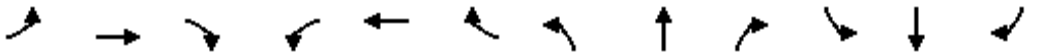
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	590	882	61	165	86
Volume Left	11	267	4	151	0
Volume Right	169	6	30	0	86
cSH	940	980	100	37	569
Volume to Capacity	0.01	0.27	0.61	4.51	0.15
Queue Length 95th (ft)	1	28	73	Err	13
Control Delay (s)	0.3	6.0	85.9	Err	12.4
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.0	85.9	6585.2	
Approach LOS			F	F	

Intersection Summary				
Average Delay	933.6			
Intersection Capacity Utilization	92.3%	ICU Level of Service		F
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	47	83	88	432	0	0	1770	276
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	307	0	96	514	0	0	1806	300
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

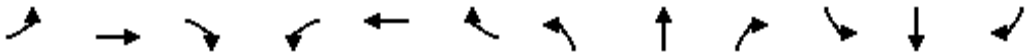
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	47	83	88	432	0	0	1770	276
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	51	102	96	514	0	0	1806	300
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2640	2512	1806	2512	2812	514	2106			514		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	158809146489		78582146489175361			514107454				514		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	81	0			100		
cM capacity (veh/h)	0	0	0	0	0	550	0			1041		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	308	96	514	1806	300
Volume Left	154	96	0	0	0
Volume Right	102	0	0	0	300
cSH	0	0	1700	1700	1700
Volume to Capacity	2.18894864854085E52		0.30	1.06	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1568.1		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	122.5%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	89	287	320	0	0	0	0	431	486	184	1711	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	774	0	0	0	0	0	459	517	188	1746	0
Sign Control		Stop			Stop			Free			Free	

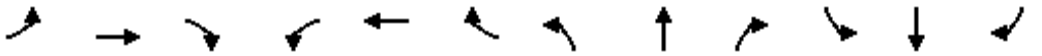
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	89	287	320	0	0	0	0	431	486	184	1711	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	99	319	356	0	0	0	0	459	517	188	1746	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2580	3097	1746	3095	2580	459	1746			976		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	72261	95581	34644	95490	72261	459	34644			976		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	602	0			699		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	258	515	459	517	188	1746
Volume Left	99	0	0	0	188	0
Volume Right	0	356	0	517	0	0
cSH	0	0	1700	1700	699	1700
Volume to Capacity	Err	Err	0.27	0.30	0.27	1.03
Queue Length 95th (ft)	Err	Err	0	0	27	0
Control Delay (s)	Err	Err	0.0	0.0	12.0	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2100.4			
Intersection Capacity Utilization	122.5%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	430	2	28	0	1	10	40	477	0	6	965	1060
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	499	0	0	22	0	0	581	0	0	1067	1165
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	430	2	28	0	1	10	40	477	0	6	965	1060
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	467	2	30	0	2	20	45	536	0	7	1060	1165
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1720	1699	1060	1731	1699	536	1060			536		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1720	1699	1060	1731	1699	536	1060			536		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	97	89	100	98	96	93			99		
cM capacity (veh/h)	62	84	270	57	86	549	642			1027		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	500	22	581	1067	1165
Volume Left	467	0	45	7	0
Volume Right	30	20	0	0	1165
cSH	65	368	642	1027	1700
Volume to Capacity	7.68	0.06	0.07	0.01	0.69
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.4	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.4	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1499.7		
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	61	359	839	178	75	51
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	462	1118	0	166	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

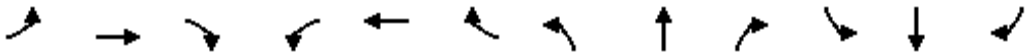
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	61	359	839	178	75	51
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	67	395	922	196	99	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	1118				1548	1020
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1144				1674	1024
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				0	71
cM capacity (veh/h)	494				75	235

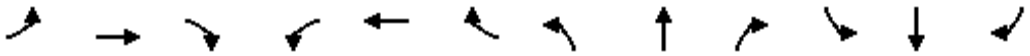
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	462	1118	166
Volume Left	67	0	99
Volume Right	0	196	67
cSH	494	1700	103
Volume to Capacity	0.14	0.66	1.61
Queue Length 95th (ft)	12	0	318
Control Delay (s)	4.0	0.0	386.1
Lane LOS	A		F
Approach Delay (s)	4.0	0.0	386.1
Approach LOS			F

Intersection Summary			
Average Delay		37.7	
Intersection Capacity Utilization		84.6%	ICU Level of Service E
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	16	185	134	376	197	7	44	17	109	3	11	3
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	345	0	0	610	0	0	200	0	0	24	0
Sign Control		Stop			Stop			Stop			Stop	

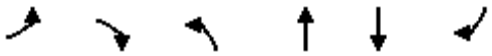
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	16	185	134	376	197	7	44	17	109	3	11	3
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	16	191	138	396	207	7	52	20	128	4	16	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	345	611	200	24
Volume Left (vph)	16	396	52	4
Volume Right (vph)	138	7	128	4
Hadj (s)	-0.20	0.19	-0.32	-0.07
Departure Headway (s)	5.3	5.3	6.1	6.9
Degree Utilization, x	0.51	0.90	0.34	0.05
Capacity (veh/h)	650	611	561	463
Control Delay (s)	13.8	38.1	12.2	10.2
Approach Delay (s)	13.8	38.1	12.2	10.2
Approach LOS	B	E	B	B

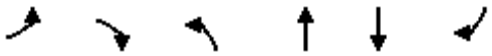
Intersection Summary			
Delay	26.0		
HCM Level of Service	D		
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	167	130	95	422	546	485
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	313	0	0	698	1063	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	167	130	95	422	546	485
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	176	137	128	570	563	500
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1640	813	1063			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1640	813	1063			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	64	80			
cM capacity (veh/h)	88	377	640			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	313	699	1063
Volume Left	176	128	0
Volume Right	137	0	500
cSH	132	640	1700
Volume to Capacity	2.37	0.20	0.63
Queue Length 95th (ft)	673	19	0
Control Delay (s)	692.1	5.2	0.0
Lane LOS	F	A	
Approach Delay (s)	692.1	5.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	106.1		
Intersection Capacity Utilization	113.1%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	10	10
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	839			564	970	
Travel Time (s)	19.1			12.8	22.0	
Volume (vph)	50	308	255	611	200	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	7%	1%	4%	10%
Lane Group Flow (vph)	389	0	0	941	222	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	50	308	255	611	200	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	335	277	664	217	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				564	970	
pX, platoon unblocked	0.58					
vC, conflicting volume	1439	220	223			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1761	220	223			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	59	79			
cM capacity (veh/h)	43	815	1317			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	389	941	223
Volume Left	54	277	0
Volume Right	335	0	5
cSH	231	1317	1700
Volume to Capacity	1.68	0.21	0.13
Queue Length 95th (ft)	636	20	0
Control Delay (s)	361.8	4.6	0.0
Lane LOS	F	A	
Approach Delay (s)	361.8	4.6	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	93.4		
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - No Build AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	301	1.0	0.401	11.7	LOS B	87	0.71	0.79	23.7
8T	T	653	1.1	0.870	17.6	LOS B	454	1.00	1.23	21.1
Approach		**954**	**1.0**	**0.870**	**15.8**	**LOS B**	**454**	**0.91**	**1.09**	**21.9**
Mystic Valley Parkway										
4T	T	961	0.0	0.902	14.6	LOS B	576	1.00	1.11	22.2
4R	R	511	0.0	0.605	8.7	LOS A	173	0.77	0.79	24.8
Approach		**1472**	**0.0**	**0.902**	**12.5**	**LOS B**	**576**	**0.92**	**1.00**	**23.1**
Mystic Valley Parkway										
5L	L	430	0.0	1.198	137.1	LOS F	1006	1.00	2.49	7.3
2R	R	487	0.0	1.200	131.5	LOS F	1113	1.00	2.61	7.2
Approach		**917**	**0.0**	**1.200**	**134.1**	**LOS F**	**1113**	**1.00**	**2.56**	**7.3**
All Vehicles		**3343**	**0.3**	**1.200**	**46.8**	**LOS D**	**1113**	**0.94**	**1.45**	**14.2**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\No Build\Mystic&Alewife - NB.aap
Processed Oct 08, 2008 01:06:15PM

M0114, VHB, Large Office
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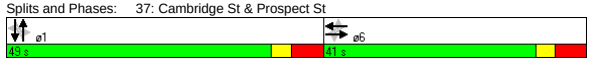
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	120	285	23	44	347	32	72	487	86	30	230	60
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	498	0	0	460	0	0	709	0	0	352	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	41.0	41.0		41.0	41.0		49.0	49.0		49.0	49.0	
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0
Total Split (%)	45.6%	45.6%	0.0%	45.6%	45.6%	0.0%	54.4%	54.4%	0.0%	54.4%	54.4%	0.0%
Maximum Green (s)	33.0	33.0		33.0	33.0		41.0	41.0		41.0	41.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		1.13			0.77			0.87			0.45	
Control Delay		111.6			35.6			30.8			19.0	
Queue Delay		0.0			0.0			14.9			0.0	
Total Delay		111.6			35.6			45.7			19.0	
Queue Length 50th (ft)		~331			227			408			132	
Queue Length 95th (ft)		#486			#378			#593			205	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		442			597			811			791	
Starvation Cap Reductn		0			0			104			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		1.13			0.77			1.00			0.45	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



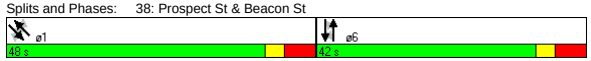
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1799			1817			1939			1920	
Flt Permitted		0.66			0.89			0.91			0.90	
Satd. Flow (perm)		1206			1627			1780			1737	
Volume (vph)	120	285	23	44	347	32	72	487	86	30	230	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	140	331	27	48	377	35	79	535	95	33	253	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	498	0	0	460	0	0	709	0	0	352	0
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		33.0			33.0			41.0			41.0	
Effective Green, g (s)		33.0			33.0			41.0			41.0	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		442			597			811			791	
v/s Ratio Prot												
v/s Ratio Perm		c0.41			0.28			c0.40			0.20	
v/c Ratio		1.13			0.77			0.87			0.45	
Uniform Delay, d1		28.5			25.2			22.2			16.7	
Progression Factor		1.00			1.00			0.93			1.00	
Incremental Delay, d2		82.1			9.3			8.8			1.8	
Delay (s)		110.6			34.4			29.4			18.5	
Level of Service		F			C			C			B	
Approach Delay (s)		110.6			34.4			29.4			18.5	
Approach LOS		F			C			C			B	

Intersection Summary						
HCM Average Control Delay	48.7	HCM Level of Service		D		
HCM Volume to Capacity ratio	0.99					
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0		
Intersection Capacity Utilization	109.7%	ICU Level of Service		H		
Analysis Period (min)	15					
c Critical Lane Group						

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	138	563	42	25	250	15	42	279	70	21	354	40
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	798	0	0	318	0	0	439	0	0	456	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	28.0	28.0		28.0	28.0		31.0	31.0		31.0	31.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.77			0.51			0.59			0.57	
Control Delay		30.8			36.3			23.0			22.2	
Queue Delay		1.0			0.0			0.5			0.4	
Total Delay		31.8			36.3			23.5			22.6	
Queue Length 50th (ft)		206			167			182			187	
Queue Length 95th (ft)		281			m235			276			283	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1032			623			740			794	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		78			0			74			80	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.84			0.51			0.66			0.64	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3491			1855			1815			1849	
Flt Permitted		0.78			0.89			0.91			0.96	
Satd. Flow (perm)		2732			1650			1665			1786	
Volume (vph)	138	563	42	25	250	15	42	279	70	21	354	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	148	605	45	27	275	16	47	313	79	23	389	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	798	0	0	318	0	0	439	0	0	456	0
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1032			623			740			794	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.26			0.26	
v/c Ratio		0.77			0.51			0.59			0.57	
Uniform Delay, d1		24.6			21.6			18.9			18.6	
Progression Factor		1.00			1.52			1.00			1.00	
Incremental Delay, d2		5.6			2.5			3.5			3.0	
Delay (s)		30.2			35.4			22.3			21.7	
Level of Service		C			D			C			C	
Approach Delay (s)		30.2			35.4			22.3			21.7	
Approach LOS		C			D			C			C	

Intersection Summary					
HCM Average Control Delay	27.4	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	98.7%	ICU Level of Service	F		
Analysis Period (min)	15				

c Critical Lane Group

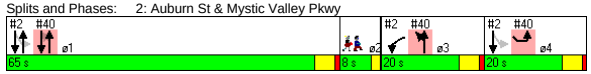
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	184	105	1001	38	62	1074		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	375	0	1154	0	0	1222		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	20.0	0.0	65.0	0.0	85.0	85.0	8.0	20.0
Total Split (%)	17.7%	0.0%	57.5%	0.0%	75.2%	75.2%	7%	18%
Maximum Green (s)	15.0		60.0				6.0	15.0
Yellow Time (s)	4.0		4.0				2.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		Min				None	Min
Walk Time (s)							4.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	1.26		0.56			0.61		
Control Delay	176.9		15.9			1.3		
Queue Delay	15.1		0.1			17.2		
Total Delay	192.0		16.0			18.4		
Queue Length 50th (ft)	~303		235			24		
Queue Length 95th (ft)	#423		350			m23		
Internal Link Dist (ft)	821		788			49		
Turn Bay Length (ft)								
Base Capacity (vph)	298		2059			2017		
Starvation Cap Reductn	0		0			811		
Spillback Cap Reductn	8		197			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	1.29		0.62			1.01		

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 106.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1868		3590			3360
Flt Permitted	0.97		1.00			0.79
Satd. Flow (perm)	1868		3590			2663
Volume (vph)	184	105	1001	38	62	1074
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	239	136	1112	42	67	1155
RTOR Reduction (vph)	18	0	2	0	0	0
Lane Group Flow (vph)	357	0	1152	0	0	1222
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	15.0		60.1			80.1
Effective Green, g (s)	16.0		61.1			81.1
Actuated g/C Ratio	0.15		0.56			0.75
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	276		2027			1996
v/s Ratio Prot	c0.19		0.32			
v/s Ratio Perm						c0.46
v/c Ratio	1.29		0.57			0.61
Uniform Delay, d1	46.1		15.1			6.3
Progression Factor	1.00		1.00			0.18
Incremental Delay, d2	156.5		0.4			0.1
Delay (s)	202.6		15.5			1.2
Level of Service	F		B			A
Approach Delay (s)	202.6		15.5			1.2
Approach LOS	F		B			A

Intersection Summary

HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

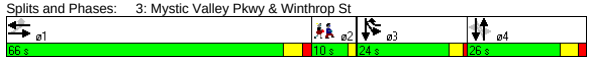
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	3	1081	6	0	1070	427	19	427	172	427	522	51	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1198	0	0	1138	454	0	754	0	0	1163	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	66.0	66.0	0.0	0.0	66.0	24.0	26.0	26.0	0.0	24.0	50.0	0.0	10.0
Total Split (%)	52.4%	52.4%	0.0%	0.0%	52.4%	19.0%	20.6%	20.6%	0.0%	19.0%	39.7%	0.0%	8%
Maximum Green (s)	60.0	60.0			60.0	20.0	20.0	20.0		20.0			8.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			2.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	Min	Min			Min	None	None	None		None			None
Walk Time (s)													5.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.59			1.16	0.36		1.73			1.39dl		
Control Delay		298.6			110.8	2.4		369.5			133.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		298.6			110.8	2.4		369.5			133.5		
Queue Length 50th (ft)		~1270			~994	25		~427			~380		
Queue Length 95th (ft)		#1696			#1411	52		#536			#551		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		752			983	1245		435			966		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.59			1.16	0.36		1.73			1.20		

Intersection Summary

Area Type: Other
Cycle Length: 126
Actuated Cycle Length: 118
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3420			3508	
Flt Permitted		0.72			1.00	1.00		0.73			0.62	
Satd. Flow (perm)		1462			1900	1615		2492			2235	
Volume (vph)	3	1081	6	0	1070	427	19	427	172	427	522	51
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	3	1188	7	0	1138	454	23	521	210	497	607	59
RTOR Reduction (vph)	0	0	0	0	0	107	0	32	0	0	3	0
Lane Group Flow (vph)	0	1198	0	0	1138	347	0	722	0	0	1160	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		60.1			60.1	80.1		20.0			40.0	
Effective Green, g (s)		61.1			61.1	80.1		21.0			40.0	
Actuated g/C Ratio		0.51			0.51	0.67		0.18			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		747			971	1082		438			950	
v/s Ratio Prot					0.60	0.05					c0.19	
v/s Ratio Perm		c0.82				0.16		c0.29			0.21	
v/c Ratio		1.60			1.17	0.32		1.65			1.39dl	
Uniform Delay, d1		29.2			29.2	8.3		49.3			39.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		277.9			88.4	0.1		301.7			109.2	
Delay (s)		307.2			117.7	8.4		351.0			149.0	
Level of Service		F			F	A		F			F	
Approach Delay (s)		307.2			86.5			351.0			149.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	200.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	119.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	118.5%	ICU Level of Service	H
Analysis Period (min)	15		

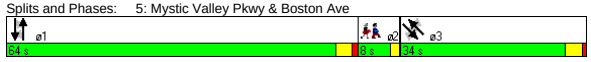
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	83	925	145	44	1134	80	55	243	38	136	331	59	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1240	0	0	1324	0	0	426	0	0	674	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	64.0	64.0	0.0	64.0	64.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0	8.0
Total Split (%)	60.4%	60.4%	0.0%	60.4%	60.4%	0.0%	32.1%	32.1%	0.0%	32.1%	32.1%	0.0%	8%
Maximum Green (s)	60.0	60.0		60.0	60.0		30.0	30.0		30.0	30.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.92			0.76			1.00			1.96		
Control Delay		30.3			18.4			78.7			466.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		30.3			18.4			78.7			466.5		
Queue Length 50th (ft)		321			283			259			~658		
Queue Length 95th (ft)		#584			456			#413			#799		
Internal Link Dist (ft)		593			788			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1349			1745			428			344		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.92			0.76			1.00			1.96		

Intersection Summary

Area Type: Other
Cycle Length: 106
Actuated Cycle Length: 99.6
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3529			3569			1922			1904	
Flt Permitted		0.65			0.83			0.74			0.60	
Satd. Flow (perm)		2292			2978			1426			1160	
Volume (vph)	83	925	145	44	1134	80	55	243	38	136	331	59
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	89	995	156	46	1194	84	70	308	48	174	424	76
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	1230	0	0	1320	0	0	422	0	0	670	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		60.1			60.1			30.0			30.0	
Effective Green, g (s)		60.1			60.1			30.0			30.0	
Actuated g/C Ratio		0.59			0.59			0.30			0.30	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1361			1769			423			344	
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.44			0.30			c0.58	
v/c Ratio		0.90			0.75			1.00			1.95	
Uniform Delay, d1		18.0			15.0			35.6			35.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		8.9			1.9			42.7			436.7	
Delay (s)		26.9			16.9			78.3			472.3	
Level of Service		C			B			E			F	
Approach Delay (s)		26.9			16.9			78.3			472.3	
Approach LOS		C			B			E			F	

Intersection Summary

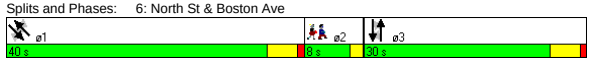
HCM Average Control Delay	111.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	36	8	31	31	50	24	10	360	49	49	426	16	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	112	0	0	132	0	0	494	0	0	506	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	8.0
Total Split (%)	38.5%	38.5%	0.0%	38.5%	38.5%	0.0%	51.3%	51.3%	0.0%	51.3%	51.3%	0.0%	10%
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.21			0.22			0.56			0.60		
Control Delay		17.7			17.7			15.8			16.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.7			17.7			15.8			16.8		
Queue Length 50th (ft)		32			38			134			141		
Queue Length 95th (ft)		55			75			246			286		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		542			603			888			850		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.21			0.22			0.56			0.60		

Intersection Summary	
Area Type:	Other
Cycle Length: 78	
Actuated Cycle Length: 71.6	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.97			0.98			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1752			1815			1787			1819	
Flt Permitted		0.83			0.90			0.99			0.92	
Satd. Flow (perm)		1493			1663			1766			1680	
Volume (vph)	36	8	31	31	50	24	10	360	49	49	426	16
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	54	12	46	39	63	30	12	424	58	51	439	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	112	0	0	132	0	0	494	0	0	506	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		25.0			25.0			35.1			35.1	
Effective Green, g (s)		26.0			26.0			36.1			36.1	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		530			591			871			829	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.08			0.28			c0.30	
v/c Ratio		0.21			0.22			0.57			0.61	
Uniform Delay, d1		16.5			16.5			13.1			13.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.9			2.7			3.3	
Delay (s)		17.4			17.4			15.7			16.8	
Level of Service		B			B			B			B	
Approach Delay (s)		17.4			17.4			15.7			16.8	
Approach LOS		B			B			B			B	

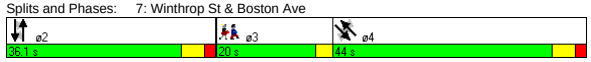
Intersection Summary					
HCM Average Control Delay	16.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.43				
Actuated Cycle Length (s)	73.2	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	62.1%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	75	104	126	32	408	57	54	357	158	191	337	29	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	332	0	0	577	0	0	625	0	0	593	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		20.0
Total Split (s)	36.1	36.1	0.0	36.1	36.1	0.0	44.0	44.0	0.0	44.0	44.0	0.0	20.0
Total Split (%)	36.1%	36.1%	0.0%	36.1%	36.1%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	20%
Maximum Green (s)	30.0	30.0		30.0	30.0		38.0	38.0		38.0	38.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.97			0.81			0.84			1.43		
Control Delay		71.7			36.1			33.2			230.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		71.7			36.1			33.2			230.4		
Queue Length 50th (ft)		156			247			251			~399		
Queue Length 95th (ft)		#426			#540			#633			#771		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		342			710			747			415		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.97			0.81			0.84			1.43		

Intersection Summary	
Area Type:	Other
Cycle Length: 100.1	
Actuated Cycle Length: 84.1	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1755			1989			1784			1818	
Flt Permitted		0.63			0.96			0.90			0.54	
Satd. Flow (perm)		1110			1919			1622			1004	
Volume (vph)	75	104	126	32	408	57	54	357	158	191	337	29
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	82	113	137	37	474	66	59	392	174	203	359	31
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	0	577	0	0	625	0	0	593	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.2			30.2			38.3			38.3	
Effective Green, g (s)		31.3			31.3			39.3			39.3	
Actuated g/C Ratio		0.36			0.36			0.45			0.45	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		402			694			737			456	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.30			0.39			c0.59	
v/c Ratio		0.83			0.83			0.85			1.30	
Uniform Delay, d1		25.1			25.2			20.9			23.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		17.4			11.2			11.6			150.5	
Delay (s)		42.5			36.3			32.6			174.1	
Level of Service		D			D			C			F	
Approach Delay (s)		42.5			36.3			32.6			174.1	
Approach LOS		D			D			C			F	

Intersection Summary					
HCM Average Control Delay	74.6	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.09				
Actuated Cycle Length (s)	86.5	Sum of lost time (s)		15.9	
Intersection Capacity Utilization	114.3%	ICU Level of Service		H	
Analysis Period (min)	15				

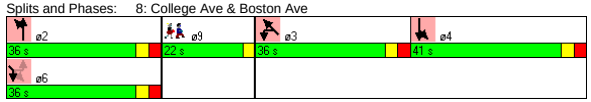
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	154	243	1	34	225	127	108	192	122	10	283	59	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	166	265	0	0	424	0	0	337	137	0	395	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	36.0	36.0	0.0	41.0	41.0	0.0	36.0	36.0	36.0	36.0	36.0	0.0	22.0
Total Split (%)	26.7%	26.7%	0.0%	30.4%	30.4%	0.0%	26.7%	26.7%	26.7%	26.7%	26.7%	0.0%	16%
Maximum Green (s)	30.0	30.0		35.0	35.0		30.0	30.0	30.0	30.0	30.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.33	0.51			0.84			1.17	0.27		0.88		
Control Delay	39.7	42.6			55.2			145.0	13.7		64.7		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	39.7	42.6			55.2			145.0	13.7		64.7		
Queue Length 50th (ft)	91	153			253			~278	15		248		
Queue Length 95th (ft)	198	310			#512			#592	76		#511		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	497	523			587			288	508		521		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.33	0.51			0.72			1.17	0.27		0.76		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 110.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.96			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1890			1830	1531		1952	
Flt Permitted	0.95	1.00			1.00			0.61	1.00		1.00	
Satd. Flow (perm)	1770	1862			1890			1128	1531		1952	
Volume (vph)	154	243	1	34	225	127	108	192	122	10	283	59
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	166	264	1	37	247	140	121	216	137	11	318	66
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	78	0	5	0
Lane Group Flow (vph)	166	265	0	0	411	0	0	337	59	0	390	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	31.2	31.2			28.7			31.2	31.2		25.1	
Effective Green, g (s)	31.2	31.2			28.7			31.2	31.2		25.1	
Actuated g/C Ratio	0.28	0.28			0.26			0.28	0.28		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	492	518			483			314	426		437	
v/s Ratio Prot	0.09	0.14			c0.22				0.04		c0.20	
v/s Ratio Perm								c0.30				
v/c Ratio	0.34	0.51			0.85			1.07	0.14		0.89	
Uniform Delay, d1	32.3	34.1			39.7			40.5	30.4		42.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.9			14.6			71.6	0.1		19.4	
Delay (s)	32.7	34.9			54.3			112.1	30.6		61.6	
Level of Service	C	C			D			F	C		E	
Approach Delay (s)		34.1			54.3			88.5			61.6	
Approach LOS		C			D			F			E	

Intersection Summary

HCM Average Control Delay	60.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	112.2	Sum of lost time (s)	27.2
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

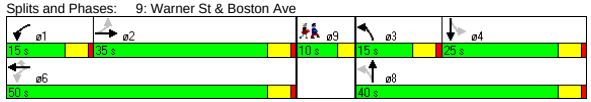
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1449			1738		
Travel Time (s)		11.7			40.8			32.9			39.5		
Volume (vph)	13	499	11	156	446	86	19	279	35	104	175	7	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	594	0	0	717	102	0	379	0	0	332	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		11.0	15.0	15.0	11.0	11.0		11.0	11.0		10.0
Total Split (s)	35.0	35.0	0.0	15.0	50.0	50.0	15.0	40.0	0.0	25.0	25.0	0.0	10.0
Total Split (%)	35.0%	35.0%	0.0%	15.0%	50.0%	50.0%	15.0%	40.0%	0.0%	25.0%	25.0%	0.0%	10%
Maximum Green (s)	30.0	30.0		10.0	45.0	45.0	10.0	35.0		20.0	20.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.57			1.88	0.12		0.66			0.78		
Control Delay		14.4			425.7	2.9		30.8			39.9		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		14.4			425.7	2.9		30.8			39.9		
Queue Length 50th (ft)		142			~329	0		154			143		
Queue Length 95th (ft)		373			#670	22		273			257		
Internal Link Dist (ft)		435			1715			1369			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1045			381	827		769			427		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.57			1.88	0.12		0.49			0.78		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 79.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1992			1984	
Flt Permitted		0.98			0.69	1.00		0.97			0.52	
Satd. Flow (perm)		1942			1288	1340		1940			1046	
Volume (vph)	13	499	11	156	446	86	19	279	35	104	175	7
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	15	567	12	186	531	102	22	317	40	121	203	8
RTOR Reduction (vph)	0	0	0	0	0	44	0	5	0	0	0	0
Lane Group Flow (vph)	0	594	0	0	717	58	0	374	0	0	332	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		45.4			45.4	45.4		22.0			22.0	
Effective Green, g (s)		46.4			46.4	46.4		23.0			23.0	
Actuated g/C Ratio		0.57			0.57	0.57		0.28			0.28	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1104			732	762		547			295	
v/s Ratio Prot												
v/s Ratio Perm		0.31			c0.56	0.04		0.19			c0.32	
v/c Ratio		0.54			0.98	0.08		0.68			1.13	
Uniform Delay, d1		10.9			17.1	7.9		26.1			29.3	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.3			27.7	0.0		2.8			90.6	
Delay (s)		11.2			44.9	8.0		28.9			119.9	
Level of Service		B			D	A		C			F	
Approach Delay (s)		11.2			40.3			28.9			119.9	
Approach LOS		B			D			C			F	

Intersection Summary

HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	12.2
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

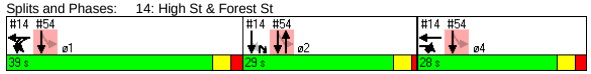
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	360	140	2	873	692	219	231	83	201	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	391	152	0	951	990	0	251	0	347	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	28.0	28.0	39.0	39.0			29.0	29.0	29.0	
Total Split (s)	28.0	28.0	39.0	39.0	67.0	0.0	29.0	29.0	29.0	0.0
Total Split (%)	29.2%	29.2%	40.6%	40.6%	69.8%	0.0%	30.2%	30.2%	30.2%	0.0%
Maximum Green (s)	23.0	23.0	34.0	34.0			25.0	25.0	25.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Walk Time (s)	16.0	16.0	26.0	26.0			16.0	16.0	16.0	
Flash Dont Walk (s)	7.0	7.0	8.0	8.0			9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	1.03	0.37		0.78	0.84		0.27		0.68	
Control Delay	92.2	7.9		33.2	21.4		1.2		39.3	
Queue Delay	0.0	0.1		55.7	0.0		0.0		0.0	
Total Delay	92.2	8.0		88.9	21.4		1.2		39.3	
Queue Length 50th (ft)	~257	0		263	412		7		187	
Queue Length 95th (ft)	#436	48		340	#648		14		286	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	379	415		1216	1172		935		508	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	16		363	0		0		0	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	1.03	0.38		1.11	0.84		0.27		0.68	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 33 (34%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 100
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1796		1611		1932	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1796		1611		1932	
Volume (vph)	360	140	2	873	692	219	231	83	201	36
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	152	2	949	752	238	251	90	218	39
RTOR Reduction (vph)	0	116	0	0	12	0	186	0	4	0
Lane Group Flow (vph)	391	36	0	951	978	0	65	0	343	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	23.0	23.0		34.0	62.0		25.0		25.0	
Effective Green, g (s)	23.0	23.0		34.0	62.0		25.0		25.0	
Actuated g/C Ratio	0.24	0.24		0.35	0.65		0.26		0.26	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	379	299		1216	1160		420		503	
v/s Ratio Prot	c0.25	0.03		0.28	c0.54		0.04			
v/s Ratio Perm									0.18	
v/c Ratio	1.03	0.12		0.78	0.84		0.16		0.68	
Uniform Delay, d1	36.5	28.6		27.7	13.2		27.4		31.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	54.6	0.8		5.1	7.5		0.7		7.3	
Delay (s)	91.1	29.4		32.7	20.8		28.0		39.2	
Level of Service	F	C		C	C		C		D	
Approach Delay (s)					26.6				39.2	
Approach LOS					C				D	

Intersection Summary

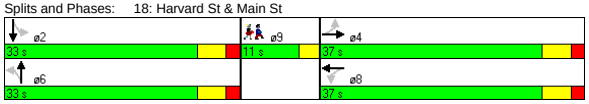
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	97	497	66	95	509	37	47	361	69	72	450	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	702	0	0	696	0	0	502	0	0	729	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	33.0	33.0	0.0	33.0	33.0	0.0	11.0
Total Split (%)	45.7%	45.7%	0.0%	45.7%	45.7%	0.0%	40.7%	40.7%	0.0%	40.7%	40.7%	0.0%	14%
Maximum Green (s)	31.0	31.0		31.0	31.0		27.0	27.0		27.0	27.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		Max	Max		Min	Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.30			1.29			0.99			1.42		
Control Delay		172.2			167.7			62.9			223.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		172.2			167.7			62.9			223.2		
Queue Length 50th (ft)		~390			~385			204			~426		
Queue Length 95th (ft)		#701			#693			#479			#721		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		539			539			508			514		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.30			1.29			0.99			1.42		

Intersection Summary	
Area Type:	CBD
Cycle Length: 81	
Actuated Cycle Length: 72.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1658			1668			1636			1625	
Flt Permitted		0.76			0.76			0.83			0.84	
Satd. Flow (perm)		1270			1271			1370			1378	
Volume (vph)	97	497	66	95	509	37	47	361	69	72	450	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	103	529	70	103	553	40	49	380	73	82	511	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	696	0	0	502	0	0	729	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		31.1			31.1			27.1			27.1	
Effective Green, g (s)		32.1			32.1			28.1			28.1	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		546			547			516			519	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.55			0.37			c0.53	
v/c Ratio		1.29			1.27			0.97			1.40	
Uniform Delay, d1		21.2			21.2			22.9			23.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		142.0			136.4			33.4			193.4	
Delay (s)		163.3			157.6			56.3			216.7	
Level of Service		F			F			E			F	
Approach Delay (s)		163.3			157.6			56.3			216.7	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	156.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	14.4
Intersection Capacity Utilization	114.3%	ICU Level of Service	H
Analysis Period (min)	15		

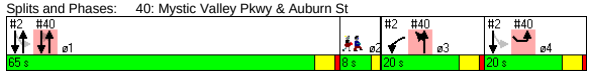
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	25	1081	1107	33	9	29	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	27	1162	1225	0	54	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	20.0	85.0	65.0	0.0	20.0	0.0	8.0
Total Split (%)	17.7%	75.2%	57.5%	0.0%	17.7%	0.0%	7%
Maximum Green (s)	15.0		60.0		15.0		6.0
Yellow Time (s)	4.0		4.0		4.0		2.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		Min		Min		None
Walk Time (s)							4.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.08	0.81	1.06		0.18		
Control Delay	2.1	12.4	67.4		18.9		
Queue Delay	1.8	6.5	0.7		0.0		
Total Delay	3.9	18.9	68.1		18.9		
Queue Length 50th (ft)	0	329	~896		8		
Queue Length 95th (ft)	m1	m467	#1294		30		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	343	1432	1157		299		
Starvation Cap Reductn	242	227	0		0		
Spillback Cap Reductn	0	0	2		4		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.27	0.96	1.06		0.18		

Intersection Summary	
Area Type:	Other
Cycle Length: 113	
Actuated Cycle Length: 106.6	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2019		1762	
Flt Permitted	0.07	1.00	1.00		0.99	
Satd. Flow (perm)	124	1900	2019		1762	
Volume (vph)	25	1081	1107	33	9	29
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	27	1162	1190	35	13	41
RTOR Reduction (vph)	0	0	1	0	35	0
Lane Group Flow (vph)	27	1162	1224	0	19	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	75.1	75.1	60.1		15.0	
Effective Green, g (s)	77.1	77.1	61.1		16.0	
Actuated g/C Ratio	0.71	0.71	0.56		0.15	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	337	1354	1140		261	
v/s Ratio Prot	0.01	c0.61	c0.61		c0.01	
v/s Ratio Perm	0.05					
v/c Ratio	0.08	0.86	1.07		0.07	
Uniform Delay, d1	39.3	11.5	23.6		39.7	
Progression Factor	0.36	0.90	1.00		1.00	
Incremental Delay, d2	0.1	4.6	48.8		0.2	
Delay (s)	14.2	14.9	72.4		39.9	
Level of Service	B	B	E		D	
Approach Delay (s)		14.9	72.4		39.9	
Approach LOS		B	E		D	

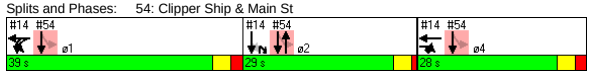
Intersection Summary			
HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	231	948	98	1116		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	266	1090	0	1396		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			29.0				39.0	28.0
Total Split (s)	0.0	0.0	29.0	0.0	96.0	96.0	39.0	28.0
Total Split (%)	0.0%	0.0%	30.2%	0.0%	100.0%	100.0%	41%	29%
Maximum Green (s)			25.0				34.0	23.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			16.0				26.0	16.0
Flash Dont Walk (s)			9.0				8.0	7.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.55	0.69		0.63		
Control Delay			35.7	2.5		7.8		
Queue Delay			0.2	0.0		0.0		
Total Delay			35.9	2.5		7.8		
Queue Length 50th (ft)			140	0		173		
Queue Length 95th (ft)			211	0		159		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			485	1583		2226		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			24	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.58	0.69		0.63		

Intersection Summary	
Area Type:	Other
Cycle Length: 96	
Actuated Cycle Length: 96	
Offset: 33 (34%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 100	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3185
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2225
Volume (vph)	0	0	231	948	98	1116
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	266	1090	113	1283
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	266	1090	0	1396
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			25.0	96.0		96.0
Effective Green, g (s)			25.0	96.0		96.0
Actuated g/C Ratio			0.26	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			485	1583		2225
v/s Ratio Prot			0.14			
v/s Ratio Perm				c0.69		0.63
v/c Ratio			0.55	0.69		0.63
Uniform Delay, d1			30.6	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			4.4	2.5		1.0
Delay (s)			35.0	2.5		1.0
Level of Service			D	A		A
Approach Delay (s)	0.0		8.9			1.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1080						1176			419		
Travel Time (s)			24.5						26.7			9.5		
Volume (vph)	2	25	423	246	12	1	18	20	665	135	254	143	7	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	489	280	0	0	0	0	902	0	0	435	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	31.0	31.0	31.0	31.0	0.0	31.0	31.0	31.0	31.0	0.0	31.0	31.0	0.0	26.0
Total Split (%)	25.4%	25.4%	25.4%	25.4%	0.0%	25.4%	25.4%	25.4%	25.4%	0.0%	25.4%	25.4%	0.0%	21.3%
Maximum Green (s)	25.0	25.0	25.0	25.0		25.0	25.0	25.0	25.0		25.0	25.0		20.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.97	0.32					1.43			0.90		
Control Delay			72.7	15.2					232.8			61.6		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			72.7	15.2					232.8			61.6		
Queue Length 50th (ft)			163	89					~413			270		
Queue Length 95th (ft)			#351	209					#681			#589		
Internal Link Dist (ft)			1000						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			505	876					632			483		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.97	0.32					1.43			0.90		

Intersection Summary

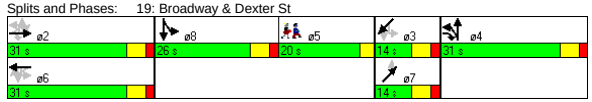
Area Type: Other
Cycle Length: 122
Actuated Cycle Length: 102.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 No-Build Condition - PM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	163	5	60	0	52	5	22	5	33	9	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	275	0	0	63	0	0	0	88	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	26.0	0.0	0.0	14.0	0.0	14.0	14.0	14.0	0.0	0.0	20.0
Total Split (%)	21.3%	0.0%	0.0%	11.5%	0.0%	11.5%	11.5%	11.5%	0.0%	0.0%	16%
Maximum Green (s)	20.0			8.0		8.0	8.0	8.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	0.79			0.46				0.68			
Control Delay	56.7			59.0				72.0			
Queue Delay	0.0			0.0				0.0			
Total Delay	56.7			59.0				72.0			
Queue Length 50th (ft)	160			39				53			
Queue Length 95th (ft)	#340			88				#143			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	392			144				134			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	0.70			0.44				0.66			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build\2030 No-Build - PM.sy7
VHB:: vl
VHB, Inc.
10/29/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3529	1564					3264			1889		
Flt Permitted			0.62	1.00					0.83			0.97		
Satd. Flow (perm)			2183	1564					2712			1889		
Volume (vph)	2	25	423	246	12	1	18	20	665	135	254	143	7	28
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	460	267	13	1	19	22	715	145	273	154	8	30
RTOR Reduction (vph)	0	0	0	2	0	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	0	489	278	0	0	0	0	902	0	0	434	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			25.2	50.4					25.2			25.2		
Effective Green, g (s)			26.2	52.4					26.2			26.2		
Actuated g/C Ratio			0.25	0.50					0.25			0.25		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			544	854					676			471		
v/s Ratio Prot				0.08								c0.23		
v/s Ratio Perm			0.22	0.10					c0.33					
v/c Ratio			0.90	0.33					1.33			0.92		
Uniform Delay, d1			38.2	15.8					39.4			38.5		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			17.9	0.6					160.4			25.1		
Delay (s)			56.0	16.4					199.9			63.5		
Level of Service			E	B					F			E		
Approach Delay (s)			41.6						199.9			63.5		
Approach LOS			D						F			E		

Intersection Summary				
HCM Average Control Delay	103.8	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.01			
Actuated Cycle Length (s)	105.1	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	105.6%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 No-Build Condition - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	0.99			1.00				0.98		
Satd. Flow (prot)	1917			1644				1697		
Flt Permitted	0.99			1.00				0.85		
Satd. Flow (perm)	1917			1644				1475		
Volume (vph)	163	5	60	0	52	5	22	5	33	9
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	175	5	65	0	63	6	26	6	39	11
RTOR Reduction (vph)	9	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	266	0	0	63	0	0	0	83	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	17.2			7.6				7.6		
Effective Green, g (s)	18.2			8.6				8.6		
Actuated g/C Ratio	0.17			0.08				0.08		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	332			135				121		
v/s Ratio Prot	c0.14			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	0.80			0.47				0.69		
Uniform Delay, d1	41.7			46.1				47.0		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	12.3			0.9				12.3		
Delay (s)	54.0			47.0				59.2		
Level of Service	D			D				E		
Approach Delay (s)	54.0			47.0				59.2		
Approach LOS	D			D				E		

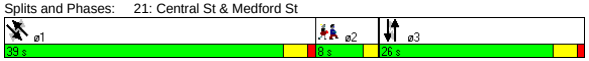
Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build\2030 No-Build - PM.sy7
VHB:: vl
VHB, Inc.
10/29/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	293	93	5	112	3	16	378	62	61	456	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	523	0	0	148	0	0	531	0	0	603	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0	8.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	53.4%	53.4%	0.0%	53.4%	53.4%	0.0%	11%
Maximum Green (s)	22.0	22.0		22.0	22.0		35.0	35.0		35.0	35.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.94			0.24			0.57			0.68		
Control Delay		49.4			18.2			14.2			17.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		49.4			18.2			14.2			17.3		
Queue Length 50th (ft)		189			41			126			156		
Queue Length 95th (ft)		#434			84			248			336		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		559			617			939			885		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.94			0.24			0.57			0.68		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 66.6	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1814			1889			1825			1841	
Flt Permitted		0.91			0.98			0.97			0.90	
Satd. Flow (perm)		1664			1862			1783			1672	
Volume (vph)	100	293	93	5	112	3	16	378	62	61	456	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	315	100	6	138	4	19	440	72	68	507	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	511	0	0	148	0	0	531	0	0	601	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		22.0			22.0			35.1			35.1	
Effective Green, g (s)		22.0			22.0			35.1			35.1	
Actuated g/C Ratio		0.32			0.32			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		537			601			918			861	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.08			0.30			c0.36	
v/c Ratio		0.95			0.25			0.58			0.70	
Uniform Delay, d1		22.6			17.0			11.4			12.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		28.7			1.0			2.7			4.7	
Delay (s)		51.3			18.0			14.1			17.2	
Level of Service		D			B			B			B	
Approach Delay (s)		51.3			18.0			14.1			17.2	
Approach LOS		D			B			B			B	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

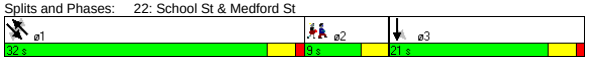
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			1535		
Travel Time (s)		21.7			21.8			35.4			34.9		
Volume (vph)	0	0	0	60	240	25	42	385	101	175	535	151	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	369	0	0	587	0	0	888	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		9.0
Total Split (s)	0.0	0.0	0.0	21.0	21.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0	9.0
Total Split (%)	0.0%	0.0%	0.0%	33.9%	33.9%	0.0%	51.6%	51.6%	0.0%	51.6%	51.6%	0.0%	15%
Maximum Green (s)				17.0	17.0		28.0	28.0		28.0	28.0		6.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.60			0.66			1.24		
Control Delay					21.4			14.8			139.1		
Queue Delay					0.0			0.0			0.0		
Total Delay					21.4			14.8			139.1		
Queue Length 50th (ft)					92			111			~355		
Queue Length 95th (ft)					197			#290			#669		
Internal Link Dist (ft)		873			879			1476			1455		
Turn Bay Length (ft)													
Base Capacity (vph)					618			896			715		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.60			0.66			1.24		

Intersection Summary	
Area Type:	Other
Cycle Length: 62	
Actuated Cycle Length: 54.8	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.97			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1968			1905			1916	
Flt Permitted					0.99			0.91			0.75	
Satd. Flow (perm)					1968			1741			1446	
Volume (vph)	0	0	0	60	240	25	42	385	101	175	535	151
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	68	273	28	47	428	112	180	552	156
RTOR Reduction (vph)	0	0	0	0	5	0	0	13	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	364	0	0	574	0	0	876	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					17.1			28.1			28.1	
Effective Green, g (s)					17.1			28.1			28.1	
Actuated g/C Ratio					0.30			0.49			0.49	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					587			854			709	
v/s Ratio Prot												
v/s Ratio Perm					0.19			0.33			c0.61	
v/c Ratio					0.62			0.67			1.24	
Uniform Delay, d1					17.3			11.1			14.6	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					4.9			4.2			118.1	
Delay (s)					22.2			15.3			132.7	
Level of Service					C			B			F	
Approach Delay (s)		0.0			22.2			15.3			132.7	
Approach LOS		A			C			B			F	

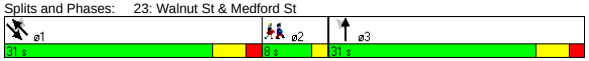
Intersection Summary					
HCM Average Control Delay	73.2	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.00				
Actuated Cycle Length (s)	57.3	Sum of lost time (s)		12.1	
Intersection Capacity Utilization	103.2%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1535			533		
Travel Time (s)		17.7			19.2			34.9			12.1		
Volume (vph)	114	275	9	0	0	0	4	247	0	0	352	13	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	531	0	0	0	0	0	318	0	0	415	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	44.3%	44.3%	0.0%	0.0%	0.0%	0.0%	44.3%	44.3%	0.0%	0.0%	44.3%	0.0%	11%
Maximum Green (s)	25.0	25.0					25.0	25.0			25.0		6.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		2.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.71						0.42			0.53		
Control Delay		23.0						16.0			17.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		23.0						16.0			17.8		
Queue Length 50th (ft)		155						80			110		
Queue Length 95th (ft)		236						142			217		
Internal Link Dist (ft)		699			764			1455			453		
Turn Bay Length (ft)													
Base Capacity (vph)		751						765			776		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.71						0.42			0.53		

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 63.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1831						1880			1891	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1831						1868			1891	
Volume (vph)	114	275	9	0	0	0	4	247	0	0	352	13
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	152	367	12	0	0	0	5	313	0	0	400	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	530	0	0	0	0	0	318	0	0	413	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.1						25.1			25.1	
Effective Green, g (s)		26.1						26.1			26.1	
Actuated g/C Ratio		0.40						0.40			0.40	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		732						747			756	
v/s Ratio Prot											c0.22	
v/s Ratio Perm		0.29						0.17				
v/c Ratio		0.72						0.43			0.55	
Uniform Delay, d1		16.6						14.2			15.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		3.8						0.5			1.0	
Delay (s)		20.4						14.7			16.1	
Level of Service		C						B			B	
Approach Delay (s)		20.4			0.0			14.7			16.1	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	17.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.60				
Actuated Cycle Length (s)	65.3	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	50.5%	ICU Level of Service		A	
Analysis Period (min)	15				

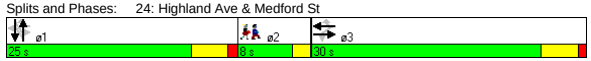
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	463	20	49	557	360	5	0	19	217	23	16	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	561	0	0	666	396	0	32	0	0	293	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	30.0	0.0	30.0	30.0	55.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	0.0%	47.6%	0.0%	47.6%	47.6%	87.3%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	13%
Maximum Green (s)		25.0		25.0	25.0		20.0	20.0		20.0	20.0		6.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.66			1.01	0.24		0.05			0.57		
Control Delay		17.4			58.2	0.5		7.3			20.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		17.4			58.2	0.5		7.3			20.1		
Queue Length 50th (ft)		128			200	0		1			71		
Queue Length 95th (ft)		264			#487	9		13			160		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		847			658	1631		605			510		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.66			1.01	0.24		0.05			0.57		

Intersection Summary

Area Type: Other
Cycle Length: 63
Actuated Cycle Length: 56.6
Natural Cycle: 60
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1681			1772	
Flt Permitted		1.00			0.82	1.00		0.93			0.74	
Satd. Flow (perm)		1834			1612	1680		1585			1359	
Volume (vph)	0	463	20	49	557	360	5	0	19	217	23	16
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	538	23	54	612	396	7	0	25	249	26	18
RTOR Reduction (vph)	0	2	0	0	0	48	0	16	0	0	4	0
Lane Group Flow (vph)	0	559	0	0	666	348	0	16	0	0	289	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		25.1			25.1	50.2		20.1			20.1	
Effective Green, g (s)		26.1			26.1	51.2		21.1			21.1	
Actuated g/C Ratio		0.45			0.45	0.88		0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		821			722	1475		574			492	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.41	0.21		0.01			c0.21	
v/c Ratio		0.68			0.92	0.24		0.03			0.59	
Uniform Delay, d1		12.8			15.1	0.5		12.0			15.1	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		4.5			19.1	0.4		0.1			5.1	
Delay (s)		17.3			34.3	0.9		12.1			20.2	
Level of Service		B			C	A		B			C	
Approach Delay (s)		17.3			21.9			12.1			20.2	
Approach LOS		B			C			B			C	

Intersection Summary

HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

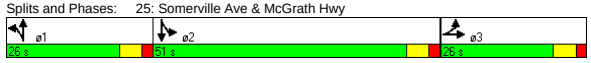
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	185	215	93	0	0	0	103	497	60	206	698	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	560	0	0	0	0	0	639	64	222	1031	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	51.0	51.0	0.0
Total Split (%)	25.2%	25.2%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	49.5%	49.5%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		45.0	45.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.78						0.89	0.04	0.28	0.70	
Control Delay		45.8						55.4	0.0	19.3	24.4	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		45.8						55.4	0.0	19.3	24.4	
Queue Length 50th (ft)		176						216	0	90	262	
Queue Length 95th (ft)		233						#315	0	144	338	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		716						722	1706	790	1473	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.78						0.89	0.04	0.28	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 103
Actuated Cycle Length: 103
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3409						3544	1706	1770	3216	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3409						3544	1706	1770	3216	
Volume (vph)	185	215	93	0	0	0	103	497	60	206	698	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	210	244	106	0	0	0	110	529	64	222	751	280
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	540	0	0	0	0	0	639	64	222	994	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	103.0	45.0	45.0	
Effective Green, g (s)		21.0						21.0	103.0	46.0	46.0	
Actuated g/C Ratio		0.20						0.20	1.00	0.45	0.45	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		695						723	1706	790	1436	
v/s Ratio Prot		c0.16						c0.18		0.13	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.78						0.88	0.04	0.28	0.69	
Uniform Delay, d1		38.8						39.8	0.0	18.0	22.8	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		8.3						14.8	0.0	0.9	2.8	
Delay (s)		47.1						54.6	0.0	18.9	25.6	
Level of Service		D						D	A	B	C	
Approach Delay (s)		47.1			0.0			49.6			24.4	
Approach LOS		D			A			D			C	

Intersection Summary

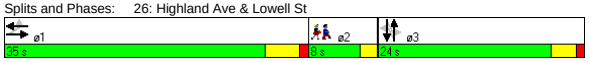
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	103.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	44	422	0	0	516	48	52	98	40	51	0	80	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	507	0	0	581	0	0	227	0	0	156	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	35.0	35.0	0.0	0.0	35.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	52.2%	52.2%	0.0%	0.0%	52.2%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%	12%
Maximum Green (s)	30.0	30.0			30.0		20.0	20.0		20.0	20.0		6.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.58			0.55			0.57			0.36		
Control Delay		13.0			11.4			24.1			10.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		13.0			11.4			24.1			10.4		
Queue Length 50th (ft)		81			91			61			15		
Queue Length 95th (ft)		#275			285			125			52		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		873			1066			533			545		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.58			0.55			0.43			0.29		

Intersection Summary	
Area Type:	Other
Cycle Length: 67	
Actuated Cycle Length: 54.4	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1842			1803			1702	
Flt Permitted		0.92			1.00			0.90			0.81	
Satd. Flow (perm)		1712			1842			1639			1409	
Volume (vph)	44	422	0	0	516	48	52	98	40	51	0	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	48	459	0	0	532	49	62	117	48	61	0	95
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	72	0
Lane Group Flow (vph)	0	507	0	0	581	0	0	227	0	0	84	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		30.4			30.4			13.5			13.5	
Effective Green, g (s)		31.4			31.4			13.5			13.5	
Actuated g/C Ratio		0.56			0.56			0.24			0.24	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		962			1035			396			340	
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.30						c0.14			0.06	
v/c Ratio		0.53			0.56			0.57			0.25	
Uniform Delay, d1		7.6			7.8			18.7			17.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.1			2.2			2.4			0.5	
Delay (s)		9.7			10.0			21.1			17.6	
Level of Service		A			B			C			B	
Approach Delay (s)		9.7			10.0			21.1			17.6	
Approach LOS		A			B			C			B	

Intersection Summary					
HCM Average Control Delay	12.4	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.53				
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

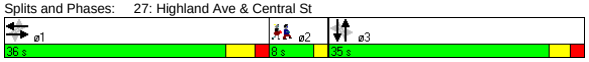
Green Line Extension
27: Highland Ave & Central St

2030 No-Build Condition - PM Peak
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	42	360	24	28	427	41	55	355	100	17	95	47	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	463	0	0	551	0	0	560	0	0	183	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	45.6%	45.6%	0.0%	45.6%	45.6%	0.0%	44.3%	44.3%	0.0%	44.3%	44.3%	0.0%	10%
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.69			0.75			0.81			0.27		
Control Delay		22.5			24.9			28.8			13.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		22.5			24.9			28.8			13.3		
Queue Length 50th (ft)		151			186			193			41		
Queue Length 95th (ft)		298			#396			#420			92		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		770			834			796			784		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.60			0.66			0.70			0.23		

Intersection Summary	
Area Type:	Other
Cycle Length: 79	
Actuated Cycle Length: 62.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Green Line Extension
27: Highland Ave & Central St

2030 No-Build Condition - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1822			1837			1822			1805	
Flt Permitted		0.91			0.96			0.95			0.93	
Satd. Flow (perm)		1670			1767			1734			1690	
Volume (vph)	42	360	24	28	427	41	55	355	100	17	95	47
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	46	391	26	31	474	46	60	390	110	20	109	54
RTOR Reduction (vph)	0	2	0	0	4	0	0	11	0	0	19	0
Lane Group Flow (vph)	0	461	0	0	547	0	0	549	0	0	164	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		24.4			24.4			24.4			24.4	
Effective Green, g (s)		25.4			25.4			24.4			24.4	
Actuated g/C Ratio		0.41			0.41			0.39			0.39	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		677			716			675			658	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.31			c0.32			0.10	
v/c Ratio		0.68			0.76			0.81			0.25	
Uniform Delay, d1		15.3			16.1			17.1			13.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.1			5.1			7.8			0.3	
Delay (s)		18.4			21.2			24.9			13.2	
Level of Service		B			C			C			B	
Approach Delay (s)		18.4			21.2			24.9			13.2	
Approach LOS		B			C			C			B	

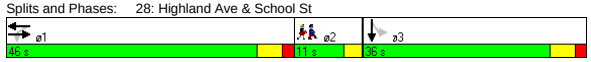
Intersection Summary					
HCM Average Control Delay	20.8	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.74				
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	79.6%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	471	17	57	505	0	0	0	0	108	235	117	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	548	0	0	598	0	0	0	0	0	464	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		11.0
Total Split (s)	0.0	46.0	0.0	46.0	46.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0	11.0
Total Split (%)	0.0%	49.5%	0.0%	49.5%	49.5%	0.0%	0.0%	0.0%	0.0%	38.7%	38.7%	0.0%	12%
Maximum Green (s)		40.0		40.0	40.0					30.0	30.0		8.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.62			0.98						0.72		
Control Delay		20.4			55.9						31.3		
Queue Delay		0.0			0.0						0.0		
Total Delay		20.4			55.9						31.3		
Queue Length 50th (ft)		191			279						197		
Queue Length 95th (ft)		366			#603						#401		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		880			610						646		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.62			0.98						0.72		

Intersection Summary

Area Type: Other
Cycle Length: 93
Actuated Cycle Length: 84.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1799			1816						1752	
Flt Permitted		1.00			0.76						0.99	
Satd. Flow (perm)		1799			1391						1752	
Volume (vph)	0	471	17	57	505	0	0	0	0	108	235	117
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	529	19	61	537	0	0	0	0	109	237	118
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	598	0	0	0	0	0	464	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		40.1			40.1						30.1	
Effective Green, g (s)		41.1			41.1						31.1	
Actuated g/C Ratio		0.47			0.47						0.36	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		854			660						629	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.43						0.26	
v/c Ratio		0.64			0.91						0.74	
Uniform Delay, d1		17.2			21.0						24.2	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.7			16.0						7.6	
Delay (s)		18.8			37.0						31.8	
Level of Service		B			D						C	
Approach Delay (s)		18.8			37.0			0.0			31.8	
Approach LOS		B			D			A			C	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	14.4
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

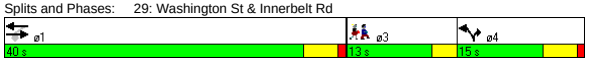
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	656	36	92	788	192	158	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	852	47	99	847	282	232	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	40.0	40.0	40.0	40.0	15.0	15.0	13.0
Total Split (%)	58.8%	58.8%	58.8%	58.8%	22.1%	22.1%	19%
Maximum Green (s)	35.0	35.0	35.0	35.0	10.0	10.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							5.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.73	0.06	0.78	0.74	0.84	0.63	
Control Delay	14.1	2.5	55.9	14.6	49.0	23.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.1	2.5	55.9	14.6	49.0	23.9	
Queue Length 50th (ft)	142	0	17	143	89	42	
Queue Length 95th (ft)	332	10	#127	#527	#168	80	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	857	128	1150	335	370	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.05	0.77	0.74	0.84	0.63	

Intersection Summary

Area Type: Other
Cycle Length: 68
Actuated Cycle Length: 57
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.18	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	323	1827	1719	1538
Volume (vph)	656	36	92	788	192	158
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	852	47	99	847	282	232
RTOR Reduction (vph)	0	19	0	0	0	72
Lane Group Flow (vph)	852	28	99	847	282	160
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	34.6	34.6	34.6	34.6	10.1	10.1
Effective Green, g (s)	35.6	35.6	35.6	35.6	11.1	11.1
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.19	0.19
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1117	799	194	1095	321	287
v/s Ratio Prot	0.46			c0.46	c0.16	0.10
v/s Ratio Perm		0.02	0.31			
v/c Ratio	0.76	0.04	0.51	0.77	0.88	0.56
Uniform Delay, d1	8.8	4.9	6.9	8.9	23.5	21.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.0	0.9	3.2	23.3	2.9
Delay (s)	11.6	4.9	7.8	12.0	46.8	24.8
Level of Service	B	A	A	B	D	C
Approach Delay (s)	11.3			11.6	36.9	
Approach LOS	B			B	D	

Intersection Summary

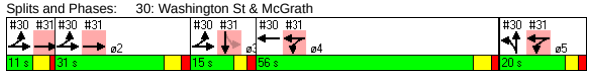
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	59.4	Sum of lost time (s)	12.7
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	794	398	0	0	1036	162	58	554	712	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	836	410	0	0	1377	0	61	583	749	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	56.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	11.0	31.0
Total Split (%)	42.9%	42.9%	0.0%	0.0%	42.1%	0.0%	15.0%	15.0%	0.0%	0.0%	0.0%	0.0%	8%	23%
Maximum Green (s)					50.0		15.0	15.0					6.0	25.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.58	0.21			0.71		0.31	2.83	0.48					
Control Delay	4.1	0.8			37.3		59.0	857.9	1.1					
Queue Delay	0.0	0.0			0.0		0.3	0.0	0.0					
Total Delay	4.1	0.8			37.3		59.3	857.9	1.1					
Queue Length 50th (ft)	56	1			366		49	~860	0					
Queue Length 95th (ft)	m58	m1			403		96	#1090	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1446	1950			1931		196	206	1553					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			1		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.58	0.21			0.71		0.34	2.83	0.48					

Intersection Summary	
Area Type:	Other
Cycle Length: 133	
Actuated Cycle Length: 133	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath



Green Line Extension
30: Washington St & McGrath

2030 No-Build Condition - PM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	15.0
Total Split (%)	11%
Maximum Green (s)	10.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build\2030 No-Build - PM.sy7
VHB:: vl
VHB, Inc.
10/29/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5035		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5035		1736	1827	1553			
Volume (vph)	794	398	0	0	1036	162	58	554	712	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	836	410	0	0	1191	186	61	583	749	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	836	410	0	0	1377	0	61	583	749	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			50.0		15.0	15.0	133.0			
Effective Green, g (s)	52.0	52.0			51.0		15.0	15.0	133.0			
Actuated g/C Ratio	0.39	0.39			0.38		0.11	0.11	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1446	1950			1931		196	206	1553			
v/s Ratio Prot	c0.23	0.08			c0.27		0.04	c0.32				
v/s Ratio Perm									c0.48			
v/c Ratio	0.58	0.21			0.71		0.31	2.83	0.48			
Uniform Delay, d1	31.9	26.9			34.8		54.3	59.0	0.0			
Progression Factor	0.09	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	1.2	0.2			2.3		4.1	836.8	1.1			
Delay (s)	4.1	0.8			37.1		58.3	895.8	1.1			
Level of Service	A	A			D		E	F	A			
Approach Delay (s)		3.0			37.1			378.1			0.0	
Approach LOS		A			D			F			A	

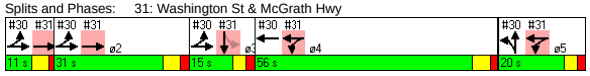
Intersection Summary			
HCM Average Control Delay	144.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1192	39	406	630	0	0	0	0	32	143	364		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1295	0	451	700	0	0	0	0	0	589	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	42.0	0.0	76.0	76.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	11.0	31.0
Total Split (%)	0.0%	31.6%	0.0%	57.1%	57.1%	0.0%	0.0%	0.0%	0.0%	11.3%	11.3%	0.0%	8%	23%
Maximum Green (s)										10.0	10.0		6.0	25.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.65		0.49	0.37						2.02dr			
Control Delay		43.9		1.4	0.4						436.5			
Queue Delay		0.1		0.0	0.0						153.4			
Total Delay		44.0		1.4	0.4						589.9			
Queue Length 50th (ft)		242		0	0						~375			
Queue Length 95th (ft)		277		0	0						#497			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		2000		927	1889						313			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		95		0	0						48			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.68		0.49	0.37						2.22			

Intersection Summary	
Area Type:	Other
Cycle Length: 133	
Actuated Cycle Length: 133	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	56.0	20.0
Total Split (%)	42%	15%
Maximum Green (s)	50.0	15.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3173	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3173	
Volume (vph)	0	1192	39	406	630	0	0	0	0	32	143	364
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1255	40	451	700	0	0	0	0	38	155	396
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	75	0
Lane Group Flow (vph)	0	1291	0	451	700	0	0	0	0	0	514	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		36.0		71.0	71.0						10.0	
Effective Green, g (s)		37.0		71.0	71.0						10.0	
Actuated g/C Ratio		0.28		0.53	0.53						0.08	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1997		927	1889						239	
v/s Ratio Prot		c0.18		c0.26	0.20							
v/s Ratio Perm											0.16	
v/c Ratio		0.65		0.49	0.37						2.02dr	
Uniform Delay, d1		42.2		19.5	18.0						61.5	
Progression Factor		1.00		0.00	0.00						1.00	
Incremental Delay, d2		1.6		1.3	0.4						531.7	
Delay (s)		43.9		1.4	0.4						593.2	
Level of Service		D		A	A						F	
Approach Delay (s)		43.9			0.8			0.0			593.2	
Approach LOS		D			A			A			F	

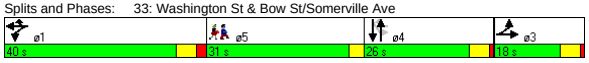
Intersection Summary			
HCM Average Control Delay	134.1	HCM Level of Service	F
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	133.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	61	326	30	413	374	885	0	0	0	442	254	38	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	458	0	439	398	941	0	0	0	249	576	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	18.0	18.0	0.0	40.0	40.0	40.0	0.0	26.0	0.0	26.0	26.0	0.0	31.0
Total Split (%)	15.7%	15.7%	0.0%	34.8%	34.8%	34.8%	0.0%	22.6%	0.0%	22.6%	22.6%	0.0%	27%
Maximum Green (s)	13.0	13.0		34.0	34.0	34.0		21.0		21.0	21.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max	Max		Max		Max	Max		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.05		0.74	0.64	0.76				0.92	1.03		
Control Delay		98.6		38.7	34.0	5.8				78.1	84.7		
Queue Delay		0.0		0.0	0.0	0.2				0.0	0.0		
Total Delay		98.6		38.7	34.0	6.0				78.1	84.7		
Queue Length 50th (ft)		126		181	156	3				136	160		
Queue Length 95th (ft)		#334		#504	#415	44				#407	#408		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		436		592	623	1237				270	558		
Starvation Cap Reductn		0		0	0	30				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.05		0.74	0.64	0.78				0.92	1.03		

Intersection Summary	
Area Type:	CBD
Cycle Length: 115	
Actuated Cycle Length: 96.4	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2798	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.83	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2368	
Volume (vph)	61	326	30	413	374	885	0	0	0	442	254	38
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	67	358	33	439	398	941	0	0	0	497	285	43
RTOR Reduction (vph)	0	0	0	0	0	380	0	0	0	0	5	0
Lane Group Flow (vph)	0	458	0	439	398	561	0	0	0	249	571	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		13.3		34.8	34.8	56.3				21.5	21.5	
Effective Green, g (s)		14.3		35.8	35.8	57.3				22.5	22.5	
Actuated g/C Ratio		0.15		0.37	0.37	0.58				0.23	0.23	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		428		582	612	833				265	544	
v/s Ratio Prot		c0.16		c0.28	0.24	0.25						
v/s Ratio Perm						0.15				0.22	c0.24	
v/c Ratio		1.07		0.75	0.65	0.67				0.94	1.05	
Uniform Delay, d1		41.9		27.2	25.9	13.9				37.1	37.8	
Progression Factor		1.00		1.00	1.00	1.00				1.00	1.00	
Incremental Delay, d2		63.5		8.8	5.3	4.3				41.7	52.5	
Delay (s)		105.3		36.0	31.2	18.3				78.8	90.2	
Level of Service		F		D	C	B				E	F	
Approach Delay (s)		105.3			25.5			0.0			86.8	
Approach LOS		F			C			A			F	

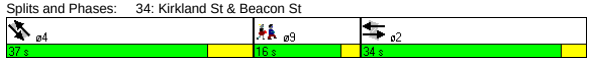
Intersection Summary					
HCM Average Control Delay		54.0	HCM Level of Service		D
HCM Volume to Capacity ratio		0.91			
Actuated Cycle Length (s)		98.0	Sum of lost time (s)		25.4
Intersection Capacity Utilization		82.2%	ICU Level of Service		E
Analysis Period (min)		15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	311	39	38	263	67	41	364	62	28	485	73	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	489	0	0	418	0	0	502	0	0	604	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	34.0	34.0	0.0	34.0	34.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	16.0
Total Split (%)	39.1%	39.1%	0.0%	39.1%	39.1%	0.0%	42.5%	42.5%	0.0%	42.5%	42.5%	0.0%	18%
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.94			0.62			0.76			0.81		
Control Delay		51.5			22.9			28.9			30.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		51.5			22.9			28.9			30.9		
Queue Length 50th (ft)		191			131			171			214		
Queue Length 95th (ft)		#500			291			#443			#535		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		520			678			659			742		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.94			0.62			0.76			0.81		

Intersection Summary	
Area Type:	Other
Cycle Length: 87	
Actuated Cycle Length: 74.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1820			1808			1821			1827	
Flt Permitted		0.75			0.93			0.90			0.96	
Satd. Flow (perm)		1389			1683			1647			1764	
Volume (vph)	110	311	39	38	263	67	41	364	62	28	485	73
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	331	41	43	299	76	44	391	67	29	500	75
RTOR Reduction (vph)	0	4	0	0	8	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	485	0	0	410	0	0	496	0	0	599	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.2			30.2			30.2			30.2	
Effective Green, g (s)		30.2			30.2			31.2			31.2	
Actuated g/C Ratio		0.39			0.39			0.41			0.41	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		548			664			671			718	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.24			0.30			c0.34	
v/c Ratio		0.89			0.62			0.74			0.83	
Uniform Delay, d1		21.6			18.6			19.3			20.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		18.7			4.3			7.2			11.0	
Delay (s)		40.3			22.8			26.4			31.3	
Level of Service		D			C			C			C	
Approach Delay (s)		40.3			22.8			26.4			31.3	
Approach LOS		D			C			C			C	

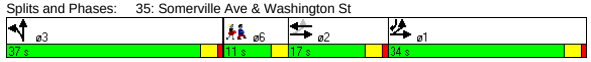
Intersection Summary					
HCM Average Control Delay	30.5	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	76.6	Sum of lost time (s)		15.2	
Intersection Capacity Utilization	92.8%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	375	387	0	0	446	39	503	773	97	0	0	855	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	876	0	0	592	0	468	977	0	0	0	900	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	34.0	51.0	0.0	0.0	17.0	0.0	37.0	37.0	0.0	0.0	0.0	34.0	11.0
Total Split (%)	34.3%	51.5%	0.0%	0.0%	17.2%	0.0%	37.4%	37.4%	0.0%	0.0%	0.0%	34.3%	11%
Maximum Green (s)	30.0				13.0		33.0	33.0				30.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		Max	Max				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.62			0.84		0.96	0.96				1.18	
Control Delay		19.3			49.7		65.7	53.3				128.7	
Queue Delay		0.0			0.0		2.0	1.8				2.7	
Total Delay		19.3			49.7		67.7	55.0				131.5	
Queue Length 50th (ft)		156			180		315	325				~390	
Queue Length 95th (ft)		254			#328		#538	#470				#523	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1423			706		488	1016				760	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		6	13				4	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.62			0.84		0.97	0.97				1.19	

Intersection Summary	
Area Type:	CBD
Cycle Length: 99	
Actuated Cycle Length: 99	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3109			3178		1464	3024				2508
Flt Permitted		0.59			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1864			3178		1464	3024				2508
Volume (vph)	375	387	0	0	446	39	503	773	97	0	0	855
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	431	445	0	0	544	48	529	814	102	0	0	900
RTOR Reduction (vph)	0	0	0	0	6	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	876	0	0	586	0	468	968	0	0	0	900
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		49.4			21.8		33.0	33.0				27.6
Effective Green, g (s)		49.4			21.8		33.0	33.0				27.6
Actuated g/C Ratio		0.50			0.22		0.33	0.33				0.28
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1277			700		488	1008				699
v/s Ratio Prot		0.19			c0.18		0.32	c0.32				c0.36
v/s Ratio Perm		0.15										
v/c Ratio		0.69			0.84		0.96	0.96				1.29
Uniform Delay, d1		18.9			36.9		32.3	32.4				35.7
Progression Factor		1.00			1.00		1.00	1.00				1.00
Incremental Delay, d2		3.0			11.4		31.7	20.3				140.1
Delay (s)		21.9			48.3		64.1	52.7				175.8
Level of Service		C			D		E	D				F
Approach Delay (s)		21.9			48.3			56.4			175.8	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	75.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	99.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

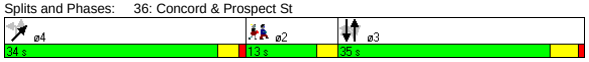
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	123	0	672	128	299	258	12	13	614	12	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	855	0	141	626	0	0	0	673	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		13.0
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	0.0	34.0	34.0	0.0	13.0
Total Split (%)	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	0.0%	41.5%	41.5%	0.0%	16%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											4.0
Flash Dont Walk (s)											6.0
Pedestrian Calls (#/hr)											10
v/c Ratio		3.67		0.77	0.78				0.80		
Control Delay		1226.1		50.5	27.1				28.3		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		1226.1		50.5	27.1				28.3		
Queue Length 50th (ft)		~580		47	210				232		
Queue Length 95th (ft)		#945		#178	#501				#539		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		233		182	804				842		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		3.67		0.77	0.78				0.80		

Intersection Summary	
Area Type:	Other
Cycle Length: 82	
Actuated Cycle Length: 71.6	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1764		1888	1846				1999	
Flt Permitted		0.38		0.24	1.00				1.00	
Satd. Flow (perm)		678		479	1846				1999	
Volume (vph)	123	0	672	128	299	258	12	13	614	12
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	132	0	723	141	329	284	13	14	646	13
RTOR Reduction (vph)	0	44	0	0	1	0	0	0	1	0
Lane Group Flow (vph)	0	811	0	141	625	0	0	0	672	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		30.1		30.1	30.1				30.1	
Effective Green, g (s)		31.1		31.1	31.1				30.1	
Actuated g/C Ratio		0.42		0.42	0.42				0.41	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		285		202	777				814	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c1.20		0.29					0.34	
v/c Ratio		2.85		0.70	0.80				0.83	
Uniform Delay, d1		21.4		17.5	18.7				19.6	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		840.1		8.2	5.7				6.6	
Delay (s)		861.5		25.7	24.5				26.1	
Level of Service		F		C	C				C	
Approach Delay (s)		861.5			24.7				26.1	
Approach LOS		F			C				C	

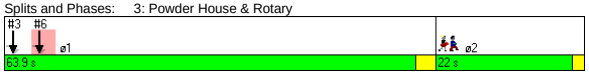
Intersection Summary			
HCM Average Control Delay	336.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.85		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	12.7
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	455	0	0	1037	500	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	535	0	0	1092	526	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.61	0.33	
Control Delay		0.5			3.9	0.6	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			4.0	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			530	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		9			10	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.33	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	455	0	0	1037	500
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	535	0	0	1092	526
RTOR Reduction (vph)	0	44	0	0	0	0
Lane Group Flow (vph)	0	491	0	0	1092	526
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.33
v/c Ratio		0.33			0.64	0.33
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			1.8	0.6
Delay (s)		1.2			2.8	0.6
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.1	
Approach LOS	A			A	A	

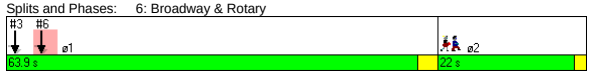
Intersection Summary			
HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	462	0	0	1041	451	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	508	0	0	1096	475	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.62	0.30	
Control Delay		0.6			2.2	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			2.2	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			118	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	462	0	0	1041	451
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	508	0	0	1096	475
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	0	466	0	0	1096	475
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.30
v/c Ratio		0.32			0.64	0.30
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			0.34	1.00
Incremental Delay, d2		0.6			1.6	0.4
Delay (s)		1.2			2.0	0.4
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	1.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	472	1069	523	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	519	1201	588	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.34	0.71	0.40			
Control Delay		0.6	4.8	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.6	4.8	0.8			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	781	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	101			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.34	0.71	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	472	1069	523	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	519	1201	588	0	0
RTOR Reduction (vph)	0	43	0	48	0	0
Lane Group Flow (vph)	0	476	1201	540	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.68	0.36		
v/s Ratio Perm		0.30				
v/c Ratio		0.33	0.74	0.39		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.70	0.02		
Incremental Delay, d2		0.6	2.6	0.7		
Delay (s)		1.2	3.5	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.2		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	772	820	678	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	898	921	762	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.57	0.53	0.51			
Control Delay		1.5	3.1	1.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.5	3.1	1.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	361	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1497			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		39	6	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.58	0.54	0.51			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	772	820	678	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	898	921	762	0	0
RTOR Reduction (vph)	0	74	0	63	0	0
Lane Group Flow (vph)	0	824	921	699	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.51	0.46		
v/s Ratio Perm		0.51				
v/c Ratio		0.56	0.56	0.50		
Uniform Delay, d1		0.8	0.8	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.5	1.4	1.3		
Delay (s)		2.4	2.2	2.0		
Level of Service		A	A	A		
Approach Delay (s)	2.4		2.1			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

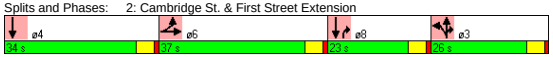
Lanes, Volumes, Timings
2: Cambridge St. & First Street Extension 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	200	210	50	0	0	0	100	230	490	0	335	495		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	222	289	0	0	0	0	0	367	544	0	883	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.62	0.78						1.11	0.57		0.51			
Control Delay	50.3	57.5						127.4	4.7		9.9			
Queue Delay	15.1	0.0						44.0	0.0		0.9			
Total Delay	65.3	57.5						171.4	4.7		10.7			
Queue Length 50th (ft)	139	182						~285	0		117			
Queue Length 95th (ft)	194	247						#454	69		306			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						331	953		1742			
Starvation Cap Reductn	0	0						0	0		527			
Spillback Cap Reductn	243	0						29	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.91	0.58						1.22	0.57		0.73			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Cambridge St. & First Street Extension



HCM Signalized Intersection Capacity Analysis
2: Cambridge St. & First Street Extension 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1808	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1808	1459		3222	
Volume (vph)	200	210	50	0	0	0	100	230	490	0	335	495
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	222	233	56	0	0	0	111	256	544	0	356	527
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	301	0	196	0
Lane Group Flow (vph)	222	281	0	0	0	0	0	367	243	0	687	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.4	23.4						21.0	52.6		55.6	
Effective Green, g (s)	24.4	24.4						22.0	53.6		57.6	
Actuated g/C Ratio	0.20	0.20						0.18	0.45		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	360	364						331	652		1547	
v/s Ratio Prot	0.13	c0.16						c0.20	0.17		c0.21	
v/s Ratio Perm												
v/c Ratio	0.62	0.77						1.11	0.37		0.44	
Uniform Delay, d1	43.5	45.2						49.0	22.0		20.6	
Progression Factor	1.00	1.00						1.00	1.00		1.45	
Incremental Delay, d2	3.1	9.8						82.0	0.4		0.7	
Delay (s)	46.7	54.9						131.0	22.4		30.7	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.3			0.0			66.2			30.7	
Approach LOS		D			A			E			C	

Intersection Summary

HCM Average Control Delay	49.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

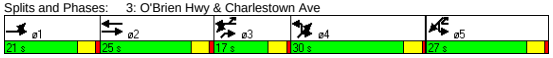
Lanes, Volumes, Timings
3: O'Brien Hwy & Charlestown Ave 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	980	330	385	750	425	430	1230	590	300	520	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1077	363	389	758	429	453	1295	621	319	814	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.64	0.23	2.30	0.77	0.64	1.29	1.72	1.08	1.09	1.29		
Control Delay	744.8	34.8	0.3	619.8	31.4	19.4	189.3	361.0	95.8	124.0	181.0		
Queue Delay	0.0	0.0	0.0	0.0	207.4	1.4	0.0	0.0	185.4	0.0	0.0		
Total Delay	744.8	34.8	0.3	619.8	238.8	20.8	189.3	361.0	281.2	124.0	181.0		
Queue Length 50th (ft)	~678	223	0	~442	274	119	~394	~686	~449	~269	~375		
Queue Length 95th (ft)	#874	268	0	m#592	m333	m204	#575	#806	#651	#445	#493		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	574	293	629		
Starvation Cap Reductn	0	0	0	0	468	101	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	162	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.64	0.23	2.30	1.46	0.75	1.29	1.72	1.51	1.09	1.29		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



HCM Signalized Intersection Capacity Analysis
3: O'Brien Hwy & Charlestown Ave 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Volume (vph)	540	980	330	385	750	425	430	1230	590	300	520	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1077	363	389	758	429	453	1295	621	319	553	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	36	0	42	0
Lane Group Flow (vph)	593	1077	363	389	758	178	453	1295	585	319	772	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.24	0.13	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.64	0.23	2.30	0.77	0.42	1.29	1.72	1.09	1.09	1.32	
Uniform Delay, d1	51.5	32.6	0.0	53.5	37.0	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.83	0.75	4.64	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	596.6	2.1	0.4	150.6	330.5	64.7	78.3	153.6	
Delay (s)	774.3	33.4	0.3	641.2	29.8	156.7	197.6	377.5	103.2	126.8	202.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		243.6			215.2			271.2			180.9	
Approach LOS		F			F			F			F	

Intersection Summary					
HCM Average Control Delay	236.5	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.66				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	118.6%	ICU Level of Service		H	
Analysis Period (min)	15				

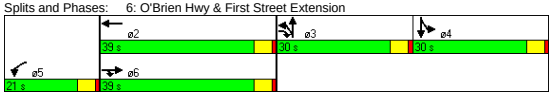
c Critical Lane Group

Lanes, Volumes, Timings
6: O'Brien Hwy & First Street Extension 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	970	120	350	930	50	210	220	0	175	360	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1078	133	389	1089	0	233	244	0	0	627	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.72	0.16	0.82	1.05		0.73	0.73			0.71	
Control Delay		24.1	1.0	64.9	82.7		63.9	63.4			46.7	
Queue Delay		0.0	0.0	2.1	0.0		221.6	243.7			9.3	
Total Delay		24.1	1.0	67.0	82.7		285.5	307.1			55.9	
Queue Length 50th (ft)		155	7	134	~428		171	179			206	
Queue Length 95th (ft)		186	0	#195	#548		m196	m205			#291	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	893	486	1038		384	404			880	
Starvation Cap Reductn		0	0	0	0		226	244			0	
Spillback Cap Reductn		0	7	31	0		0	0			221	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.72	0.15	0.85	1.05		1.47	1.53			0.95	

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



HCM Signalized Intersection Capacity Analysis
6: O'Brien Hwy & First Street Extension 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3512		1770	1863			3458	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3512		1770	1863			3458	
Volume (vph)	0	970	120	350	930	50	210	220	0	175	360	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1078	133	389	1033	56	233	244	0	194	400	33
RTOR Reduction (vph)	0	0	33	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1078	100	389	1085	0	233	244	0	0	624	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.0	15.6	34.4		20.6	20.6			29.4	
Effective Green, g (s)		35.4	61.0	16.6	35.4		21.6	21.6			30.4	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.18	0.18			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	805	475	1036		319	335			876	
v/s Ratio Prot		0.21	0.06	c0.11	c0.31		c0.13	0.13			c0.18	
v/s Ratio Perm												
v/c Ratio		0.72	0.12	0.82	1.05		0.73	0.73			0.71	
Uniform Delay, d1		37.8	15.5	50.2	42.3		46.5	46.4			40.8	
Progression Factor		0.55	0.09	1.00	1.00		1.25	1.25			1.00	
Incremental Delay, d2		2.9	0.1	10.6	41.3		3.9	3.6			4.9	
Delay (s)		23.9	1.4	60.8	83.6		61.7	61.4			45.7	
Level of Service		C	A	E	F		E	E			D	
Approach Delay (s)		21.4			77.6			61.5			45.7	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	52.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

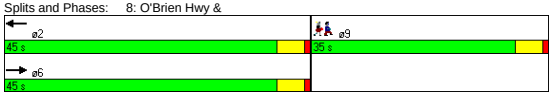
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1845	0	0	1375	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2005	0	0	1495	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.45			
Control Delay	3.0			3.4			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.4			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	279			331			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.45			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

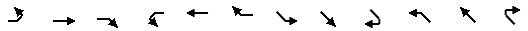
Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1845	0	0	1375	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2005	0	0	1495	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2005	0	0	1495	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.39			c0.42		
v/s Ratio Perm						
v/c Ratio	0.45			0.48		
Uniform Delay, d1	1.5			1.6		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.1		
Level of Service	A			A		
Approach Delay (s)	1.8			2.1	0.0	
Approach LOS	A			A	A	

Intersection Summary

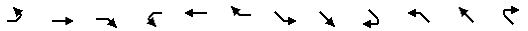
HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	700	0	0	5	0	1145	0	0	1345	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	778	0	0	6	0	1272	0	0	1448	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

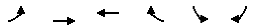


Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	700	0	0	5	0	1145	0	0	1345	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	778	0	0	6	0	1272	0	0	1416	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.81	0.86	0.86	0.90	0.90			0.81		
vC, conflicting volume	1986	2720	424	2633	2704	724	1447			1272		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1436	2288	0	2188	2269	589	1389			878		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	12	100	100	99	100			100		
cM capacity (veh/h)	79	33	880	2	33	402	359			569		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	778	6	424	424	424	944	504
Volume Left	0	0	0	0	0	0	0
Volume Right	778	6	0	0	0	0	32
cSH	880	402	1700	1700	1700	1700	1700
Volume to Capacity	0.88	0.01	0.25	0.25	0.25	0.56	0.30
Queue Length 95th (ft)	260	1	0	0	0	0	0
Control Delay (s)	31.0	14.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	31.0	14.1	0.0			0.0	
Approach LOS	D	B					

Intersection Summary					
Average Delay	6.9				
Intersection Capacity Utilization	72.1%	ICU Level of Service		C	
Analysis Period (min)	15				

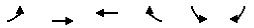
Lanes, Volumes, Timings
29: O'Brien Hwy & Drive A 10/28/2008



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1845	1355	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2050	1584	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

HCM Unsignalized Intersection Capacity Analysis
29: O'Brien Hwy & Drive A 10/28/2008



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1845	1355	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2050	1506	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.79				0.83	0.79
vC, conflicting volume	1583				2228	792
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1474				1876	475
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	359				53	425

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	683	683	683	1004	580	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	425
Volume to Capacity	0.40	0.40	0.40	0.59	0.34	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.9
Approach LOS						B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

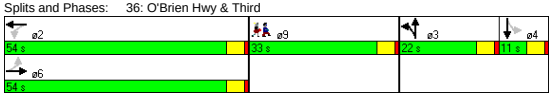
Lanes, Volumes, Timings
36: O'Brien Hwy & Third 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1275	380	1	1430	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1840	0	0	1591	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.96		2.17	1.95			0.04		
Control Delay		30.9			54.4		566.2	471.0			48.3		
Queue Delay		0.2			1.8		0.0	28.6			0.0		
Total Delay		31.1			56.2		566.2	499.6			48.3		
Queue Length 50th (ft)		361			498		~586	~555			1		
Queue Length 95th (ft)		#549			#772		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			25		0	0			0		
Spillback Cap Reductn		35			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.87			0.98		2.17	2.02			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third



HCM Signalized Intersection Capacity Analysis
36: O'Brien Hwy & Third 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4910			3539		1569	1674			1750	
Flt Permitted		0.90			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4409			3376		1569	1674			1779	
Volume (vph)	1	1275	380	1	1430	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1417	422	1	1589	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	42	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1798	0	0	1591	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2013			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.41			c0.47						c0.00	
v/c Ratio		0.89			1.03		2.17	1.97			0.06	
Uniform Delay, d1		29.9			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.42		1.00	1.00			1.00	
Incremental Delay, d2		6.6			29.5		540.4	448.8			0.8	
Delay (s)		36.5			75.9		591.4	499.8			58.7	
Level of Service		D			E		F	F			E	
Approach Delay (s)		36.5			75.9			546.3			58.7	
Approach LOS		D			E			F			E	

Intersection Summary

HCM Average Control Delay	166.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings
37: O'Brien Hwy & Gore St. 10/28/2008

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	995	15	0	1210	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1086	0	0	1287	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

HCM Unsignalized Intersection Capacity Analysis
37: O'Brien Hwy & Gore St. 10/28/2008

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	995	15	0	1210	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1070	16	0	1287	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.75	0.92
vC, conflicting volume			1086		1722	365
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			920		1208	136
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			667		134	819

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	428	428	230	644	644	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	819
Volume to Capacity	0.25	0.25	0.14	0.38	0.38	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		

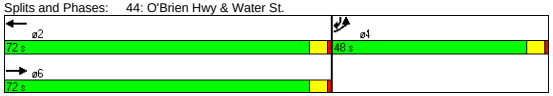
Lanes, Volumes, Timings
44: O'Brien Hwy & Water St. 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	295	1010	0	0	1130	80	0	0	0	0	0	300
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	317	1086	0	0	1287	0	0	0	0	0	0	333
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.81	0.31			0.53							0.79
Control Delay	72.2	0.5			6.3							48.6
Queue Delay	0.7	0.3			0.6							674.1
Total Delay	72.9	0.8			7.0							722.6
Queue Length 50th (ft)	228	6			72							177
Queue Length 95th (ft)	m263	m12			m81							245
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3488			2407							637
Starvation Cap Reductn	102	1518			202							0
Spillback Cap Reductn	0	0			678							606
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.60	0.55			0.74							10.74

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



HCM Signalized Intersection Capacity Analysis
44: O'Brien Hwy & Water St. 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3404							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3404							1627
Volume (vph)	295	1010	0	0	1130	80	0	0	0	0	0	300
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	317	1086	0	0	1202	85	0	0	0	0	0	333
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	49
Lane Group Flow (vph)	317	1086	0	0	1284	0	0	0	0	0	0	284
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	26.3	83.7			83.7							26.3
Effective Green, g (s)	27.3	84.7			84.7							27.3
Actuated g/C Ratio	0.23	0.71			0.71							0.23
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	391	3487			2403							370
v/s Ratio Prot	c0.18	0.22			c0.38							0.17
v/s Ratio Perm												
v/c Ratio	0.81	0.31			0.53							0.77
Uniform Delay, d1	43.9	6.7			8.3							43.4
Progression Factor	1.48	0.06			0.65							1.00
Incremental Delay, d2	5.9	0.1			0.2							9.2
Delay (s)	71.1	0.5			5.7							52.5
Level of Service	E	A			A							D
Approach Delay (s)		16.4			5.7			0.0			52.5	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

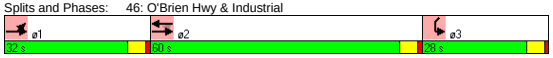
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1785	1425	225	370	135
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2032	1737	0	561	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.78	0.78		0.90	
Control Delay		12.1	29.0		62.3	
Queue Delay		1.7	19.5		2.9	
Total Delay		13.8	48.5		65.1	
Queue Length 50th (ft)		182	353		180	
Queue Length 95th (ft)		m186	410		#264	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2633	2226		639	
Starvation Cap Reductn		406	0		0	
Spillback Cap Reductn		0	538		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	1.03		0.92	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4633		3034	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3237	4633		3034	
Volume (vph)	85	1785	1425	225	370	135
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1940	1500	237	411	150
RTOR Reduction (vph)	0	0	17	0	32	0
Lane Group Flow (vph)	0	2032	1720	0	529	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.6	56.2		22.4	
Effective Green, g (s)		84.6	57.2		23.4	
Actuated g/C Ratio		0.70	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2614	2208		592	
v/s Ratio Prot		c0.18	c0.37		c0.17	
v/s Ratio Perm		0.37				
v/c Ratio		0.78	0.78		0.89	
Uniform Delay, d1		11.6	26.1		47.1	
Progression Factor		1.40	1.00		1.00	
Incremental Delay, d2		0.8	2.8		15.8	
Delay (s)		16.9	28.9		62.9	
Level of Service		B	C		E	
Approach Delay (s)		16.9	28.9		62.9	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

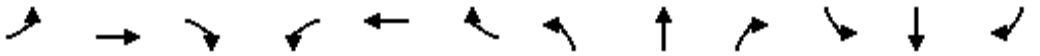
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	13	694	146	73	466	9	6	13	2	94	14	134
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	907	0	0	589	0	0	46	0	0	142	176
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	694	146	73	466	9	6	13	2	94	14	134
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	14	738	155	78	501	10	13	29	4	124	18	176
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	511			894			1692	1584	506	1525	1511	816
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	511			894			1692	1584	506	1525	1511	816
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			90			57	70	99	0	82	52
cM capacity (veh/h)	1049			759			31	97	570	66	104	371

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	907	589	47	142	176
Volume Left	14	78	13	124	0
Volume Right	155	10	4	0	176
cSH	1049	759	63	69	371
Volume to Capacity	0.01	0.10	0.74	2.05	0.48
Queue Length 95th (ft)	1	9	82	329	62
Control Delay (s)	0.4	2.7	152.4	615.8	23.2
Lane LOS	A	A	F	F	C
Approach Delay (s)	0.4	2.7	152.4	287.7	
Approach LOS			F	F	

Intersection Summary				
Average Delay	54.0			
Intersection Capacity Utilization	88.5%	ICU Level of Service		E
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	172	44	101	287	1078	0	0	925	191
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	351	0	312	1135	0	0	1005	208
Sign Control		Stop			Stop			Free			Free	

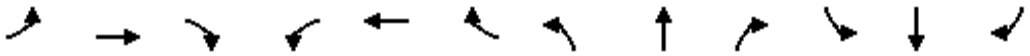
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	172	44	101	287	1078	0	0	925	191
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	191	48	112	312	1135	0	0	1005	208
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.15	0.15	0.15	0.15	0.15		0.15					
vC, conflicting volume	2900	2764	1005	2764	2972	1135	1213			1135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13589	12688	1036	12688	14063	1135	2411			1135		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	55	0			100		
cM capacity (veh/h)	0	0	42	0	0	247	30			616		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	351	312	1135	1005	208
Volume Left	191	312	0	0	0
Volume Right	112	0	0	0	208
cSH	0	30	1700	1700	1700
Volume to Capacity	Err	10.47	0.67	0.59	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	4519.1	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	974.5		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	149.9%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	207	0	0	0	0	1120	500	80	1017	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	741	0	0	0	0	0	1244	556	84	1071	0
Sign Control		Stop			Stop			Free			Free	

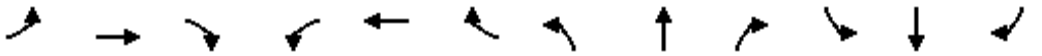
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	207	0	0	0	0	1120	500	80	1017	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	230	0	0	0	0	1244	556	84	1071	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2483	3039	1071	2833	2483	1244	1071			1800		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2483	3039	1071	2833	2483	1244	1071			1800		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	15	0	100	100	100			75		
cM capacity (veh/h)	16	10	270	0	22	212	651			340		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	349	1244	556	84	1071
Volume Left	272	0	0	0	84	0
Volume Right	0	230	0	556	0	0
cSH	14	27	1700	1700	340	1700
Volume to Capacity	28.95	13.15	0.73	0.33	0.25	0.63
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	19.0	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	2005.5			
Intersection Capacity Utilization	149.9%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	457	4	11	0	1	7	84	1156	1	6	366	852
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	536	0	0	18	0	0	1363	0	0	379	869
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	457	4	11	0	1	7	84	1156	1	6	366	852
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	519	5	12	0	2	16	92	1270	1	6	373	869
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1858	1842	373	1856	1841	1271	373			1271		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1858	1842	373	1856	1841	1271	373			1271		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	93	98	100	97	92	92			99		
cM capacity (veh/h)	47	69	673	47	66	199	1191			546		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	536	18	1364	380	869
Volume Left	519	0	92	6	0
Volume Right	12	16	1	0	869
cSH	48	159	1191	546	1700
Volume to Capacity	11.13	0.11	0.08	0.01	0.51
Queue Length 95th (ft)	Err	9	6	1	0
Control Delay (s)	Err	30.5	2.9	0.4	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	30.5	2.9	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1694.8		
Intersection Capacity Utilization	131.6%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	35	428	413	89	54	70
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	467	552	0	142	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

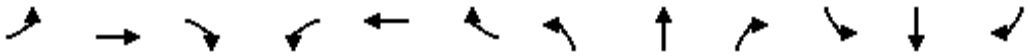
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	35	428	413	89	54	70
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	35	432	454	98	62	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	552				1006	503
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511				1006	457
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				74	85
cM capacity (veh/h)	966				237	555

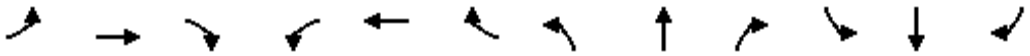
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	468	552	143
Volume Left	35	0	62
Volume Right	0	98	80
cSH	966	1700	350
Volume to Capacity	0.04	0.32	0.41
Queue Length 95th (ft)	3	0	48
Control Delay (s)	1.1	0.0	22.2
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	22.2
Approach LOS			C

Intersection Summary			
Average Delay		3.2	
Intersection Capacity Utilization		65.4%	ICU Level of Service C
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	12	161	101	246	301	10	87	24	140	0	4	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	339	0	0	593	0	0	295	0	0	6	0
Sign Control		Stop			Stop			Stop			Stop	

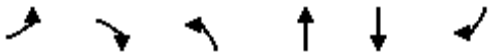
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	12	161	101	246	301	10	87	24	140	0	4	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	199	125	262	320	11	102	28	165	0	6	0

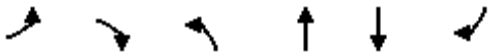
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	338	593	295	6
Volume Left (vph)	15	262	102	0
Volume Right (vph)	125	11	165	0
Hadj (s)	-0.20	0.11	-0.23	0.00
Departure Headway (s)	5.7	5.6	6.2	7.4
Degree Utilization, x	0.53	0.92	0.51	0.01
Capacity (veh/h)	608	593	555	424
Control Delay (s)	14.9	41.4	15.3	10.4
Approach Delay (s)	14.9	41.4	15.3	10.4
Approach LOS	B	E	C	B

Intersection Summary			
Delay	27.7		
HCM Level of Service	D		
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	229	91	184	577	442	373
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	337	0	0	827	876	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	229	91	184	577	442	373
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	241	96	200	627	475	401
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1703	676	876			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1703	676	876			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	79	74			
cM capacity (veh/h)	75	454	770			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	337	827	876
Volume Left	241	200	0
Volume Right	96	0	401
cSH	98	770	1700
Volume to Capacity	3.44	0.26	0.52
Queue Length 95th (ft)	Err	26	0
Control Delay (s)	Err	6.3	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1653.3		
Intersection Capacity Utilization	114.8%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	10	10
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	718			577	958	
Travel Time (s)	16.3			13.1	21.8	
Volume (vph)	25	375	195	250	486	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	1%	0%	0%	1%
Lane Group Flow (vph)	435	0	0	484	539	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	25	375	195	250	486	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	408	212	272	528	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				577	958	
pX, platoon unblocked	0.92	0.88	0.88			
vC, conflicting volume	1229	534	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1058	472	478			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	22	78			
cM capacity (veh/h)	178	523	962			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	435	484	539
Volume Left	27	212	0
Volume Right	408	0	11
cSH	466	962	1700
Volume to Capacity	0.93	0.22	0.32
Queue Length 95th (ft)	274	21	0
Control Delay (s)	56.4	5.7	0.0
Lane LOS	F	A	
Approach Delay (s)	56.4	5.7	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	18.7		
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - No Build PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	455	0.0	0.605	13.9	LOS B	176	0.83	0.91	22.8
8T	T	902	0.0	1.199	108.7	LOS F	1783	1.00	3.03	8.3
Approach		**1357**	**0.0**	**1.199**	**76.9**	**LOS E**	**1783**	**0.94**	**2.32**	**10.7**
Mystic Valley Parkway										
4T	T	769	0.0	0.881	17.7	LOS B	489	1.00	1.29	21.1
4R	R	553	0.0	0.724	13.1	LOS B	261	0.95	1.07	22.8
Approach		**1322**	**0.0**	**0.881**	**15.8**	**LOS B**	**489**	**0.98**	**1.19**	**21.8**
Mystic Valley Parkway										
5L	L	363	0.0	0.652	20.2	LOS C	208	1.00	1.16	20.6
2R	R	315	0.0	0.627	16.3	LOS B	186	1.00	1.15	21.6
Approach		**678**	**0.0**	**0.652**	**18.4**	**LOS B**	**208**	**1.00**	**1.15**	**21.0**
All Vehicles		**3357**	**0.0**	**1.199**	**41.0**	**LOS D**	**1783**	**0.97**	**1.64**	**15.2**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\No Build\Mystic&Alewife - NB.aap
Processed Oct 08, 2008 01:06:15PM

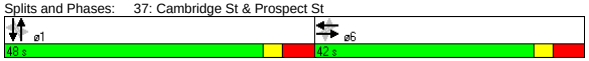
No-Build Bus Alternative Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	53	306	11	81	354	14	32	265	78	30	337	47
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	473	0	0	457	0	0	470	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	27.0	27.0		27.0	27.0		30.0	30.0		30.0	30.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.66			0.86			0.60			0.59	
Control Delay		29.8			43.0			14.6			22.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		29.8			43.0			14.6			22.5	
Queue Length 50th (ft)		183			243			84			194	
Queue Length 95th (ft)		287			#422			m129			283	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		593			552			763			803	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.66			0.86			0.60			0.59	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1834			1795			1843			1913	
Flt Permitted		0.85			0.81			0.93			0.94	
Satd. Flow (perm)		1570			1461			1716			1806	
Volume (vph)	53	306	11	81	354	14	32	265	78	30	337	47
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	56	326	12	85	373	15	39	323	95	34	383	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	473	0	0	457	0	0	470	0
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		593			552			763			803	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.32			c0.27			0.26	
v/c Ratio		0.66			0.86			0.60			0.59	
Uniform Delay, d1		23.3			25.8			18.9			18.8	
Progression Factor		1.00			1.00			0.59			1.00	
Incremental Delay, d2		5.8			15.7			2.9			3.1	
Delay (s)		29.0			41.5			14.2			21.9	
Level of Service		C			D			B			C	
Approach Delay (s)		29.0			41.5			14.2			21.9	
Approach LOS		C			D			B			C	

Intersection Summary

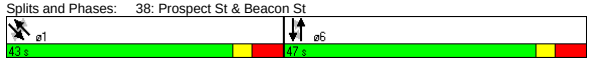
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	102	331	30	25	392	12	21	507	88	42	280	23
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	544	0	0	471	0	0	655	0	0	396	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	33.0	33.0		33.0	33.0		26.0	26.0		26.0	26.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.54			0.63			0.95			0.70	
Control Delay		21.3			11.5			52.2			31.3	
Queue Delay		0.0			0.1			0.0			0.0	
Total Delay		21.3			11.6			52.2			31.3	
Queue Length 50th (ft)		116			69			354			186	
Queue Length 95th (ft)		153			m90			#579			280	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1015			752			690			563	
Starvation Cap Reductn		0			12			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.54			0.64			0.95			0.70	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3354			1830			1811			1794	
Flt Permitted		0.69			0.95			0.98			0.80	
Satd. Flow (perm)		2343			1736			1772			1447	
Volume (vph)	102	331	30	25	392	12	21	507	88	42	280	23
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	120	389	35	27	431	13	22	539	94	48	322	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	544	0	0	471	0	0	655	0	0	396	0
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		39.0			39.0			35.0			35.0	
Effective Green, g (s)		39.0			39.0			35.0			35.0	
Actuated g/C Ratio		0.43			0.43			0.39			0.39	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1015			752			689			563	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			c0.37			0.27	
v/c Ratio		0.54			0.63			0.95			0.70	
Uniform Delay, d1		18.8			19.8			26.7			23.1	
Progression Factor		1.00			0.41			1.00			1.00	
Incremental Delay, d2		2.0			3.0			24.1			7.2	
Delay (s)		20.8			11.2			50.8			30.3	
Level of Service		C			B			D			C	
Approach Delay (s)		20.8			11.2			50.8			30.3	
Approach LOS		C			B			D			C	

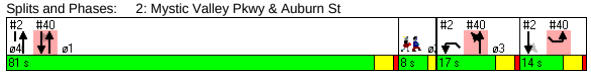
Intersection Summary					
HCM Average Control Delay	30.0	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	95.7%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	820	19	105	1196	107	63		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	942	0	0	1446	207	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	81.0	0.0	95.0	95.0	17.0	0.0	8.0	14.0
Total Split (%)	67.5%	0.0%	79.2%	79.2%	14.2%	0.0%	7%	12%
Maximum Green (s)	76.0				12.0		6.0	9.0
Yellow Time (s)	4.0				4.0		2.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							4.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.41			0.77	0.68			
Control Delay	6.0			2.3	55.4			
Queue Delay	0.1			0.0	1.2			
Total Delay	6.0			2.3	56.7			
Queue Length 50th (ft)	162			19	135			
Queue Length 95th (ft)	m169			m32	#256			
Internal Link Dist (ft)	793			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2322			1883	306			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	253			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.46			0.77	0.73			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3598			3323	1848	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3598			2465	1848	
Volume (vph)	820	19	105	1196	107	63
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	921	21	117	1329	130	77
RTOR Reduction (vph)	1	0	0	0	17	0
Lane Group Flow (vph)	941	0	0	1446	190	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	74.8			89.1	17.7	
Effective Green, g (s)	75.8			90.1	18.7	
Actuated g/C Ratio	0.63			0.75	0.16	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2273			1851	288	
v/s Ratio Prot	0.26				c0.10	
v/s Ratio Perm				c0.59		
v/c Ratio	0.41			0.78	0.66	
Uniform Delay, d1	11.0			9.0	47.7	
Progression Factor	0.55			0.10	1.00	
Incremental Delay, d2	0.3			1.1	6.1	
Delay (s)	6.3			2.0	53.8	
Level of Service	A			A	D	
Approach Delay (s)	6.3			2.0	53.8	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

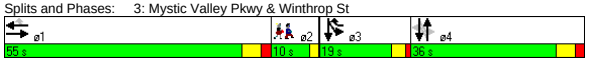
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	960	21	0	1050	201	30	402	366	555	862	119	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1043	0	0	1117	214	0	1022	0	0	1652	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	55.0	0.0	0.0	55.0	19.0	36.0	36.0	0.0	19.0	55.0	0.0	10.0
Total Split (%)	0.0%	45.8%	0.0%	0.0%	45.8%	15.8%	30.0%	30.0%	0.0%	15.8%	45.8%	0.0%	8%
Maximum Green (s)		49.0			49.0	15.0	30.0	30.0		15.0			8.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			2.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													5.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.24			1.42	0.20		1.64			1.51dl		
Control Delay		141.5			228.3	3.6		323.1			214.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		141.5			228.3	3.6		323.1			214.8		
Queue Length 50th (ft)		~1026			~1169	20		~556			~650		
Queue Length 95th (ft)		#1288			#1425	48		#556			#1151		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		843			784	1062		622			1173		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.24			1.42	0.20		1.64			1.41		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 110 (92%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3322			3470	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1949			2064	
Volume (vph)	0	960	21	0	1050	201	30	402	366	555	862	119
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1021	22	0	1117	214	38	515	469	597	927	128
RTOR Reduction (vph)	0	1	0	0	0	56	0	119	0	0	4	0
Lane Group Flow (vph)	0	1042	0	0	1117	158	0	903	0	0	1648	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		47.4			47.4	70.4		30.0			53.0	
Effective Green, g (s)		48.4			48.4	70.4		31.0			53.0	
Actuated g/C Ratio		0.40			0.40	0.59		0.26			0.44	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		815			759	938		503			1169	
v/s Ratio Prot		0.52			c0.59	0.03					c0.26	
v/s Ratio Perm						0.07		c0.46			0.36	
v/c Ratio		1.28			1.47	0.17		1.80			1.51dl	
Uniform Delay, d1		35.8			35.8	11.4		44.5			33.5	
Progression Factor		0.71			1.00	1.00		1.00			1.00	
Incremental Delay, d2		133.9			219.4	0.0		366.1			189.4	
Delay (s)		159.5			255.2	11.4		410.6			222.9	
Level of Service		F			F	B		F			F	
Approach Delay (s)		159.5			216.0			410.6			222.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	246.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	135.2%	ICU Level of Service	H
Analysis Period (min)	15		

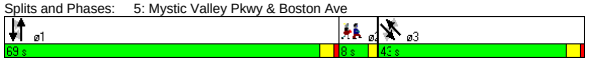
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	39	773	174	47	1177	79	48	419	84	73	264	8	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1160	0	0	1464	0	0	680	0	0	411	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	69.0	69.0	0.0	69.0	69.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0	8.0
Total Split (%)	57.5%	57.5%	0.0%	57.5%	57.5%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%	7%
Maximum Green (s)	65.0	65.0		65.0	65.0		39.0	39.0		39.0	39.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.87			0.98			1.04			1.10		
Control Delay		31.4			51.9			83.0			114.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		31.4			51.9			83.0			114.1		
Queue Length 50th (ft)		382			588			~524			~352		
Queue Length 95th (ft)		442			#728			#742			#551		
Internal Link Dist (ft)		495			793			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1341			1487			653			372		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.87			0.98			1.04			1.10		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3507			3535			1919			1894	
Flt Permitted		0.69			0.76			0.91			0.59	
Satd. Flow (perm)		2410			2705			1758			1135	
Volume (vph)	39	773	174	47	1177	79	48	419	84	73	264	8
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	46	909	205	53	1322	89	59	517	104	87	314	10
RTOR Reduction (vph)	0	16	0	0	4	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	1144	0	0	1460	0	0	675	0	0	410	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		63.4			63.4			45.4			45.4	
Effective Green, g (s)		63.4			63.4			45.4			45.4	
Actuated g/C Ratio		0.53			0.53			0.38			0.38	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1273			1429			665			429	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.54			c0.38			0.36	
v/c Ratio		0.90			1.02			1.02			0.96	
Uniform Delay, d1		25.4			28.3			37.3			36.3	
Progression Factor		1.00			1.38			1.00			1.00	
Incremental Delay, d2		10.3			24.6			38.7			32.4	
Delay (s)		35.7			63.5			76.0			68.7	
Level of Service		D			E			E			E	
Approach Delay (s)		35.7			63.5			76.0			68.7	
Approach LOS		D			E			E			E	

Intersection Summary

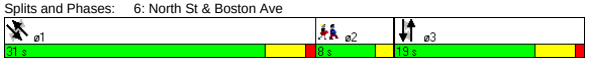
HCM Average Control Delay	57.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	29	20	15	68	56	50	2	539	56	15	281	8	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	97	0	0	205	0	0	642	0	0	342	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	19.0	19.0	0.0	19.0	19.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0	8.0
Total Split (%)	32.8%	32.8%	0.0%	32.8%	32.8%	0.0%	53.4%	53.4%	0.0%	53.4%	53.4%	0.0%	14%
Maximum Green (s)	14.0	14.0		14.0	14.0		26.0	26.0		26.0	26.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.25			0.55			0.64			0.35		
Control Delay		17.0			22.4			13.4			8.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.0			22.4			13.4			8.6		
Queue Length 50th (ft)		21			48			108			46		
Queue Length 95th (ft)		42			109			#345			129		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		431			421			1009			982		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.23			0.49			0.64			0.35		

Intersection Summary	
Area Type:	Other
Cycle Length: 58	
Actuated Cycle Length: 52	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1798			1756			1777			1790	
Flt Permitted		0.83			0.85			1.00			0.97	
Satd. Flow (perm)		1527			1527			1776			1731	
Volume (vph)	29	20	15	68	56	50	2	539	56	15	281	8
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	44	30	23	80	66	59	2	580	60	17	316	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	97	0	0	205	0	0	642	0	0	342	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.9			11.9			28.6			28.6	
Effective Green, g (s)		12.9			12.9			29.6			29.6	
Actuated g/C Ratio		0.24			0.24			0.55			0.55	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		368			368			981			956	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.13			c0.36			0.20	
v/c Ratio		0.26			0.56			0.65			0.36	
Uniform Delay, d1		16.5			17.8			8.4			6.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			2.3			3.4			1.0	
Delay (s)		17.0			20.1			11.8			7.7	
Level of Service		B			C			B			A	
Approach Delay (s)		17.0			20.1			11.8			7.7	
Approach LOS		B			C			B			A	

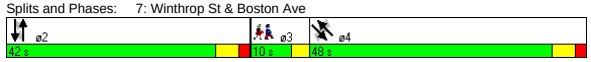
Intersection Summary					
HCM Average Control Delay	12.4	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.58				
Actuated Cycle Length (s)	53.6	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	50.9%	ICU Level of Service		A	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	9	334	64	134	131	94	201	405	25	34	183	88	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	496	0	0	408	0	0	672	0	0	329	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	10.0
Total Split (%)	42.0%	42.0%	0.0%	42.0%	42.0%	0.0%	48.0%	48.0%	0.0%	48.0%	48.0%	0.0%	10%
Maximum Green (s)	35.9	35.9		35.9	35.9		42.0	42.0		42.0	42.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													5.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.68			1.08			1.09			0.45		
Control Delay		29.1			98.4			91.3			19.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		29.1			98.4			91.3			19.7		
Queue Length 50th (ft)		224			~257			~429			119		
Queue Length 95th (ft)		345			#481			#738			230		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		726			378			614			724		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.68			1.08			1.09			0.45		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 92	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1821			1882			1806			1729	
Flt Permitted		0.99			0.52			0.73			0.89	
Satd. Flow (perm)		1802			993			1336			1556	
Volume (vph)	9	334	64	134	131	94	201	405	25	34	183	88
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	11	407	78	152	149	107	214	431	27	37	197	95
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	496	0	0	408	0	0	672	0	0	329	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.0			36.0			42.1			42.1	
Effective Green, g (s)		37.1			37.1			43.1			43.1	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		707			390			609			710	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.41			c0.50			0.21	
v/c Ratio		0.70			1.05			1.10			0.46	
Uniform Delay, d1		24.1			28.7			25.7			17.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.6			58.1			68.1			2.2	
Delay (s)		26.6			86.8			93.8			19.9	
Level of Service		C			F			F			B	
Approach Delay (s)		26.6			86.8			93.8			19.9	
Approach LOS		C			F			F			B	

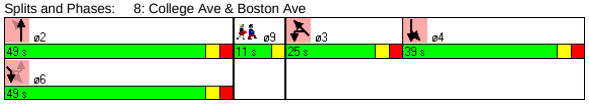
Intersection Summary					
HCM Average Control Delay		62.1	HCM Level of Service		E
HCM Volume to Capacity ratio		1.08			
Actuated Cycle Length (s)		94.5	Sum of lost time (s)		14.3
Intersection Capacity Utilization		117.6%	ICU Level of Service		H
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	135	2	60	327	81	65	331	206	9	178	34	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	152	0	0	525	0	0	455	237	0	299	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		11.0
Total Split (s)	49.0	49.0	0.0	39.0	39.0	0.0	49.0	49.0	49.0	25.0	25.0	0.0	11.0
Total Split (%)	39.5%	39.5%	0.0%	31.5%	31.5%	0.0%	39.5%	39.5%	39.5%	20.2%	20.2%	0.0%	9%
Maximum Green (s)	43.0	43.0		33.0	33.0		43.0	43.0	43.0	19.0	19.0		8.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.22			0.96			0.96	0.38		0.94		
Control Delay	26.5	27.5			70.7			69.1	17.1		85.0		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	26.5	27.5			70.7			69.1	17.1		85.0		
Queue Length 50th (ft)	39	73			365			311	63		212		
Queue Length 95th (ft)	84	139			#646			#558	138		#302		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	690	683			549			476	625		319		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.22			0.96			0.96	0.38		0.94		

Intersection Summary

Area Type: Other
Cycle Length: 124
Actuated Cycle Length: 117.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1859			1928			1833	1516		1938	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1859			1928			1299	1516		1938	
Volume (vph)	75	135	2	60	327	81	65	331	206	9	178	34
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	150	2	67	367	91	75	380	237	12	241	46
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	69	0	5	0
Lane Group Flow (vph)	83	151	0	0	519	0	0	455	168	0	294	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	43.1	43.1			33.1			43.1	43.1		19.0	
Effective Green, g (s)	43.1	43.1			33.1			43.1	43.1		19.0	
Actuated g/C Ratio	0.36	0.36			0.28			0.36	0.36		0.16	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	680	672			535			470	548		309	
v/s Ratio Prot		0.08			c0.27				0.11		c0.15	
v/s Ratio Perm	0.04							c0.35				
v/c Ratio	0.12	0.23			0.97			0.97	0.31		0.95	
Uniform Delay, d1	25.4	26.4			42.6			37.4	27.3		49.6	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			31.7			33.0	0.3		37.9	
Delay (s)	25.5	26.6			74.3			70.4	27.6		87.6	
Level of Service	C	C			E			E	C		F	
Approach Delay (s)		26.2			74.3			55.7			87.6	
Approach LOS		C			E			E			F	

Intersection Summary

HCM Average Control Delay	62.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	119.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

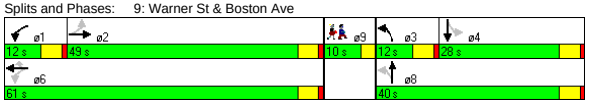
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1437			1738		
Travel Time (s)		12.0			40.8			32.7			39.5		
Volume (vph)	6	377	45	66	626	160	25	39	64	51	304	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	466	0	0	761	176	0	144	0	0	412	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	49.0	49.0	0.0	12.0	61.0	61.0	12.0	40.0	0.0	28.0	28.0	0.0	10.0
Total Split (%)	44.1%	44.1%	0.0%	10.8%	55.0%	55.0%	10.8%	36.0%	0.0%	25.2%	25.2%	0.0%	9%
Maximum Green (s)	44.0	44.0		7.0	56.0	56.0	7.0	35.0		23.0	23.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.43			0.87	0.22		0.29			0.71		
Control Delay		11.1			26.9	2.3		19.5			35.9		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		11.1			26.9	2.3		19.5			35.9		
Queue Length 50th (ft)		109			268	1		35			183		
Queue Length 95th (ft)		221			#636	29		104			#400		
Internal Link Dist (ft)		447			1715			1357			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1155			982	879		621			580		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.40			0.77	0.20		0.23			0.71		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 78.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1872			1973	
Flt Permitted		0.99			0.92	1.00		0.87			0.94	
Satd. Flow (perm)		1939			1667	1301		1645			1858	
Volume (vph)	6	377	45	66	626	160	25	39	64	51	304	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	7	410	49	73	688	176	28	44	72	59	353	0
RTOR Reduction (vph)	0	3	0	0	0	77	0	33	0	0	0	0
Lane Group Flow (vph)	0	463	0	0	761	99	0	111	0	0	412	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		43.2			43.2	43.2		23.7			23.7	
Effective Green, g (s)		44.2			44.2	44.2		24.7			24.7	
Actuated g/C Ratio		0.55			0.55	0.55		0.30			0.30	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1058			910	710		502			567	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.46	0.08		0.07			c0.22	
v/c Ratio		0.44			0.84	0.14		0.22			0.73	
Uniform Delay, d1		11.0			15.4	9.0		21.0			25.1	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			6.4	0.0		0.1			3.9	
Delay (s)		11.1			21.8	9.1		21.1			29.1	
Level of Service		B			C	A		C			C	
Approach Delay (s)		11.1			19.4			21.1			29.1	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

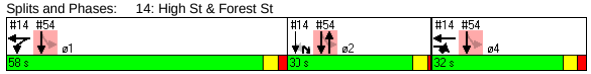
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	375	298	1390	604	81	90	39	440	18
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	403	320	1562	770	0	112	0	507	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Detector Phases	4	4	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	32.0	32.0	58.0	90.0	0.0	30.0	30.0	30.0	0.0
Total Split (%)	26.7%	26.7%	48.3%	75.0%	0.0%	25.0%	25.0%	25.0%	0.0%
Maximum Green (s)	27.0	27.0	53.0			26.0	26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.17	1.10	1.05	0.60		0.12		1.20	
Control Delay	146.5	120.9	71.1	11.2		0.4		151.2	
Queue Delay	0.0	4.3	182.3	0.0		0.0		0.0	
Total Delay	146.5	125.2	253.3	11.2		0.4		151.2	
Queue Length 50th (ft)	~373	~263	~679	266		0		~478	
Queue Length 95th (ft)	#571	#448	#800	364		0		#694	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	343	292	1487	1275		951		423	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	421	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.17	1.11	1.47	0.60		0.12		1.20	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		1.00	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1951	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1951	
Volume (vph)	375	298	1390	604	81	90	39	440	18
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	403	320	1562	679	91	112	40	449	18
RTOR Reduction (vph)	0	22	0	4	0	88	0	1	0
Lane Group Flow (vph)	403	298	1562	766	0	24	0	506	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	27.0	27.0	53.0	85.0		26.0		26.0	
Effective Green, g (s)	27.0	27.0	53.0	85.0		26.0		26.0	
Actuated g/C Ratio	0.22	0.22	0.44	0.71		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	343	271	1487	1271		358		423	
v/s Ratio Prot	c0.26	0.25	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.17	1.10	1.05	0.60		0.07		1.20	
Uniform Delay, d1	46.5	46.5	33.5	8.9		37.4		47.0	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	105.1	84.3	37.8	0.8		0.1		109.5	
Delay (s)	151.6	130.8	71.3	9.7		37.4		156.5	
Level of Service	F	F	E	A		D		F	
Approach Delay (s)				51.0				156.5	
Approach LOS				D				F	

Intersection Summary

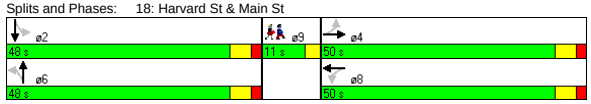
HCM Average Control Delay	83.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	73	466	50	101	490	16	44	320	100	33	590	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	647	0	0	674	0	0	603	0	0	810	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.11			1.33			1.19			1.24		
Control Delay		98.9			188.9			132.6			150.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		98.9			188.9			132.6			150.9		
Queue Length 50th (ft)		~456			~543			~450			~625		
Queue Length 95th (ft)		#773			#868			#599			#951		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		584			506			507			651		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			1.33			1.19			1.24		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1612	
Flt Permitted		0.80			0.71			0.78			0.95	
Satd. Flow (perm)		1331			1170			1238			1531	
Volume (vph)	73	466	50	101	490	16	44	320	100	33	590	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	80	512	55	112	544	18	57	416	130	38	670	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	647	0	0	674	0	0	603	0	0	810	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		584			514			520			643	
v/s Ratio Prot												
v/s Ratio Perm		0.49			c0.58			0.49			c0.53	
v/c Ratio		1.11			1.31			1.16			1.26	
Uniform Delay, d1		28.8			28.8			29.8			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		70.4			153.5			91.6			129.2	
Delay (s)		99.2			182.3			121.4			159.0	
Level of Service		F			F			F			F	
Approach Delay (s)		99.2			182.3			121.4			159.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	142.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

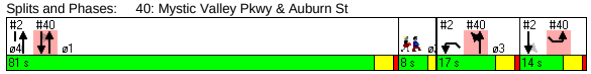
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	49	824	1173	27	15	128	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	53	886	1225	0	172	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	17.0	98.0	81.0	0.0	14.0	0.0	8.0
Total Split (%)	14.2%	81.7%	67.5%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	12.0		76.0		9.0		6.0
Yellow Time (s)	4.0		4.0		4.0		2.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							4.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.15	0.56	0.95		0.83		
Control Delay	20.3	7.9	12.0		66.1		
Queue Delay	0.0	0.0	3.8		6.4		
Total Delay	20.3	7.9	15.8		72.5		
Queue Length 50th (ft)	8	355	207		87		
Queue Length 95th (ft)	m43	482	m73		#180		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	346	1572	1291		207		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	40		15		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.15	0.56	0.98		0.90		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2000		1772	
Flt Permitted	0.05	1.00	1.00		0.99	
Satd. Flow (perm)	100	1900	2000		1772	
Volume (vph)	49	824	1173	27	15	128
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	53	886	1197	28	18	154
RTOR Reduction (vph)	0	0	1	0	55	0
Lane Group Flow (vph)	53	886	1224	0	117	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	92.5	92.5	74.8		9.3	
Effective Green, g (s)	94.5	94.5	75.8		10.3	
Actuated g/C Ratio	0.79	0.79	0.63		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	344	1496	1263		152	
v/s Ratio Prot	0.02	c0.47	c0.61		c0.07	
v/s Ratio Perm	0.10					
v/c Ratio	0.15	0.59	0.97		0.77	
Uniform Delay, d1	44.1	5.1	21.0		53.7	
Progression Factor	2.13	2.02	0.42		1.00	
Incremental Delay, d2	0.3	0.7	3.3		22.2	
Delay (s)	94.2	10.9	12.0		75.9	
Level of Service	F	B	B		E	
Approach Delay (s)		15.6	12.0		75.9	
Approach LOS		B	B		E	

Intersection Summary

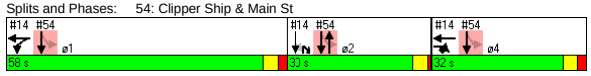
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	90	415	50	2082		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	97	446	0	2198		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	30.0	0.0	120.0	120.0	58.0	32.0
Total Split (%)	0.0%	0.0%	25.0%	0.0%	100.0%	100.0%	48%	27%
Maximum Green (s)			26.0				53.0	27.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.25	0.30		0.87		
Control Delay			41.0	0.5		9.8		
Queue Delay			0.0	0.0		0.0		
Total Delay			41.1	0.5		9.8		
Queue Length 50th (ft)			63	0		353		
Queue Length 95th (ft)			113	0		m150		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			385	1509		2521		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			6	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.26	0.30		0.87		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.80
Satd. Flow (perm)			1776	1509		2520
Volume (vph)	0	0	90	415	50	2082
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	97	446	52	2146
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	97	446	0	2198
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			26.0	120.0		120.0
Effective Green, g (s)			26.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			385	1509		2520
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.30		c0.87
v/c Ratio			0.25	0.30		0.87
Uniform Delay, d1			38.9	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			0.3	0.5		0.3
Delay (s)			39.3	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		7.4			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1210						1176			419		
Travel Time (s)			27.5						26.7			9.5		
Volume (vph)	4	15	671	477	21	1	5	20	492	57	230	154	33	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	734	529	0	0	0	0	625	0	0	439	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	32.0	32.0	32.0	25.0	0.0	32.0	32.0	32.0	32.0	0.0	25.0	25.0	0.0	24.0
Total Split (%)	29.1%	29.1%	29.1%	22.7%	0.0%	29.1%	29.1%	29.1%	29.1%	0.0%	22.7%	22.7%	0.0%	21.8%
Maximum Green (s)	26.0	26.0	26.0	19.0		26.0	26.0	26.0	26.0		19.0	19.0		18.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.94	0.67					1.00			1.19		
Control Delay			57.3	24.3					75.7			147.4		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			57.3	24.3					75.7			147.4		
Queue Length 50th (ft)			238	233					208			~336		
Queue Length 95th (ft)			#408	426					#376			#596		
Internal Link Dist (ft)			1130						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			785	792					622			368		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.94	0.67					1.00			1.19		

Intersection Summary

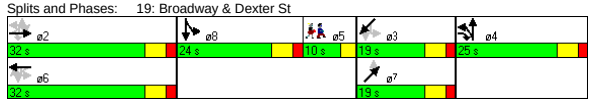
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 102
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 No Build Condition Bus Alt - AM Peak
Default

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	294	21	24	0	92	20	84	15	39	7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	418	0	0	107	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			10.0
Total Split (s)	24.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	10.0
Total Split (%)	21.8%	0.0%	0.0%	17.3%	0.0%	17.3%	17.3%	17.3%	0.0%	0.0%	9%
Maximum Green (s)	18.0			13.0		13.0	13.0	13.0			7.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											4.0
Flash Dont Walk (s)											3.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.15			0.47				1.12			
Control Delay	132.3			49.1				146.4			
Queue Delay	0.0			0.0				0.0			
Total Delay	132.3			49.1				146.4			
Queue Length 50th (ft)	~310			64				~141			
Queue Length 95th (ft)	#528			122				#291			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	364			226				174			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.15			0.47				1.12			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build Bus\optimize\coordination\2030 Build Bus - AM.sy7
VHB, Inc.
10/29/2008
Lanes, Volumes, Timings

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3264			1862		
Flt Permitted			0.87	1.00					0.75			0.97		
Satd. Flow (perm)			3059	1549					2449			1862		
Volume (vph)	4	15	671	477	21	1	5	20	492	57	230	154	33	21
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	4	16	714	507	22	1	5	22	535	62	242	162	35	24
RTOR Reduction (vph)	0	0	0	2	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	734	527	0	0	0	0	625	0	0	437	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			26.0	45.0					26.0			19.0		
Effective Green, g (s)			27.0	47.0					27.0			20.0		
Actuated g/C Ratio			0.26	0.45					0.26			0.19		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			792	772					634			357		
v/s Ratio Prot				0.13								c0.23		
v/s Ratio Perm			0.24	0.21					c0.26					
v/c Ratio			0.93	0.68					0.99			1.22		
Uniform Delay, d1			37.7	22.7					38.5			42.2		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			16.9	3.8					31.9			122.9		
Delay (s)			54.6	26.5					70.4			165.0		
Level of Service			D	C					E			F		
Approach Delay (s)			42.8						70.4			165.0		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	87.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.11			
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	24.3	
Intersection Capacity Utilization	111.7%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St
2030 No Build Condition Bus Alt - AM Peak
Default

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1938			1644				1764		
Flt Permitted	1.00			1.00				0.71		
Satd. Flow (perm)	1938			1644				1288		
Volume (vph)	294	21	24	0	92	20	84	15	39	7
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	342	24	28	0	107	24	99	18	46	8
RTOR Reduction (vph)	2	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	416	0	0	107	0	0	0	193	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	18.0			13.0				13.0		
Effective Green, g (s)	19.0			14.0				14.0		
Actuated g/C Ratio	0.18			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	353			221				173		
v/s Ratio Prot	c0.21			0.07						
v/s Ratio Perm								c0.15		
v/c Ratio	1.18			0.48				1.12		
Uniform Delay, d1	42.6			41.8				45.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	105.4			0.6				103.3		
Delay (s)	148.0			42.4				148.5		
Level of Service	F			D				F		
Approach Delay (s)	148.0			42.4				148.5		
Approach LOS	F			D				F		

Intersection Summary

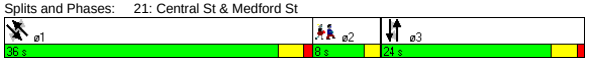
B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build Bus\optimize\coordination\2030 Build Bus - AM.sy7 10/29/2008
VHB, Inc. HCM Signalized Intersection Capacity Analysis

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	199	79	22	177	13	13	607	118	84	256	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	406	0	0	249	0	0	811	0	0	384	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	24.0	24.0	0.0	24.0	24.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	8.0
Total Split (%)	35.3%	35.3%	0.0%	35.3%	35.3%	0.0%	52.9%	52.9%	0.0%	52.9%	52.9%	0.0%	12%
Maximum Green (s)	20.0	20.0		20.0	20.0		32.0	32.0		32.0	32.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.79			0.48			0.83			0.59		
Control Delay		32.1			20.9			23.5			15.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		32.1			20.9			23.5			15.3		
Queue Length 50th (ft)		119			69			225			85		
Queue Length 95th (ft)		#245			139			#544			213		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		546			558			972			654		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.74			0.45			0.83			0.59		

Intersection Summary

Area Type: Other
Cycle Length: 68
Actuated Cycle Length: 59.9
Natural Cycle: 80
Control Type: Semi Act-Uncoord
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1789			1820			1821			1798	
Flt Permitted		0.91			0.94			0.99			0.73	
Satd. Flow (perm)		1643			1721			1809			1326	
Volume (vph)	55	199	79	22	177	13	13	607	118	84	256	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	243	96	26	208	15	14	667	130	92	281	11
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	390	0	0	249	0	0	811	0	0	383	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		18.2			18.2			32.2			32.2	
Effective Green, g (s)		18.2			18.2			32.2			32.2	
Actuated g/C Ratio		0.30			0.30			0.52			0.52	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		486			509			947			694	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.45			0.29	
v/c Ratio		0.80			0.49			0.86			0.55	
Uniform Delay, d1		20.0			17.8			12.7			9.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.7			1.0			9.8			3.1	
Delay (s)		29.7			18.8			22.5			12.9	
Level of Service		C			B			C			B	
Approach Delay (s)		29.7			18.8			22.5			12.9	
Approach LOS		C			B			C			B	

Intersection Summary

HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

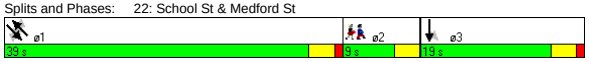
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			1535		
Travel Time (s)		21.7			21.8			35.4			34.9		
Volume (vph)	0	0	0	138	301	21	11	719	98	158	278	72	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	500	0	0	862	0	0	578	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		9.0
Total Split (s)	0.0	0.0	0.0	19.0	19.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0	9.0
Total Split (%)	0.0%	0.0%	0.0%	28.4%	28.4%	0.0%	58.2%	58.2%	0.0%	58.2%	58.2%	0.0%	13%
Maximum Green (s)				15.0	15.0		35.0	35.0		35.0	35.0		6.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.00			0.75			0.97		
Control Delay					66.3			15.8			46.6		
Queue Delay					0.0			0.0			0.0		
Total Delay					66.3			15.8			46.6		
Queue Length 50th (ft)					171			180			155		
Queue Length 95th (ft)					#417			#511			#438		
Internal Link Dist (ft)		873			879			1476			1455		
Turn Bay Length (ft)													
Base Capacity (vph)					501			1144			596		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.00			0.75			0.97		

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 59.8
Natural Cycle: 100
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1984			1950			1878	
Flt Permitted					0.99			0.99			0.57	
Satd. Flow (perm)					1984			1937			1090	
Volume (vph)	0	0	0	138	301	21	11	719	98	158	278	72
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	150	327	23	11	749	102	180	316	82
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	498	0	0	855	0	0	570	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					15.1			35.1			35.1	
Effective Green, g (s)					15.1			35.1			35.1	
Actuated g/C Ratio					0.24			0.56			0.56	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					481			1091			614	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.44			c0.52	
v/c Ratio					1.03			0.78			0.93	
Uniform Delay, d1					23.6			10.6			12.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					50.3			5.7			22.3	
Delay (s)					73.9			16.3			34.8	
Level of Service					E			B			C	
Approach Delay (s)		0.0			73.9			16.3			34.8	
Approach LOS		A			E			B			C	

Intersection Summary

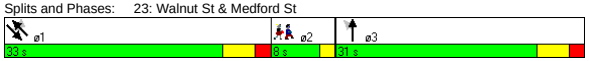
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	12.1
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1535			533		
Travel Time (s)		17.7			19.2			34.9			12.1		
Volume (vph)	77	201	8	0	0	0	8	585	0	0	165	21	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	301	0	0	0	0	0	617	0	0	212	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	8.0
Total Split (%)	43.1%	43.1%	0.0%	0.0%	0.0%	0.0%	45.8%	45.8%	0.0%	0.0%	45.8%	0.0%	11%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		6.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		2.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.40						0.78			0.27		
Control Delay		16.6						25.9			13.4		
Queue Delay		0.0						0.0			0.0		
Total Delay		16.6						25.9			13.4		
Queue Length 50th (ft)		79						192			47		
Queue Length 95th (ft)		166						#426			105		
Internal Link Dist (ft)		699			764			1455			453		
Turn Bay Length (ft)													
Base Capacity (vph)		745						802			783		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.40						0.77			0.27		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.8	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.98	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1850						1880			1816	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		1850						1874			1816	
Volume (vph)	77	201	8	0	0	0	8	585	0	0	165	21
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	81	212	8	0	0	0	8	609	0	0	188	24
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	300	0	0	0	0	0	617	0	0	206	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.1						26.3			26.3	
Effective Green, g (s)		26.1						27.3			27.3	
Actuated g/C Ratio		0.39						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		726						769			746	
v/s Ratio Prot											0.11	
v/s Ratio Perm		0.16						c0.33				
v/c Ratio		0.41						0.80			0.28	
Uniform Delay, d1		14.6						17.2			13.0	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.5						6.4			0.3	
Delay (s)		15.2						23.6			13.3	
Level of Service		B						C			B	
Approach Delay (s)		15.2			0.0			23.6			13.3	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

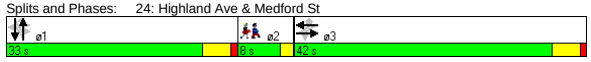
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	614	24	34	411	189	3	0	19	554	33	6	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	686	0	0	511	217	0	39	0	0	624	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	75.0	33.0	33.0	0.0	33.0	33.0	0.0	8.0
Total Split (%)	50.6%	50.6%	0.0%	50.6%	50.6%	90.4%	39.8%	39.8%	0.0%	39.8%	39.8%	0.0%	10%
Maximum Green (s)	37.0	37.0		37.0	37.0		28.0	28.0		28.0	28.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.75			0.81	0.14		0.07			1.24		
Control Delay		22.7			29.5	0.3		7.5			149.6		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		22.7			29.5	0.3		7.5			149.6		
Queue Length 50th (ft)		235			184	0		1			~365		
Queue Length 95th (ft)		#496			#403	5		9			#639		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		913			632	1591		594			503		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.75			0.81	0.14		0.07			1.24		

Intersection Summary

Area Type: Other
Cycle Length: 83
Actuated Cycle Length: 76.6
Natural Cycle: 110
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.88			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1835			1913	1632		1586			1777	
Flt Permitted		1.00			0.75	1.00		0.94			0.71	
Satd. Flow (perm)		1835			1434	1632		1500			1324	
Volume (vph)	0	614	24	34	411	189	3	0	19	554	33	6
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	660	26	39	472	217	5	0	34	583	35	6
RTOR Reduction (vph)	0	2	0	0	0	20	0	21	0	0	1	0
Lane Group Flow (vph)	0	684	0	0	511	197	0	18	0	0	623	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		37.1			37.1	70.1		28.0			28.0	
Effective Green, g (s)		38.1			38.1	71.1		29.0			29.0	
Actuated g/C Ratio		0.49			0.49	0.91		0.37			0.37	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		894			699	1484		556			491	
v/s Ratio Prot		c0.37										
v/s Ratio Perm					0.36	0.12		0.01			c0.47	
v/c Ratio		0.77			0.73	0.13		0.03			1.27	
Uniform Delay, d1		16.4			16.0	0.4		15.7			24.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		6.2			6.6	0.0		0.0			136.6	
Delay (s)		22.6			22.6	0.4		15.7			161.2	
Level of Service		C			C	A		B			F	
Approach Delay (s)		22.6			16.0			15.7			161.2	
Approach LOS		C			B			B			F	

Intersection Summary

HCM Average Control Delay	61.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

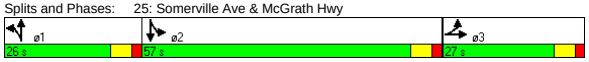
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	99	359	117	0	0	0	45	200	27	199	1233	139
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	618	0	0	0	0	0	266	29	212	1460	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	27.0	27.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	57.0	57.0	0.0
Total Split (%)	24.5%	24.5%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	51.8%	51.8%	0.0%
Maximum Green (s)	21.0	21.0					20.0	20.0		51.0	51.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.91						0.40	0.02	0.26	0.95	
Control Delay		59.8						41.1	0.0	18.5	41.7	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		59.8						41.1	0.0	18.5	41.7	
Queue Length 50th (ft)		217						87	0	87	500	
Queue Length 95th (ft)		#323						128	0	139	#671	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		681						663	1672	821	1539	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.91						0.40	0.02	0.26	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3305						3473	1672	1736	3238	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3305						3473	1672	1736	3238	
Volume (vph)	99	359	117	0	0	0	45	200	27	199	1233	139
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	106	386	126	0	0	0	49	217	29	212	1312	148
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	597	0	0	0	0	0	266	29	212	1452	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		21.0						20.0	110.0	51.0	51.0	
Effective Green, g (s)		22.0						21.0	110.0	52.0	52.0	
Actuated g/C Ratio		0.20						0.19	1.00	0.47	0.47	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		661						663	1672	821	1531	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.90						0.40	0.02	0.26	0.95	
Uniform Delay, d1		43.0						39.0	0.0	17.4	27.7	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		18.0						1.8	0.0	0.8	13.6	
Delay (s)		61.0						40.8	0.0	18.2	41.3	
Level of Service		E						D	A	B	D	
Approach Delay (s)		61.0			0.0			36.8			38.4	
Approach LOS		E			A			D			D	

Intersection Summary

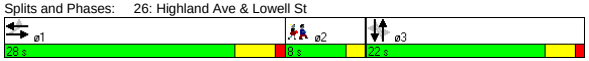
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	389	0	0	455	27	25	69	40	173	0	144	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	487	0	0	635	0	0	188	0	0	337	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	28.0	28.0	0.0	0.0	28.0	0.0	22.0	22.0	0.0	22.0	22.0	0.0	8.0
Total Split (%)	48.3%	48.3%	0.0%	0.0%	48.3%	0.0%	37.9%	37.9%	0.0%	37.9%	37.9%	0.0%	14%
Maximum Green (s)	23.0	23.0			23.0		18.0	18.0		18.0	18.0		6.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.75			0.70			0.37			0.76		
Control Delay		22.7			17.9			15.9			26.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		22.7			17.9			15.9			26.0		
Queue Length 50th (ft)		108			136			38			60		
Queue Length 95th (ft)		#297			238			73			#203		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		649			903			574			491		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.75			0.70			0.33			0.69		

Intersection Summary	
Area Type:	Other
Cycle Length: 58	
Actuated Cycle Length: 48.9	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



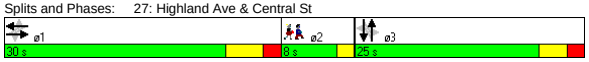
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1813			1771			1694	
Flt Permitted		0.91			1.00			0.92			0.74	
Satd. Flow (perm)		1658			1813			1639			1295	
Volume (vph)	30	389	0	0	455	27	25	69	40	173	0	144
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	452	0	0	599	36	35	97	56	184	0	153
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	53	0
Lane Group Flow (vph)	0	487	0	0	635	0	0	188	0	0	284	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		23.3			23.3			15.1			15.1	
Effective Green, g (s)		24.3			24.3			15.1			15.1	
Actuated g/C Ratio		0.48			0.48			0.30			0.30	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		799			874			491			388	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.29						0.11			c0.22	
v/c Ratio		0.61			0.73			0.38			0.73	
Uniform Delay, d1		9.6			10.4			14.0			15.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			5.2			0.7			7.5	
Delay (s)		13.0			15.6			14.6			23.3	
Level of Service		B			B			B			C	
Approach Delay (s)		13.0			15.6			14.6			23.3	
Approach LOS		B			B			B			C	

Intersection Summary					
HCM Average Control Delay	16.3	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	50.4	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	76.9%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	27	405	35	28	300	23	37	197	44	27	226	49	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	537	0	0	474	0	0	316	0	0	397	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	47.6%	47.6%	0.0%	47.6%	47.6%	0.0%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	13%
Maximum Green (s)	24.0	24.0		24.0	24.0		20.0	20.0		20.0	20.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.71			0.65			0.57			0.68		
Control Delay		19.6			17.4			19.0			22.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		19.6			17.4			19.0			22.2		
Queue Length 50th (ft)		125			106			74			99		
Queue Length 95th (ft)		#280			179			165			169		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		840			812			639			676		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.64			0.58			0.49			0.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 49.4	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1821			1804			1793			1805	
Flt Permitted		0.96			0.94			0.92			0.95	
Satd. Flow (perm)		1745			1700			1653			1722	
Volume (vph)	27	405	35	28	300	23	37	197	44	27	226	49
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	31	466	40	38	405	31	42	224	50	36	297	64
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	11	0
Lane Group Flow (vph)	0	532	0	0	470	0	0	305	0	0	386	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.0			20.0			16.4			16.4	
Effective Green, g (s)		21.0			21.0			16.4			16.4	
Actuated g/C Ratio		0.42			0.42			0.33			0.33	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		729			710			539			561	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.22	
v/c Ratio		0.73			0.66			0.57			0.69	
Uniform Delay, d1		12.3			11.8			14.0			14.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.0			2.6			1.7			3.8	
Delay (s)		16.3			14.3			15.7			18.5	
Level of Service		B			B			B			B	
Approach Delay (s)		16.3			14.3			15.7			18.5	
Approach LOS		B			B			B			B	

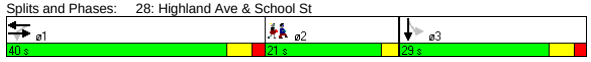
Intersection Summary					
HCM Average Control Delay	16.2	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.66				
Actuated Cycle Length (s)	50.3	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	61.2%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	517	16	40	379	0	0	0	0	198	255	91	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	620	0	0	482	0	0	0	0	0	585	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	40.0	0.0	40.0	40.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0	21.0
Total Split (%)	0.0%	44.4%	0.0%	44.4%	44.4%	0.0%	0.0%	0.0%	0.0%	32.2%	32.2%	0.0%	23%
Maximum Green (s)		34.0		34.0	34.0					23.0	23.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.09						0.98		
Control Delay		22.9			93.2						60.4		
Queue Delay		0.0			0.0						0.0		
Total Delay		22.9			93.2						60.4		
Queue Length 50th (ft)		184			~226						235		
Queue Length 95th (ft)		#489			#526						#614		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		865			441						596		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.72			1.09						0.98		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 130
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1797	
Flt Permitted		1.00			0.75						0.98	
Satd. Flow (perm)		1786			1338						1797	
Volume (vph)	0	517	16	40	379	0	0	0	0	198	255	91
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	601	19	46	436	0	0	0	0	213	274	98
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	619	0	0	482	0	0	0	0	0	585	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		34.4			34.4						23.3	
Effective Green, g (s)		35.4			35.4						24.3	
Actuated g/C Ratio		0.47			0.47						0.32	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		836			627						578	
v/s Ratio Prot		0.35										
v/s Ratio Perm					c0.36						0.33	
v/c Ratio		0.74			0.77						1.01	
Uniform Delay, d1		16.4			16.7						25.6	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.6			5.6						40.5	
Delay (s)		19.9			22.3						66.1	
Level of Service		B			C						E	
Approach Delay (s)		19.9			22.3			0.0			66.1	
Approach LOS		B			C			A			E	

Intersection Summary

HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	75.6	Sum of lost time (s)	15.9
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	403	103	307	985	221	318	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	523	134	330	1059	325	468	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							5.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.45	0.15	0.81	0.92	0.80	1.09	
Control Delay	9.6	2.0	31.6	28.5	45.6	95.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.6	2.0	31.6	28.5	45.6	95.2	
Queue Length 50th (ft)	101	0	94	350	139	~208	
Queue Length 95th (ft)	198	15	#337	#876	193	#283	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	889	406	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.45	0.15	0.81	0.92	0.80	1.09	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.39	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	705	1827	1719	1538
Volume (vph)	403	103	307	985	221	318
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	523	134	330	1059	325	468
RTOR Reduction (vph)	0	52	0	0	0	68
Lane Group Flow (vph)	523	82	330	1059	325	400
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	430	1113	393	352
v/s Ratio Prot	0.28			c0.58	0.19	c0.26
v/s Ratio Perm		0.06	0.47			
v/c Ratio	0.46	0.10	0.77	0.95	0.83	1.14
Uniform Delay, d1	8.4	6.4	11.3	14.4	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	7.2	16.5	13.9	90.5
Delay (s)	8.5	6.4	18.6	30.8	42.9	121.0
Level of Service	A	A	B	C	D	F
Approach Delay (s)	8.1			27.9	89.0	
Approach LOS	A			C	F	

Intersection Summary

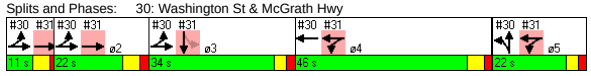
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	560	319	0	0	1262	103	26	234	548	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	609	358	0	0	1516	0	30	269	630	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	67.0	67.0	0.0	0.0	46.0	0.0	22.0	22.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	49.6%	49.6%	0.0%	0.0%	34.1%	0.0%	16.3%	16.3%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					40.0		17.0	17.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.37	0.17			1.01		0.14	1.23	0.43					
Control Delay	1.9	0.6			72.5		54.5	184.1	0.9					
Queue Delay	0.0	0.0			26.5		0.1	0.0	0.0					
Total Delay	1.9	0.6			99.0		54.6	184.1	0.9					
Queue Length 50th (ft)	18	1			~497		24	~290	0					
Queue Length 95th (ft)	m20	m1			#608		54	#446	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1634	2165			1499		209	219	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			100		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.37	0.17			1.08		0.16	1.23	0.43					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Green Line Extension
30: Washington St & McGrath Hwy
2030 No Build Condition Bus Alt - AM Peak
Default

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	34.0
Total Split (%)	25%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build Bus\optimize\coordination\2030 Build Bus - AM.sy7
VHB, Inc.
10/29/2008
Lanes, Volumes, Timings

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4936		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4936		1656	1743	1482			
Volume (vph)	560	319	0	0	1262	103	26	234	548	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	609	358	0	0	1402	114	30	269	630	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	609	358	0	0	1516	0	30	269	630	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	62.0	62.0			40.0		17.0	17.0	135.0			
Effective Green, g (s)	62.0	62.0			41.0		17.0	17.0	135.0			
Actuated g/C Ratio	0.46	0.46			0.30		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1634	2165			1499		209	219	1482			
v/s Ratio Prot	0.17	0.08			c0.31		0.02	c0.15				
v/s Ratio Perm									c0.43			
v/c Ratio	0.37	0.17			1.01		0.14	1.23	0.43			
Uniform Delay, d1	23.8	21.4			47.0		52.5	59.0	0.0			
Progression Factor	0.06	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			26.1		1.4	136.1	0.9			
Delay (s)	1.9	0.6			73.1		54.0	195.1	0.9			
Level of Service	A	A			E		D	F	A			
Approach Delay (s)		1.4			73.1			58.8			0.0	
Approach LOS		A			E			E			A	

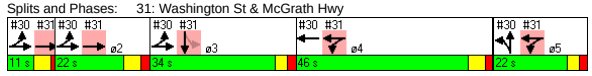
Intersection Summary			
HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	879	33	582	680	0	0	0	0	43	157	500		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	992	0	619	773	0	0	0	0	0	805	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	68.0	68.0	0.0	0.0	0.0	0.0	34.0	34.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	50.4%	50.4%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	8%	16%
Maximum Green (s)										29.0	29.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.70		0.77	0.49						1.44dr			
Control Delay		52.5		6.8	0.3						120.2			
Queue Delay		0.1		0.0	0.0						31.6			
Total Delay		52.6		6.8	0.3						151.9			
Queue Length 50th (ft)		200		80	0						~401			
Queue Length 95th (ft)		234		m76	m0						#513			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1409		802	1589						709			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		44		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.73		0.77	0.49						1.21			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	46.0	22.0
Total Split (%)	34%	16%
Maximum Green (s)	40.0	17.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Green Line Extension
31: Washington St & McGrath Hwy
2030 No Build Condition Bus Alt - AM Peak
Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6775		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6775		1719	3406						3007	
Volume (vph)	0	879	33	582	680	0	0	0	0	43	157	500
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	955	37	619	773	0	0	0	0	59	178	568
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	64	0
Lane Group Flow (vph)	0	987	0	619	773	0	0	0	0	0	741	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		63.0	63.0						29.0	
Effective Green, g (s)		28.0		63.0	63.0						29.0	
Actuated g/C Ratio		0.21		0.47	0.47						0.21	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1405		802	1589						646	
v/s Ratio Prot		c0.15		c0.36	0.23							
v/s Ratio Perm											0.25	
v/c Ratio		0.70		0.77	0.49						1.44dr	
Uniform Delay, d1		49.6		30.0	24.8						53.0	
Progression Factor		1.00		0.16	0.00						1.00	
Incremental Delay, d2		3.0		1.8	0.3						83.7	
Delay (s)		52.6		6.7	0.3						136.7	
Level of Service		D		A	A						F	
Approach Delay (s)		52.6			3.2			0.0			136.7	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	52.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

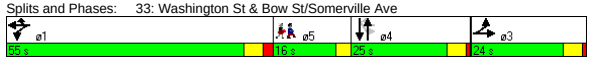
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	36	342	66	564	486	458	0	0	0	423	366	68	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	478	0	620	534	503	0	0	0	261	650	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		16.0
Total Split (s)	24.0	24.0	0.0	55.0	55.0	55.0	0.0	25.0	0.0	25.0	25.0	0.0	16.0
Total Split (%)	20.0%	20.0%	0.0%	45.8%	45.8%	45.8%	0.0%	20.8%	0.0%	20.8%	20.8%	0.0%	13%
Maximum Green (s)	19.0	19.0		49.0	49.0	49.0		20.0		20.0	20.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.04		0.97	0.79	0.46				0.91	1.06		
Control Delay		101.8		37.0	22.8	2.1				80.1	95.6		
Queue Delay		0.0		1.7	1.2	0.3				0.0	0.0		
Total Delay		101.8		38.7	23.9	2.4				80.1	95.6		
Queue Length 50th (ft)		~211		474	319	32				200	258		
Queue Length 95th (ft)		#321		m457	m316	m30				#474	#515		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		459		639	672	1100				286	614		
Starvation Cap Reductn		0		6	36	201				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.04		0.98	0.84	0.56				0.91	1.06		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2750		1533	1613	1371				1408	2722	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2750		1533	1613	1371				1122	2373	
Volume (vph)	36	342	66	564	486	458	0	0	0	423	366	68
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	39	368	71	620	534	503	0	0	0	450	389	72
RTOR Reduction (vph)	0	0	0	0	0	177	0	0	0	0	7	0
Lane Group Flow (vph)	0	478	0	620	534	326	0	0	0	261	643	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		19.0		47.2	47.2	76.8				29.6	29.6	
Effective Green, g (s)		20.0		48.2	48.2	77.8				30.6	30.6	
Actuated g/C Ratio		0.17		0.40	0.40	0.65				0.26	0.26	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		458		616	648	889				286	605	
v/s Ratio Prot		c0.17		c0.40	0.33	0.15						
v/s Ratio Perm						0.09				0.23	c0.27	
v/c Ratio		1.04		1.01	0.82	0.37				0.91	1.06	
Uniform Delay, d1		50.0		35.9	32.1	9.7				43.4	44.7	
Progression Factor		1.00		0.66	0.63	3.05				1.00	1.00	
Incremental Delay, d2		53.9		20.3	3.3	0.1				31.8	54.6	
Delay (s)		103.9		43.9	23.6	29.8				75.2	99.3	
Level of Service		F		D	C	C				E	F	
Approach Delay (s)		103.9			33.1			0.0			92.4	
Approach LOS		F			C			A			F	

Intersection Summary

HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

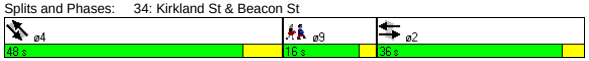
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	56	213	37	44	321	56	38	497	138	27	277	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	388	0	0	468	0	0	747	0	0	363	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	16.0
Total Split (%)	36.0%	36.0%	0.0%	36.0%	36.0%	0.0%	48.0%	48.0%	0.0%	48.0%	48.0%	0.0%	16%
Maximum Green (s)	32.0	32.0		32.0	32.0		41.0	41.0		41.0	41.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.84			0.85			0.93			0.49		
Control Delay		46.5			44.2			43.3			20.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		46.5			44.2			43.3			20.8		
Queue Length 50th (ft)		174			211			324			116		
Queue Length 95th (ft)		#335			#487			#736			259		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		461			553			807			734		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.84			0.85			0.93			0.49		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 90.4
Natural Cycle: 100
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1747			1703			1771			1731	
Flt Permitted		0.77			0.92			0.96			0.92	
Satd. Flow (perm)		1360			1572			1706			1594	
Volume (vph)	56	213	37	44	321	56	38	497	138	27	277	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	71	270	47	49	357	62	42	552	153	29	301	33
RTOR Reduction (vph)	0	5	0	0	5	0	0	9	0	0	3	0
Lane Group Flow (vph)	0	383	0	0	463	0	0	738	0	0	360	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		32.2			32.2			41.3			41.3	
Effective Green, g (s)		32.2			32.2			42.3			42.3	
Actuated g/C Ratio		0.35			0.35			0.46			0.46	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		475			549			783			731	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.29			c0.43			0.23	
v/c Ratio		0.81			0.84			0.94			0.49	
Uniform Delay, d1		27.2			27.7			23.8			17.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.7			14.6			20.9			2.4	
Delay (s)		40.9			42.3			44.7			19.8	
Level of Service		D			D			D			B	
Approach Delay (s)		40.9			42.3			44.7			19.8	
Approach LOS		D			D			D			B	

Intersection Summary

HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	92.2	Sum of lost time (s)	17.7
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

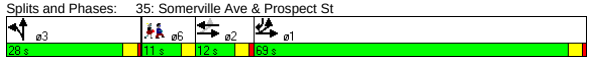
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	261	504	0	0	162	38	143	528	69	0	0	1260	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	823	0	0	225	0	157	656	0	0	0	1416	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	69.0	81.0	0.0	0.0	12.0	0.0	28.0	28.0	0.0	0.0	0.0	69.0	11.0
Total Split (%)	57.5%	67.5%	0.0%	0.0%	10.0%	0.0%	23.3%	23.3%	0.0%	0.0%	0.0%	57.5%	9%
Maximum Green (s)	65.0				8.0		24.0	24.0				65.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.43			0.53		0.56	1.12				1.08	
Control Delay		0.6			49.8		52.1	118.6				78.6	
Queue Delay		0.0			0.0		0.0	0.0				12.5	
Total Delay		0.6			49.8		52.2	118.6				91.1	
Queue Length 50th (ft)		1			77		121	~319				~698	
Queue Length 95th (ft)		m1			#175		202	#447				#831	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1904			428		279	585				1307	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		1	0				35	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.43			0.53		0.56	1.12				1.11	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2949		1395	2885				2413
Flt Permitted		0.70			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2132			2949		1395	2885				2413
Volume (vph)	261	504	0	0	162	38	143	528	69	0	0	1260
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	281	542	0	0	182	43	157	580	76	0	0	1416
RTOR Reduction (vph)	0	0	0	0	15	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	823	0	0	210	0	157	648	0	0	0	1416
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		79.4			16.8		24.0	24.0				62.6
Effective Green, g (s)		79.4			16.8		24.0	24.0				62.6
Actuated g/C Ratio		0.66			0.14		0.20	0.20				0.52
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1856			413		279	577				1259
v/s Ratio Prot		0.23			c0.07		0.11	c0.22				c0.59
v/s Ratio Perm		0.06										
v/c Ratio		0.44			0.51		0.56	1.12				1.12
Uniform Delay, d1		9.7			47.8		43.3	48.0				28.7
Progression Factor		0.04			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			4.4		3.1	76.1				66.9
Delay (s)		0.6			52.2		46.4	124.1				95.6
Level of Service		A			D		D	F				F
Approach Delay (s)		0.6			52.2			109.1			95.6	
Approach LOS		A			D			F			F	

Intersection Summary			
HCM Average Control Delay	72.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	61	0	194	117	503	370	6	21	335	21	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	284	0	121	906	0	0	0	429	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			17.0	17.0		13.0
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	0.0	26.0	26.0	0.0	13.0
Total Split (%)	60.2%	60.2%	0.0%	60.2%	60.2%	0.0%	0.0%	26.5%	26.5%	0.0%	13%
Maximum Green (s)	54.0	54.0		54.0	54.0			22.0	22.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											4.0
Flash Dont Walk (s)											6.0
Pedestrian Calls (#/hr)											12
v/c Ratio		0.69		0.18	0.84				0.80		
Control Delay		19.4		8.9	22.2				39.3		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		19.4		8.9	22.2				39.3		
Queue Length 50th (ft)		50		20	268				147		
Queue Length 95th (ft)		#250		66	#743				#440		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		455		741	1216				620		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		0.62		0.16	0.75				0.69		

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 69.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1679		1869	1842				1986	
Flt Permitted		0.45		0.59	1.00				1.00	
Satd. Flow (perm)		765		1157	1842				1986	
Volume (vph)	61	0	194	117	503	370	6	21	335	21
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	68	0	216	121	519	381	6	24	381	24
RTOR Reduction (vph)	0	33	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	251	0	121	906	0	0	0	427	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		39.4		39.4	39.4				18.6	
Effective Green, g (s)		40.4		40.4	40.4				18.6	
Actuated g/C Ratio		0.57		0.57	0.57				0.26	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		433		655	1042				517	
v/s Ratio Prot					c0.49					
v/s Ratio Perm		0.33		0.10					0.21	
v/c Ratio		0.58		0.18	0.87				0.83	
Uniform Delay, d1		10.0		7.5	13.2				24.9	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		1.2		0.0	7.6				9.9	
Delay (s)		11.2		7.6	20.8				34.8	
Level of Service		B		A	C				C	
Approach Delay (s)		11.2			19.3				34.8	
Approach LOS		B			B				C	

Intersection Summary

HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

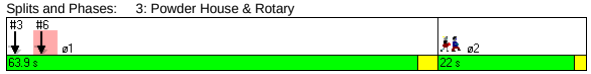
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	573	0	0	1509	492	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	616	0	0	1556	507	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.39			0.93	0.33	
Control Delay		0.7			21.6	0.6	
Queue Delay		0.0			0.2	0.0	
Total Delay		0.7			21.8	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1619	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		15			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.39			0.94	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	573	0	0	1509	492
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	616	0	0	1556	507
RTOR Reduction (vph)	0	71	0	0	0	0
Lane Group Flow (vph)	0	545	0	0	1556	507
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.85	
v/s Ratio Perm		0.33				c0.33
v/c Ratio		0.38			0.96	0.33
Uniform Delay, d1		1.2			5.5	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.8			15.1	0.6
Delay (s)		2.0			20.6	0.6
Level of Service		A			C	A
Approach Delay (s)	2.0			0.0	15.7	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	136.8%	ICU Level of Service	H
Analysis Period (min)	15		

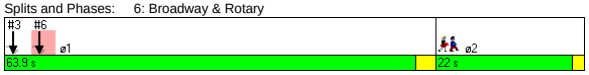
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	547	0	0	1257	825	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	622	0	0	1337	878	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.40			0.79	0.56	
Control Delay		0.8			6.0	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			6.0	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m#211	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.40			0.79	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	547	0	0	1257	825
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	622	0	0	1337	878
RTOR Reduction (vph)	0	72	0	0	0	0
Lane Group Flow (vph)	0	550	0	0	1337	878
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.72	
v/s Ratio Perm		0.35				c0.56
v/c Ratio		0.39			0.82	0.56
Uniform Delay, d1		1.2			2.9	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.8			3.0	0.9
Delay (s)		2.1			4.1	0.9
Level of Service		A			A	A
Approach Delay (s)	2.1			0.0	2.9	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	656	955	428	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	754	985	441	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.48	0.56	0.27			
Control Delay		1.1	2.6	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.6	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	423	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.48	0.56	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	656	955	428	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	754	985	441	0	0
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	0	692	985	441	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.54			
v/s Ratio Perm		0.44		c0.27		
v/c Ratio		0.48	0.59	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.3	0.4		
Delay (s)		1.9	2.0	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	737	646	949	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	945	666	978	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.58	0.38	0.64			
Control Delay		1.6	1.9	2.2			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.6	1.9	2.2			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	201	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1538			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.60	0.38	0.64			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	737	646	949	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	945	666	978	0	0
RTOR Reduction (vph)	0	78	0	80	0	0
Lane Group Flow (vph)	0	867	666	898	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.57		
v/s Ratio Perm		0.53				
v/c Ratio		0.57	0.39	0.63		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.6	0.7	2.1		
Delay (s)		2.5	1.3	3.0		
Level of Service		A	A	A		
Approach Delay (s)	2.5		2.4			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

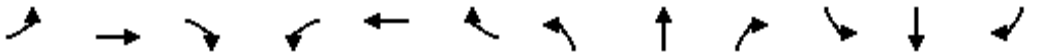
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	365	150	224	512	5	3	19	21	118	11	67
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	590	0	0	883	0	0	61	0	0	165	86
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	365	150	224	512	5	3	19	21	118	11	67
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	410	169	267	610	6	4	27	30	151	14	86
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	615			579			1756	1747	612	1706	1666	494
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	615			579			1756	1747	612	1706	1666	494
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			73			89	57	94	0	79	85
cM capacity (veh/h)	940			980			37	62	491	35	68	569

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	590	882	61	165	86
Volume Left	11	267	4	151	0
Volume Right	169	6	30	0	86
cSH	940	980	100	37	569
Volume to Capacity	0.01	0.27	0.61	4.51	0.15
Queue Length 95th (ft)	1	28	73	Err	13
Control Delay (s)	0.3	6.0	85.9	Err	12.4
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.0	85.9	6585.2	
Approach LOS			F	F	

Intersection Summary				
Average Delay	933.6			
Intersection Capacity Utilization	92.3%	ICU Level of Service	F	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	47	83	88	423	0	0	1808	276
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	307	0	96	504	0	0	1845	300
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	47	83	88	423	0	0	1808	276
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	51	102	96	504	0	0	1845	300
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2668	2540	1845	2540	2840	504	2145			504		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	217017	200437	110434	200437	239294	504	149291			504		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	82	0			100		
cM capacity (veh/h)	0	0	0	0	0	558	0			1051		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	308	96	504	1845	300
Volume Left	154	96	0	0	0
Volume Right	102	0	0	0	300
cSH	0	0	1700	1700	1700
Volume to Capacity	1.3197463756047	8752E73	0.30	1.09	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1596.1		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	124.5%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	89	287	320	0	0	0	0	421	486	202	1731	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	774	0	0	0	0	0	448	517	206	1766	0
Sign Control		Stop			Stop			Free			Free	

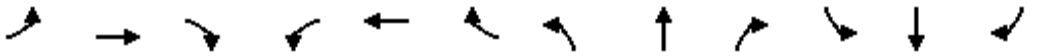
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	89	287	320	0	0	0	0	421	486	202	1731	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	99	319	356	0	0	0	0	448	517	206	1766	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2626	3143	1766	3141	2626	448	1766			965		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	98396	129357	46890	129236	98396	448	46890			965		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			71		
cM capacity (veh/h)	0	0	0	0	0	611	0			706		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	258	515	448	517	206	1766
Volume Left	99	0	0	0	206	0
Volume Right	0	356	0	517	0	0
cSH	0	0	1700	1700	706	1700
Volume to Capacity	Err	Err	0.26	0.30	0.29	1.04
Queue Length 95th (ft)	Err	Err	0	0	30	0
Control Delay (s)	Err	Err	0.0	0.0	12.2	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.3	
Approach LOS	F					

Intersection Summary				
Average Delay	2084.5			
Intersection Capacity Utilization	124.5%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	420	2	28	0	1	10	40	477	0	6	975	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	489	0	0	22	0	0	581	0	0	1078	1176
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	420	2	28	0	1	10	40	477	0	6	975	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	457	2	30	0	2	20	45	536	0	7	1071	1176
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1731	1710	1071	1742	1710	536	1071			536		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1731	1710	1071	1742	1710	536	1071			536		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	97	89	100	98	96	93			99		
cM capacity (veh/h)	61	83	266	56	85	549	636			1027		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	489	22	581	1078	1176
Volume Left	457	0	45	7	0
Volume Right	30	20	0	0	1176
cSH	64	366	636	1027	1700
Volume to Capacity	7.64	0.06	0.07	0.01	0.69
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.5	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.5	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1462.2		
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	61	359	839	178	75	51
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	462	1118	0	166	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

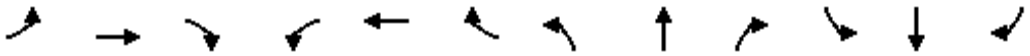
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	61	359	839	178	75	51
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	67	395	922	196	99	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1118				1548	1020
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1143				1666	1024
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				0	72
cM capacity (veh/h)	500				76	237

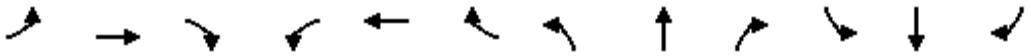
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	462	1118	166
Volume Left	67	0	99
Volume Right	0	196	67
cSH	500	1700	105
Volume to Capacity	0.13	0.66	1.57
Queue Length 95th (ft)	12	0	313
Control Delay (s)	3.9	0.0	370.3
Lane LOS	A		F
Approach Delay (s)	3.9	0.0	370.3
Approach LOS			F

Intersection Summary			
Average Delay	36.2		
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	16	185	134	376	197	7	44	17	109	3	11	3
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	345	0	0	610	0	0	200	0	0	24	0
Sign Control		Stop			Stop			Stop			Stop	

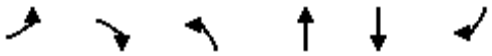
Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	16	185	134	376	197	7	44	17	109	3	11	3
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	16	191	138	396	207	7	52	20	128	4	16	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	345	611	200	24
Volume Left (vph)	16	396	52	4
Volume Right (vph)	138	7	128	4
Hadj (s)	-0.20	0.19	-0.32	-0.07
Departure Headway (s)	5.3	5.3	6.1	6.9
Degree Utilization, x	0.51	0.90	0.34	0.05
Capacity (veh/h)	650	611	561	463
Control Delay (s)	13.8	38.1	12.2	10.2
Approach Delay (s)	13.8	38.1	12.2	10.2
Approach LOS	B	E	B	B

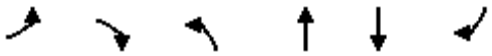
Intersection Summary			
Delay	26.0		
HCM Level of Service	D		
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	167	130	95	422	546	485
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	313	0	0	698	1063	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	167	130	95	422	546	485
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	176	137	128	570	563	500
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1640	813	1063			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1640	813	1063			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	64	80			
cM capacity (veh/h)	88	377	640			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	313	699	1063
Volume Left	176	128	0
Volume Right	137	0	500
cSH	132	640	1700
Volume to Capacity	2.37	0.20	0.63
Queue Length 95th (ft)	673	19	0
Control Delay (s)	692.1	5.2	0.0
Lane LOS	F	A	
Approach Delay (s)	692.1	5.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	106.1		
Intersection Capacity Utilization	113.1%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	10	10
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	862			577	958	
Travel Time (s)	19.6			13.1	21.8	
Volume (vph)	50	308	250	607	200	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	7%	1%	4%	10%
Lane Group Flow (vph)	389	0	0	932	222	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	50	308	250	607	200	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	335	272	660	217	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				577	958	
pX, platoon unblocked	0.62					
vC, conflicting volume	1423	220	223			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1682	220	223			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	59	79			
cM capacity (veh/h)	52	815	1317			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	389	932	223
Volume Left	54	272	0
Volume Right	335	0	5
cSH	266	1317	1700
Volume to Capacity	1.46	0.21	0.13
Queue Length 95th (ft)	550	19	0
Control Delay (s)	263.1	4.5	0.0
Lane LOS	F	A	
Approach Delay (s)	263.1	4.5	0.0
Approach LOS	F		

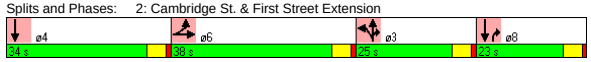
Intersection Summary			
Average Delay	69.0		
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	140	236	55	0	0	0	60	136	100	0	325	569		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	146	303	0	0	0	0	0	218	111	0	993	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.39	0.79						0.75	0.25		0.52			
Control Delay	42.5	57.6						63.9	7.6		1.8			
Queue Delay	0.8	0.0						8.5	0.0		0.3			
Total Delay	43.3	57.6						72.5	7.6		2.2			
Queue Length 50th (ft)	87	191						142	0		10			
Queue Length 95th (ft)	129	256						218	39		m8			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						325	577		1916			
Starvation Cap Reductn	0	0						0	0		386			
Spillback Cap Reductn	162	0						74	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.43	0.59						0.87	0.19		0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1793						1807	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1793						1807	1459		3201	
Volume (vph)	140	236	55	0	0	0	60	136	100	0	325	569
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	146	246	57	0	0	0	67	151	111	0	361	632
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	83	0	222	0
Lane Group Flow (vph)	146	295	0	0	0	0	0	218	28	0	771	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	24.2	24.2						18.3	28.8		62.5	
Effective Green, g (s)	25.2	25.2						19.3	29.8		63.5	
Actuated g/C Ratio	0.21	0.21						0.16	0.25		0.53	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	372	377						291	362		1694	
v/s Ratio Prot	0.08	c0.16						c0.12	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.39	0.78						0.75	0.08		0.45	
Uniform Delay, d1	40.8	44.8						48.0	34.6		17.5	
Progression Factor	1.00	1.00						1.00	1.00		0.11	
Incremental Delay, d2	0.7	10.2						10.1	0.1		0.1	
Delay (s)	41.5	55.0						58.1	34.6		2.1	
Level of Service	D	D						E	C		A	
Approach Delay (s)		50.6			0.0			50.2			2.1	
Approach LOS		D			A			D			A	

Intersection Summary

HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

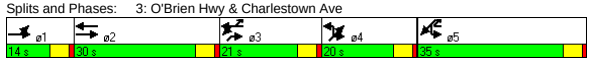
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	176	1364	452	315	859	300	140	438	284	533	918	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	193	1499	497	346	944	330	147	461	299	559	1170	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.43	0.93	0.31	1.57	0.77	0.44	0.68	1.00	0.62	1.42	1.42		
Control Delay	270.1	50.3	0.5	308.3	54.7	3.0	66.4	93.0	39.1	237.4	230.4		
Queue Delay	0.0	670.9	0.0	33.2	520.7	0.5	0.0	0.0	0.6	0.0	0.8		
Total Delay	270.1	721.2	0.5	341.5	575.3	3.5	66.4	93.0	39.7	237.4	231.2		
Queue Length 50th (ft)	~178	360	0	~345	360	26	97	167	160	~563	~592		
Queue Length 95th (ft)	#310	#446	0	m#414	m406	m27	#173	#266	248	#775	#719		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	756	216	463	480	394	824		
Starvation Cap Reductn	0	0	0	10	784	154	0	0	0	0	0		
Spillback Cap Reductn	0	1028	0	0	0	0	0	0	34	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.43	2.59	0.31	1.64	2.16	0.55	0.68	1.00	0.67	1.42	1.42		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	176	1364	452	315	859	300	140	438	284	533	918	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	193	1499	497	346	944	330	147	461	299	592	1020	117
RTOR Reduction (vph)	0	0	0	0	0	198	0	0	17	0	7	0
Lane Group Flow (vph)	193	1499	497	346	944	132	147	461	282	559	1163	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.30	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.31									
v/c Ratio	1.43	0.93	0.31	1.57	0.77	0.24	0.68	1.00	0.61	1.42	1.42	
Uniform Delay, d1	55.0	38.7	0.0	51.5	31.8	23.9	49.6	52.0	35.3	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.62	1.43	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	230.5	10.3	0.5	264.9	1.5	0.1	8.5	40.4	2.3	202.8	197.9	
Delay (s)	285.5	49.0	0.5	337.4	53.1	34.1	58.1	92.4	37.6	247.3	242.4	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		58.8			109.9			68.8			244.0	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	122.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

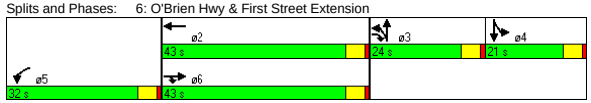
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1540	165	445	506	73	41	235	0	116	284	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1711	183	494	643	0	46	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.91	0.20	0.76	0.50		0.16	0.84			0.94	
Control Delay		19.8	3.8	53.5	31.0		20.7	46.1			78.1	
Queue Delay		0.0	0.0	0.0	0.0		1.7	134.2			0.0	
Total Delay		19.8	3.8	53.5	31.0		22.4	180.3			78.1	
Queue Length 50th (ft)		305	27	165	173		18	187			165	
Queue Length 95th (ft)		#539	49	207	240		m35	m#272			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		159	109			0	
Spillback Cap Reductn		0	0	1	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.91	0.20	0.62	0.50		0.34	1.29			0.94	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3472		1770	1863			3471	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3472		1770	1863			3471	
Volume (vph)	0	1540	165	445	506	73	41	235	0	116	284	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1711	183	494	562	81	46	261	0	129	316	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1711	157	494	634	0	46	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1279		295	311			492	
v/s Ratio Prot		c0.34	0.10	c0.14	0.18		0.03	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.91	0.17	0.76	0.50		0.16	0.84			0.93	
Uniform Delay, d1		36.1	12.4	46.0	29.3		42.8	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.46	0.50			1.00	
Incremental Delay, d2		6.8	0.3	5.0	1.4		0.9	19.9			27.0	
Delay (s)		17.6	5.0	51.0	30.7		20.4	44.3			78.0	
Level of Service		B	A	D	C		C	D			E	
Approach Delay (s)		16.3			39.5			40.7			78.0	
Approach LOS		B			D			D			E	

Intersection Summary

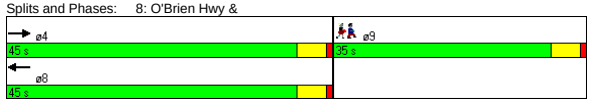
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1992	0	0	1104	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2213	0	0	1227	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.48			0.38			
Control Delay	5.1			4.6			
Queue Delay	0.0			0.0			
Total Delay	5.1			4.6			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	352			262			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.48			0.38			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1992	0	0	1104	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2213	0	0	1227	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2213	0	0	1227	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	31.0			31.0		
Effective Green, g (s)	32.0			32.0		
Actuated g/C Ratio	0.73			0.73		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3698			2574		
v/s Ratio Prot	c0.44			0.35		
v/s Ratio Perm						
v/c Ratio	0.60			0.48		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	336	0	0	5	0	1656	0	0	1019	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	350	0	0	6	0	1707	0	0	1213	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	336	0	0	5	0	1656	0	0	1019	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	350	0	0	6	0	1707	0	0	1120	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.76	0.76	0.69	0.76	0.76	0.85	0.85			0.69		
vC, conflicting volume	2273	2920	569	2086	2874	607	1213			1707		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1348	2199	0	1102	2138	358	1073			1113		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	53	100	100	99	100			100		
cM capacity (veh/h)	82	33	741	65	36	534	458			386		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	350	6	569	569	569	747	467
Volume Left	0	0	0	0	0	0	0
Volume Right	350	6	0	0	0	0	93
cSH	741	534	1700	1700	1700	1700	1700
Volume to Capacity	0.47	0.01	0.33	0.33	0.33	0.44	0.27
Queue Length 95th (ft)	56	1	0	0	0	0	0
Control Delay (s)	14.1	11.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	14.1	11.8	0.0			0.0	
Approach LOS	B	B					

Intersection Summary					
Average Delay	1.5				
Intersection Capacity Utilization	59.5%	ICU Level of Service		B	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1992	1064	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2213	1226	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1992	1064	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2213	1182	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.75				0.86	0.75
vC, conflicting volume	1227				1942	613
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	962				862	139
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	530				253	658

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	738	738	738	788	439	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	658
Volume to Capacity	0.43	0.43	0.43	0.46	0.26	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.9
Approach LOS						B

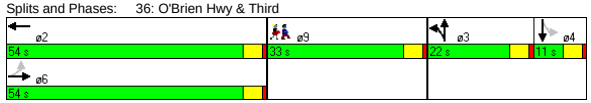
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	3	2270	673	0	698	15	175	1	35	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	3037	0	0	775	0	116	118	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.32			0.45		0.49	0.46			0.03		
Control Delay		175.5			28.7		54.8	46.0			48.0		
Queue Delay		56.5			0.4		0.0	0.0			0.0		
Total Delay		232.1			29.1		54.8	46.0			48.0		
Queue Length 50th (ft)		~954			224		77	66			1		
Queue Length 95th (ft)		#1140			334		134	123			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2299			1730		235	259			92		
Starvation Cap Reductn		0			466		0	0			0		
Spillback Cap Reductn		200			0		0	1			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.45			0.61		0.49	0.46			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.95			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4911			3528		1569	1628			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4614			3528		1569	1628			1779	
Volume (vph)	3	2270	673	0	698	15	175	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	3	2340	694	0	759	16	194	1	39	1	1	1
RTOR Reduction (vph)	0	41	0	0	1	0	0	14	0	0	1	0
Lane Group Flow (vph)	0	2996	0	0	774	0	116	104	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2107			1611		235	244			33	
v/s Ratio Prot					0.22		c0.07	0.06				
v/s Ratio Perm		c0.65									c0.00	
v/c Ratio		1.42			0.48		0.49	0.42			0.06	
Uniform Delay, d1		32.6			22.7		46.8	46.3			57.9	
Progression Factor		1.00			1.34		1.00	1.00			1.00	
Incremental Delay, d2		192.6			1.0		7.2	5.3			0.8	
Delay (s)		225.2			31.5		54.1	51.6			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		225.2			31.5			52.8			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	178.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1675	170	0	527	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1963	0	0	579	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1675	170	0	527	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1782	181	0	579	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.73		0.79	0.73
vC, conflicting volume			1963		2162	684
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1588		1420	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			294		102	799

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	713	713	537	290	290	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	181	0	0	33
cSH	1700	1700	1700	1700	1700	799
Volume to Capacity	0.42	0.42	0.32	0.17	0.17	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

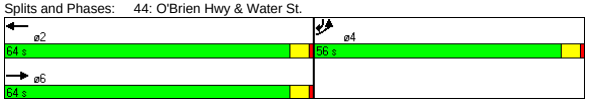
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	46.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1845	0	0	462	65	0	0	0	0	0	251
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1963	0	0	579	0	0	0	0	0	0	279
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.66			0.28							0.38
Control Delay	49.6	3.1			16.0							3.7
Queue Delay	38.8	1.4			0.0							0.0
Total Delay	88.4	4.5			16.0							3.7
Queue Length 50th (ft)	353	31			59							0
Queue Length 95th (ft)	m271	m31			m158							39
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2963			2032							870
Starvation Cap Reductn	283	743			0							0
Spillback Cap Reductn	0	0			122							10
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.88			0.30							0.32

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3375							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3375							1627
Volume (vph)	460	1845	0	0	462	65	0	0	0	0	0	251
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1963	0	0	508	71	0	0	0	0	0	279
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	186
Lane Group Flow (vph)	489	1963	0	0	572	0	0	0	0	0	0	93
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2025							542
v/s Ratio Prot	c0.28	c0.40			0.17							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.66			0.28							0.17
Uniform Delay, d1	37.3	15.9			11.6							28.3
Progression Factor	1.32	0.17			1.26							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.2
Delay (s)	50.4	2.8			14.9							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.3			14.9			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

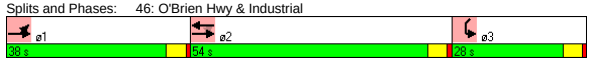
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	2001	1333	305	285	141
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2397	1742	0	474	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.89	0.89		0.80	
Control Delay		19.9	38.8		51.2	
Queue Delay		127.1	110.0		159.6	
Total Delay		147.0	148.8		210.8	
Queue Length 50th (ft)		493	388		137	
Queue Length 95th (ft)		m458	452		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1947		657	
Starvation Cap Reductn		815	0		0	
Spillback Cap Reductn		0	548		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.28	1.25		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4598		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3006	4598		3013	
Volume (vph)	180	2001	1333	305	285	141
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2199	1418	324	317	157
RTOR Reduction (vph)	0	0	31	0	56	0
Lane Group Flow (vph)	0	2397	1711	0	418	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2684	1916		535	
v/s Ratio Prot		c0.27	c0.37		c0.14	
v/s Ratio Perm		0.37				
v/c Ratio		0.89	0.89		0.78	
Uniform Delay, d1		13.0	32.5		47.1	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.4	6.9		7.3	
Delay (s)		29.4	39.4		54.4	
Level of Service		C	D		D	
Approach Delay (s)		29.4	39.4		54.4	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Bus AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	301	1.0	0.406	11.8	LOS B	88	0.72	0.80	23.7
8T	T	653	1.1	0.881	18.9	LOS B	472	1.00	1.27	20.7
Approach		**954**	**1.0**	**0.881**	**16.6**	**LOS B**	**472**	**0.91**	**1.12**	**21.6**
Mystic Valley Parkway										
4T	T	945	0.0	0.888	13.6	LOS B	539	1.00	1.08	22.6
4R	R	500	0.0	0.595	8.5	LOS A	166	0.76	0.79	24.9
Approach		**1445**	**0.0**	**0.888**	**11.8**	**LOS B**	**539**	**0.92**	**0.98**	**23.4**
Mystic Valley Parkway										
5L	L	430	0.0	1.162	122.3	LOS F	931	1.00	2.39	8.0
2R	R	487	0.0	1.168	117.5	LOS F	1034	1.00	2.51	7.8
Approach		**917**	**0.0**	**1.167**	**119.7**	**LOS F**	**1034**	**1.00**	**2.45**	**7.9**
All Vehicles		**3316**	**0.3**	**1.168**	**43.1**	**LOS D**	**1034**	**0.94**	**1.43**	**14.9**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

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Site: 2007 Existing AM
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SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Bus PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	455	0.0	0.605	13.9	LOS B	176	0.83	0.91	22.8
8T	T	924	0.0	1.229	121.0	LOS F	1948	1.00	3.23	7.7
Approach		**1379**	**0.0**	**1.229**	**85.7**	**LOS F**	**1948**	**0.95**	**2.46**	**10.0**
Mystic Valley Parkway										
4T	T	789	0.0	0.902	19.6	LOS B	538	1.00	1.35	20.4
4R	R	573	0.0	0.747	13.8	LOS B	283	0.97	1.10	22.5
Approach		**1362**	**0.0**	**0.902**	**17.2**	**LOS B**	**538**	**0.99**	**1.24**	**21.2**
Mystic Valley Parkway										
5L	L	363	0.0	0.672	21.4	LOS C	220	1.00	1.18	20.2
2R	R	315	0.0	0.648	17.5	LOS B	196	1.00	1.16	21.1
Approach		**678**	**0.0**	**0.673**	**19.6**	**LOS B**	**220**	**1.00**	**1.17**	**20.6**
All Vehicles		**3419**	**0.0**	**1.229**	**45.3**	**LOS D**	**1948**	**0.97**	**1.72**	**14.5**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
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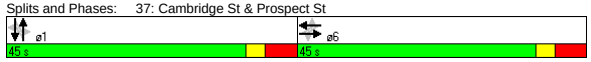
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	120	285	23	44	347	32	72	487	86	30	230	60
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	498	0	0	460	0	0	709	0	0	352	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.96			0.68			0.98			0.50	
Control Delay		59.5			27.7			46.9			22.8	
Queue Delay		0.0			0.0			12.1			0.0	
Total Delay		59.5			27.7			59.1			22.8	
Queue Length 50th (ft)		269			208			421			145	
Queue Length 95th (ft)		#442			320			#647			226	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		517			680			724			700	
Starvation Cap Reductn		0			0			34			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.96			0.68			1.03			0.50	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1801			1818			1938			1918	
Flt Permitted		0.69			0.90			0.90			0.88	
Satd. Flow (perm)		1257			1651			1759			1702	
Volume (vph)	120	285	23	44	347	32	72	487	86	30	230	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	140	331	27	48	377	35	79	535	95	33	253	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	498	0	0	460	0	0	709	0	0	352	0
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		517			679			723			700	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.28			c0.40			0.21	
v/c Ratio		0.96			0.68			0.98			0.50	
Uniform Delay, d1		25.8			21.6			26.1			19.7	
Progression Factor		1.00			1.00			0.84			1.00	
Incremental Delay, d2		31.4			5.4			22.9			2.6	
Delay (s)		57.3			27.0			45.0			22.2	
Level of Service		E			C			D			C	
Approach Delay (s)		57.3			27.0			45.0			22.2	
Approach LOS		E			C			D			C	

Intersection Summary

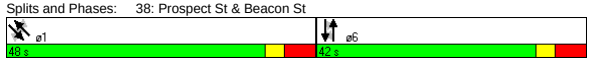
HCM Average Control Delay	40.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	138	563	42	25	250	15	42	279	70	21	354	40
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	798	0	0	318	0	0	439	0	0	456	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	28.0	28.0		28.0	28.0		31.0	31.0		31.0	31.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.77			0.51			0.59			0.57	
Control Delay		30.8			37.6			23.0			22.2	
Queue Delay		1.2			0.0			1.2			0.9	
Total Delay		32.0			37.6			24.1			23.2	
Queue Length 50th (ft)		206			174			182			187	
Queue Length 95th (ft)		281			m248			276			283	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1032			623			740			794	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		84			0			129			138	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.84			0.51			0.72			0.70	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3491			1855			1815			1849	
Flt Permitted		0.78			0.89			0.91			0.96	
Satd. Flow (perm)		2732			1650			1665			1786	
Volume (vph)	138	563	42	25	250	15	42	279	70	21	354	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	148	605	45	27	275	16	47	313	79	23	389	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	798	0	0	318	0	0	439	0	0	456	0
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1032			623			740			794	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.26			0.26	
v/c Ratio		0.77			0.51			0.59			0.57	
Uniform Delay, d1		24.6			21.6			18.9			18.6	
Progression Factor		1.00			1.58			1.00			1.00	
Incremental Delay, d2		5.6			2.5			3.5			3.0	
Delay (s)		30.2			36.6			22.3			21.7	
Level of Service		C			D			C			C	
Approach Delay (s)		30.2			36.6			22.3			21.7	
Approach LOS		C			D			C			C	

Intersection Summary					
HCM Average Control Delay	27.6	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	98.7%	ICU Level of Service		F	
Analysis Period (min)	15				

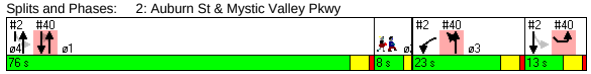
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	184	105	1001	38	62	1104		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	375	0	1154	0	0	1254		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	23.0	0.0	76.0	0.0	89.0	89.0	8.0	13.0
Total Split (%)	19.2%	0.0%	63.3%	0.0%	74.2%	74.2%	7%	11%
Maximum Green (s)	18.0		71.0				6.0	8.0
Yellow Time (s)	4.0		4.0				2.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							4.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.91		0.53			0.67		
Control Delay	71.4		13.0			1.6		
Queue Delay	0.2		0.1			14.5		
Total Delay	71.6		13.1			16.1		
Queue Length 50th (ft)	267		314			25		
Queue Length 95th (ft)	#419		m278			m22		
Internal Link Dist (ft)	821		788			49		
Turn Bay Length (ft)								
Base Capacity (vph)	411		2158			1874		
Starvation Cap Reductn	0		0			626		
Spillback Cap Reductn	1		236			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.91		0.60			1.00		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1868		3590			3360
Flt Permitted	0.97		1.00			0.78
Satd. Flow (perm)	1868		3590			2645
Volume (vph)	184	105	1001	38	62	1104
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	239	136	1112	42	67	1187
RTOR Reduction (vph)	16	0	2	0	0	0
Lane Group Flow (vph)	359	0	1152	0	0	1254
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	24.4		69.4			82.4
Effective Green, g (s)	25.4		70.4			83.4
Actuated g/C Ratio	0.21		0.59			0.70
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	395		2106			1838
v/s Ratio Prot	c0.19		0.32			
v/s Ratio Perm						c0.47
v/c Ratio	0.91		0.55			0.68
Uniform Delay, d1	46.2		15.1			10.6
Progression Factor	1.00		0.91			0.14
Incremental Delay, d2	24.6		0.1			0.1
Delay (s)	70.7		13.8			1.6
Level of Service	E		B			A
Approach Delay (s)	70.7		13.8			1.6
Approach LOS	E		B			A

Intersection Summary

HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

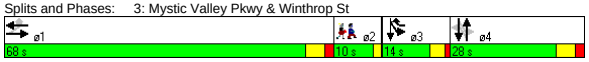
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	3	1081	6	0	1100	427	19	427	172	427	522	51	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1198	0	0	1170	454	0	754	0	0	1163	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	68.0	68.0	0.0	0.0	68.0	14.0	28.0	28.0	0.0	14.0	42.0	0.0	10.0
Total Split (%)	56.7%	56.7%	0.0%	0.0%	56.7%	11.7%	23.3%	23.3%	0.0%	11.7%	35.0%	0.0%	8%
Maximum Green (s)	62.0	62.0			62.0	10.0	22.0	22.0		10.0			8.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			2.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													5.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.55			1.17	0.37		1.62			1.54dl		
Control Delay		277.4			116.6	2.8		318.9			158.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		277.4			116.6	2.8		318.9			158.8		
Queue Length 50th (ft)		~1336			~1082	29		~431			~387		
Queue Length 95th (ft)		#1582			#1340	61		#488			#787		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		771			998	1223		466			921		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.55			1.17	0.37		1.62			1.26		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3420			3508	
Flt Permitted		0.72			1.00	1.00		0.72			0.61	
Satd. Flow (perm)		1463			1900	1615		2469			2198	
Volume (vph)	3	1081	6	0	1100	427	19	427	172	427	522	51
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	3	1188	7	0	1170	454	23	521	210	497	607	59
RTOR Reduction (vph)	0	0	0	0	0	108	0	34	0	0	3	0
Lane Group Flow (vph)	0	1198	0	0	1170	346	0	720	0	0	1160	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		60.4			60.4	78.4		22.0			40.0	
Effective Green, g (s)		61.4			61.4	78.4		23.0			40.0	
Actuated g/C Ratio		0.51			0.51	0.65		0.19			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		749			972	1055		473			918	
v/s Ratio Prot					0.62	0.05					c0.18	
v/s Ratio Perm		c0.82				0.17		c0.29			0.24	
v/c Ratio		1.60			1.20	0.33		1.52			1.54dl	
Uniform Delay, d1		29.3			29.3	9.2		48.5			40.0	
Progression Factor		0.85			1.00	1.00		1.00			1.00	
Incremental Delay, d2		274.1			101.5	0.1		245.6			127.5	
Delay (s)		298.9			130.8	9.2		294.1			167.5	
Level of Service		F			F	A		F			F	
Approach Delay (s)		298.9			96.9			294.1			167.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	196.7	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.47				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	118.5%	ICU Level of Service		H	
Analysis Period (min)	15				

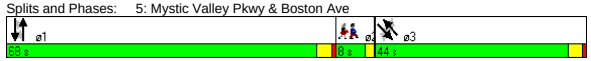
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	83	925	145	44	1164	80	55	243	38	146	331	59	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1240	0	0	1355	0	0	426	0	0	687	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	68.0	68.0	0.0	68.0	68.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	8.0
Total Split (%)	56.7%	56.7%	0.0%	56.7%	56.7%	0.0%	36.7%	36.7%	0.0%	36.7%	36.7%	0.0%	7%
Maximum Green (s)	64.0	64.0		64.0	64.0		40.0	40.0		40.0	40.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.11			0.92			0.75			1.48		
Control Delay		89.8			43.5			41.5			258.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		89.8			43.5			41.5			258.4		
Queue Length 50th (ft)		~575			564			271			~724		
Queue Length 95th (ft)		#714			m#680			365			#844		
Internal Link Dist (ft)		593			788			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1118			1470			570			463		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			0.92			0.75			1.48		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3529			3570			1922			1903	
Flt Permitted		0.58			0.76			0.78			0.65	
Satd. Flow (perm)		2052			2711			1503			1262	
Volume (vph)	83	925	145	44	1164	80	55	243	38	146	331	59
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	89	995	156	46	1225	84	70	308	48	187	424	76
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	1230	0	0	1351	0	0	422	0	0	683	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		62.4			62.4			46.4			46.4	
Effective Green, g (s)		62.4			62.4			46.4			46.4	
Actuated g/C Ratio		0.52			0.52			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1067			1410			581			488	
v/s Ratio Prot												
v/s Ratio Perm		c0.60			0.50			0.28			c0.54	
v/c Ratio		1.15			0.96			0.73			1.40	
Uniform Delay, d1		28.8			27.5			31.4			36.8	
Progression Factor		1.00			1.37			1.00			1.00	
Incremental Delay, d2		79.9			12.2			4.8			192.2	
Delay (s)		108.7			49.9			36.2			229.0	
Level of Service		F			D			D			F	
Approach Delay (s)		108.7			49.9			36.2			229.0	
Approach LOS		F			D			D			F	

Intersection Summary

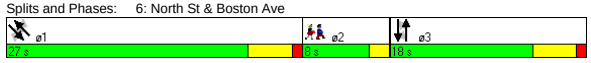
HCM Average Control Delay	101.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	36	8	31	31	50	35	10	360	49	49	426	16	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	112	0	0	146	0	0	494	0	0	506	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	18.0	18.0	0.0	18.0	18.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0	8.0
Total Split (%)	34.0%	34.0%	0.0%	34.0%	34.0%	0.0%	50.9%	50.9%	0.0%	50.9%	50.9%	0.0%	15%
Maximum Green (s)	13.0	13.0		13.0	13.0		22.0	22.0		22.0	22.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.34			0.40			0.45			0.48		
Control Delay		16.9			17.5			9.1			9.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		16.9			17.5			9.1			9.7		
Queue Length 50th (ft)		21			28			61			64		
Queue Length 95th (ft)		44			66			183			214		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		384			426			1088			1047		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.29			0.34			0.45			0.48		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 59.7	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.96			0.98			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1752			1799			1787			1819	
Flt Permitted		0.82			0.90			0.99			0.92	
Satd. Flow (perm)		1470			1646			1767			1689	
Volume (vph)	36	8	31	31	50	35	10	360	49	49	426	16
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	54	12	46	39	63	44	12	424	58	51	439	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	112	0	0	146	0	0	494	0	0	506	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.3			11.3			35.3			35.3	
Effective Green, g (s)		12.3			12.3			36.3			36.3	
Actuated g/C Ratio		0.20			0.20			0.60			0.60	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		301			337			1069			1022	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.09			0.28			c0.30	
v/c Ratio		0.37			0.43			0.46			0.50	
Uniform Delay, d1		20.5			20.8			6.5			6.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			1.2			1.4			1.7	
Delay (s)		21.6			22.0			7.9			8.4	
Level of Service		C			C			A			A	
Approach Delay (s)		21.6			22.0			7.9			8.4	
Approach LOS		C			C			A			A	

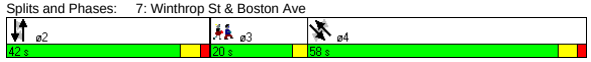
Intersection Summary					
HCM Average Control Delay	11.0	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.45				
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	62.6%	ICU Level of Service	B		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	75	104	126	32	408	57	54	357	158	191	337	29	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	332	0	0	577	0	0	625	0	0	593	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0	20.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	48.3%	48.3%	0.0%	48.3%	48.3%	0.0%	17%
Maximum Green (s)	35.9	35.9		35.9	35.9		52.0	52.0		52.0	52.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.11			0.88			0.79			1.26		
Control Delay		119.3			51.5			33.5			160.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		119.3			51.5			33.5			160.7		
Queue Length 50th (ft)		~229			329			292			~455		
Queue Length 95th (ft)		#503			#629			#664			#840		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		300			653			792			470		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			0.88			0.79			1.26		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1755			1989			1784			1818	
Flt Permitted		0.56			0.96			0.90			0.55	
Satd. Flow (perm)		991			1911			1615			1014	
Volume (vph)	75	104	126	32	408	57	54	357	158	191	337	29
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	82	113	137	37	474	66	59	392	174	203	359	31
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	0	577	0	0	625	0	0	593	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.2			36.2			52.4			52.4	
Effective Green, g (s)		37.3			37.3			53.4			53.4	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		337			649			785			493	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.30			0.39			c0.58	
v/c Ratio		0.99			0.89			0.80			1.20	
Uniform Delay, d1		36.0			34.3			23.6			28.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		44.6			13.7			8.2			109.4	
Delay (s)		80.5			48.0			31.9			137.6	
Level of Service		F			D			C			F	
Approach Delay (s)		80.5			48.0			31.9			137.6	
Approach LOS		F			D			C			F	

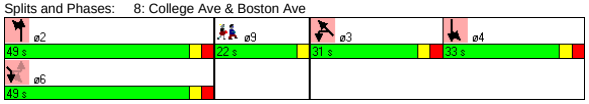
Intersection Summary					
HCM Average Control Delay	73.3	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.11				
Actuated Cycle Length (s)	109.8	Sum of lost time (s)		19.1	
Intersection Capacity Utilization	114.3%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	154	243	1	34	225	127	108	192	122	10	283	59	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	166	265	0	0	424	0	0	337	137	0	395	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	49.0	49.0	0.0	33.0	33.0	0.0	49.0	49.0	49.0	31.0	31.0	0.0	22.0
Total Split (%)	36.3%	36.3%	0.0%	24.4%	24.4%	0.0%	36.3%	36.3%	36.3%	23.0%	23.0%	0.0%	16%
Maximum Green (s)	43.0	43.0		27.0	27.0		43.0	43.0	43.0	25.0	25.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.28	0.43			0.94			0.90	0.24		0.93		
Control Delay	32.0	34.5			74.5			66.9	10.3		75.8		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	32.0	34.5			74.5			66.9	10.3		75.8		
Queue Length 50th (ft)	81	137			292			215	13		277		
Queue Length 95th (ft)	172	269			#618			#474	66		#578		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	630	662			451			398	614		425		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.26	0.40			0.94			0.85	0.22		0.93		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 118.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.96			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1890			1830	1531		1952	
Flt Permitted	0.95	1.00			1.00			0.62	1.00		1.00	
Satd. Flow (perm)	1770	1862			1890			1147	1531		1952	
Volume (vph)	154	243	1	34	225	127	108	192	122	10	283	59
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	166	264	1	37	247	140	121	216	137	11	318	66
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	73	0	6	0
Lane Group Flow (vph)	166	265	0	0	412	0	0	337	64	0	389	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	39.4	39.4			27.4			39.4	39.4		25.4	
Effective Green, g (s)	39.4	39.4			27.4			39.4	39.4		25.4	
Actuated g/C Ratio	0.33	0.33			0.23			0.33	0.33		0.21	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	582	612			432			377	503		414	
v/s Ratio Prot	0.09	0.14			c0.22				0.04		c0.20	
v/s Ratio Perm								c0.29				
v/c Ratio	0.29	0.43			0.95			0.89	0.13		0.94	
Uniform Delay, d1	29.8	31.5			45.6			38.3	28.2		46.5	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.5			31.9			22.5	0.1		29.3	
Delay (s)	30.1	32.0			77.6			60.8	28.3		75.8	
Level of Service	C	C			E			E	C		E	
Approach Delay (s)		31.3			77.6			51.4			75.8	
Approach LOS		C			E			D			E	

Intersection Summary

HCM Average Control Delay	58.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	27.7
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

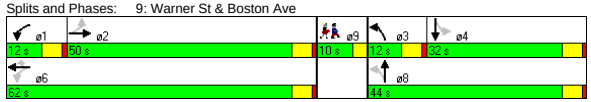
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1449			1738		
Travel Time (s)		11.7			40.8			32.9			39.5		
Volume (vph)	13	499	11	146	416	86	19	279	35	104	175	7	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	594	0	0	669	102	0	379	0	0	332	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	50.0	50.0	0.0	12.0	62.0	62.0	12.0	44.0	0.0	32.0	32.0	0.0	10.0
Total Split (%)	43.1%	43.1%	0.0%	10.3%	53.4%	53.4%	10.3%	37.9%	0.0%	27.6%	27.6%	0.0%	9%
Maximum Green (s)	45.0	45.0		7.0	57.0	57.0	7.0	39.0		27.0	27.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.51			1.23	0.12		0.67			0.79		
Control Delay		13.8			143.0	2.7		36.2			46.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		13.8			143.0	2.7		36.2			46.8		
Queue Length 50th (ft)		178			~492	0		193			180		
Queue Length 95th (ft)		372			#786	21		319			301		
Internal Link Dist (ft)		435			1715			1369			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1176			542	853		723			432		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.51			1.23	0.12		0.52			0.77		

Intersection Summary

Area Type: Other
Cycle Length: 116
Actuated Cycle Length: 96.1
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1992			1984	
Flt Permitted		0.98			0.69	1.00		0.97			0.50	
Satd. Flow (perm)		1943			1286	1340		1937			1006	
Volume (vph)	13	499	11	146	416	86	19	279	35	104	175	7
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	15	567	12	174	495	102	22	317	40	121	203	8
RTOR Reduction (vph)	0	0	0	0	0	42	0	4	0	0	0	0
Lane Group Flow (vph)	0	594	0	0	669	60	0	375	0	0	332	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.3			57.3	57.3		27.0			27.0	
Effective Green, g (s)		58.3			58.3	58.3		28.0			28.0	
Actuated g/C Ratio		0.59			0.59	0.59		0.28			0.28	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1150			761	793		551			286	
v/s Ratio Prot												
v/s Ratio Perm		0.31			c0.52	0.05		0.19			c0.33	
v/c Ratio		0.52			0.88	0.08		0.68			1.16	
Uniform Delay, d1		11.8			17.1	8.6		31.3			35.2	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2			11.0	0.0		2.8			104.0	
Delay (s)		12.0			28.1	8.6		34.0			139.2	
Level of Service		B			C	A		C			F	
Approach Delay (s)		12.0			25.5			34.0			139.2	
Approach LOS		B			C			C			F	

Intersection Summary

HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	98.5	Sum of lost time (s)	12.2
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

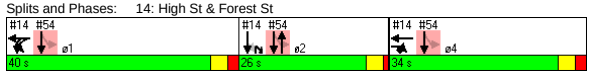
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	360	145	2	873	692	219	238	83	201	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	391	158	0	951	990	0	259	0	347	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Detector Phases	4	4	1	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	34.0	34.0	40.0	40.0	74.0	0.0	26.0	26.0	26.0	0.0
Total Split (%)	34.0%	34.0%	40.0%	40.0%	74.0%	0.0%	26.0%	26.0%	26.0%	0.0%
Maximum Green (s)	29.0	29.0	35.0	35.0			22.0	22.0	22.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.85	0.35		0.79	0.79		0.29		0.81	
Control Delay	52.5	9.4		35.0	16.1		1.5		52.3	
Queue Delay	0.0	0.0		67.5	0.0		0.0		0.0	
Total Delay	52.5	9.5		102.5	16.1		1.5		52.3	
Queue Length 50th (ft)	234	12		277	366		9		208	
Queue Length 95th (ft)	#397	62		355	563		16		#349	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	459	457		1202	1251		882		430	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	14		370	0		0		0	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.85	0.36		1.14	0.79		0.29		0.81	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1796		1611		1932	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1796		1611		1932	
Volume (vph)	360	145	2	873	692	219	238	83	201	36
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	158	2	949	752	238	259	90	218	39
RTOR Reduction (vph)	0	94	0	0	11	0	202	0	5	0
Lane Group Flow (vph)	391	64	0	951	979	0	57	0	342	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	29.0	29.0		35.0	69.0		22.0		22.0	
Effective Green, g (s)	29.0	29.0		35.0	69.0		22.0		22.0	
Actuated g/C Ratio	0.29	0.29		0.35	0.69		0.22		0.22	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0		3.0	
Lane Grp Cap (vph)	459	363		1202	1239		354		425	
v/s Ratio Prot	0.25	0.05		0.28	c0.54		0.04			
v/s Ratio Perm									0.18	
v/c Ratio	0.85	0.18		0.79	0.79		0.16		0.81	
Uniform Delay, d1	33.5	26.6		29.2	10.6		31.5		37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	14.1	0.2		3.6	3.4		0.2		10.6	
Delay (s)	47.6	26.8		32.9	14.0		31.7		47.6	
Level of Service	D	C		C	B		C		D	
Approach Delay (s)					23.2				47.6	
Approach LOS					C				D	

Intersection Summary

HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

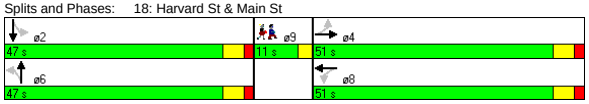
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	97	497	66	85	469	37	47	361	69	72	450	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	702	0	0	642	0	0	502	0	0	729	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	51.0	51.0	0.0	51.0	51.0	0.0	47.0	47.0	0.0	47.0	47.0	0.0	11.0
Total Split (%)	46.8%	46.8%	0.0%	46.8%	46.8%	0.0%	43.1%	43.1%	0.0%	43.1%	43.1%	0.0%	10%
Maximum Green (s)	45.0	45.0		45.0	45.0		41.0	41.0		41.0	41.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.24			1.13			0.90			1.30		
Control Delay		148.7			107.4			49.0			177.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		148.7			107.4			49.0			177.8		
Queue Length 50th (ft)		~539			~460			280			~580		
Queue Length 95th (ft)		#871			#779			#565			#889		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		567			567			558			559		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.24			1.13			0.90			1.30		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1658			1667			1636			1625	
Flt Permitted		0.76			0.76			0.83			0.84	
Satd. Flow (perm)		1271			1272			1371			1370	
Volume (vph)	97	497	66	85	469	37	47	361	69	72	450	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	103	529	70	92	510	40	49	380	73	82	511	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	642	0	0	502	0	0	729	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		45.1			45.1			41.1			41.1	
Effective Green, g (s)		46.1			46.1			42.1			42.1	
Actuated g/C Ratio		0.45			0.45			0.41			0.41	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		571			571			562			562	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.50			0.37			c0.53	
v/c Ratio		1.23			1.12			0.89			1.30	
Uniform Delay, d1		28.3			28.3			28.2			30.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		118.0			76.7			16.1			146.5	
Delay (s)		146.3			105.0			44.3			176.8	
Level of Service		F			F			D			F	
Approach Delay (s)		146.3			105.0			44.3			176.8	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	124.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	114.8%	ICU Level of Service	H
Analysis Period (min)	15		

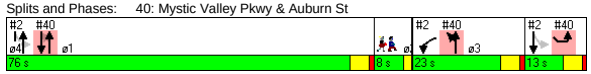
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	25	1081	1137	33	9	29	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	27	1162	1258	0	54	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	23.0	99.0	76.0	0.0	13.0	0.0	8.0
Total Split (%)	19.2%	82.5%	63.3%	0.0%	10.8%	0.0%	7%
Maximum Green (s)	18.0		71.0		8.0		6.0
Yellow Time (s)	4.0		4.0		4.0		2.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							4.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.06	0.73	1.04		0.32		
Control Delay	3.4	13.5	31.5		26.8		
Queue Delay	1.6	2.3	0.0		0.1		
Total Delay	5.0	15.8	31.5		26.8		
Queue Length 50th (ft)	0	417	~268		10		
Queue Length 95th (ft)	m1	m397	m109		33		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	446	1593	1212		170		
Starvation Cap Reductn	339	292	0		0		
Spillback Cap Reductn	0	0	0		3		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.25	0.89	1.04		0.32		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2019		1762	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	108	1900	2019		1762	
Volume (vph)	25	1081	1137	33	9	29
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	27	1162	1223	35	13	41
RTOR Reduction (vph)	0	0	1	0	38	0
Lane Group Flow (vph)	27	1162	1257	0	16	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	93.8	93.8	69.4		8.0	
Effective Green, g (s)	95.8	95.8	70.4		9.0	
Actuated g/C Ratio	0.80	0.80	0.59		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	445	1517	1184		132	
v/s Ratio Prot	0.01	c0.61	c0.62		c0.01	
v/s Ratio Perm	0.04					
v/c Ratio	0.06	0.77	1.06		0.12	
Uniform Delay, d1	37.9	6.3	24.8		51.8	
Progression Factor	1.23	2.40	0.34		1.00	
Incremental Delay, d2	0.1	2.1	30.0		0.6	
Delay (s)	46.5	17.2	38.4		52.4	
Level of Service	D	B	D		D	
Approach Delay (s)		17.8	38.4		52.4	
Approach LOS		B	D		D	

Intersection Summary

HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

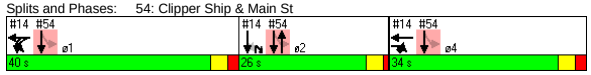
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	238	948	98	1121		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	274	1090	0	1402		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	26.0	0.0	100.0	100.0	40.0	34.0
Total Split (%)	0.0%	0.0%	26.0%	0.0%	100.0%	100.0%	40%	34%
Maximum Green (s)			22.0				35.0	29.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.67	0.69		0.64		
Control Delay			44.7	2.5		8.4		
Queue Delay			0.9	0.0		0.0		
Total Delay			45.7	2.5		8.4		
Queue Length 50th (ft)			161	0		192		
Queue Length 95th (ft)			239	0		181		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			410	1583		2203		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			29	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.72	0.69		0.64		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3185
Flt Permitted			1.00	1.00		0.69
Satd. Flow (perm)			1863	1583		2203
Volume (vph)	0	0	238	948	98	1121
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	274	1090	113	1289
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	274	1090	0	1402
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			22.0	100.0		100.0
Effective Green, g (s)			22.0	100.0		100.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			410	1583		2203
v/s Ratio Prot			0.15			
v/s Ratio Perm				c0.69		0.64
v/c Ratio			0.67	0.69		0.64
Uniform Delay, d1			35.7	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			4.1	2.5		0.4
Delay (s)			39.8	2.5		0.4
Level of Service			D	A		A
Approach Delay (s)	0.0		10.0			0.4
Approach LOS	A		A			A

Intersection Summary

HCM Average Control Delay	5.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1080						1176			419		
Travel Time (s)			24.5						26.7			9.5		
Volume (vph)	2	25	408	236	12	1	18	20	665	135	254	143	7	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	472	270	0	0	0	0	902	0	0	435	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	41.0	41.0	41.0	29.0	0.0	41.0	41.0	41.0	41.0	0.0	29.0	29.0	0.0	19.0
Total Split (%)	34.2%	34.2%	34.2%	24.2%	0.0%	34.2%	34.2%	34.2%	34.2%	0.0%	24.2%	24.2%	0.0%	15.8%
Maximum Green (s)	35.0	35.0	35.0	23.0		35.0	35.0	35.0	35.0		23.0	23.0		13.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.55	0.27					0.90			0.99		
Control Delay			31.5	10.6					46.7			81.5		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			31.5	10.6					46.7			81.5		
Queue Length 50th (ft)			124	65					279			274		
Queue Length 95th (ft)			226	167					#531			#603		
Internal Link Dist (ft)			1000						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			854	984					997			440		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.55	0.27					0.90			0.99		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Broadway & Dexter St

Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	163	5	60	0	52	5	22	5	33	9	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	275	0	0	63	0	0	0	88	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	19.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	15.8%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	13.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.02			0.66				0.98			
Control Delay	104.5			81.0				137.0			
Queue Delay	0.0			0.0				0.0			
Total Delay	104.5			81.0				137.0			
Queue Length 50th (ft)	171			40				54			
Queue Length 95th (ft)	#423			#114				#172			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	269			96				90			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.02			0.66				0.98			

Intersection Summary

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3528	1564					3264			1889		
Flt Permitted			0.76	1.00					0.90			0.97		
Satd. Flow (perm)			2692	1564					2956			1889		
Volume (vph)	2	25	408	236	12	1	18	20	665	135	254	143	7	28
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	443	257	13	1	19	22	715	145	273	154	8	30
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	0	472	269	0	0	0	0	902	0	0	434	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			35.2	58.3					35.2			23.1		
Effective Green, g (s)			36.2	60.3					36.2			24.1		
Actuated g/C Ratio			0.34	0.57					0.34			0.23		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			917	961					1007			428		
v/s Ratio Prot				0.06								c0.23		
v/s Ratio Perm			0.18	0.11					c0.31					
v/c Ratio			0.51	0.28					0.90			1.01		
Uniform Delay, d1			28.0	11.8					33.3			41.1		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			0.7	0.5					10.6			47.2		
Delay (s)			28.7	12.3					43.9			88.3		
Level of Service			C	B					D			F		
Approach Delay (s)			22.7						43.9			88.3		
Approach LOS			C						D			F		

Intersection Summary				
HCM Average Control Delay	57.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	105.1%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St
2030 No Build Condition Bus Alt - PM Peak
Default

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	0.99			1.00				0.98		
Satd. Flow (prot)	1917			1644				1697		
Flt Permitted	0.99			1.00				0.85		
Satd. Flow (perm)	1917			1644				1475		
Volume (vph)	163	5	60	0	52	5	22	5	33	9
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	175	5	65	0	63	6	26	6	39	11
RTOR Reduction (vph)	10	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	265	0	0	63	0	0	0	83	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	13.1			5.0				5.0		
Effective Green, g (s)	14.1			6.0				6.0		
Actuated g/C Ratio	0.13			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	254			93				83		
v/s Ratio Prot	c0.14			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.05			0.68				1.00		
Uniform Delay, d1	46.1			49.2				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	68.8			14.3				99.7		
Delay (s)	114.9			63.5				149.9		
Level of Service	F			E				F		
Approach Delay (s)	114.9			63.5				149.9		
Approach LOS	F			E				F		

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build Bus\optimize\coordination\2030 Build Bus - PM.sy7 10/29/2008
VHB, Inc. HCM Signalized Intersection Capacity Analysis

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	293	93	5	112	3	16	378	62	61	456	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	523	0	0	148	0	0	531	0	0	603	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	47.9%	47.9%	0.0%	47.9%	47.9%	0.0%	11%
Maximum Green (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0		6.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.84			0.22			0.61			0.76		
Control Delay		33.0			15.3			17.4			23.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.0			15.3			17.4			23.2		
Queue Length 50th (ft)		168			37			147			184		
Queue Length 95th (ft)		#387			76			279			#431		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		661			726			864			798		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.79			0.20			0.61			0.76		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 64.4	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 21: Central St & Medford St

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1814			1889			1825			1841	
Flt Permitted		0.90			0.98			0.97			0.91	
Satd. Flow (perm)		1655			1857			1782			1679	
Volume (vph)	100	293	93	5	112	3	16	378	62	61	456	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	315	100	6	138	4	19	440	72	68	507	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	511	0	0	148	0	0	531	0	0	601	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.7			23.7			31.2			31.2	
Effective Green, g (s)		23.7			23.7			31.2			31.2	
Actuated g/C Ratio		0.36			0.36			0.47			0.47	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		594			667			842			794	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.08			0.30			c0.36	
v/c Ratio		0.86			0.22			0.63			0.76	
Uniform Delay, d1		19.6			14.7			13.1			14.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.6			0.2			3.6			6.7	
Delay (s)		32.2			15.0			16.6			20.9	
Level of Service		C			B			B			C	
Approach Delay (s)		32.2			15.0			16.6			20.9	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			1535		
Travel Time (s)		21.7			21.8			35.4			34.9		
Volume (vph)	0	0	0	60	240	25	42	385	101	175	535	151	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	369	0	0	587	0	0	888	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		9.0
Total Split (s)	0.0	0.0	0.0	19.0	19.0	0.0	54.0	54.0	0.0	54.0	54.0	0.0	9.0
Total Split (%)	0.0%	0.0%	0.0%	23.2%	23.2%	0.0%	65.9%	65.9%	0.0%	65.9%	65.9%	0.0%	11%
Maximum Green (s)				15.0	15.0		50.0	50.0		50.0	50.0		6.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.92			0.51			0.89		
Control Delay					61.7			8.3			24.0		
Queue Delay					0.0			0.0			0.0		
Total Delay					61.7			8.3			24.0		
Queue Length 50th (ft)					162			99			252		
Queue Length 95th (ft)					#357			241			#688		
Internal Link Dist (ft)		873			879			1476			1455		
Turn Bay Length (ft)													
Base Capacity (vph)					399			1153			1002		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.92			0.51			0.89		

Intersection Summary	
Area Type:	Other
Cycle Length: 82	
Actuated Cycle Length: 74.8	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.97			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1968			1905			1916	
Flt Permitted					0.99			0.90			0.78	
Satd. Flow (perm)					1968			1713			1515	
Volume (vph)	0	0	0	60	240	25	42	385	101	175	535	151
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	68	273	28	47	428	112	180	552	156
RTOR Reduction (vph)	0	0	0	0	3	0	0	9	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	366	0	0	578	0	0	880	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					15.0			50.1			50.1	
Effective Green, g (s)					15.0			50.1			50.1	
Actuated g/C Ratio					0.19			0.65			0.65	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					382			1112			983	
v/s Ratio Prot												
v/s Ratio Perm					0.19			0.34			c0.58	
v/c Ratio					0.96			0.52			0.89	
Uniform Delay, d1					30.8			7.2			11.3	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					34.9			1.7			12.4	
Delay (s)					65.7			8.9			23.7	
Level of Service					E			A			C	
Approach Delay (s)		0.0			65.7			8.9			23.7	
Approach LOS		A			E			A			C	

Intersection Summary					
HCM Average Control Delay	27.4	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	77.2	Sum of lost time (s)		12.1	
Intersection Capacity Utilization	103.2%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1535			533		
Travel Time (s)		17.7			19.2			34.9			12.1		
Volume (vph)	114	275	9	0	0	0	4	247	0	0	352	13	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	531	0	0	0	0	0	318	0	0	415	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		6.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		2.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.70						0.42			0.54		
Control Delay		22.0						16.7			18.5		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.0						16.7			18.5		
Queue Length 50th (ft)		155						80			110		
Queue Length 95th (ft)		234						148			228		
Internal Link Dist (ft)		699			764			1455			453		
Turn Bay Length (ft)													
Base Capacity (vph)		784						757			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.68						0.42			0.54		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1831						1880			1891	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1831						1868			1891	
Volume (vph)	114	275	9	0	0	0	4	247	0	0	352	13
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	152	367	12	0	0	0	5	313	0	0	400	15
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	530	0	0	0	0	0	318	0	0	413	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.41						0.40			0.40	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		743						739			748	
v/s Ratio Prot											c0.22	
v/s Ratio Perm		0.29						0.17				
v/c Ratio		0.71						0.43			0.55	
Uniform Delay, d1		16.4						14.5			15.4	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		3.5						0.6			1.1	
Delay (s)		19.9						15.1			16.5	
Level of Service		B						B			B	
Approach Delay (s)		19.9			0.0			15.1			16.5	
Approach LOS		B			A			B			B	

Intersection Summary					
HCM Average Control Delay	17.6	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.60				
Actuated Cycle Length (s)	66.0	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	50.5%	ICU Level of Service		A	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	463	20	49	557	360	5	0	19	240	23	16	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	561	0	0	666	396	0	32	0	0	320	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	41.0	0.0	41.0	41.0	64.0	23.0	23.0	0.0	23.0	23.0	0.0	8.0
Total Split (%)	0.0%	56.9%	0.0%	56.9%	56.9%	88.9%	31.9%	31.9%	0.0%	31.9%	31.9%	0.0%	11%
Maximum Green (s)		36.0		36.0	36.0		18.0	18.0		18.0	18.0		6.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		2.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.53			0.66	0.24		0.07			0.83		
Control Delay		11.6			14.4	0.5		10.1			43.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		11.6			14.4	0.5		10.1			43.5		
Queue Length 50th (ft)		117			156	0		2			112		
Queue Length 95th (ft)		237			344	8		17			#265		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		1052			1013	1637		477			396		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.53			0.66	0.24		0.07			0.81		

Intersection Summary

Area Type: Other
Cycle Length: 72
Actuated Cycle Length: 64.8
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1681			1772	
Flt Permitted		1.00			0.93	1.00		0.92			0.73	
Satd. Flow (perm)		1834			1833	1680		1566			1354	
Volume (vph)	0	463	20	49	557	360	5	0	19	240	23	16
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	538	23	54	612	396	7	0	25	276	26	18
RTOR Reduction (vph)	0	2	0	0	0	42	0	18	0	0	3	0
Lane Group Flow (vph)	0	559	0	0	666	354	0	14	0	0	317	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		36.1			36.1	58.3		17.2			17.2	
Effective Green, g (s)		37.1			37.1	59.3		18.2			18.2	
Actuated g/C Ratio		0.56			0.56	0.89		0.27			0.27	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1025			1024	1500		429			371	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.36	0.21		0.01			c0.23	
v/c Ratio		0.55			0.65	0.24		0.03			0.85	
Uniform Delay, d1		9.3			10.2	0.5		17.7			22.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.1			3.2	0.1		0.0			17.2	
Delay (s)		11.4			13.4	0.6		17.7			40.0	
Level of Service		B			B	A		B			D	
Approach Delay (s)		11.4			8.6			17.7			40.0	
Approach LOS		B			A			B			D	

Intersection Summary

HCM Average Control Delay	14.6	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	66.4	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	89.7%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	190	220	93	0	0	0	103	497	60	206	698	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	572	0	0	0	0	0	639	64	222	1031	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.70						0.77	0.04	0.34	0.84	
Control Delay		35.3						39.7	0.0	22.5	32.3	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.3						39.7	0.0	22.5	32.3	
Queue Length 50th (ft)		150						179	0	90	262	
Queue Length 95th (ft)		202						242	0	149	#352	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		817						826	1706	649	1221	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.70						0.77	0.04	0.34	0.84	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3411						3544	1706	1770	3216	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3411						3544	1706	1770	3216	
Volume (vph)	190	220	93	0	0	0	103	497	60	206	698	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	216	250	106	0	0	0	110	529	64	222	751	280
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	551	0	0	0	0	0	639	64	222	989	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		796						827	1706	649	1179	
v/s Ratio Prot		c0.16						c0.18		0.13	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.77	0.04	0.34	0.84	
Uniform Delay, d1		31.5						32.3	0.0	20.6	26.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.9						6.9	0.0	1.4	7.2	
Delay (s)		36.4						39.2	0.0	22.1	33.3	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.4			0.0			35.6			31.3	
Approach LOS		D			A			D			C	

Intersection Summary

HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	44	422	0	0	516	48	52	98	40	51	0	80	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	507	0	0	581	0	0	227	0	0	156	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	36.0	36.0	0.0	0.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0	8.0
Total Split (%)	57.1%	57.1%	0.0%	0.0%	57.1%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	13%
Maximum Green (s)	31.0	31.0			31.0		15.0	15.0		15.0	15.0		6.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.50			0.53			0.61			0.40		
Control Delay		9.8			9.9			26.7			11.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.8			9.9			26.7			11.9		
Queue Length 50th (ft)		77			91			62			15		
Queue Length 95th (ft)		212			242			129			55		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1005			1099			435			438		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.50			0.53			0.52			0.36		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 54.1	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1842			1803			1702	
Flt Permitted		0.92			1.00			0.89			0.79	
Satd. Flow (perm)		1713			1842			1634			1372	
Volume (vph)	44	422	0	0	516	48	52	98	40	51	0	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	48	459	0	0	532	49	62	117	48	61	0	95
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	74	0
Lane Group Flow (vph)	0	507	0	0	581	0	0	227	0	0	82	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		31.3			31.3			12.4			12.4	
Effective Green, g (s)		32.3			32.3			12.4			12.4	
Actuated g/C Ratio		0.58			0.58			0.22			0.22	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		993			1068			364			305	
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.30						c0.14			0.06	
v/c Ratio		0.51			0.54			0.62			0.27	
Uniform Delay, d1		7.0			7.2			19.5			17.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			2.0			3.8			0.7	
Delay (s)		8.9			9.2			23.3			18.6	
Level of Service		A			A			C			B	
Approach Delay (s)		8.9			9.2			23.3			18.6	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	12.2	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.53				
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	42	360	24	28	427	41	55	355	100	17	95	47	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	463	0	0	551	0	0	560	0	0	183	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0	8.0
Total Split (%)	45.2%	45.2%	0.0%	45.2%	45.2%	0.0%	43.8%	43.8%	0.0%	43.8%	43.8%	0.0%	11%
Maximum Green (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0		6.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.69			0.76			0.81			0.27		
Control Delay		22.3			24.8			28.5			12.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		22.3			24.8			28.5			12.6		
Queue Length 50th (ft)		138			169			176			37		
Queue Length 95th (ft)		#292			#381			#403			87		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		742			805			768			758		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.62			0.68			0.73			0.24		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 59	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1822			1837			1822			1805	
Flt Permitted		0.91			0.96			0.95			0.93	
Satd. Flow (perm)		1668			1769			1734			1692	
Volume (vph)	42	360	24	28	427	41	55	355	100	17	95	47
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	46	391	26	31	474	46	60	390	110	20	109	54
RTOR Reduction (vph)	0	3	0	0	4	0	0	12	0	0	20	0
Lane Group Flow (vph)	0	460	0	0	547	0	0	548	0	0	163	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		22.9			22.9			23.1			23.1	
Effective Green, g (s)		23.9			23.9			23.1			23.1	
Actuated g/C Ratio		0.40			0.40			0.38			0.38	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		664			705			668			651	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.31			c0.32			0.10	
v/c Ratio		0.69			0.78			0.82			0.25	
Uniform Delay, d1		15.0			15.7			16.6			12.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			5.7			8.4			0.3	
Delay (s)		18.4			21.4			25.0			12.8	
Level of Service		B			C			C			B	
Approach Delay (s)		18.4			21.4			25.0			12.8	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	471	17	57	505	0	0	0	0	108	235	117	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	548	0	0	598	0	0	0	0	0	464	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		11.0
Total Split (s)	0.0	50.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	29.0	29.0	0.0	11.0
Total Split (%)	0.0%	55.6%	0.0%	55.6%	55.6%	0.0%	0.0%	0.0%	0.0%	32.2%	32.2%	0.0%	12%
Maximum Green (s)		44.0		44.0	44.0					23.0	23.0		8.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.62			0.84						0.77		
Control Delay		16.9			28.6						35.6		
Queue Delay		0.0			0.0						0.0		
Total Delay		16.9			28.6						35.6		
Queue Length 50th (ft)		152			198						182		
Queue Length 95th (ft)		313			#483						#461		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		1005			811						605		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.55			0.74						0.77		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 71.4
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1799			1816						1752	
Flt Permitted		1.00			0.79						0.99	
Satd. Flow (perm)		1799			1447						1752	
Volume (vph)	0	471	17	57	505	0	0	0	0	108	235	117
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	529	19	61	537	0	0	0	0	109	237	118
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	546	0	0	598	0	0	0	0	0	464	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		33.8			33.8						23.4	
Effective Green, g (s)		34.8			34.8						24.4	
Actuated g/C Ratio		0.47			0.47						0.33	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		852			685						582	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.41						0.26	
v/c Ratio		0.64			0.87						0.80	
Uniform Delay, d1		14.6			17.4						22.3	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.7			11.8						7.9	
Delay (s)		16.3			29.2						30.2	
Level of Service		B			C						C	
Approach Delay (s)		16.3			29.2			0.0			30.2	
Approach LOS		B			C			A			C	

Intersection Summary

HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	14.3
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	656	36	92	788	192	158	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	852	47	99	847	282	232	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	48.0	48.0	48.0	48.0	16.0	16.0	13.0
Total Split (%)	62.3%	62.3%	62.3%	62.3%	20.8%	20.8%	17%
Maximum Green (s)	43.0	43.0	43.0	43.0	11.0	11.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							5.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.74	0.06	0.61	0.75	0.79	0.60	
Control Delay	13.8	2.3	29.2	14.3	43.4	23.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	13.8	2.3	29.2	14.3	43.4	23.2	
Queue Length 50th (ft)	153	0	15	154	82	39	
Queue Length 95th (ft)	334	9	#117	#486	#189	88	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1238	901	175	1214	357	389	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.69	0.05	0.57	0.70	0.79	0.60	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 59
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.17	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	317	1827	1719	1538
Volume (vph)	656	36	92	788	192	158
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	852	47	99	847	282	232
RTOR Reduction (vph)	0	19	0	0	0	70
Lane Group Flow (vph)	852	28	99	847	282	162
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	35.5	35.5	35.5	35.5	11.2	11.2
Effective Green, g (s)	36.5	36.5	36.5	36.5	12.2	12.2
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.20	0.20
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1111	795	189	1090	343	307
v/s Ratio Prot	0.46			c0.46	c0.16	0.11
v/s Ratio Perm		0.02	0.31			
v/c Ratio	0.77	0.04	0.52	0.78	0.82	0.53
Uniform Delay, d1	9.2	5.1	7.2	9.3	23.5	21.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	0.0	1.2	3.2	15.2	2.1
Delay (s)	12.1	5.1	8.5	12.5	38.7	24.0
Level of Service	B	A	A	B	D	C
Approach Delay (s)	11.7			12.1	32.1	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	785	398	0	0	1046	162	58	554	712	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	826	410	0	0	1388	0	61	583	749	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	41.0	0.0	37.0	37.0	0.0	0.0	0.0	0.0	11.0	24.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	30.4%	0.0%	27.4%	27.4%	0.0%	0.0%	0.0%	0.0%	8%	18%
Maximum Green (s)					35.0		32.0	32.0					6.0	18.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.58	0.21			1.03		0.15	1.35	0.48					
Control Delay	3.9	0.6			81.7		42.0	210.5	1.1					
Queue Delay	0.0	0.0			7.5		0.0	89.3	0.0					
Total Delay	3.9	0.6			89.1		42.0	299.8	1.1					
Queue Length 50th (ft)	59	1			~477		43	~667	0					
Queue Length 95th (ft)	m65	m1			#540		82	#896	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1424	1921			1343		411	433	1553					
Starvation Cap Reductn	0	0			0		0	56	0					
Spillback Cap Reductn	0	0			26		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.58	0.21			1.05		0.15	1.55	0.48					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath

Green Line Extension
30: Washington St & McGrath
2030 No Build Condition Bus Alt - PM Peak
Default

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	22.0
Total Split (%)	16%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build Bus\optimize\coordination\2030 Build Bus - PM.sy7
VHB, Inc.
10/29/2008
Lanes, Volumes, Timings

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5036		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5036		1736	1827	1553			
Volume (vph)	785	398	0	0	1046	162	58	554	712	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	826	410	0	0	1202	186	61	583	749	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	826	410	0	0	1388	0	61	583	749	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			35.0		32.0	32.0	135.0			
Effective Green, g (s)	52.0	52.0			36.0		32.0	32.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.27		0.24	0.24	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1343		411	433	1553			
v/s Ratio Prot	c0.22	0.08			c0.28		0.04	c0.32				
v/s Ratio Perm									c0.48			
v/c Ratio	0.58	0.21			1.03		0.15	1.35	0.48			
Uniform Delay, d1	32.9	27.8			49.5		40.7	51.5	0.0			
Progression Factor	0.09	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	1.0	0.1			33.6		0.8	170.6	1.1			
Delay (s)	3.8	0.6			83.1		41.5	222.1	1.1			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.8			83.1			95.4			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM Average Control Delay	62.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1183	39	406	640	0	0	0	0	32	143	360		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1285	0	451	711	0	0	0	0	0	584	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	35.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	22.0	22.0	0.0	11.0	24.0
Total Split (%)	0.0%	25.9%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	16.3%	16.3%	0.0%	8%	18%
Maximum Green (s)										17.0	17.0		6.0	18.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.80		0.48	0.37						1.43dr			
Control Delay		54.1		1.6	0.2						166.1			
Queue Delay		0.7		0.0	0.0						62.2			
Total Delay		54.8		1.6	0.2						228.3			
Queue Length 50th (ft)		264		0	0						~300			
Queue Length 95th (ft)		302		m0	m0						#423			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1598		939	1914						471			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		99		0	0						48			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.86		0.48	0.37						1.38			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy

Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	41.0	37.0
Total Split (%)	30%	27%
Maximum Green (s)	35.0	32.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7177		1736	3539						3174	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7177		1736	3539						3174	
Volume (vph)	0	1183	39	406	640	0	0	0	0	32	143	360
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1245	40	451	711	0	0	0	0	38	155	391
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	71	0
Lane Group Flow (vph)	0	1281	0	451	711	0	0	0	0	0	513	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		29.0		73.0	73.0						17.0	
Effective Green, g (s)		30.0		73.0	73.0						17.0	
Actuated g/C Ratio		0.22		0.54	0.54						0.13	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1595		939	1914						400	
v/s Ratio Prot		c0.18		c0.26	0.20							
v/s Ratio Perm											0.16	
v/c Ratio		0.80		0.48	0.37						1.43dr	
Uniform Delay, d1		49.7		19.2	17.8						59.0	
Progression Factor		1.00		0.06	0.00						1.00	
Incremental Delay, d2		4.4		0.4	0.1						145.2	
Delay (s)		54.1		1.6	0.2						204.2	
Level of Service		D		A	A						F	
Approach Delay (s)		54.1			0.7			0.0			204.2	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	62.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	61	336	30	413	374	890	0	0	0	452	254	38	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	469	0	439	398	947	0	0	0	254	582	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	21.0	21.0	0.0	38.0	38.0	38.0	0.0	30.0	0.0	30.0	30.0	0.0	31.0
Total Split (%)	17.5%	17.5%	0.0%	31.7%	31.7%	31.7%	0.0%	25.0%	0.0%	25.0%	25.0%	0.0%	26%
Maximum Green (s)	16.0	16.0		32.0	32.0	32.0		25.0		25.0	25.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.96		1.00	0.86	0.76				0.63	0.71		
Control Delay		82.0		51.1	37.7	8.0				45.2	41.9		
Queue Delay		0.0		0.0	0.0	1.9				0.0	0.0		
Total Delay		82.0		51.1	37.7	9.9				45.2	41.9		
Queue Length 50th (ft)		184		~331	279	62				158	185		
Queue Length 95th (ft)		#331		m330	m279	m216				#405	#401		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		488		438	461	1239				401	823		
Starvation Cap Reductn		0		0	0	155				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		0.96		1.00	0.86	0.87				0.63	0.71		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 20 (17%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2936		1593	1676	1425				1449	2798	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2936		1593	1676	1425				1155	2350	
Volume (vph)	61	336	30	413	374	890	0	0	0	452	254	38
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	67	369	33	439	398	947	0	0	0	508	285	43
RTOR Reduction (vph)	0	0	0	0	0	366	0	0	0	0	4	0
Lane Group Flow (vph)	0	469	0	439	398	581	0	0	0	254	578	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		19.0		30.2	30.2	70.8				40.6	40.6	
Effective Green, g (s)		20.0		31.2	31.2	71.8				41.6	41.6	
Actuated g/C Ratio		0.17		0.26	0.26	0.60				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		489		414	436	853				400	815	
v/s Ratio Prot		c0.16		c0.28	0.24	0.18						
v/s Ratio Perm						0.23				0.22	c0.25	
v/c Ratio		0.96		1.06	0.91	0.68				0.64	0.71	
Uniform Delay, d1		49.6		44.4	43.1	16.3				32.8	34.0	
Progression Factor		1.00		0.84	0.83	5.57				1.00	1.00	
Incremental Delay, d2		31.7		32.9	3.6	0.2				3.7	3.1	
Delay (s)		81.3		70.0	39.5	91.2				36.5	37.0	
Level of Service		F		E	D	F				D	D	
Approach Delay (s)		81.3			74.5			0.0			36.9	
Approach LOS		F			E			A			D	

Intersection Summary					
HCM Average Control Delay	65.3	HCM Level of Service		E	
HCM Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.2	
Intersection Capacity Utilization	82.8%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	311	39	38	263	67	41	364	62	28	485	73	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	489	0	0	418	0	0	502	0	0	604	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	16.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	18%
Maximum Green (s)	33.0	33.0		33.0	33.0		30.0	30.0		30.0	30.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.87			0.58			0.81			0.85		
Control Delay		39.2			21.3			33.7			35.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		39.2			21.3			33.7			35.6		
Queue Length 50th (ft)		187			131			189			234		
Queue Length 95th (ft)		#487			288			#474			#564		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		564			720			620			709		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.87			0.58			0.81			0.85		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1820			1808			1821			1827	
Flt Permitted		0.77			0.93			0.89			0.96	
Satd. Flow (perm)		1413			1685			1625			1764	
Volume (vph)	110	311	39	38	263	67	41	364	62	28	485	73
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	331	41	43	299	76	44	391	67	29	500	75
RTOR Reduction (vph)	0	3	0	0	8	0	0	5	0	0	5	0
Lane Group Flow (vph)	0	486	0	0	410	0	0	497	0	0	599	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		33.2			33.2			30.2			30.2	
Effective Green, g (s)		33.2			33.2			31.2			31.2	
Actuated g/C Ratio		0.42			0.42			0.39			0.39	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		589			703			637			691	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.24			0.31			c0.34	
v/c Ratio		0.82			0.58			0.78			0.87	
Uniform Delay, d1		20.6			17.9			21.2			22.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.4			3.5			9.1			13.7	
Delay (s)		33.0			21.4			30.3			36.0	
Level of Service		C			C			C			D	
Approach Delay (s)		33.0			21.4			30.3			36.0	
Approach LOS		C			C			C			D	

Intersection Summary

HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	385	397	0	0	446	39	503	773	97	0	0	860	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	899	0	0	592	0	469	976	0	0	0	905	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	48.0	67.0	0.0	0.0	19.0	0.0	42.0	42.0	0.0	0.0	0.0	48.0	11.0
Total Split (%)	40.0%	55.8%	0.0%	0.0%	15.8%	0.0%	35.0%	35.0%	0.0%	0.0%	0.0%	40.0%	9%
Maximum Green (s)	44.0				15.0		38.0	38.0				44.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.59			1.03		1.01	1.01				0.98	
Control Delay		7.5			92.2		85.8	72.7				64.1	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		7.5			92.2		85.8	72.7				64.1	
Queue Length 50th (ft)		185			231		~407	~421				391	
Queue Length 95th (ft)		m21			#394		#648	#574				#547	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1525			577		464	964				920	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.59			1.03		1.01	1.01				0.98	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3109			3178		1464	3024				2508
Flt Permitted		0.60			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1924			3178		1464	3024				2508
Volume (vph)	385	397	0	0	446	39	503	773	97	0	0	860
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	456	0	0	544	48	529	814	102	0	0	905
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	899	0	0	587	0	469	969	0	0	0	905
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		63.8			21.6		38.0	38.0				42.2
Effective Green, g (s)		63.8			21.6		38.0	38.0				42.2
Actuated g/C Ratio		0.53			0.18		0.32	0.32				0.35
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1440			572		464	958				882
v/s Ratio Prot		0.22			c0.18		0.32	c0.32				c0.36
v/s Ratio Perm		0.11										
v/c Ratio		0.62			1.03		1.01	1.01				1.03
Uniform Delay, d1		19.7			49.2		41.0	41.0				38.9
Progression Factor		0.33			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.3			44.5		44.5	32.0				37.1
Delay (s)		7.7			93.7		85.5	73.0				76.0
Level of Service		A			F		F	E				E
Approach Delay (s)		7.7			93.7			77.0			76.0	
Approach LOS		A			F			E			E	

Intersection Summary					
HCM Average Control Delay		63.1	HCM Level of Service		E
HCM Volume to Capacity ratio		1.02			
Actuated Cycle Length (s)		120.0	Sum of lost time (s)		18.2
Intersection Capacity Utilization		87.5%	ICU Level of Service		E
Analysis Period (min)		15			

c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	123	0	672	128	299	258	12	13	614	12	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	855	0	141	626	0	0	0	673	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			17.0	17.0		13.0
Total Split (s)	66.0	66.0	0.0	66.0	66.0	0.0	0.0	29.0	29.0	0.0	13.0
Total Split (%)	61.1%	61.1%	0.0%	61.1%	61.1%	0.0%	0.0%	26.9%	26.9%	0.0%	12%
Maximum Green (s)	61.0	61.0		61.0	61.0			25.0	25.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											4.0
Flash Dont Walk (s)											6.0
Pedestrian Calls (#/hr)											10
v/c Ratio		1.21		0.38	0.53				1.31		
Control Delay		127.8		13.2	12.5				184.3		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		127.8		13.2	12.5				184.3		
Queue Length 50th (ft)		~611		35	177				~522		
Queue Length 95th (ft)		#995		104	373				#870		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		706		375	1176				514		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.21		0.38	0.53				1.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 108	
Actuated Cycle Length: 97.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St

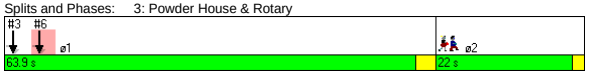
Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1764		1888	1846				1999	
Flt Permitted		0.67		0.31	1.00				1.00	
Satd. Flow (perm)		1189		618	1846				1999	
Volume (vph)	123	0	672	128	299	258	12	13	614	12
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	132	0	723	141	329	284	13	14	646	13
RTOR Reduction (vph)	0	29	0	0	1	0	0	0	1	0
Lane Group Flow (vph)	0	826	0	141	625	0	0	0	672	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		61.2		61.2	61.2				25.1	
Effective Green, g (s)		62.2		62.2	62.2				25.1	
Actuated g/C Ratio		0.62		0.62	0.62				0.25	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		739		384	1147				501	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.70		0.23					0.34	
v/c Ratio		1.12		0.37	0.55				1.34	
Uniform Delay, d1		18.9		9.3	10.8				37.5	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		70.5		0.2	0.3				166.8	
Delay (s)		89.4		9.5	11.1				204.3	
Level of Service		F		A	B				F	
Approach Delay (s)		89.4			10.8				204.3	
Approach LOS		F			B				F	

Intersection Summary			
HCM Average Control Delay	96.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	455	0	0	1037	480	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	535	0	0	1092	505	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.61	0.32	
Control Delay		0.5			3.9	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			4.0	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			530	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		9			10	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.32	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	455	0	0	1037	480
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	535	0	0	1092	505
RTOR Reduction (vph)	0	44	0	0	0	0
Lane Group Flow (vph)	0	491	0	0	1092	505
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.32
v/c Ratio		0.33			0.64	0.32
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			1.8	0.5
Delay (s)		1.2			2.8	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.1	
Approach LOS	A			A	A	

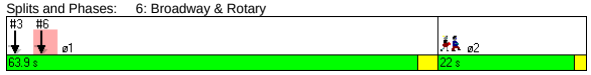
Intersection Summary			
HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	462	0	0	1041	451	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	508	0	0	1096	475	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.62	0.30	
Control Delay		0.6			2.2	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			2.2	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			118	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	462	0	0	1041	451
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	508	0	0	1096	475
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	0	466	0	0	1096	475
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.30
v/c Ratio		0.32			0.64	0.30
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			0.34	1.00
Incremental Delay, d2		0.6			1.6	0.4
Delay (s)		1.2			2.0	0.4
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	1.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	452	1069	523	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	497	1201	588	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.32	0.71	0.40			
Control Delay		0.6	4.8	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.6	4.8	0.8			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	781	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	101			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.32	0.71	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	452	1069	523	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	497	1201	588	0	0
RTOR Reduction (vph)	0	41	0	48	0	0
Lane Group Flow (vph)	0	456	1201	540	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.68	0.36		
v/s Ratio Perm		0.29				
v/c Ratio		0.32	0.74	0.39		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.70	0.02		
Incremental Delay, d2		0.6	2.6	0.7		
Delay (s)		1.2	3.5	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.2		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	772	820	678	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	898	921	762	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.57	0.53	0.51			
Control Delay		1.5	3.1	1.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.5	3.1	1.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	361	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1497			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		39	6	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.58	0.54	0.51			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	772	820	678	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	898	921	762	0	0
RTOR Reduction (vph)	0	74	0	63	0	0
Lane Group Flow (vph)	0	824	921	699	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.51	0.46		
v/s Ratio Perm		0.51				
v/c Ratio		0.56	0.56	0.50		
Uniform Delay, d1		0.8	0.8	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.5	1.4	1.3		
Delay (s)		2.4	2.2	2.0		
Level of Service		A	A	A		
Approach Delay (s)	2.4		2.1			0.0
Approach LOS	A		A			A

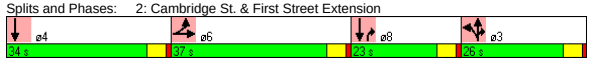
Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	206	208	50	0	0	0	100	230	494	0	341	503		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	229	287	0	0	0	0	0	367	549	0	898	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.64	0.77						1.11	0.57		0.52			
Control Delay	51.0	56.9						127.4	4.8		10.3			
Queue Delay	18.7	0.0						52.8	0.0		0.9			
Total Delay	69.7	56.9						180.2	4.8		11.2			
Queue Length 50th (ft)	145	181						~285	0		124			
Queue Length 95th (ft)	200	245						#454	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						331	955		1743			
Starvation Cap Reductn	0	0						0	0		531			
Spillback Cap Reductn	243	0						34	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.94	0.57						1.24	0.57		0.74			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1808	1459		3223	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1808	1459		3223	
Volume (vph)	206	208	50	0	0	0	100	230	494	0	341	503
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	229	231	56	0	0	0	111	256	549	0	363	535
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	304	0	196	0
Lane Group Flow (vph)	229	279	0	0	0	0	0	367	245	0	702	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.4	23.4						21.0	52.6		55.6	
Effective Green, g (s)	24.4	24.4						22.0	53.6		57.6	
Actuated g/C Ratio	0.20	0.20						0.18	0.45		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	360	364						331	652		1547	
v/s Ratio Prot	0.13	c0.16						c0.20	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.64	0.77						1.11	0.38		0.45	
Uniform Delay, d1	43.7	45.1						49.0	22.1		20.7	
Progression Factor	1.00	1.00						1.00	1.00		1.50	
Incremental Delay, d2	3.7	9.3						82.0	0.4		0.7	
Delay (s)	47.4	54.4						131.0	22.4		31.7	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.3			0.0			65.9			31.7	
Approach LOS		D			A			E			C	

Intersection Summary

HCM Average Control Delay	49.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

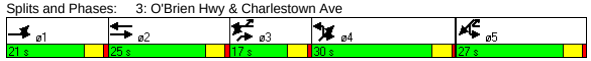
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	553	1005	337	385	763	425	431	1231	590	307	530	248	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	608	1104	370	389	771	429	454	1296	621	327	828	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.64	0.65	0.23	2.30	0.78	0.64	1.29	1.72	1.09	1.12	1.32		
Control Delay	773.4	35.1	0.3	619.6	31.7	19.5	190.4	361.6	97.2	132.2	191.0		
Queue Delay	0.0	0.0	0.0	0.0	217.2	1.4	0.0	0.0	231.4	0.0	0.0		
Total Delay	773.4	35.1	0.3	619.6	248.9	20.9	190.4	361.6	328.6	132.2	191.0		
Queue Length 50th (ft)	~700	231	0	~443	278	119	~395	~686	~452	~281	~386		
Queue Length 95th (ft)	#897	275	0	m#588	m338	m202	#575	#807	#653	#459	#505		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	669	351	752	572	293	628		
Starvation Cap Reductn	0	0	0	0	467	101	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	187	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.64	0.65	0.23	2.30	1.48	0.76	1.29	1.72	1.61	1.12	1.32		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Volume (vph)	553	1005	337	385	763	425	431	1231	590	307	530	248
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	608	1104	370	389	771	429	454	1296	621	327	564	264
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	34	0	41	0
Lane Group Flow (vph)	608	1104	370	389	771	178	454	1296	587	327	787	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.38	0.23		c0.25	c0.25	0.13	0.28	c0.37	0.39	0.21	c0.26	
v/s Ratio Perm			0.23									
v/c Ratio	2.64	0.65	0.23	2.30	0.78	0.43	1.29	1.72	1.09	1.12	1.34	
Uniform Delay, d1	51.5	32.9	0.0	53.5	37.2	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.83	0.75	4.61	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	751.9	0.9	0.3	596.5	2.4	0.4	151.7	331.1	65.9	87.5	164.4	
Delay (s)	803.4	33.8	0.3	641.0	30.1	155.7	198.7	378.1	104.4	136.0	212.9	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		252.6			213.6			272.1			191.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	240.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		

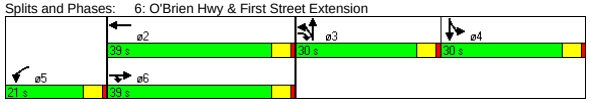
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	997	120	350	944	53	212	233	0	182	374	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1108	133	389	1108	0	236	259	0	0	651	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.74	0.16	0.82	1.07		0.72	0.75			0.76	
Control Delay		24.8	1.0	64.9	88.3		63.0	63.9			48.8	
Queue Delay		0.0	0.0	2.1	0.0		265.3	327.9			33.7	
Total Delay		24.8	1.0	67.0	88.3		328.3	391.8			82.5	
Queue Length 50th (ft)		159	7	134	~443		173	190			217	
Queue Length 95th (ft)		196	0	#195	#564		m200	m217			#310	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1038		384	404			862	
Starvation Cap Reductn		0	0	0	0		234	253			0	
Spillback Cap Reductn		0	7	31	0		0	0			244	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.74	0.15	0.85	1.07		1.57	1.72			1.05	

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Green Line Extension
6: O'Brien Hwy & First Street Extension
2030 No Build Bus Alt - PM Peak
Lanes, Volumes, Timings

Splits and Phases: 6: O'Brien Hwy & First Street Extension



B:\10303.00\tech\Synchro\EA\2030 No-Build\No-Build Bus\2030 Lechmere Build Alt Bus PM.sy7
VHB:: RNR
VHB, Inc.
10/29/2008

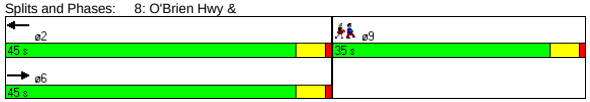
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3511		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3511		1770	1863			3459	
Volume (vph)	0	997	120	350	944	53	212	233	0	182	374	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1108	133	389	1049	59	236	259	0	202	416	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1108	103	389	1104	0	236	259	0	0	648	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.6	15.6	34.4		21.2	21.2			28.8	
Effective Green, g (s)		35.4	61.6	16.6	35.4		22.2	22.2			29.8	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.18	0.18			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	813	475	1036		327	345			859	
v/s Ratio Prot		0.22	0.06	c0.11	c0.31		0.13	c0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.74	0.13	0.82	1.07		0.72	0.75			0.75	
Uniform Delay, d1		38.1	15.2	50.2	42.3		46.0	46.3			41.7	
Progression Factor		0.56	0.08	1.00	1.00		1.24	1.24			1.00	
Incremental Delay, d2		3.2	0.1	10.6	47.3		3.7	4.3			6.1	
Delay (s)		24.6	1.4	60.8	89.6		60.8	61.8			47.8	
Level of Service		C	A	E	F		E	E			D	
Approach Delay (s)		22.1			82.2			61.3			47.8	
Approach LOS		C			F			E			D	

Intersection Summary				
HCM Average Control Delay	54.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	71.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1890	0	0	1392	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2054	0	0	1513	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.43			0.46			
Control Delay	3.0			3.5			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.5			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	290			338			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.43			0.46			

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 120
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1890	0	0	1392	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2054	0	0	1513	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2054	0	0	1513	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.40			c0.43		
v/s Ratio Perm						
v/c Ratio	0.46			0.49		
Uniform Delay, d1	1.5			1.6		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.9			2.1		
Level of Service	A			A		
Approach Delay (s)	1.9			2.1	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	711	0	0	5	0	1179	0	0	1362	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	790	0	0	6	0	1310	0	0	1466	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	711	0	0	5	0	1179	0	0	1362	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	790	0	0	6	0	1310	0	0	1434	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.81	0.86	0.86	0.90	0.90			0.81		
vC, conflicting volume	2032	2775	437	2676	2759	733	1465			1310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1471	2338	0	2223	2320	596	1407			907		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	9	100	100	99	100			100		
cM capacity (veh/h)	74	30	873	2	30	397	352			550		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	790	6	437	437	437	956	509
Volume Left	0	0	0	0	0	0	0
Volume Right	790	6	0	0	0	0	32
cSH	873	397	1700	1700	1700	1700	1700
Volume to Capacity	0.91	0.01	0.26	0.26	0.26	0.56	0.30
Queue Length 95th (ft)	282	1	0	0	0	0	0
Control Delay (s)	34.0	14.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	34.0	14.2	0.0			0.0	
Approach LOS	D	B					

Intersection Summary				
Average Delay		7.5		
Intersection Capacity Utilization		73.5%	ICU Level of Service	D
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1890	1372	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2100	1602	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1890	1372	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2100	1524	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.79				0.83	0.79
vC, conflicting volume	1602				2263	801
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1495				1899	477
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	350				51	421

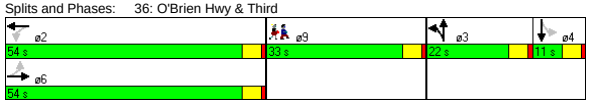
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	700	700	700	1016	586	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	421
Volume to Capacity	0.41	0.41	0.41	0.60	0.34	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.0
Lane LOS						B
Approach Delay (s)	0.0			0.0		14.0
Approach LOS						B

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		50.2%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1316	380	1	1455	1	875	1	33	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1885	0	0	1619	0	512	498	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.87			0.98		2.18	1.96			0.04		
Control Delay		32.2			57.2		569.9	474.4			48.3		
Queue Delay		0.3			2.7		0.0	63.3			0.0		
Total Delay		32.5			59.9		569.9	537.7			48.3		
Queue Length 50th (ft)		378			509		~588	~558			1		
Queue Length 95th (ft)		#573			#796		#786	#757			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2161			1654		235	254			79		
Starvation Cap Reductn		0			25		0	0			0		
Spillback Cap Reductn		41			0		0	17			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.89			0.99		2.18	2.10			0.04		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 36: O'Brien Hwy & Third



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4914			3539		1569	1673			1750	
Flt Permitted		0.89			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4357			3376		1569	1673			1779	
Volume (vph)	1	1316	380	1	1455	1	875	1	33	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1462	422	1	1617	1	972	1	37	1	1	1
RTOR Reduction (vph)	0	40	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1845	0	0	1619	0	512	495	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1990			1542		235	251			33	
v/s Ratio Prot							c0.33	0.30				
v/s Ratio Perm		0.42			c0.48						c0.00	
v/c Ratio		0.93			1.05		2.18	1.97			0.06	
Uniform Delay, d1		30.7			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.41		1.00	1.00			1.00	
Incremental Delay, d2		9.0			35.3		544.2	452.3			0.8	
Delay (s)		39.7			81.4		595.2	503.3			58.7	
Level of Service		D			F		F	F			E	
Approach Delay (s)		39.7			81.4			549.9			58.7	
Approach LOS		D			F			F			E	

Intersection Summary			
HCM Average Control Delay	168.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1022	15	0	1226	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1115	0	0	1304	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1022	15	0	1226	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1099	16	0	1304	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.91		0.76	0.91
vC, conflicting volume			1115		1759	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			938		1228	128
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			652		130	824

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	440	440	236	652	652	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	824
Volume to Capacity	0.26	0.26	0.14	0.38	0.38	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						B

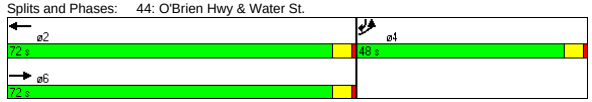
Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		37.2%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	312	1037	0	0	1146	80	0	0	0	0	0	309
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	335	1115	0	0	1304	0	0	0	0	0	0	343
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.32			0.55							0.79
Control Delay	71.7	0.6			6.8							47.8
Queue Delay	1.0	0.3			0.7							674.0
Total Delay	72.7	0.9			7.4							721.8
Queue Length 50th (ft)	241	7			73							184
Queue Length 95th (ft)	m270	m12			m82							252
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3438			2372							636
Starvation Cap Reductn	120	1492			204							0
Spillback Cap Reductn	0	0			640							606
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.66	0.57			0.75							11.43

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3404							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3404							1627
Volume (vph)	312	1037	0	0	1146	80	0	0	0	0	0	309
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	335	1115	0	0	1219	85	0	0	0	0	0	343
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	47
Lane Group Flow (vph)	335	1115	0	0	1301	0	0	0	0	0	0	296
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.5	82.5			82.5							27.5
Effective Green, g (s)	28.5	83.5			83.5							28.5
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	408	3437			2369							386
v/s Ratio Prot	c0.19	0.23			c0.38							0.18
v/s Ratio Perm												
v/c Ratio	0.82	0.32			0.55							0.77
Uniform Delay, d1	43.3	7.2			9.0							42.6
Progression Factor	1.51	0.06			0.65							1.00
Incremental Delay, d2	5.6	0.1			0.2							8.8
Delay (s)	71.0	0.5			6.1							51.4
Level of Service	E	A			A							D
Approach Delay (s)		16.8			6.1			0.0			51.4	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1817	1436	225	370	137
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2067	1749	0	563	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.79	0.79		0.90	
Control Delay		12.7	29.2		62.3	
Queue Delay		2.1	23.0		2.9	
Total Delay		14.9	52.3		65.2	
Queue Length 50th (ft)		193	357		180	
Queue Length 95th (ft)		m195	414		#265	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2632	2226		640	
Starvation Cap Reductn		406	0		0	
Spillback Cap Reductn		0	543		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.93	1.04		0.92	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4634		3033	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3235	4634		3033	
Volume (vph)	85	1817	1436	225	370	137
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1975	1512	237	411	152
RTOR Reduction (vph)	0	0	17	0	33	0
Lane Group Flow (vph)	0	2067	1732	0	530	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.6	56.2		22.4	
Effective Green, g (s)		84.6	57.2		23.4	
Actuated g/C Ratio		0.70	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2613	2209		591	
v/s Ratio Prot		c0.18	0.37		c0.17	
v/s Ratio Perm		c0.38				
v/c Ratio		0.79	0.78		0.90	
Uniform Delay, d1		11.8	26.2		47.1	
Progression Factor		1.44	1.00		1.00	
Incremental Delay, d2		0.9	2.9		16.2	
Delay (s)		17.9	29.1		63.3	
Level of Service		B	C		E	
Approach Delay (s)		17.9	29.1		63.3	
Approach LOS		B	C		E	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

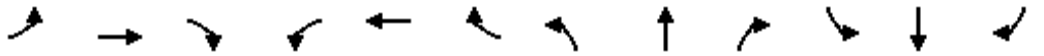
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	13	694	146	63	416	9	6	13	2	94	14	134
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	907	0	0	525	0	0	46	0	0	142	176
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	694	146	63	416	9	6	13	2	94	14	134
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	14	738	155	68	447	10	13	29	4	124	18	176
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	457			894			1617	1509	452	1450	1436	816
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	457			894			1617	1509	452	1450	1436	816
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			91			63	74	99	0	84	52
cM capacity (veh/h)	1099			759			36	109	612	78	118	371

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	907	525	47	142	176
Volume Left	14	68	13	124	0
Volume Right	155	10	4	0	176
cSH	1099	759	73	82	371
Volume to Capacity	0.01	0.09	0.64	1.74	0.48
Queue Length 95th (ft)	1	7	72	300	62
Control Delay (s)	0.3	2.4	118.3	466.1	23.2
Lane LOS	A	A	F	F	C
Approach Delay (s)	0.3	2.4	118.3	220.9	
Approach LOS			F	F	

Intersection Summary				
Average Delay	43.1			
Intersection Capacity Utilization	79.7%	ICU Level of Service	D	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	172	44	101	300	1085	0	0	930	191
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	351	0	326	1142	0	0	1011	208
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	172	44	101	300	1085	0	0	930	191
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	191	48	112	326	1142	0	0	1011	208
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.12	0.12	0.12	0.12	0.12		0.12					
vC, conflicting volume	2941	2805	1011	2805	3013	1142	1218			1142		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	17048	15922	1090	15922	17639	1142	2806			1142		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	54	0			100		
cM capacity (veh/h)	0	0	32	0	0	245	17			612		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	351	326	1142	1011	208
Volume Left	191	326	0	0	0
Volume Right	112	0	0	0	208
cSH	0	17	1700	1700	1700
Volume to Capacity	Err	19.61	0.67	0.59	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	8816.3	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1958.1		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	151.3%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	207	0	0	0	0	1140	500	80	1022	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	741	0	0	0	0	0	1267	556	84	1076	0
Sign Control		Stop			Stop			Free			Free	

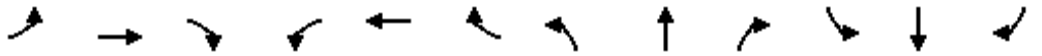
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	207	0	0	0	0	1140	500	80	1022	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	230	0	0	0	0	1267	556	84	1076	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2511	3066	1076	2860	2511	1267	1076			1822		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2511	3066	1076	2860	2511	1267	1076			1822		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	14	0	100	100	100			75		
cM capacity (veh/h)	16	9	268	0	21	206	648			333		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	349	1267	556	84	1076
Volume Left	272	0	0	0	84	0
Volume Right	0	230	0	556	0	0
cSH	13	25	1700	1700	333	1700
Volume to Capacity	30.43	13.76	0.75	0.33	0.25	0.63
Queue Length 95th (ft)	Err	Err	0	0	25	0
Control Delay (s)	Err	Err	0.0	0.0	19.4	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	1990.7			
Intersection Capacity Utilization	151.3%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	457	4	11	0	1	7	84	1176	1	6	366	857
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	536	0	0	18	0	0	1385	0	0	379	874
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	457	4	11	0	1	7	84	1176	1	6	366	857
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	519	5	12	0	2	16	92	1292	1	6	373	874
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1880	1864	373	1878	1863	1293	373			1293		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1880	1864	373	1878	1863	1293	373			1293		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	93	98	100	96	92	92			99		
cM capacity (veh/h)	45	66	673	46	64	193	1191			536		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	536	18	1386	380	874
Volume Left	519	0	92	6	0
Volume Right	12	16	1	0	874
cSH	46	154	1191	536	1700
Volume to Capacity	11.58	0.12	0.08	0.01	0.51
Queue Length 95th (ft)	Err	10	6	1	0
Control Delay (s)	Err	31.4	3.1	0.4	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	31.4	3.1	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1680.5		
Intersection Capacity Utilization	133.0%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	35	428	413	89	54	70
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	467	552	0	142	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

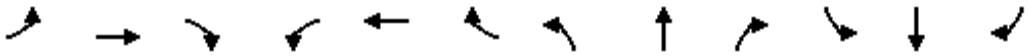
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	35	428	413	89	54	70
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	35	432	454	98	62	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	552				1006	503
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	507				1006	453
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				74	85
cM capacity (veh/h)	962				235	554

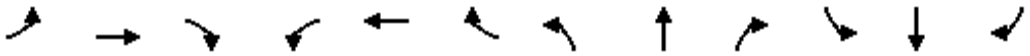
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	468	552	143
Volume Left	35	0	62
Volume Right	0	98	80
cSH	962	1700	348
Volume to Capacity	0.04	0.32	0.41
Queue Length 95th (ft)	3	0	48
Control Delay (s)	1.1	0.0	22.3
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	22.3
Approach LOS			C

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	12	161	101	246	306	10	87	24	140	0	4	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	339	0	0	599	0	0	295	0	0	6	0
Sign Control		Stop			Stop			Stop			Stop	

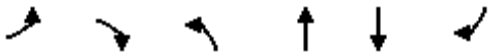
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	12	161	101	246	306	10	87	24	140	0	4	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	199	125	262	326	11	102	28	165	0	6	0

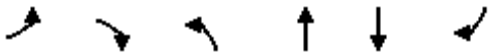
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	338	598	295	6
Volume Left (vph)	15	262	102	0
Volume Right (vph)	125	11	165	0
Hadj (s)	-0.20	0.11	-0.23	0.00
Departure Headway (s)	5.7	5.6	6.2	7.4
Degree Utilization, x	0.53	0.93	0.51	0.01
Capacity (veh/h)	607	632	555	425
Control Delay (s)	15.0	42.9	15.4	10.5
Approach Delay (s)	15.0	42.9	15.4	10.5
Approach LOS	B	E	C	B

Intersection Summary			
Delay	28.6		
HCM Level of Service	D		
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	210	91	184	577	442	378
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	317	0	0	827	881	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	210	91	184	577	442	378
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	221	96	200	627	475	406
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1706	678	882			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1706	678	882			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	79	74			
cM capacity (veh/h)	74	452	767			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	317	827	882
Volume Left	221	200	0
Volume Right	96	0	406
cSH	99	767	1700
Volume to Capacity	3.19	0.26	0.52
Queue Length 95th (ft)	Err	26	0
Control Delay (s)	Err	6.3	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1566.5		
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	10	10
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	819			577	958	
Travel Time (s)	18.6			13.1	21.8	
Volume (vph)	25	375	195	250	486	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	1%	0%	0%	1%
Lane Group Flow (vph)	435	0	0	484	539	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	25	375	195	250	486	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	408	212	272	528	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				577	958	
pX, platoon unblocked	0.92	0.88	0.88			
vC, conflicting volume	1229	534	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1103	470	476			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	22	78			
cM capacity (veh/h)	168	522	960			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	435	484	539
Volume Left	27	212	0
Volume Right	408	0	11
cSH	462	960	1700
Volume to Capacity	0.94	0.22	0.32
Queue Length 95th (ft)	280	21	0
Control Delay (s)	58.7	5.7	0.0
Lane LOS	F	A	
Approach Delay (s)	58.7	5.7	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	19.4		
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Bus PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	455	0.0	0.605	13.9	LOS B	176	0.83	0.91	22.8
8T	T	924	0.0	1.229	121.0	LOS F	1948	1.00	3.23	7.7
Approach		**1379**	**0.0**	**1.229**	**85.7**	**LOS F**	**1948**	**0.95**	**2.46**	**10.0**
Mystic Valley Parkway										
4T	T	789	0.0	0.902	19.6	LOS B	538	1.00	1.35	20.4
4R	R	573	0.0	0.747	13.8	LOS B	283	0.97	1.10	22.5
Approach		**1362**	**0.0**	**0.902**	**17.2**	**LOS B**	**538**	**0.99**	**1.24**	**21.2**
Mystic Valley Parkway										
5L	L	363	0.0	0.672	21.4	LOS C	220	1.00	1.18	20.2
2R	R	315	0.0	0.648	17.5	LOS B	196	1.00	1.16	21.1
Approach		**678**	**0.0**	**0.673**	**19.6**	**LOS B**	**220**	**1.00**	**1.17**	**20.6**
All Vehicles		**3419**	**0.0**	**1.229**	**45.3**	**LOS D**	**1948**	**0.97**	**1.72**	**14.5**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\Bus\Mystic&Alewife - Bus.aap
Processed Sep 19, 2008 11:13:42AM

M0114, VHB, Large Office
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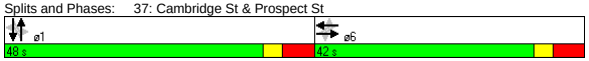
2030 Build Alternative 1 Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	55	305	10	80	350	15	30	285	80	30	325	45
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	468	0	0	483	0	0	454	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	27.0	27.0		27.0	27.0		30.0	30.0		30.0	30.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.67			0.85			0.63			0.57	
Control Delay		30.3			42.1			15.5			22.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.3			42.1			15.5			22.1	
Queue Length 50th (ft)		184			239			91			186	
Queue Length 95th (ft)		289			#416			m139			272	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		585			552			765			798	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.67			0.85			0.63			0.57	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1831			1789			1832			1911	
Flt Permitted		0.84			0.81			0.94			0.94	
Satd. Flow (perm)		1550			1460			1722			1795	
Volume (vph)	55	305	10	80	350	15	30	285	80	30	325	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	59	324	11	84	368	16	37	348	98	34	369	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	468	0	0	483	0	0	454	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		586			552			765			798	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.32			c0.28			0.25	
v/c Ratio		0.67			0.85			0.63			0.57	
Uniform Delay, d1		23.4			25.6			19.3			18.6	
Progression Factor		1.00			1.00			0.61			1.00	
Incremental Delay, d2		6.1			14.9			3.3			2.9	
Delay (s)		29.4			40.5			15.1			21.5	
Level of Service		C			D			B			C	
Approach Delay (s)		29.4			40.5			15.1			21.5	
Approach LOS		C			D			B			C	

Intersection Summary

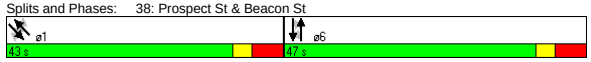
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	345	30	25	380	10	25	510	90	40	280	25
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	559	0	0	456	0	0	666	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	33.0	33.0		33.0	33.0		26.0	26.0		26.0	26.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.54			0.61			0.97			0.70	
Control Delay		21.3			11.3			57.4			31.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.3			11.3			57.4			31.0	
Queue Length 50th (ft)		120			67			365			186	
Queue Length 95th (ft)		157			m88			#596			279	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1034			751			684			568	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.54			0.61			0.97			0.70	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3356			1831			1810			1793	
Flt Permitted		0.70			0.94			0.97			0.81	
Satd. Flow (perm)		2385			1731			1759			1461	
Volume (vph)	100	345	30	25	380	10	25	510	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	406	35	27	418	11	27	543	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	559	0	0	456	0	0	666	0	0	397	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		39.0			39.0			35.0			35.0	
Effective Green, g (s)		39.0			39.0			35.0			35.0	
Actuated g/C Ratio		0.43			0.43			0.39			0.39	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1034			750			684			568	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.26			c0.38			0.27	
v/c Ratio		0.54			0.61			0.97			0.70	
Uniform Delay, d1		18.9			19.6			27.0			23.1	
Progression Factor		1.00			0.42			1.00			1.00	
Incremental Delay, d2		2.0			2.9			28.5			7.0	
Delay (s)		20.9			11.0			55.6			30.1	
Level of Service		C			B			E			C	
Approach Delay (s)		20.9			11.0			55.6			30.1	
Approach LOS		C			B			E			C	

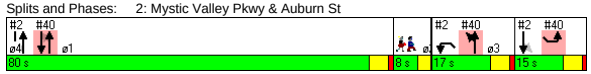
Intersection Summary					
HCM Average Control Delay	31.6	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	95.3%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	815	20	107	1195	125	62		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	938	0	0	1447	228	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	80.0	0.0	95.0	95.0	17.0	0.0	8.0	15.0
Total Split (%)	66.7%	0.0%	79.2%	79.2%	14.2%	0.0%	7%	13%
Maximum Green (s)	75.0				12.0		5.0	10.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.41			0.78	0.73			
Control Delay	6.1			2.4	58.8			
Queue Delay	0.1			0.0	1.7			
Total Delay	6.1			2.4	60.5			
Queue Length 50th (ft)	154			25	155			
Queue Length 95th (ft)	m160			m32	#296			
Internal Link Dist (ft)	793			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2279			1865	314			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	254			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.46			0.78	0.78			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3597			3322	1854	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3597			2458	1854	
Volume (vph)	815	20	107	1195	125	62
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	916	22	119	1328	152	76
RTOR Reduction (vph)	2	0	0	0	14	0
Lane Group Flow (vph)	936	0	0	1447	214	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	72.6			87.6	18.4	
Effective Green, g (s)	73.6			88.6	19.4	
Actuated g/C Ratio	0.61			0.74	0.16	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2206			1815	300	
v/s Ratio Prot	0.26				c0.12	
v/s Ratio Perm				c0.59		
v/c Ratio	0.42			0.80	0.71	
Uniform Delay, d1	12.1			10.0	47.7	
Progression Factor	0.53			0.11	1.00	
Incremental Delay, d2	0.2			1.2	8.3	
Delay (s)	6.7			2.3	56.0	
Level of Service	A			A	E	
Approach Delay (s)	6.7			2.3	56.0	
Approach LOS	A			A	E	

Intersection Summary

HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

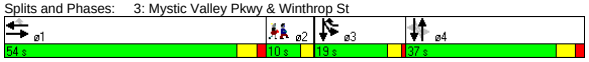
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	960	20	0	1050	200	30	405	365	560	865	120	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1042	0	0	1117	213	0	1025	0	0	1661	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	54.0	0.0	0.0	54.0	19.0	37.0	37.0	0.0	19.0	56.0	0.0	10.0
Total Split (%)	0.0%	45.0%	0.0%	0.0%	45.0%	15.8%	30.8%	30.8%	0.0%	15.8%	46.7%	0.0%	8%
Maximum Green (s)		48.0			48.0	15.0	31.0	31.0		15.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.26			1.45	0.20		1.63			1.53dl		
Control Delay		151.6			241.4	3.9		317.4			209.4		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		151.6			241.4	3.9		317.4			209.4		
Queue Length 50th (ft)		~1039			~1181	21		~561			~643		
Queue Length 95th (ft)		#1301			#1438	50		#560			#1152		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		826			768	1049		629			1189		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.26			1.45	0.20		1.63			1.40		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 110 (92%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3323			3470	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1954			2060	
Volume (vph)	0	960	20	0	1050	200	30	405	365	560	865	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1021	21	0	1117	213	38	519	468	602	930	129
RTOR Reduction (vph)	0	1	0	0	0	57	0	108	0	0	4	0
Lane Group Flow (vph)	0	1041	0	0	1117	156	0	917	0	0	1657	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		45.6			45.6	68.6		31.0			54.0	
Effective Green, g (s)		46.6			46.6	68.6		32.0			54.0	
Actuated g/C Ratio		0.39			0.39	0.57		0.27			0.45	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		785			730	914		521			1186	
v/s Ratio Prot		0.52			c0.59	0.03					c0.26	
v/s Ratio Perm						0.07		c0.47			0.37	
v/c Ratio		1.33			1.53	0.17		1.76			1.53dl	
Uniform Delay, d1		36.7			36.7	12.2		44.0			33.0	
Progression Factor		0.69			1.00	1.00		1.00			1.00	
Incremental Delay, d2		154.8			245.5	0.0		350.0			183.7	
Delay (s)		180.1			282.2	12.2		394.0			216.7	
Level of Service		F			F	B		F			F	
Approach Delay (s)		180.1			238.9			394.0			216.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	251.0	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.57				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	135.6%	ICU Level of Service		H	
Analysis Period (min)	15				

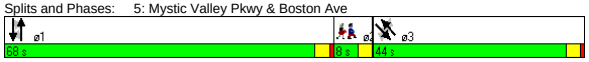
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	40	775	175	45	1200	75	50	435	85	75	275	10	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1165	0	0	1483	0	0	704	0	0	428	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	68.0	68.0	0.0	68.0	68.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	8.0
Total Split (%)	56.7%	56.7%	0.0%	56.7%	56.7%	0.0%	36.7%	36.7%	0.0%	36.7%	36.7%	0.0%	7%
Maximum Green (s)	64.0	64.0		64.0	64.0		40.0	40.0		40.0	40.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.90			1.01			1.06			1.12		
Control Delay		35.7			57.5			87.7			118.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.7			57.5			87.7			118.2		
Queue Length 50th (ft)		402			~605			~578			~372		
Queue Length 95th (ft)		467			#752			#770			#571		
Internal Link Dist (ft)		495			793			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1290			1469			664			382		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.90			1.01			1.06			1.12		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green, Master Intersection
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3507			3538			1920			1893	
Flt Permitted		0.66			0.76			0.91			0.59	
Satd. Flow (perm)		2331			2696			1747			1136	
Volume (vph)	40	775	175	45	1200	75	50	435	85	75	275	10
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	47	912	206	51	1348	84	62	537	105	89	327	12
RTOR Reduction (vph)	0	16	0	0	4	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	1149	0	0	1479	0	0	699	0	0	427	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		61.6			61.6			46.4			46.4	
Effective Green, g (s)		61.6			61.6			46.4			46.4	
Actuated g/C Ratio		0.51			0.51			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1197			1384			676			439	
v/s Ratio Prot												
v/s Ratio Perm		0.49			c0.55			c0.40			0.38	
v/c Ratio		0.96			1.07			1.03			0.97	
Uniform Delay, d1		28.0			29.2			36.8			36.2	
Progression Factor		1.00			1.34			1.00			1.00	
Incremental Delay, d2		18.0			40.4			43.7			36.0	
Delay (s)		46.0			79.5			80.5			72.2	
Level of Service		D			E			F			E	
Approach Delay (s)		46.0			79.5			80.5			72.2	
Approach LOS		D			E			F			E	

Intersection Summary

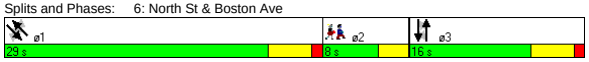
HCM Average Control Delay	68.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	25	15	15	30	50	25	5	565	55	15	285	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	84	0	0	123	0	0	672	0	0	348	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.21			0.29			0.70			0.37		
Control Delay		16.3			17.1			14.9			8.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		16.3			17.1			14.9			8.4		
Queue Length 50th (ft)		17			25			106			42		
Queue Length 95th (ft)		37			66			#343			118		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		393			419			955			929		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.21			0.29			0.70			0.37		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.6	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.97			0.99			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1789			1778			1778			1788	
Flt Permitted		0.83			0.90			1.00			0.96	
Satd. Flow (perm)		1526			1623			1775			1726	
Volume (vph)	25	15	15	30	50	25	5	565	55	15	285	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	38	23	23	35	59	29	5	608	59	17	320	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	84	0	0	123	0	0	672	0	0	348	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.0			11.0			24.1			24.1	
Effective Green, g (s)		12.0			12.0			25.1			25.1	
Actuated g/C Ratio		0.24			0.24			0.51			0.51	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		374			397			909			884	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.08			c0.38			0.20	
v/c Ratio		0.22			0.31			0.74			0.39	
Uniform Delay, d1		14.8			15.1			9.4			7.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			2.0			5.4			1.3	
Delay (s)		16.2			17.1			14.8			8.6	
Level of Service		B			B			B			A	
Approach Delay (s)		16.2			17.1			14.8			8.6	
Approach LOS		B			B			B			A	

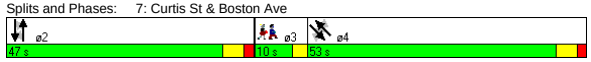
Intersection Summary					
HCM Average Control Delay	13.3	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.54				
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	48.1%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	10	350	65	130	120	85	200	420	25	35	190	90	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	518	0	0	381	0	0	687	0	0	339	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	10.0
Total Split (%)	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	48.2%	48.2%	0.0%	48.2%	48.2%	0.0%	9%
Maximum Green (s)	40.9	40.9		40.9	40.9		47.0	47.0		47.0	47.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.71			1.04			1.14			0.48		
Control Delay		33.2			91.6			111.3			22.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.2			91.6			111.3			22.9		
Queue Length 50th (ft)		262			~241			~501			139		
Queue Length 95th (ft)		387			#478			#821			257		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		729			365			601			710		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.71			1.04			1.14			0.48		

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Curtis St & Boston Ave



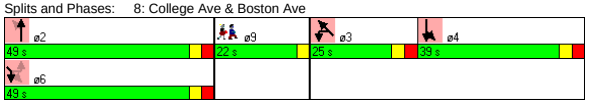
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.97			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1822			1882			1807			1730	
Flt Permitted		0.99			0.49			0.72			0.89	
Satd. Flow (perm)		1803			939			1319			1543	
Volume (vph)	10	350	65	130	120	85	200	420	25	35	190	90
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	12	427	79	148	136	97	213	447	27	38	204	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	381	0	0	687	0	0	339	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		41.0			41.0			47.1			47.1	
Effective Green, g (s)		42.1			42.1			48.1			48.1	
Actuated g/C Ratio		0.40			0.40			0.45			0.45	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		717			374			600			701	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.41			c0.52			0.22	
v/c Ratio		0.72			1.02			1.14			0.48	
Uniform Delay, d1		26.9			31.8			28.8			20.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.1			51.4			83.7			2.4	
Delay (s)		30.0			83.2			112.6			22.5	
Level of Service		C			F			F			C	
Approach Delay (s)		30.0			83.2			112.6			22.5	
Approach LOS		C			F			F			C	

Intersection Summary					
HCM Average Control Delay	68.7	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.09				
Actuated Cycle Length (s)	105.8	Sum of lost time (s)		15.6	
Intersection Capacity Utilization	118.0%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	130	5	60	330	85	70	355	215	10	185	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	150	0	0	534	0	0	488	247	0	311	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	49.0	49.0	0.0	39.0	39.0	0.0	49.0	49.0	49.0	25.0	25.0	0.0	22.0
Total Split (%)	36.3%	36.3%	0.0%	28.9%	28.9%	0.0%	36.3%	36.3%	36.3%	18.5%	18.5%	0.0%	16%
Maximum Green (s)	43.0	43.0		33.0	33.0		43.0	43.0	43.0	19.0	19.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.23			1.00			1.06	0.41		1.00		
Control Delay	29.7	30.4			84.1			96.4	19.8		102.9		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.7	30.4			84.1			96.4	19.8		102.9		
Queue Length 50th (ft)	39	72			373			348	69		222		
Queue Length 95th (ft)	93	155			#748			#694	165		#364		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	669	660			532			462	609		310		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.23			1.00			1.06	0.41		1.00		

Intersection Summary
Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	0.99			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1852			1927			1833	1516		1939	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1852			1927			1299	1516		1939	
Volume (vph)	75	130	5	60	330	85	70	355	215	10	185	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	144	6	67	371	96	80	408	247	14	250	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	70	0	5	0
Lane Group Flow (vph)	83	149	0	0	528	0	0	488	177	0	306	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	43.3	43.3			33.3			43.3	43.3		19.1	
Effective Green, g (s)	43.3	43.3			33.3			43.3	43.3		19.1	
Actuated g/C Ratio	0.35	0.35			0.27			0.35	0.35		0.15	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	659	649			519			455	531		300	
v/s Ratio Prot		0.08			c0.27				0.12		c0.16	
v/s Ratio Perm	0.04							c0.38				
v/c Ratio	0.13	0.23			1.02			1.07	0.33		1.02	
Uniform Delay, d1	27.3	28.4			45.1			40.2	29.5		52.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			44.0			63.0	0.4		57.1	
Delay (s)	27.4	28.5			89.2			103.1	29.9		109.4	
Level of Service	C	C			F			F	C		F	
Approach Delay (s)		28.1			89.2			78.5			109.4	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	80.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

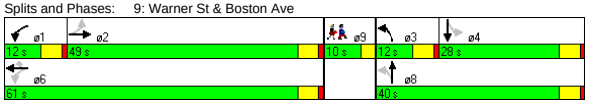
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1423			1738		
Travel Time (s)		12.0			40.8			32.3			39.5		
Volume (vph)	5	360	45	65	640	170	25	40	60	50	310	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	445	0	0	774	187	0	140	0	0	418	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	49.0	49.0	0.0	12.0	61.0	61.0	12.0	40.0	0.0	28.0	28.0	0.0	10.0
Total Split (%)	44.1%	44.1%	0.0%	10.8%	55.0%	55.0%	10.8%	36.0%	0.0%	25.2%	25.2%	0.0%	9%
Maximum Green (s)	44.0	44.0		7.0	56.0	56.0	7.0	35.0		23.0	23.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.41			0.86	0.23		0.29			0.72		
Control Delay		10.8			26.4	2.4		20.0			36.4		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		10.8			26.4	2.4		20.0			36.4		
Queue Length 50th (ft)		102			272	2		35			185		
Queue Length 95th (ft)		208			#642	31		103			#409		
Internal Link Dist (ft)		447			1715			1343			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1157			1000	882		612			580		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.38			0.77	0.21		0.23			0.72		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 79
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.94			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1956			1809	1301		1877			1973	
Flt Permitted		0.99			0.92	1.00		0.86			0.94	
Satd. Flow (perm)		1944			1679	1301		1637			1863	
Volume (vph)	5	360	45	65	640	170	25	40	60	50	310	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	391	49	71	703	187	28	45	67	58	360	0
RTOR Reduction (vph)	0	3	0	0	0	80	0	31	0	0	0	0
Lane Group Flow (vph)	0	442	0	0	774	107	0	109	0	0	418	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		43.3			43.3	43.3		23.7			23.7	
Effective Green, g (s)		44.3			44.3	44.3		24.7			24.7	
Actuated g/C Ratio		0.55			0.55	0.55		0.30			0.30	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1062			917	711		499			567	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46	0.08		0.07			c0.22	
v/c Ratio		0.42			0.84	0.15		0.22			0.74	
Uniform Delay, d1		10.8			15.5	9.1		21.0			25.3	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			6.9	0.0		0.1			4.3	
Delay (s)		10.9			22.4	9.1		21.1			29.6	
Level of Service		B			C	A		C			C	
Approach Delay (s)		10.9			19.8			21.1			29.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	81.1	Sum of lost time (s)	12.1
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

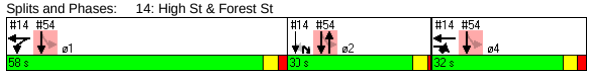
Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	370	295	1365	605	80	80	40	435	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	398	317	1534	770	0	100	0	505	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Detector Phases	4	4	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	32.0	32.0	58.0	90.0	0.0	30.0	30.0	30.0	0.0
Total Split (%)	26.7%	26.7%	48.3%	75.0%	0.0%	25.0%	25.0%	25.0%	0.0%
Maximum Green (s)	27.0	27.0	53.0			26.0	26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.16	1.08	1.03	0.60		0.11		1.19	
Control Delay	141.5	115.2	65.3	11.2		0.4		148.3	
Queue Delay	0.0	4.1	163.1	0.0		0.0		0.0	
Total Delay	141.5	119.3	228.4	11.2		0.4		148.3	
Queue Length 50th (ft)	~365	~255	~656	266		0		~473	
Queue Length 95th (ft)	#562	#439	#777	364		0		#688	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	343	294	1487	1275		952		424	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	397	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.16	1.09	1.41	0.60		0.11		1.19	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	370	295	1365	605	80	80	40	435	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	398	317	1534	680	90	100	41	444	20
RTOR Reduction (vph)	0	23	0	4	0	78	0	2	0
Lane Group Flow (vph)	398	294	1534	766	0	22	0	503	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	27.0	27.0	53.0	85.0		26.0		26.0	
Effective Green, g (s)	27.0	27.0	53.0	85.0		26.0		26.0	
Actuated g/C Ratio	0.22	0.22	0.44	0.71		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	343	271	1487	1271		358		422	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.16	1.08	1.03	0.60		0.06		1.19	
Uniform Delay, d1	46.5	46.5	33.5	8.9		37.3		47.0	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	99.7	78.9	31.9	0.8		0.1		108.0	
Delay (s)	146.2	125.4	65.4	9.7		37.4		155.0	
Level of Service	F	F	E	A		D		F	
Approach Delay (s)				46.8				155.0	
Approach LOS				D				F	

Intersection Summary

HCM Average Control Delay	79.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

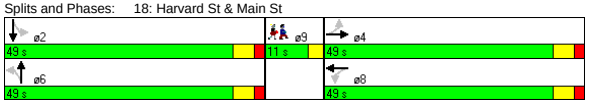
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	445	50	105	500	15	45	315	100	35	595	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	621	0	0	690	0	0	597	0	0	818	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.10			1.41			1.15			1.23		
Control Delay		95.9			221.0			115.4			143.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		95.9			221.0			115.4			143.9		
Queue Length 50th (ft)		~434			~574			~433			~625		
Queue Length 95th (ft)		#746			#903			#583			#951		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		566			491			520			665		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.10			1.41			1.15			1.23		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1646			1625			1573			1613	
Flt Permitted		0.80			0.71			0.78			0.95	
Satd. Flow (perm)		1321			1161			1241			1530	
Volume (vph)	70	445	50	105	500	15	45	315	100	35	595	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	489	55	117	556	17	58	409	130	40	676	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	621	0	0	690	0	0	597	0	0	818	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		567			499			533			657	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.59			0.48			c0.53	
v/c Ratio		1.10			1.38			1.12			1.25	
Uniform Delay, d1		29.3			29.3			29.3			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		66.4			184.4			76.3			122.8	
Delay (s)		95.7			213.7			105.6			152.1	
Level of Service		F			F			F			F	
Approach Delay (s)		95.7			213.7			105.6			152.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	144.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

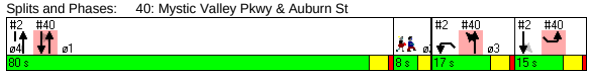
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	52	825	1170	25	15	130	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	56	887	1220	0	175	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	17.0	97.0	80.0	0.0	15.0	0.0	8.0
Total Split (%)	14.2%	80.8%	66.7%	0.0%	12.5%	0.0%	7%
Maximum Green (s)	12.0		75.0		10.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.16	0.57	0.96		0.81		
Control Delay	20.9	8.0	13.2		62.1		
Queue Delay	0.0	0.0	5.1		4.7		
Total Delay	20.9	8.0	18.3		66.7		
Queue Length 50th (ft)	8	376	220		89		
Queue Length 95th (ft)	m45	474	m72		#174		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	356	1561	1268		217		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	40		15		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.16	0.57	0.99		0.87		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2001		1772	
Flt Permitted	0.05	1.00	1.00		0.99	
Satd. Flow (perm)	103	1900	2001		1772	
Volume (vph)	52	825	1170	25	15	130
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	56	887	1194	26	18	157
RTOR Reduction (vph)	0	0	1	0	55	0
Lane Group Flow (vph)	56	887	1219	0	121	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	91.0	91.0	72.6		10.0	
Effective Green, g (s)	93.0	93.0	73.6		11.0	
Actuated g/C Ratio	0.78	0.78	0.61		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	355	1473	1227		162	
v/s Ratio Prot	0.03	c0.47	c0.61		c0.07	
v/s Ratio Perm	0.10					
v/c Ratio	0.16	0.60	0.99		0.74	
Uniform Delay, d1	43.5	5.7	23.0		53.1	
Progression Factor	1.98	1.88	0.41		1.00	
Incremental Delay, d2	0.3	0.7	6.4		17.8	
Delay (s)	86.3	11.4	15.9		70.9	
Level of Service	F	B	B		E	
Approach Delay (s)		15.9	15.9		70.9	
Approach LOS		B	B		E	

Intersection Summary

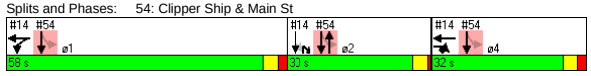
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	435	50	2045		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	468	0	2160		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	30.0	0.0	120.0	120.0	58.0	32.0
Total Split (%)	0.0%	0.0%	25.0%	0.0%	100.0%	100.0%	48%	27%
Maximum Green (s)			26.0				53.0	27.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.31		0.85		
Control Delay			40.6	0.5		8.9		
Queue Delay			0.0	0.0		0.0		
Total Delay			40.6	0.5		8.9		
Queue Length 50th (ft)			55	0		318		
Queue Length 95th (ft)			102	0		m138		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			385	1509		2528		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			6	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.23	0.31		0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.81
Satd. Flow (perm)			1776	1509		2529
Volume (vph)	0	0	80	435	50	2045
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	468	52	2108
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	468	0	2160
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			26.0	120.0		120.0
Effective Green, g (s)			26.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			385	1509		2529
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.31		c0.85
v/c Ratio			0.22	0.31		0.85
Uniform Delay, d1			38.7	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			0.3	0.5		0.3
Delay (s)			39.0	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		6.5			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

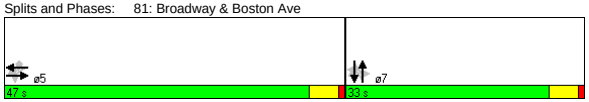
c Critical Lane Group

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		850					647				510			1423
Travel Time (s)		19.3					14.7				11.6			32.3
Volume (vph)	10	890	30	20	10	5	530	130	5	15	50	70	325	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1033	0	0	0	0	592	141	0	0	75	76	0	391
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	14.0	14.0			14.0	14.0	14.0	14.0	14.0	14.0	14.0		14.0	14.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0	24.0	19.0	19.0	19.0		19.0	19.0
Total Split (s)	47.0	47.0	0.0	0.0	47.0	47.0	47.0	47.0	33.0	33.0	33.0	0.0	33.0	33.0
Total Split (%)	58.8%	58.8%	0.0%	0.0%	58.8%	58.8%	58.8%	58.8%	41.3%	41.3%	41.3%	0.0%	41.3%	41.3%
Maximum Green (s)	42.0	42.0			42.0	42.0	42.0	42.0	28.0	28.0	28.0		28.0	28.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max	Max	None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0	8.0						
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0						
Pedestrian Calls (#/hr)	0	0			0	0	0	0						
v/c Ratio		0.90					0.62	0.17			0.12	0.06		0.90
Control Delay		29.4					16.1	10.0			17.7	0.1		51.1
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		29.4					16.1	10.0			17.7	0.1		51.1
Queue Length 50th (ft)		442					193	33			24	0		179
Queue Length 95th (ft)		#728					301	63			53	0		#341
Internal Link Dist (ft)		770					567				430			1343
Turn Bay Length (ft)														
Base Capacity (vph)		1146					956	842			665	1322		451
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.90					0.62	0.17			0.11	0.06		0.87

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 78.3
Natural Cycle: 75
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 81: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	10	20
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	22
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Maximum Green (s)		
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		
Recall Mode		
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.02
Control Delay		0.0
Queue Delay		0.0
Total Delay		0.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		0
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		1167
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.02

Intersection Summary

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		1.00
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.96
Satd. Flow (prot)		2095					1798	1531			2082	1322		1716
Flt Permitted		0.99					0.97	1.00			0.87	1.00		0.69
Satd. Flow (perm)		2082					1741	1531			1832	1322		1243
Volume (vph)	10	890	30	20	10	5	530	130	5	15	50	70	325	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	967	33	22	11	5	576	141	5	16	54	76	353	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1033	0	0	0	0	592	141	0	0	75	76	0	391
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		42.1					42.1	42.1			26.2	78.3		26.2
Effective Green, g (s)		43.1					43.1	43.1			27.2	78.3		27.2
Actuated g/C Ratio		0.55					0.55	0.55			0.35	1.00		0.35
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		3.0					3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		1146					958	843			636	1322		432
v/s Ratio Prot														
v/s Ratio Perm		c0.50					0.34	0.09			0.04	0.06		c0.31
v/c Ratio		0.90					0.62	0.17			0.12	0.06		0.91
Uniform Delay, d1		15.7					12.0	8.7			17.4	0.0		24.3
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		11.4					3.0	0.4			0.1	0.1		22.0
Delay (s)		27.1					15.0	9.1			17.5	0.1		46.3
Level of Service		C					B	A			B	A		D
Approach Delay (s)		27.1					13.9				8.7			43.9
Approach LOS		C					B				A			D

Intersection Summary				
HCM Average Control Delay	24.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	91.2%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Green Line Extension
81: Broadway & Boston Ave

2030 Build Condition Alt 1 - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1167
Flt Permitted		1.00
Satd. Flow (perm)		1167
Volume (vph)	10	20
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	11	22
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	22
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		78.3
Effective Green, g (s)		78.3
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1167
v/s Ratio Prot		
v/s Ratio Perm		0.02
v/c Ratio		0.02
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 1\optimize\coordination\2030 Build Alt 1- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

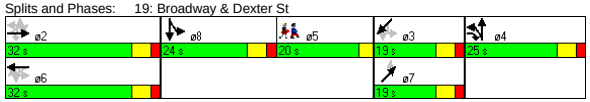
Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1331						1176			419		
Travel Time (s)			30.3						26.7			9.5		
Volume (vph)	5	15	660	510	20	1	5	20	495	55	235	155	30	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	723	564	0	0	0	0	626	0	0	442	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	32.0	32.0	32.0	25.0	0.0	32.0	32.0	32.0	32.0	0.0	25.0	25.0	0.0	24.0
Total Split (%)	26.7%	26.7%	26.7%	20.8%	0.0%	26.7%	26.7%	26.7%	26.7%	0.0%	20.8%	20.8%	0.0%	20.0%
Maximum Green (s)	26.0	26.0	26.0	19.0		26.0	26.0	26.0	26.0		19.0	19.0		18.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			1.00	0.72					1.09			1.22		
Control Delay			73.3	28.2					101.3			158.1		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			73.3	28.2					101.3			158.1		
Queue Length 50th (ft)			240	258					~230			~340		
Queue Length 95th (ft)			#473	#586					#439			#668		
Internal Link Dist (ft)			1251						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			722	779					575			363		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			1.00	0.72					1.09			1.22		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 Build Condition Alt 1 - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	295	20	25	0	95	20	85	15	40	5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	418	0	0	110	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	24.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	20.0
Total Split (%)	20.0%	0.0%	0.0%	15.8%	0.0%	15.8%	15.8%	15.8%	0.0%	0.0%	17%
Maximum Green (s)	18.0			13.0		13.0	13.0	13.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.16			0.50				1.23			
Control Delay	139.4			51.7				183.3			
Queue Delay	0.0			0.0				0.0			
Total Delay	139.4			51.7				183.3			
Queue Length 50th (ft)	~310			66				~151			
Queue Length 95th (ft)	#589			136				#332			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	359			222				159			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.16			0.50				1.23			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 1\optimize\coordination\2030 Build Alt 1- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3265			1863		
Flt Permitted			0.86	1.00					0.75			0.97		
Satd. Flow (perm)			3002	1549					2443			1863		
Volume (vph)	5	15	660	510	20	1	5	20	495	55	235	155	30	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	702	543	21	1	5	22	538	60	247	163	32	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	723	563	0	0	0	0	626	0	0	440	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			26.1	45.2					26.1			19.1		
Effective Green, g (s)			27.1	47.2					27.1			20.1		
Actuated g/C Ratio			0.25	0.44					0.25			0.19		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			765	761					623			352		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.24	0.22					c0.26					
v/c Ratio			0.95	0.74					1.00			1.25		
Uniform Delay, d1			38.9	24.5					39.6			43.1		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			20.3	5.2					37.2			133.5		
Delay (s)			59.2	29.7					76.8			176.6		
Level of Service			E	C					E			F		
Approach Delay (s)			46.3						76.8			176.6		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	93.6	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.14			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	111.9%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 Build Condition Alt 1 - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1938			1644				1765		
Flt Permitted	1.00			1.00				0.69		
Satd. Flow (perm)	1938			1644				1256		
Volume (vph)	295	20	25	0	95	20	85	15	40	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	343	23	29	0	110	24	100	18	47	6
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	416	0	0	110	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	18.1			13.1				13.1		
Effective Green, g (s)	19.1			14.1				14.1		
Actuated g/C Ratio	0.18			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	348			218				167		
v/s Ratio Prot	c0.21			0.07						
v/s Ratio Perm								c0.15		
v/c Ratio	1.19			0.50				1.16		
Uniform Delay, d1	43.6			42.9				46.1		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	112.1			0.7				120.1		
Delay (s)	155.7			43.5				166.2		
Level of Service	F			D				F		
Approach Delay (s)	155.7			43.5				166.2		
Approach LOS	F			D				F		

Intersection Summary

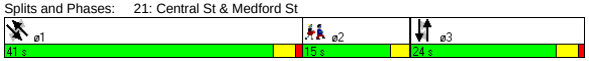
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 1\optimize\coordination\2030 Build Alt 1- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	80	20	165	10	15	635	115	85	260	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	403	0	0	230	0	0	840	0	0	390	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	24.0	24.0	0.0	24.0	24.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	15.0
Total Split (%)	30.0%	30.0%	0.0%	30.0%	30.0%	0.0%	51.3%	51.3%	0.0%	51.3%	51.3%	0.0%	19%
Maximum Green (s)	20.0	20.0		20.0	20.0		37.0	37.0		37.0	37.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.84			0.47			0.85			0.63		
Control Delay		41.1			24.7			25.0			18.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		41.1			24.7			25.0			18.3		
Queue Length 50th (ft)		139			72			240			91		
Queue Length 95th (ft)		#322			159			#661			#303		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		478			489			991			616		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.84			0.47			0.85			0.63		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 68
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1787			1822			1823			1799	
Flt Permitted		0.91			0.94			0.99			0.70	
Satd. Flow (perm)		1635			1714			1809			1279	
Volume (vph)	55	195	80	20	165	10	15	635	115	85	260	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	98	24	194	12	16	698	126	93	286	11
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	389	0	0	230	0	0	840	0	0	389	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		20.1			20.1			37.3			37.3	
Effective Green, g (s)		20.1			20.1			37.3			37.3	
Actuated g/C Ratio		0.29			0.29			0.53			0.53	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		467			489			958			678	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.13			c0.46			0.30	
v/c Ratio		0.83			0.47			0.88			0.57	
Uniform Delay, d1		23.6			20.8			14.5			11.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.6			1.0			11.1			3.5	
Delay (s)		36.2			21.7			25.7			14.7	
Level of Service		D			C			C			B	
Approach Delay (s)		36.2			21.7			25.7			14.7	
Approach LOS		D			C			C			B	

Intersection Summary

HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	70.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

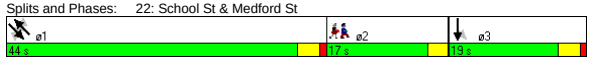
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			456		
Travel Time (s)		21.7			21.8			35.4			10.4		
Volume (vph)	0	0	0	150	305	25	10	760	100	160	290	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	522	0	0	906	0	0	597	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	19.0	19.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	23.8%	23.8%	0.0%	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	21%
Maximum Green (s)				15.0	15.0		40.0	40.0		40.0	40.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.15			0.76			1.11		
Control Delay					118.0			17.1			90.1		
Queue Delay					0.0			0.0			0.0		
Total Delay					118.0			17.1			90.1		
Queue Length 50th (ft)					~234			197			~258		
Queue Length 95th (ft)					#546			#661			#575		
Internal Link Dist (ft)		873			879			1476			376		
Turn Bay Length (ft)													
Base Capacity (vph)					454			1185			539		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.15			0.76			1.11		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 66.4
Natural Cycle: 150
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.98			1.00			0.98	
Satd. Flow (prot)					1982			1951			1878	
Flt Permitted					0.98			0.99			0.56	
Satd. Flow (perm)					1982			1940			1069	
Volume (vph)	0	0	0	150	305	25	10	760	100	160	290	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	163	332	27	10	792	104	182	330	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	0	0	0	520	0	0	901	0	0	591	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					15.1			40.4			40.4	
Effective Green, g (s)					15.1			40.4			40.4	
Actuated g/C Ratio					0.22			0.59			0.59	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					435			1139			628	
v/s Ratio Prot												
v/s Ratio Perm					0.26			0.46			c0.55	
v/c Ratio					1.19			0.79			0.94	
Uniform Delay, d1					26.8			10.9			13.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					108.1			5.6			24.0	
Delay (s)					135.0			16.6			37.1	
Level of Service					F			B			D	
Approach Delay (s)		0.0			135.0			16.6			37.1	
Approach LOS		A			F			B			D	

Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	13.3
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

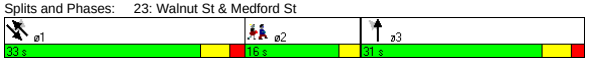
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1079			533		
Travel Time (s)		17.7			19.2			24.5			12.1		
Volume (vph)	80	200	10	0	0	0	10	625	0	0	190	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	661	0	0	239	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.42						0.84			0.31		
Control Delay		18.4						31.2			15.2		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.4						31.2			15.2		
Queue Length 50th (ft)		81						213			55		
Queue Length 95th (ft)		197						#553			141		
Internal Link Dist (ft)		699			764			999			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						785			769		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.42						0.84			0.31		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1821	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1847						1871			1821	
Volume (vph)	80	200	10	0	0	0	10	625	0	0	190	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	10	651	0	0	216	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	305	0	0	0	0	0	661	0	0	235	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						758			738	
v/s Ratio Prot											0.13	
v/s Ratio Perm		0.17						c0.35				
v/c Ratio		0.44						0.87			0.32	
Uniform Delay, d1		16.2						19.0			14.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						11.1			0.3	
Delay (s)		16.8						30.1			14.5	
Level of Service		B						C			B	
Approach Delay (s)		16.8			0.0			30.1			14.5	
Approach LOS		B			A			C			B	

Intersection Summary

HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

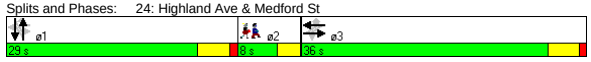
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	205	5	0	5	595	35	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	236	0	18	0	0	668	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	36.0	36.0	0.0	36.0	36.0	65.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	49.3%	49.3%	0.0%	49.3%	49.3%	89.0%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	11%
Maximum Green (s)	31.0	31.0		31.0	31.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.75			0.83	0.15		0.03			1.31		
Control Delay		21.5			30.0	0.3		11.0			178.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		21.5			30.0	0.3		11.0			178.0		
Queue Length 50th (ft)		193			160	0		2			~350		
Queue Length 95th (ft)		#441			#375	6		9			#623		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		885			618	1586		567			509		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.75			0.83	0.15		0.03			1.31		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 66.6
Natural Cycle: 100
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)		1834			1913	1632		1646			1778	
Flt Permitted		1.00			0.75	1.00		0.85			0.73	
Satd. Flow (perm)		1834			1432	1632		1443			1352	
Volume (vph)	0	590	25	35	410	205	5	0	5	595	35	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	236	9	0	9	626	37	5
RTOR Reduction (vph)	0	2	0	0	0	27	0	6	0	0	1	0
Lane Group Flow (vph)	0	659	0	0	511	209	0	12	0	0	667	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		31.1			31.1	60.2		24.1			24.1	
Effective Green, g (s)		32.1			32.1	61.2		25.1			25.1	
Actuated g/C Ratio		0.46			0.46	0.89		0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		852			665	1445		524			491	
v/s Ratio Prot		c0.36										
v/s Ratio Perm					0.36	0.13		0.01			c0.49	
v/c Ratio		0.77			0.77	0.14		0.02			1.36	
Uniform Delay, d1		15.5			15.4	0.5		14.1			22.0	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		6.8			8.3	0.0		0.0			174.5	
Delay (s)		22.2			23.7	0.6		14.1			196.5	
Level of Service		C			C	A		B			F	
Approach Delay (s)		22.2			16.4			14.1			196.5	
Approach LOS		C			B			B			F	

Intersection Summary

HCM Average Control Delay	75.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

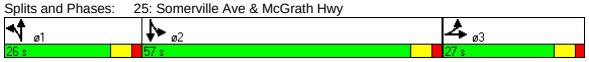
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	355	115	0	0	0	45	195	25	200	1230	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	614	0	0	0	0	0	261	27	213	1458	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	27.0	27.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	57.0	57.0	0.0
Total Split (%)	24.5%	24.5%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	51.8%	51.8%	0.0%
Maximum Green (s)	21.0	21.0					20.0	20.0		51.0	51.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.90						0.39	0.02	0.26	0.95	
Control Delay		59.1						41.0	0.0	18.5	41.5	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		59.1						41.0	0.0	18.5	41.5	
Queue Length 50th (ft)		215						85	0	88	497	
Queue Length 95th (ft)		#320						126	0	139	#668	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		681						663	1672	821	1539	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.90						0.39	0.02	0.26	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3305						3472	1672	1736	3238	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3305						3472	1672	1736	3238	
Volume (vph)	100	355	115	0	0	0	45	195	25	200	1230	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	382	124	0	0	0	49	212	27	213	1309	149
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	594	0	0	0	0	0	261	27	213	1450	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		21.0						20.0	110.0	51.0	51.0	
Effective Green, g (s)		22.0						21.0	110.0	52.0	52.0	
Actuated g/C Ratio		0.20						0.19	1.00	0.47	0.47	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		661						663	1672	821	1531	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.90						0.39	0.02	0.26	0.95	
Uniform Delay, d1		42.9						38.9	0.0	17.4	27.7	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		17.5						1.8	0.0	0.8	13.5	
Delay (s)		60.4						40.7	0.0	18.2	41.1	
Level of Service		E						D	A	B	D	
Approach Delay (s)		60.4			0.0			36.9			38.2	
Approach LOS		E			A			D			D	

Intersection Summary

HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

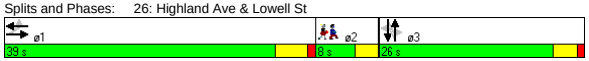
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	385	0	0	455	30	25	75	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	483	0	0	638	0	0	197	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	39.0	39.0	0.0	0.0	39.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0	8.0
Total Split (%)	53.4%	53.4%	0.0%	0.0%	53.4%	0.0%	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	11%
Maximum Green (s)	34.0	34.0			34.0		22.0	22.0		22.0	22.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.58			0.65			0.39			0.85		
Control Delay		14.8			15.6			20.5			39.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		14.8			15.6			20.5			39.7		
Queue Length 50th (ft)		118			165			58			103		
Queue Length 95th (ft)		242			258			95			#279		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		828			983			541			434		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.58			0.65			0.36			0.81		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 64.9
Natural Cycle: 65
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 26: Highland Ave & Lowell St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1812			1775			1693	
Flt Permitted		0.94			1.00			0.91			0.69	
Satd. Flow (perm)		1709			1812			1637			1207	
Volume (vph)	30	385	0	0	455	30	25	75	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	448	0	0	599	39	35	106	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	41	0
Lane Group Flow (vph)	0	483	0	0	638	0	0	197	0	0	310	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		34.2			34.2			20.2			20.2	
Effective Green, g (s)		35.2			35.2			20.2			20.2	
Actuated g/C Ratio		0.52			0.52			0.30			0.30	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		894			948			491			362	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.28						0.12			c0.26	
v/c Ratio		0.54			0.67			0.40			0.86	
Uniform Delay, d1		10.7			11.8			18.7			22.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.3			3.8			0.7			18.2	
Delay (s)		13.0			15.6			19.5			40.4	
Level of Service		B			B			B			D	
Approach Delay (s)		13.0			15.6			19.5			40.4	
Approach LOS		B			B			B			D	

Intersection Summary

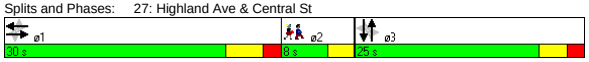
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	67.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	35	200	45	25	220	45	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	318	0	0	381	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	47.6%	47.6%	0.0%	47.6%	47.6%	0.0%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	13%
Maximum Green (s)	24.0	24.0		24.0	24.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.71			0.66			0.58			0.66		
Control Delay		19.4			17.6			19.2			21.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		19.4			17.6			19.2			21.6		
Queue Length 50th (ft)		121			104			75			94		
Queue Length 95th (ft)		#287			182			165			162		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		843			810			646			675		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.64			0.59			0.49			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 49.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1793			1807	
Flt Permitted		0.95			0.93			0.92			0.95	
Satd. Flow (perm)		1738			1690			1663			1732	
Volume (vph)	30	405	35	30	300	25	35	200	45	25	220	45
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	40	227	51	33	289	59
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	10	0
Lane Group Flow (vph)	0	535	0	0	476	0	0	307	0	0	371	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.2			20.2			16.0			16.0	
Effective Green, g (s)		21.2			21.2			16.0			16.0	
Actuated g/C Ratio		0.42			0.42			0.31			0.31	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		722			703			522			543	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.21	
v/c Ratio		0.74			0.68			0.59			0.68	
Uniform Delay, d1		12.6			12.1			14.7			15.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.4			2.8			2.0			3.8	
Delay (s)		17.0			14.9			16.7			19.1	
Level of Service		B			B			B			B	
Approach Delay (s)		17.0			14.9			16.7			19.1	
Approach LOS		B			B			B			B	

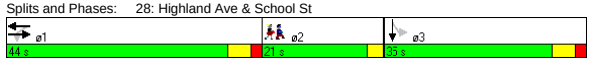
Intersection Summary					
HCM Average Control Delay	16.8	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	51.0	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	61.6%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	490	15	40	375	0	0	0	0	200	260	90	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	587	0	0	477	0	0	0	0	0	592	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	44.0	0.0	44.0	44.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	21.0
Total Split (%)	0.0%	44.0%	0.0%	44.0%	44.0%	0.0%	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%	21%
Maximum Green (s)		38.0		38.0	38.0					29.0	29.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.69			1.02						0.91		
Control Delay		24.3			72.8						46.0		
Queue Delay		0.0			0.0						0.0		
Total Delay		24.3			72.8						46.0		
Queue Length 50th (ft)		206			218						264		
Queue Length 95th (ft)		#463			#548						#639		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		846			467						654		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.69			1.02						0.91		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1798	
Flt Permitted		1.00			0.75						0.98	
Satd. Flow (perm)		1786			1340						1798	
Volume (vph)	0	490	15	40	375	0	0	0	0	200	260	90
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	570	17	46	431	0	0	0	0	215	280	97
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	586	0	0	477	0	0	0	0	0	592	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		38.3			38.3						29.3	
Effective Green, g (s)		39.3			39.3						30.3	
Actuated g/C Ratio		0.46			0.46						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		820			615						636	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.36						0.33	
v/c Ratio		0.71			0.78						0.93	
Uniform Delay, d1		18.6			19.4						26.6	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.0			6.1						22.2	
Delay (s)		21.6			25.5						48.9	
Level of Service		C			C						D	
Approach Delay (s)		21.6			25.5			0.0			48.9	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

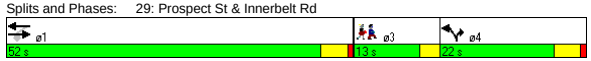
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	425	105	310	990	220	320	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	552	136	333	1065	324	471	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.47	0.15	0.88	0.93	0.80	1.10	
Control Delay	10.0	2.0	40.2	29.2	45.4	97.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	10.0	2.0	40.2	29.2	45.4	97.5	
Queue Length 50th (ft)	109	0	103	355	139	~210	
Queue Length 95th (ft)	211	15	#353	#882	192	#287	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	889	380	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.15	0.88	0.93	0.80	1.10	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Prospect St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	668	1827	1719	1538
Volume (vph)	425	105	310	990	220	320
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	552	136	333	1065	324	471
RTOR Reduction (vph)	0	53	0	0	0	68
Lane Group Flow (vph)	552	83	333	1065	324	403
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	407	1113	393	352
v/s Ratio Prot	0.30			c0.58	0.19	c0.26
v/s Ratio Perm		0.06	0.50			
v/c Ratio	0.49	0.10	0.82	0.96	0.82	1.15
Uniform Delay, d1	8.6	6.4	12.0	14.5	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	11.5	17.3	13.7	93.5
Delay (s)	8.7	6.5	23.5	31.8	42.7	124.0
Level of Service	A	A	C	C	D	F
Approach Delay (s)	8.3			29.8	90.9	
Approach LOS	A			C	F	

Intersection Summary

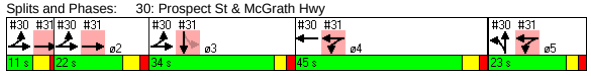
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	500	395	0	0	1285	105	25	245	540	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	543	444	0	0	1545	0	29	282	621	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	67.0	67.0	0.0	0.0	45.0	0.0	23.0	23.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	49.6%	49.6%	0.0%	0.0%	33.3%	0.0%	17.0%	17.0%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					39.0		18.0	18.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.33	0.21			1.06		0.13	1.22	0.42					
Control Delay	1.2	0.7			85.4		53.4	177.8	0.9					
Queue Delay	0.0	0.0			36.8		0.1	0.0	0.0					
Total Delay	1.2	0.7			122.1		53.5	177.8	0.9					
Queue Length 50th (ft)	3	1			~542		23	~302	0					
Queue Length 95th (ft)	m3	m2			#639		52	#462	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1634	2165			1463		221	232	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			112		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.33	0.21			1.14		0.14	1.22	0.42					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Prospect St & McGrath Hwy



Green Line Extension
30: Prospect St & McGrath Hwy
2030 Build Condition Alt 1 - AM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	34.0
Total Split (%)	25%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 1\optimize\coordination\2030 Build Alt 1- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4935		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4935		1656	1743	1482			
Volume (vph)	500	395	0	0	1285	105	25	245	540	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	543	444	0	0	1428	117	29	282	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	543	444	0	0	1545	0	29	282	621	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	62.0	62.0			39.0		18.0	18.0	135.0			
Effective Green, g (s)	62.0	62.0			40.0		18.0	18.0	135.0			
Actuated g/C Ratio	0.46	0.46			0.30		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1634	2165			1462		221	232	1482			
v/s Ratio Prot	0.15	0.09			c0.31		0.02	c0.16				
v/s Ratio Perm									c0.42			
v/c Ratio	0.33	0.21			1.06		0.13	1.22	0.42			
Uniform Delay, d1	23.3	21.8			47.5		51.6	58.5	0.0			
Progression Factor	0.03	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			40.1		1.2	129.7	0.9			
Delay (s)	1.2	0.7			87.6		52.8	188.2	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		0.9			87.6			59.2			0.0	
Approach LOS		A			F			E			A	

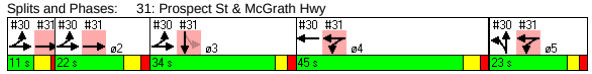
Intersection Summary			
HCM Average Control Delay	55.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	850	35	590	720	0	0	0	0	45	155	500		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	963	0	628	818	0	0	0	0	0	806	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	68.0	68.0	0.0	0.0	0.0	0.0	34.0	34.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	50.4%	50.4%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	8%	16%
Maximum Green (s)										29.0	29.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.68		0.78	0.51						1.44dr			
Control Delay		51.9		6.6	0.2						120.7			
Queue Delay		0.0		0.0	0.0						31.7			
Total Delay		51.9		6.6	0.2						152.4			
Queue Length 50th (ft)		193		99	0						~402			
Queue Length 95th (ft)		226		m72	m0						#514			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1410		802	1589						709			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		12		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.69		0.78	0.51						1.21			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Prospect St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	45.0	23.0
Total Split (%)	33%	17%
Maximum Green (s)	39.0	18.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6772		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6772		1719	3406						3007	
Volume (vph)	0	850	35	590	720	0	0	0	0	45	155	500
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	924	39	628	818	0	0	0	0	62	176	568
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	64	0
Lane Group Flow (vph)	0	957	0	628	818	0	0	0	0	0	742	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		63.0	63.0						29.0	
Effective Green, g (s)		28.0		63.0	63.0						29.0	
Actuated g/C Ratio		0.21		0.47	0.47						0.21	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1405		802	1589						646	
v/s Ratio Prot		c0.14		c0.37	0.24							
v/s Ratio Perm											0.25	
v/c Ratio		0.68		0.78	0.51						1.44dr	
Uniform Delay, d1		49.4		30.3	25.3						53.0	
Progression Factor		1.00		0.19	0.00						1.00	
Incremental Delay, d2		2.7		0.7	0.1						84.3	
Delay (s)		52.1		6.4	0.2						137.3	
Level of Service		D		A	A						F	
Approach Delay (s)		52.1			2.9			0.0			137.3	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	51.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

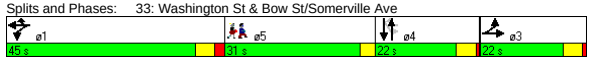
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	340	65	575	490	465	0	0	0	420	355	65	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	474	0	632	538	511	0	0	0	256	638	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	45.0	45.0	45.0	0.0	22.0	0.0	22.0	22.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	37.5%	37.5%	37.5%	0.0%	18.3%	0.0%	18.3%	18.3%	0.0%	26%
Maximum Green (s)	17.0	17.0		39.0	39.0	39.0		17.0		17.0	17.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.15		1.24	1.00	0.48				0.75	0.87		
Control Delay		136.7		133.6	37.8	3.0				55.4	53.9		
Queue Delay		0.0		0.0	0.0	0.6				0.0	0.0		
Total Delay		136.7		133.6	37.8	3.6				55.4	53.9		
Queue Length 50th (ft)		~226		~619	~405	48				164	213		
Queue Length 95th (ft)		#336		m#512	m324	m33				#489	#531		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		413		511	538	1075				342	733		
Starvation Cap Reductn		0		0	0	245				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.15		1.24	1.00	0.62				0.75	0.87		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2750		1533	1613	1371				1408	2722	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2750		1533	1613	1371				1122	2365	
Volume (vph)	35	340	65	575	490	465	0	0	0	420	355	65
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	366	70	632	538	511	0	0	0	447	378	69
RTOR Reduction (vph)	0	0	0	0	0	197	0	0	0	0	6	0
Lane Group Flow (vph)	0	474	0	632	538	314	0	0	0	256	632	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		37.2	37.2	72.8				35.6	35.6	
Effective Green, g (s)		18.0		38.2	38.2	73.8				36.6	36.6	
Actuated g/C Ratio		0.15		0.32	0.32	0.62				0.30	0.30	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		413		488	513	843				342	721	
v/s Ratio Prot		c0.17		c0.41	0.33	0.12						
v/s Ratio Perm						0.11				0.23	c0.27	
v/c Ratio		1.15		1.30	1.05	0.37				0.75	0.88	
Uniform Delay, d1		51.0		40.9	40.9	11.5				37.6	39.6	
Progression Factor		1.00		0.60	0.59	3.25				1.00	1.00	
Incremental Delay, d2		91.2		134.2	27.4	0.0				9.2	11.9	
Delay (s)		142.2		158.9	51.7	37.5				46.8	51.5	
Level of Service		F		F	D	D				D	D	
Approach Delay (s)		142.2			87.7			0.0			50.1	
Approach LOS		F			F			A			D	

Intersection Summary

HCM Average Control Delay	85.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

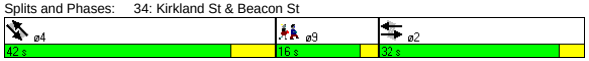
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	215	40	45	320	55	40	500	140	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	393	0	0	467	0	0	756	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	42.0	42.0	0.0	42.0	42.0	0.0	16.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	18%
Maximum Green (s)	28.0	28.0		28.0	28.0		35.0	35.0		35.0	35.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.85			0.86			0.97			0.51		
Control Delay		45.5			43.5			50.3			20.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		45.5			43.5			50.3			20.1		
Queue Length 50th (ft)		153			183			294			101		
Queue Length 95th (ft)		#319			#456			#708			241		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		461			544			780			710		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.85			0.86			0.97			0.51		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 80.4	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1746			1703			1771			1731	
Flt Permitted		0.79			0.92			0.96			0.92	
Satd. Flow (perm)		1387			1571			1702			1603	
Volume (vph)	55	215	40	45	320	55	40	500	140	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	272	51	50	356	61	44	556	156	27	299	33
RTOR Reduction (vph)	0	6	0	0	6	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	387	0	0	461	0	0	747	0	0	355	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		28.3			28.3			35.3			35.3	
Effective Green, g (s)		28.3			28.3			36.3			36.3	
Actuated g/C Ratio		0.34			0.34			0.44			0.44	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		478			541			752			708	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.29			c0.44			0.22	
v/c Ratio		0.81			0.85			0.99			0.50	
Uniform Delay, d1		24.5			25.0			22.8			16.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.8			15.6			31.1			2.5	
Delay (s)		38.3			40.6			53.9			19.0	
Level of Service		D			D			D			B	
Approach Delay (s)		38.3			40.6			53.9			19.0	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	17.6
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

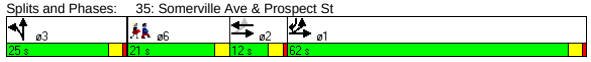
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	260	500	0	0	160	40	150	515	75	0	0	1270	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	818	0	0	225	0	165	648	0	0	0	1427	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	62.0	74.0	0.0	0.0	12.0	0.0	25.0	25.0	0.0	0.0	0.0	62.0	21.0
Total Split (%)	51.7%	61.7%	0.0%	0.0%	10.0%	0.0%	20.8%	20.8%	0.0%	0.0%	0.0%	51.7%	18%
Maximum Green (s)	58.0				8.0		21.0	21.0				58.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.44			0.36		0.68	1.26				1.22	
Control Delay		0.8			41.0		61.3	173.6				138.2	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		0.8			41.0		61.3	173.6				138.2	
Queue Length 50th (ft)		1			68		132	~344				~772	
Queue Length 95th (ft)		m3			#173		#231	#471				#906	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1866			625		244	513				1166	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.44			0.36		0.68	1.26				1.22	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2945		1395	2880				2413
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2202			2945		1395	2880				2413
Volume (vph)	260	500	0	0	160	40	150	515	75	0	0	1270
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	280	538	0	0	180	45	165	566	82	0	0	1427
RTOR Reduction (vph)	0	0	0	0	16	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	818	0	0	209	0	165	639	0	0	0	1427
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		80.4			24.8		21.0	21.0				55.6
Effective Green, g (s)		80.4			24.8		21.0	21.0				55.6
Actuated g/C Ratio		0.67			0.21		0.18	0.18				0.46
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1838			609		244	504				1118
v/s Ratio Prot		0.21			0.07		0.12	c0.22				c0.59
v/s Ratio Perm		c0.09										
v/c Ratio		0.45			0.34		0.68	1.27				1.28
Uniform Delay, d1		9.3			40.6		46.3	49.5				32.2
Progression Factor		0.06			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.3			1.5		7.9	135.5				131.4
Delay (s)		0.8			42.2		54.2	185.0				163.6
Level of Service		A			D		D	F				F
Approach Delay (s)		0.8			42.2			158.5			163.6	
Approach LOS		A			D			F			F	

Intersection Summary			
HCM Average Control Delay	113.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

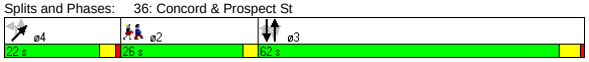
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	210	125	500	365	5	20	365	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	300	0	129	896	0	0	0	461	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		25.0
Total Split (s)	62.0	62.0	0.0	62.0	62.0	0.0	0.0	22.0	22.0	0.0	26.0
Total Split (%)	56.4%	56.4%	0.0%	56.4%	56.4%	0.0%	0.0%	20.0%	20.0%	0.0%	24%
Maximum Green (s)	57.0	57.0		57.0	57.0			18.0	18.0		23.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											12
v/c Ratio		0.85		0.19	0.77				1.04		
Control Delay		34.9		8.8	18.5				89.3		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		34.9		8.8	18.5				89.3		
Queue Length 50th (ft)		67		20	243				~275		
Queue Length 95th (ft)		#360		83	#833				#617		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		365		706	1214				444		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		0.82		0.18	0.74				1.04		

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 83.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1677		1869	1842				1988	
Flt Permitted		0.53		0.58	1.00				1.00	
Satd. Flow (perm)		902		1133	1842				1988	
Volume (vph)	60	0	210	125	500	365	5	20	365	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	233	129	515	376	5	23	415	23
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	271	0	129	896	0	0	0	459	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		51.9		51.9	51.9				18.6	
Effective Green, g (s)		52.9		52.9	52.9				18.6	
Actuated g/C Ratio		0.62		0.62	0.62				0.22	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		555		698	1134				430	
v/s Ratio Prot					c0.49					
v/s Ratio Perm		0.30		0.11					0.23	
v/c Ratio		0.49		0.18	0.79				1.07	
Uniform Delay, d1		9.1		7.2	12.3				33.6	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		0.2		0.0	3.6				62.8	
Delay (s)		9.3		7.2	15.9				96.5	
Level of Service		A		A	B				F	
Approach Delay (s)		9.3			14.8				96.5	
Approach LOS		A			B				F	

Intersection Summary

HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	85.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		

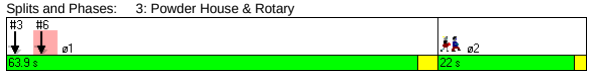
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	550	0	0	1525	495	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	591	0	0	1572	510	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.37			0.94	0.33	
Control Delay		0.7			22.8	0.6	
Queue Delay		0.0			0.2	0.0	
Total Delay		0.7			23.0	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1645	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		13			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.38			0.94	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	550	0	0	1525	495
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	591	0	0	1572	510
RTOR Reduction (vph)	0	68	0	0	0	0
Lane Group Flow (vph)	0	523	0	0	1572	510
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.86	
v/s Ratio Perm		0.32				c0.33
v/c Ratio		0.36			0.97	0.33
Uniform Delay, d1		1.2			5.8	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			16.8	0.6
Delay (s)		1.9			22.6	0.6
Level of Service		A			C	A
Approach Delay (s)	1.9			0.0	17.2	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	137.6%	ICU Level of Service	H
Analysis Period (min)	15		

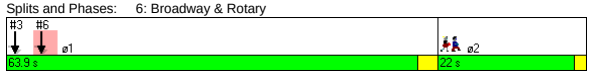
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	565	0	0	1250	825	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	642	0	0	1330	878	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.42			0.79	0.56	
Control Delay		0.8			5.7	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			5.7	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m143	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.42			0.79	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	565	0	0	1250	825
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	642	0	0	1330	878
RTOR Reduction (vph)	0	74	0	0	0	0
Lane Group Flow (vph)	0	568	0	0	1330	878
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.72	
v/s Ratio Perm		0.36				c0.56
v/c Ratio		0.41			0.81	0.56
Uniform Delay, d1		1.3			2.9	0.0
Progression Factor		1.00			0.37	1.00
Incremental Delay, d2		0.9			2.9	0.9
Delay (s)		2.1			3.9	0.9
Level of Service		A			A	A
Approach Delay (s)	2.1			0.0	2.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	655	970	425	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	753	1000	438	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.48	0.57	0.27			
Control Delay		1.1	2.7	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.7	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	440	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.48	0.57	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	655	970	425	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	753	1000	438	0	0
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	0	691	1000	438	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.55			
v/s Ratio Perm		0.44		c0.27		
v/c Ratio		0.48	0.60	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.4	0.4		
Delay (s)		1.9	2.1	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	750	645	960	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	962	665	990	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.59	0.38	0.64			
Control Delay		1.7	1.9	2.3			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.7	1.9	2.3			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	200	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1538			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.61	0.38	0.64			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	750	645	960	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	962	665	990	0	0
RTOR Reduction (vph)	0	79	0	81	0	0
Lane Group Flow (vph)	0	883	665	909	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.58		
v/s Ratio Perm		0.54				
v/c Ratio		0.59	0.39	0.63		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.7	0.7	2.1		
Delay (s)		2.6	1.3	3.1		
Level of Service		A	A	A		
Approach Delay (s)	2.6		2.4			0.0
Approach LOS	A		A			A

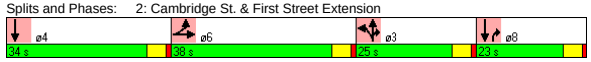
Intersection Summary			
HCM Average Control Delay	2.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	210	55	0	0	0	60	130	100	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	276	0	0	0	0	0	211	111	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.41	0.77						0.73	0.25		0.51			
Control Delay	44.4	57.8						62.1	7.4		1.7			
Queue Delay	0.7	0.0						9.9	0.0		0.4			
Total Delay	45.1	57.8						72.1	7.4		2.1			
Queue Length 50th (ft)	85	173						137	0		11			
Queue Length 95th (ft)	128	237						207	38		m6			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	514						329	579		1955			
Starvation Cap Reductn	0	0						0	0		421			
Spillback Cap Reductn	167	0						88	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.42	0.54						0.88	0.19		0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1788						1806	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1788						1806	1459		3201	
Volume (vph)	135	210	55	0	0	0	60	130	100	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	219	57	0	0	0	67	144	111	0	361	633
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	83	0	215	0
Lane Group Flow (vph)	141	267	0	0	0	0	0	211	28	0	779	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	22.4	22.4						18.3	28.8		64.3	
Effective Green, g (s)	23.4	23.4						19.3	29.8		65.3	
Actuated g/C Ratio	0.19	0.19						0.16	0.25		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	345	349						290	362		1742	
v/s Ratio Prot	0.08	c0.15						c0.12	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.41	0.77						0.73	0.08		0.45	
Uniform Delay, d1	42.2	45.7						47.9	34.6		16.5	
Progression Factor	1.00	1.00						1.00	1.00		0.11	
Incremental Delay, d2	0.8	9.6						8.8	0.1		0.1	
Delay (s)	43.0	55.3						56.6	34.6		2.0	
Level of Service	D	E						E	C		A	
Approach Delay (s)		51.2			0.0			49.1			2.0	
Approach LOS		D			A			D			A	

Intersection Summary

HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

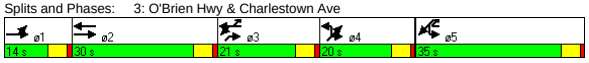
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	170	1320	440	310	835	300	135	430	280	535	915	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	187	1451	484	341	918	330	142	453	295	559	1169	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.39	0.90	0.30	1.54	0.75	0.44	0.66	0.98	0.61	1.42	1.42		
Control Delay	253.2	47.2	0.5	299.5	54.2	3.0	64.8	88.9	38.8	237.4	229.9		
Queue Delay	0.0	666.7	0.0	32.7	492.0	0.5	0.0	0.0	0.5	0.0	0.8		
Total Delay	253.2	713.9	0.5	332.2	546.2	3.5	64.8	88.9	39.3	237.4	230.7		
Queue Length 50th (ft)	~170	343	0	~339	350	27	93	164	157	~563	~591		
Queue Length 95th (ft)	#300	#405	0	m#415	m402	m28	#165	#261	244	#775	#718		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	756	216	463	480	394	824		
Starvation Cap Reductn	0	0	0	10	783	152	0	0	0	0	0		
Spillback Cap Reductn	0	1023	0	0	0	0	0	0	31	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.39	2.48	0.30	1.62	2.09	0.55	0.66	0.98	0.66	1.42	1.42		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	170	1320	440	310	835	300	135	430	280	535	915	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	187	1451	484	341	918	330	142	453	295	594	1017	117
RTOR Reduction (vph)	0	0	0	0	0	198	0	0	17	0	7	0
Lane Group Flow (vph)	187	1451	484	341	918	132	142	453	278	559	1162	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.30		c0.22	0.29	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.30									
v/c Ratio	1.39	0.90	0.30	1.54	0.75	0.24	0.66	0.98	0.60	1.42	1.42	
Uniform Delay, d1	55.0	38.1	0.0	51.5	31.5	23.9	49.4	51.8	35.2	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.63	1.44	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	212.5	7.5	0.5	255.5	1.3	0.1	7.0	35.8	2.1	202.8	197.4	
Delay (s)	267.5	45.6	0.5	328.0	52.6	34.4	56.4	87.6	37.3	247.3	241.9	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		54.9			107.9			66.0			243.6	
Approach LOS		D			F			E			F	

Intersection Summary

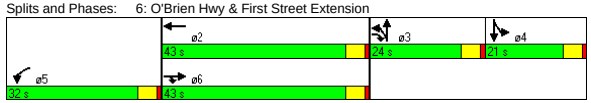
HCM Average Control Delay	121.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1505	160	445	475	75	30	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1672	178	494	611	0	33	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.89	0.19	0.76	0.48		0.11	0.84			0.94	
Control Delay		18.2	3.5	53.5	30.5		18.5	45.6			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	173.1			0.0	
Total Delay		18.2	3.5	53.5	30.5		18.5	218.6			78.1	
Queue Length 50th (ft)		289	26	165	162		14	189			165	
Queue Length 95th (ft)		#517	40	207	226		m25	m#280			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	122			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.89	0.19	0.62	0.48		0.11	1.38			0.94	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: O'Brien Hwy & First Street Extension



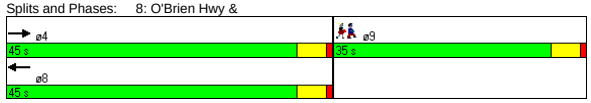
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3467		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3467		1770	1863			3472	
Volume (vph)	0	1505	160	445	475	75	30	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1672	178	494	528	83	33	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1672	152	494	602	0	33	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1277		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.17		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.89	0.17	0.76	0.47		0.11	0.84			0.93	
Uniform Delay, d1		35.7	12.4	46.0	29.0		42.5	48.4			50.9	
Progression Factor		0.30	0.36	1.00	1.00		0.41	0.49			1.00	
Incremental Delay, d2		5.7	0.3	5.0	1.2		0.6	19.9			27.0	
Delay (s)		16.3	4.7	51.0	30.2		18.3	43.8			78.0	
Level of Service		B	A	D	C		B	D			E	
Approach Delay (s)		15.2			39.5			40.9			78.0	
Approach LOS		B			D			D			E	

Intersection Summary					
HCM Average Control Delay	32.3	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	79.2%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1930	0	0	1075	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2144	0	0	1194	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.47			0.37			
Control Delay	4.9			4.5			
Queue Delay	0.0			0.0			
Total Delay	4.9			4.5			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	332			251			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.37			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 39.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1930	0	0	1075	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2144	0	0	1194	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2144	0	0	1194	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	29.9			29.9		
Effective Green, g (s)	30.9			30.9		
Actuated g/C Ratio	0.72			0.72		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3663			2549		
v/s Ratio Prot	c0.42			0.34		
v/s Ratio Perm						
v/c Ratio	0.59			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.2			0.1		
Delay (s)	3.1			2.7		
Level of Service	A			A		
Approach Delay (s)	3.1			2.7	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	42.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	310	0	0	5	0	1620	0	0	990	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	323	0	0	6	0	1670	0	0	1181	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	310	0	0	5	0	1620	0	0	990	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	323	0	0	6	0	1670	0	0	1088	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.77	0.77	0.70	0.77	0.77	0.85	0.85			0.70		
vC, conflicting volume	2220	2851	557	2014	2805	591	1181			1670		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1316	2137	0	1049	2076	347	1040			1090		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	57	100	100	99	100			100		
cM capacity (veh/h)	87	37	753	78	39	546	475			401		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	323	6	557	557	557	725	456
Volume Left	0	0	0	0	0	0	0
Volume Right	323	6	0	0	0	0	93
cSH	753	546	1700	1700	1700	1700	1700
Volume to Capacity	0.43	0.01	0.33	0.33	0.33	0.43	0.27
Queue Length 95th (ft)	48	1	0	0	0	0	0
Control Delay (s)	13.3	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.3	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	57.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1930	1035	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2144	1194	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1930	1035	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2144	1150	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.76				0.87	0.76
vC, conflicting volume	1194				1887	597
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	934				851	144
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	551				259	663

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	715	715	715	767	428	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	663
Volume to Capacity	0.42	0.42	0.42	0.45	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.8
Approach LOS						B

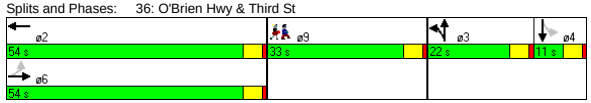
Intersection Summary					
Average Delay		0.1			
Intersection Capacity Utilization		40.6%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2215	655	0	650	15	175	1	35	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	2964	0	0	723	0	116	118	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.29			0.42		0.49	0.46			0.03		
Control Delay		161.7			27.9		54.8	46.0			48.0		
Queue Delay		55.1			0.4		0.0	0.0			0.0		
Total Delay		216.9			28.3		54.8	46.0			48.0		
Queue Length 50th (ft)		~916			203		77	66			1		
Queue Length 95th (ft)		#1103			308		134	123			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2299			1730		235	259			92		
Starvation Cap Reductn		0			508		0	0			0		
Spillback Cap Reductn		200			0		0	1			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.41			0.59		0.49	0.46			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.95			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4911			3527		1569	1628			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4612			3527		1569	1628			1779	
Volume (vph)	5	2215	655	0	650	15	175	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2284	675	0	707	16	194	1	39	1	1	1
RTOR Reduction (vph)	0	41	0	0	1	0	0	14	0	0	1	0
Lane Group Flow (vph)	0	2923	0	0	722	0	116	104	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2106			1611		235	244			33	
v/s Ratio Prot					0.20		c0.07	0.06				
v/s Ratio Perm		c0.63									c0.00	
v/c Ratio		1.39			0.45		0.49	0.42			0.06	
Uniform Delay, d1		32.6			22.3		46.8	46.3			57.9	
Progression Factor		1.00			1.33		1.00	1.00			1.00	
Incremental Delay, d2		177.5			0.9		7.2	5.3			0.8	
Delay (s)		210.1			30.6		54.1	51.6			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		210.1			30.6			52.8			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	167.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1630	160	0	485	0	35
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1904	0	0	533	0	39
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1630	160	0	485	0	35
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1734	170	0	533	0	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.75		0.80	0.75
vC, conflicting volume			1904		2086	663
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1535		1388	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			314		108	814

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	694	694	517	266	266	39
Volume Left	0	0	0	0	0	0
Volume Right	0	0	170	0	0	39
cSH	1700	1700	1700	1700	1700	814
Volume to Capacity	0.41	0.41	0.30	0.16	0.16	0.05
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.6
Approach LOS						A

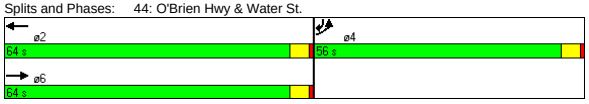
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1790	0	0	420	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1904	0	0	533	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.64			0.26							0.36
Control Delay	49.6	2.5			15.1							2.2
Queue Delay	39.6	1.1			0.0							0.0
Total Delay	89.2	3.7			15.1							2.2
Queue Length 50th (ft)	353	30			51							0
Queue Length 95th (ft)	m277	m30			m139							20
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2962			2028							891
Starvation Cap Reductn	284	749			0							0
Spillback Cap Reductn	0	0			113							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.86			0.28							0.31

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3369							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3369							1627
Volume (vph)	460	1790	0	0	420	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1904	0	0	462	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1904	0	0	525	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2021							542
v/s Ratio Prot	c0.28	c0.39			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.64			0.26							0.17
Uniform Delay, d1	37.3	15.6			11.4							28.2
Progression Factor	1.32	0.14			1.21							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.4	2.3			14.1							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.1			14.1			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary					
HCM Average Control Delay	13.8	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	45.8%	ICU Level of Service		A	
Analysis Period (min)	15				

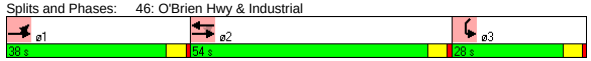
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	175	1955	1305	305	285	140
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2340	1712	0	473	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.87	0.88		0.80	
Control Delay		19.7	37.5		51.4	
Queue Delay		114.1	98.1		160.1	
Total Delay		133.8	135.6		211.4	
Queue Length 50th (ft)		472	377		137	
Queue Length 95th (ft)		m440	439		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1948		656	
Starvation Cap Reductn		816	0		0	
Spillback Cap Reductn		0	542		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.25	1.22		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4596		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3003	4596		3013	
Volume (vph)	175	1955	1305	305	285	140
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	192	2148	1388	324	317	156
RTOR Reduction (vph)	0	0	32	0	54	0
Lane Group Flow (vph)	0	2340	1680	0	419	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1915		535	
v/s Ratio Prot		c0.27	c0.37		c0.14	
v/s Ratio Perm		0.36				
v/c Ratio		0.87	0.88		0.78	
Uniform Delay, d1		12.5	32.2		47.1	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.8	6.1		7.3	
Delay (s)		28.7	38.2		54.5	
Level of Service		C	D		D	
Approach Delay (s)		28.7	38.2		54.5	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	370	155	225	495	5	5	25	30	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	601	0	0	863	0	0	84	0	0	167	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	370	155	225	495	5	5	25	30	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	416	174	268	589	6	7	35	42	154	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	595			590			1749	1740	592	1713	1656	503
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	595			590			1749	1740	592	1713	1656	503
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			72			81	43	92	0	81	84
cM capacity (veh/h)	957			971			38	62	504	28	69	563

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	601	863	85	167	90
Volume Left	11	268	7	154	0
Volume Right	174	6	42	0	90
cSH	957	971	101	30	563
Volume to Capacity	0.01	0.28	0.84	5.64	0.16
Queue Length 95th (ft)	1	28	118	Err	14
Control Delay (s)	0.3	6.1	126.4	Err	12.6
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.1	126.4	6503.8	
Approach LOS			F	F	

Intersection Summary				
Average Delay	932.8			
Intersection Capacity Utilization	92.1%	ICU Level of Service		F
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	45	85	90	430	0	0	1770	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	308	0	98	512	0	0	1806	299
Sign Control		Stop			Stop			Free			Free	

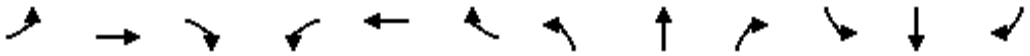
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	45	85	90	430	0	0	1770	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	49	105	98	512	0	0	1806	299
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2643	2514	1806	2514	2813	512	2105			512		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	198490182938		97892182938218866			512133820				512		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	81	0			100		
cM capacity (veh/h)	0	0	0	0	0	552	0			1043		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	308	98	512	1806	299
Volume Left	154	98	0	0	0
Volume Right	105	0	0	0	299
cSH	0	0	1700	1700	1700
Volume to Capacity	2.85736066427766E+304		0.30	1.06	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1604.3		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	122.6%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	90	285	350	0	0	0	0	430	485	185	1710	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	806	0	0	0	0	0	457	516	189	1745	0
Sign Control		Stop			Stop			Free			Free	

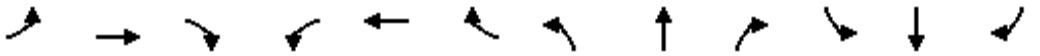
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	285	350	0	0	0	0	430	485	185	1710	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	100	317	389	0	0	0	0	457	516	189	1745	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2580	3096	1745	3127	2580	457	1745			973		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	89889	118918	42910	120677	89889	457	42910			973		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	603	0			700		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	258	547	457	516	189	1745
Volume Left	100	0	0	0	189	0
Volume Right	0	389	0	516	0	0
cSH	0	0	1700	1700	700	1700
Volume to Capacity	Err	Err	0.27	0.30	0.27	1.03
Queue Length 95th (ft)	Err	Err	0	0	27	0
Control Delay (s)	Err	Err	0.0	0.0	12.0	0.0
Lane LOS	F	F			B	
Approach Delay (s)	9999.0		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2170.2			
Intersection Capacity Utilization	122.6%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	445	5	30	0	1	10	40	460	0	5	975	1080
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	522	0	0	22	0	0	562	0	0	1076	1187
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	445	5	30	0	1	10	40	460	0	5	975	1080
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	484	5	33	0	2	20	45	517	0	5	1071	1187
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1710	1689	1071	1724	1689	517	1071			517		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1710	1689	1071	1724	1689	517	1071			517		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	88	100	98	96	93			99		
cM capacity (veh/h)	63	85	266	56	87	562	636			1044		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	522	22	562	1077	1187
Volume Left	484	0	45	5	0
Volume Right	33	20	0	0	1187
cSH	67	376	636	1044	1700
Volume to Capacity	7.84	0.06	0.07	0.01	0.70
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.2	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.2	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1548.8		
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	60	365	890	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	467	1187	0	177	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

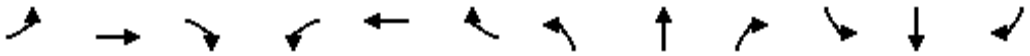
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	60	365	890	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	66	401	978	209	105	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1187				1615	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1227				1747	1100
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				0	66
cM capacity (veh/h)	465				68	215

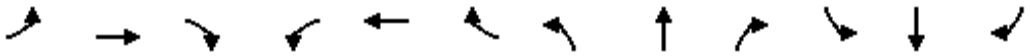
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	467	1187	178
Volume Left	66	0	105
Volume Right	0	209	72
cSH	465	1700	94
Volume to Capacity	0.14	0.70	1.89
Queue Length 95th (ft)	12	0	373
Control Delay (s)	4.2	0.0	514.3
Lane LOS	A		F
Approach Delay (s)	4.2	0.0	514.3
Approach LOS			F

Intersection Summary			
Average Delay	51.0		
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	185	135	375	200	10	45	15	110	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	345	0	0	617	0	0	200	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

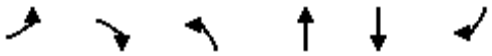
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	185	135	375	200	10	45	15	110	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	191	139	395	211	11	53	18	129	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	345	616	200	29
Volume Left (vph)	15	395	53	7
Volume Right (vph)	139	11	129	7
Hadj (s)	-0.20	0.19	-0.32	-0.10
Departure Headway (s)	5.4	5.4	6.1	6.9
Degree Utilization, x	0.51	0.92	0.34	0.05
Capacity (veh/h)	650	616	559	465
Control Delay (s)	13.9	40.0	12.2	10.3
Approach Delay (s)	13.9	40.0	12.2	10.3
Approach LOS	B	E	B	B

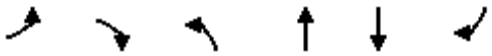
Intersection Summary			
Delay	27.0		
HCM Level of Service	D		
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	170	130	95	420	555	495
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	316	0	0	696	1082	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	170	130	95	420	555	495
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	179	137	128	568	572	510
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1652	827	1082			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1652	827	1082			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	63	80			
cM capacity (veh/h)	86	370	630			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	316	696	1082
Volume Left	179	128	0
Volume Right	137	0	510
cSH	129	630	1700
Volume to Capacity	2.45	0.20	0.64
Queue Length 95th (ft)	692	19	0
Control Delay (s)	731.9	5.3	0.0
Lane LOS	F	A	
Approach Delay (s)	731.9	5.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	112.1		
Intersection Capacity Utilization	114.2%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		846			511			1024		151		
Travel Time (s)		19.2			11.6			23.3		3.4		
Volume (vph)	50	5	305	250	600	60	15	200	5	20	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	391	0	0	989	0	0	238	0	87	0	0
Sign Control		Stop			Free			Free		Stop		

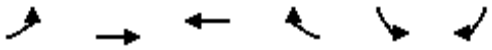
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	5	305	250	600	60	15	200	5	20	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	5	332	272	652	65	16	217	5	22	0	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					511			1024				
pX, platoon unblocked	0.60	0.60					0.60			0.60	0.60	0.60
vC, conflicting volume	1546	1514	220	223			717			1815	1484	685
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1906	1852	220	223			531			2352	1802	477
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	84	59	79			97			0	100	82
cM capacity (veh/h)	21	35	815	1317			625			7	37	354

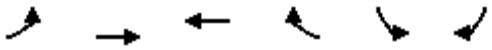
Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	391	989	239	87
Volume Left	54	272	16	22
Volume Right	332	65	5	65
cSH	126	1317	625	25
Volume to Capacity	3.10	0.21	0.03	3.52
Queue Length 95th (ft)	Err	19	2	Err
Control Delay (s)	Err	4.5	1.0	Err
Lane LOS	F	A	A	F
Approach Delay (s)	Err	4.5	1.0	Err
Approach LOS	F			F

Intersection Summary			
Average Delay	2805.0		
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		647	1331		826	
Travel Time (s)		14.7	30.3		18.8	
Volume (vph)	35	1250	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1397	695	0	202	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	1250	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	1359	652	43	120	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		647				
pX, platoon unblocked					0.49	
vC, conflicting volume	696				2109	674
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	696				3264	674
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				0	82
cM capacity (veh/h)	900				5	455

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1397	696	201
Volume Left	38	0	120
Volume Right	0	43	82
cSH	900	1700	8
Volume to Capacity	0.04	0.41	25.45
Queue Length 95th (ft)	3	0	Err
Control Delay (s)	2.1	0.0	Err
Lane LOS	A		F
Approach Delay (s)	2.1	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	878.0		
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 1 AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	299	1.0	0.397	11.6	LOS B	86	0.70	0.79	23.8
8T	T	655	1.1	0.870	17.5	LOS B	455	1.00	1.22	21.1
Approach		**955**	**1.0**	**0.870**	**15.7**	**LOS B**	**455**	**0.91**	**1.09**	**21.9**
Mystic Valley Parkway										
4T	T	967	0.0	0.905	14.7	LOS B	584	1.00	1.11	22.2
4R	R	511	0.0	0.605	8.6	LOS A	173	0.77	0.79	24.8
Approach		**1478**	**0.0**	**0.904**	**12.6**	**LOS B**	**584**	**0.92**	**1.00**	**23.0**
Mystic Valley Parkway										
5L	L	434	0.0	1.223	147.4	LOS F	1064	1.00	2.57	6.9
2R	R	490	0.0	1.222	140.2	LOS F	1167	1.00	2.69	6.9
Approach		**924**	**0.0**	**1.224**	**143.6**	**LOS F**	**1167**	**1.00**	**2.63**	**6.9**
All Vehicles		**3357**	**0.3**	**1.223**	**49.5**	**LOS D**	**1167**	**0.94**	**1.47**	**13.8**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

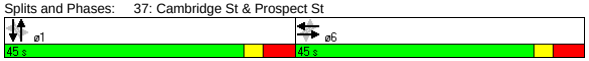
Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 1\Mystic&Alewife Alt1.aap
Processed Oct 06, 2008 03:06:22PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	345	35	70	505	85	35	280	70
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	462	0	0	725	0	0	423	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.99			0.69			1.02			0.62	
Control Delay		65.6			28.1			56.3			25.7	
Queue Delay		0.0			0.0			11.5			0.0	
Total Delay		65.6			28.1			67.9			25.7	
Queue Length 50th (ft)		278			210			~453			185	
Queue Length 95th (ft)		#455			323			m#656			285	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		511			674			709			686	
Starvation Cap Reductn		0			0			23			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.99			0.69			1.06			0.62	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1793			1811			1938			1907	
Flt Permitted		0.68			0.90			0.89			0.87	
Satd. Flow (perm)		1242			1639			1724			1669	
Volume (vph)	125	285	25	45	345	35	70	505	85	35	280	70
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	375	38	77	555	93	38	308	77
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	462	0	0	725	0	0	423	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		511			674			709			686	
v/s Ratio Prot												
v/s Ratio Perm		c0.41			0.28			c0.42			0.25	
v/c Ratio		0.99			0.69			1.02			0.62	
Uniform Delay, d1		26.3			21.7			26.5			20.9	
Progression Factor		1.00			1.00			0.83			1.00	
Incremental Delay, d2		37.0			5.6			32.0			4.1	
Delay (s)		63.3			27.3			53.9			25.0	
Level of Service		E			C			D			C	
Approach Delay (s)		63.3			27.3			53.9			25.0	
Approach LOS		E			C			D			C	

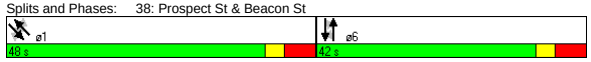
Intersection Summary					
HCM Average Control Delay	44.6	HCM Level of Service		D	
HCM Volume to Capacity ratio	1.01				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	111.6%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	135	580	40	35	295	20	45	275	70	20	345	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	812	0	0	384	0	0	439	0	0	445	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	28.0	28.0		28.0	28.0		31.0	31.0		31.0	31.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.82			0.69			0.60			0.56	
Control Delay		33.6			43.4			23.1			21.9	
Queue Delay		2.3			0.0			2.7			1.8	
Total Delay		35.9			43.4			25.8			23.7	
Queue Length 50th (ft)		215			225			183			181	
Queue Length 95th (ft)		#297			m309			276			275	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		990			556			735			795	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		84			0			187			203	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.90			0.69			0.80			0.75	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3495			1851			1814			1848	
Flt Permitted		0.74			0.79			0.91			0.96	
Satd. Flow (perm)		2622			1470			1652			1788	
Volume (vph)	135	580	40	35	295	20	45	275	70	20	345	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	145	624	43	38	324	22	51	309	79	22	379	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	812	0	0	384	0	0	439	0	0	445	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		991			555			734			795	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.26			c0.27			0.25	
v/c Ratio		0.82			0.69			0.60			0.56	
Uniform Delay, d1		25.2			23.6			18.9			18.5	
Progression Factor		1.00			1.56			1.00			1.00	
Incremental Delay, d2		7.5			5.3			3.6			2.8	
Delay (s)		32.8			42.1			22.5			21.3	
Level of Service		C			D			C			C	
Approach Delay (s)		32.8			42.1			22.5			21.3	
Approach LOS		C			D			C			C	

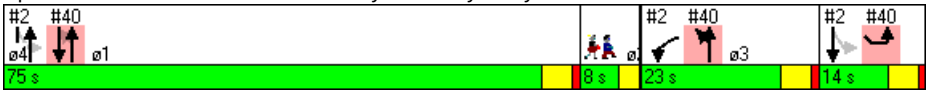
Intersection Summary					
HCM Average Control Delay	29.9	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.70				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	95.2%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	175	105	1000	35	70	1115		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	363	0	1150	0	0	1274		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	23.0	0.0	75.0	0.0	89.0	89.0	8.0	14.0
Total Split (%)	19.2%	0.0%	62.5%	0.0%	74.2%	74.2%	7%	12%
Maximum Green (s)	18.0		70.0				5.0	9.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.88		0.54			0.70		
Control Delay	66.9		19.7			1.3		
Queue Delay	0.2		0.1			25.5		
Total Delay	67.0		19.8			26.9		
Queue Length 50th (ft)	256		443			27		
Queue Length 95th (ft)	#400		m353			m23		
Internal Link Dist (ft)	821		788			49		
Turn Bay Length (ft)								
Base Capacity (vph)	411		2139			1802		
Starvation Cap Reductn	0		0			578		
Spillback Cap Reductn	1		249			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.89		0.61			1.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	363	1150	1274
v/c Ratio	0.88	0.54	0.70
Control Delay	66.9	19.7	1.3
Queue Delay	0.2	0.1	25.5
Total Delay	67.0	19.8	26.9
Queue Length 50th (ft)	256	443	27
Queue Length 95th (ft)	#400	m353	m23
Internal Link Dist (ft)	821	788	49
Turn Bay Length (ft)			
Base Capacity (vph)	411	2139	1802
Starvation Cap Reductn	0	0	578
Spillback Cap Reductn	1	249	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.89	0.61	1.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1866		3592			3359
Flt Permitted	0.97		1.00			0.77
Satd. Flow (perm)	1866		3592			2581
Volume (vph)	175	105	1000	35	70	1115
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	227	136	1111	39	75	1199
RTOR Reduction (vph)	17	0	2	0	0	0
Lane Group Flow (vph)	346	0	1148	0	0	1274
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	24.4		68.0			81.6
Effective Green, g (s)	25.4		69.0			82.6
Actuated g/C Ratio	0.21		0.57			0.69
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	395		2065			1777
v/s Ratio Prot	c0.19		0.32			
v/s Ratio Perm						c0.49
v/c Ratio	0.88		0.56			0.72
Uniform Delay, d1	45.8		15.9			11.5
Progression Factor	1.00		1.34			0.11
Incremental Delay, d2	19.6		0.1			0.1
Delay (s)	65.4		21.4			1.4
Level of Service	E		C			A
Approach Delay (s)	65.4		21.4			1.4
Approach LOS	E		C			A

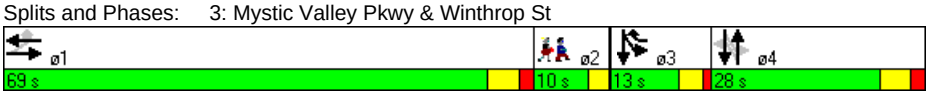
Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1075	5	0	1110	445	20	430	170	425	520	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1191	0	0	1181	473	0	755	0	0	1157	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	69.0	69.0	0.0	0.0	69.0	13.0	28.0	28.0	0.0	13.0	41.0	0.0	10.0
Total Split (%)	57.5%	57.5%	0.0%	0.0%	57.5%	10.8%	23.3%	23.3%	0.0%	10.8%	34.2%	0.0%	8%
Maximum Green (s)	63.0	63.0			63.0	9.0	22.0	22.0		9.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.65			1.17	0.39		1.64			1.61dl		
Control Delay		319.1			113.5	3.4		327.5			173.7		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		319.1			113.5	3.4		327.5			173.7		
Queue Length 50th (ft)		~1376			~1087	40		~435			~395		
Queue Length 95th (ft)		#1644			#1346	76		#493			#795		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		720			1013	1216		461			892		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.65			1.17	0.39		1.64			1.30		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1191	1181	473	755	1157
v/c Ratio	1.65	1.17	0.39	1.64	1.61dl
Control Delay	319.1	113.5	3.4	327.5	173.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	319.1	113.5	3.4	327.5	173.7
Queue Length 50th (ft)	~1376	~1087	40	~435	~395
Queue Length 95th (ft)	#1644	#1346	76	#493	#795
Internal Link Dist (ft)	1176	937		552	745
Turn Bay Length (ft)					
Base Capacity (vph)	720	1013	1216	461	892
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.65	1.17	0.39	1.64	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3422			3508	
Flt Permitted		0.66			1.00	1.00		0.69			0.61	
Satd. Flow (perm)		1344			1900	1615		2380			2199	
Volume (vph)	5	1075	5	0	1110	445	20	430	170	425	520	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1181	5	0	1181	473	24	524	207	494	605	58
RTOR Reduction (vph)	0	0	0	0	0	100	0	32	0	0	3	0
Lane Group Flow (vph)	0	1191	0	0	1181	373	0	723	0	0	1154	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		60.6			60.6	77.6		22.0			39.0	
Effective Green, g (s)		61.6			61.6	77.6		23.0			39.0	
Actuated g/C Ratio		0.51			0.51	0.65		0.19			0.32	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		690			975	1044		456			889	
v/s Ratio Prot					0.62	0.05					c0.17	
v/s Ratio Perm		c0.89				0.18		c0.30			0.25	
v/c Ratio		1.73			1.21	0.36		1.58			1.61dl	
Uniform Delay, d1		29.2			29.2	9.7		48.5			40.5	
Progression Factor		0.60			1.00	1.00		1.00			1.00	
Incremental Delay, d2		330.9			104.7	0.1		273.5			142.6	
Delay (s)		348.4			133.9	9.8		322.0			183.1	
Level of Service		F			F	A		F			F	
Approach Delay (s)		348.4			98.4			322.0			183.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	217.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		

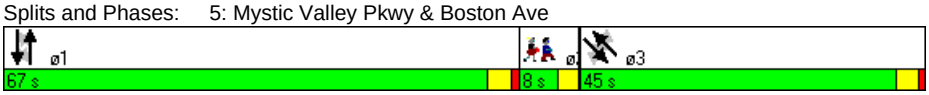
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	85	920	150	45	1165	80	55	240	35	165	335	60	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1241	0	0	1357	0	0	418	0	0	718	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	67.0	67.0	0.0	67.0	67.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	8.0
Total Split (%)	55.8%	55.8%	0.0%	55.8%	55.8%	0.0%	37.5%	37.5%	0.0%	37.5%	37.5%	0.0%	7%
Maximum Green (s)	63.0	63.0		63.0	63.0		41.0	41.0		41.0	41.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.15			0.95			0.71			1.53		
Control Delay		104.8			41.7			38.7			276.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		104.8			41.7			38.7			276.7		
Queue Length 50th (ft)		~591			570			259			~770		
Queue Length 95th (ft)		#730			#687			351			#884		
Internal Link Dist (ft)		593			788			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1083			1426			590			470		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.15			0.95			0.71			1.53		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	1241	1357	418	718
v/c Ratio	1.15	0.95	0.71	1.53
Control Delay	104.8	41.7	38.7	276.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	104.8	41.7	38.7	276.7
Queue Length 50th (ft)	~591	570	259	~770
Queue Length 95th (ft)	#730	#687	351	#884
Internal Link Dist (ft)	593	788	2598	1265
Turn Bay Length (ft)				
Base Capacity (vph)	1083	1426	590	470
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.15	0.95	0.71	1.53

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.99			0.99	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3527			3570			1924			1902	
Flt Permitted		0.57			0.74			0.78			0.65	
Satd. Flow (perm)		2005			2651			1511			1251	
Volume (vph)	85	920	150	45	1165	80	55	240	35	165	335	60
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	91	989	161	47	1226	84	70	304	44	212	429	77
RTOR Reduction (vph)	0	10	0	0	4	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	1231	0	0	1353	0	0	415	0	0	715	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		60.6			60.6			47.4			47.4	
Effective Green, g (s)		60.6			60.6			47.4			47.4	
Actuated g/C Ratio		0.50			0.50			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1013			1339			597			494	
v/s Ratio Prot												
v/s Ratio Perm		c0.61			0.51			0.27			c0.57	
v/c Ratio		1.21			1.01			0.70			1.45	
Uniform Delay, d1		29.7			29.7			30.3			36.3	
Progression Factor		1.00			1.13			1.00			1.00	
Incremental Delay, d2		105.8			22.6			3.8			212.5	
Delay (s)		135.5			56.1			34.1			248.8	
Level of Service		F			E			C			F	
Approach Delay (s)		135.5			56.1			34.1			248.8	
Approach LOS		F			E			C			F	

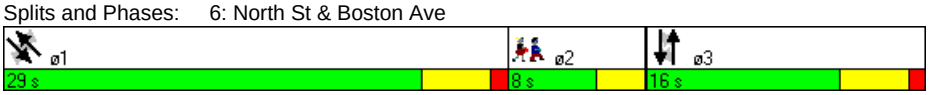
Intersection Summary			
HCM Average Control Delay	117.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	130.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	20	5	20	35	55	25	10	370	40	55	450	20	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	67	0	0	146	0	0	494	0	0	542	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.17			0.34			0.52			0.60		
Control Delay		15.8			17.7			10.0			11.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		15.8			17.7			10.0			11.6		
Queue Length 50th (ft)		13			30			67			78		
Queue Length 95th (ft)		31			70			167			219		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		390			425			953			903		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.17			0.34			0.52			0.60		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.6	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	67	146	494	542
v/c Ratio	0.17	0.34	0.52	0.60
Control Delay	15.8	17.7	10.0	11.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.8	17.7	10.0	11.6
Queue Length 50th (ft)	13	30	67	78
Queue Length 95th (ft)	31	70	167	219
Internal Link Dist (ft)	911	582	1265	1376
Turn Bay Length (ft)				
Base Capacity (vph)	390	425	953	903
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.34	0.52	0.60

Intersection Summary

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.97			0.99			0.99	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1746			1816			1793			1817	
Flt Permitted		0.84			0.89			0.99			0.92	
Satd. Flow (perm)		1491			1649			1769			1675	
Volume (vph)	20	5	20	35	55	25	10	370	40	55	450	20
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	30	7	30	44	70	32	12	435	47	57	464	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	67	0	0	146	0	0	494	0	0	542	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.0			11.0			24.1			24.1	
Effective Green, g (s)		12.0			12.0			25.1			25.1	
Actuated g/C Ratio		0.24			0.24			0.51			0.51	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		365			404			906			858	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.09			0.28			c0.32	
v/c Ratio		0.18			0.36			0.55			0.63	
Uniform Delay, d1		14.6			15.3			8.1			8.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			2.5			2.4			3.5	
Delay (s)		15.7			17.8			10.4			12.1	
Level of Service		B			B			B			B	
Approach Delay (s)		15.7			17.8			10.4			12.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

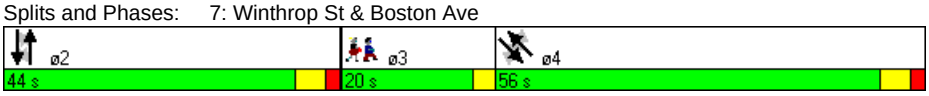
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	80	110	140	35	410	60	50	370	150	200	355	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	359	0	0	588	0	0	627	0	0	623	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		20.0
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	56.0	56.0	0.0	56.0	56.0	0.0	20.0
Total Split (%)	36.7%	36.7%	0.0%	36.7%	36.7%	0.0%	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	17%
Maximum Green (s)	37.9	37.9		37.9	37.9		50.0	50.0		50.0	50.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.09			0.86			0.82			1.42		
Control Delay		109.5			47.8			36.6			229.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		109.5			47.8			36.6			229.7		
Queue Length 50th (ft)		~232			328			307			~518		
Queue Length 95th (ft)		#531			#626			#686			#915		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		330			682			767			438		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.09			0.86			0.82			1.42		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	359	588	627	623
v/c Ratio	1.09	0.86	0.82	1.42
Control Delay	109.5	47.8	36.6	229.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	109.5	47.8	36.6	229.7
Queue Length 50th (ft)	~232	328	307	~518
Queue Length 95th (ft)	#531	#626	#686	#915
Internal Link Dist (ft)	1216	2277	1376	2136
Turn Bay Length (ft)				
Base Capacity (vph)	330	682	767	438
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.09	0.86	0.82	1.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1752			1987			1789			1819	
Flt Permitted		0.58			0.95			0.90			0.53	
Satd. Flow (perm)		1025			1894			1624			987	
Volume (vph)	80	110	140	35	410	60	50	370	150	200	355	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	87	120	152	41	477	70	55	407	165	213	378	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	359	0	0	588	0	0	627	0	0	623	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		38.2			38.2			50.4			50.4	
Effective Green, g (s)		39.3			39.3			51.4			51.4	
Actuated g/C Ratio		0.36			0.36			0.47			0.47	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		367			678			760			462	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.31			0.39			c0.63	
v/c Ratio		0.98			0.87			0.82			1.35	
Uniform Delay, d1		34.8			32.8			25.3			29.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		40.6			11.0			9.9			170.7	
Delay (s)		75.4			43.8			35.2			199.9	
Level of Service		E			D			D			F	
Approach Delay (s)		75.4			43.8			35.2			199.9	
Approach LOS		E			D			D			F	

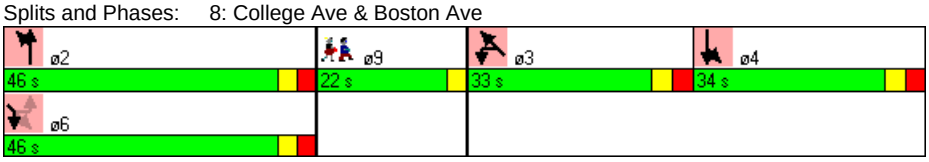
Intersection Summary			
HCM Average Control Delay	90.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	155	235	1	30	215	125	110	195	125	10	320	55	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	167	256	0	0	406	0	0	343	140	0	433	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	46.0	46.0	0.0	34.0	34.0	0.0	46.0	46.0	46.0	33.0	33.0	0.0	22.0
Total Split (%)	34.1%	34.1%	0.0%	25.2%	25.2%	0.0%	34.1%	34.1%	34.1%	24.4%	24.4%	0.0%	16%
Maximum Green (s)	40.0	40.0		28.0	28.0		40.0	40.0	40.0	27.0	27.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.28	0.42			0.90			0.94	0.24		0.98		
Control Delay	33.9	36.1			68.6			75.8	11.1		84.9		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	33.9	36.1			68.6			75.8	11.1		84.9		
Queue Length 50th (ft)	86	138			271			232	15		304		
Queue Length 95th (ft)	179	269			#567			#513	71		#627		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	586	616			451			364	579		443		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.28	0.42			0.90			0.94	0.24		0.98		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Lane Group	NBL	NBT	SBT	SET	SER	NWT
Lane Group Flow (vph)	167	256	406	343	140	433
v/c Ratio	0.28	0.42	0.90	0.94	0.24	0.98
Control Delay	33.9	36.1	68.6	75.8	11.1	84.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	36.1	68.6	75.8	11.1	84.9
Queue Length 50th (ft)	86	138	271	232	15	304
Queue Length 95th (ft)	179	269	#567	#513	71	#627
Internal Link Dist (ft)		950	1718	2136		1658
Turn Bay Length (ft)						
Base Capacity (vph)	586	616	451	364	579	443
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.42	0.90	0.94	0.24	0.98

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.95			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1889			1830	1531		1960	
Flt Permitted	0.95	1.00			1.00			0.61	1.00		1.00	
Satd. Flow (perm)	1770	1862			1889			1138	1531		1960	
Volume (vph)	155	235	1	30	215	125	110	195	125	10	320	55
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	167	255	1	33	236	137	124	219	140	11	360	62
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	73	0	5	0
Lane Group Flow (vph)	167	256	0	0	393	0	0	343	67	0	428	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	40.3	40.3			28.2			40.3	40.3		27.2	
Effective Green, g (s)	40.3	40.3			28.2			40.3	40.3		27.2	
Actuated g/C Ratio	0.33	0.33			0.23			0.33	0.33		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	577	607			431			371	499		431	
v/s Ratio Prot	0.09	0.14			c0.21				0.04		c0.22	
v/s Ratio Perm								c0.30				
v/c Ratio	0.29	0.42			0.91			0.92	0.13		0.99	
Uniform Delay, d1	31.0	32.5			46.5			40.2	29.4		48.1	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.5			24.3			28.3	0.1		41.4	
Delay (s)	31.3	33.0			70.8			68.5	29.5		89.6	
Level of Service	C	C			E			E	C		F	
Approach Delay (s)		32.3			70.8			57.2			89.6	
Approach LOS		C			E			E			F	

Intersection Summary			
HCM Average Control Delay	62.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		

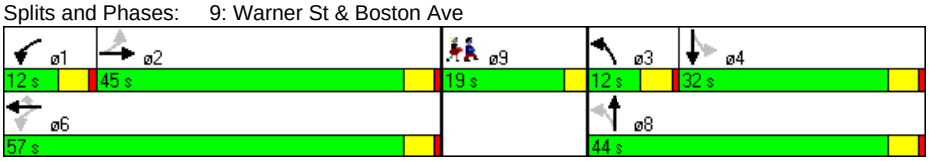
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1441			1738		
Travel Time (s)		11.7			40.8			32.8			39.5		
Volume (vph)	15	490	10	140	395	80	20	325	35	100	170	5	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	585	0	0	637	95	0	432	0	0	320	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	45.0	45.0	0.0	12.0	57.0	57.0	12.0	44.0	0.0	32.0	32.0	0.0	19.0
Total Split (%)	37.5%	37.5%	0.0%	10.0%	47.5%	47.5%	10.0%	36.7%	0.0%	26.7%	26.7%	0.0%	16%
Maximum Green (s)	40.0	40.0		7.0	52.0	52.0	7.0	39.0		27.0	27.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.57			1.50	0.12		0.69			0.78		
Control Delay		18.5			257.6	4.3		32.4			44.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		18.5			257.6	4.3		32.4			44.8		
Queue Length 50th (ft)		180			~487	2		210			163		
Queue Length 95th (ft)		492			#902	29		385			313		
Internal Link Dist (ft)		435			1715			1361			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1019			426	795		749			411		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.57			1.50	0.12		0.58			0.78		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 95.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	585	637	95	432	320
v/c Ratio	0.57	1.50	0.12	0.69	0.78
Control Delay	18.5	257.6	4.3	32.4	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	257.6	4.3	32.4	44.8
Queue Length 50th (ft)	180	~487	2	210	163
Queue Length 95th (ft)	492	#902	29	385	313
Internal Link Dist (ft)	435	1715		1361	1658
Turn Bay Length (ft)					
Base Capacity (vph)	1019	426	795	749	411
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	1.50	0.12	0.58	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1996			1986	
Flt Permitted		0.98			0.67	1.00		0.97			0.50	
Satd. Flow (perm)		1937			1257	1340		1949			1016	
Volume (vph)	15	490	10	140	395	80	20	325	35	100	170	5
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	17	557	11	167	470	95	23	369	40	116	198	6
RTOR Reduction (vph)	0	0	0	0	0	40	0	3	0	0	0	0
Lane Group Flow (vph)	0	585	0	0	637	55	0	429	0	0	320	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		52.7			52.7	52.7		29.3			29.3	
Effective Green, g (s)		53.7			53.7	53.7		30.3			30.3	
Actuated g/C Ratio		0.55			0.55	0.55		0.31			0.31	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1067			692	738		606			316	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.51	0.04		0.22			c0.31	
v/c Ratio		0.55			0.92	0.08		0.71			1.01	
Uniform Delay, d1		14.1			20.0	10.3		29.7			33.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.3			17.4	0.0		3.1			53.9	
Delay (s)		14.4			37.3	10.3		32.8			87.5	
Level of Service		B			D	B		C			F	
Approach Delay (s)		14.4			33.8			32.8			87.5	
Approach LOS		B			C			C			F	

Intersection Summary				
HCM Average Control Delay	36.4	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	97.5	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	104.2%	ICU Level of Service	G	
Analysis Period (min)	15			

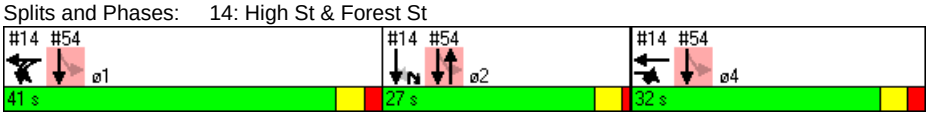
c Critical Lane Group

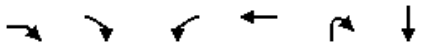
Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	360	140	5	870	690	220	215	80	200	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	391	152	0	951	989	0	234	0	342	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Detector Phases	4	4	1	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	32.0	32.0	41.0	41.0	73.0	0.0	27.0	27.0	27.0	0.0
Total Split (%)	32.0%	32.0%	41.0%	41.0%	73.0%	0.0%	27.0%	27.0%	27.0%	0.0%
Maximum Green (s)	27.0	27.0	36.0	36.0			23.0	23.0	23.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.91	0.34		0.77	0.80		0.26		0.77	
Control Delay	62.8	8.1		33.1	17.0		1.2		47.6	
Queue Delay	0.0	0.1		38.4	0.0		0.0		0.0	
Total Delay	62.8	8.1		71.5	17.0		1.2		47.6	
Queue Length 50th (ft)	242	4		272	380		7		201	
Queue Length 95th (ft)	#418	52		349	583		15		#329	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	429	444		1242	1238		897		451	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	15		355	0		0		0	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.91	0.35		1.07	0.80		0.26		0.76	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 99.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St





Lane Group	EBR	EBR2	WBL	WBT	NBR2	SBT
Lane Group Flow (vph)	391	152	951	989	234	342
v/c Ratio	0.91	0.34	0.77	0.80	0.26	0.77
Control Delay	62.8	8.1	33.1	17.0	1.2	47.6
Queue Delay	0.0	0.1	38.4	0.0	0.0	0.0
Total Delay	62.8	8.1	71.5	17.0	1.2	47.6
Queue Length 50th (ft)	242	4	272	380	7	201
Queue Length 95th (ft)	#418	52	349	583	15	#329
Internal Link Dist (ft)				649		1362
Turn Bay Length (ft)						
Base Capacity (vph)	429	444	1242	1238	897	451
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	15	355	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.35	1.07	0.80	0.26	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1933	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1933	
Volume (vph)	360	140	5	870	690	220	215	80	200	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	152	5	946	750	239	234	87	217	38
RTOR Reduction (vph)	0	105	0	1	11	0	181	0	5	0
Lane Group Flow (vph)	391	47	0	950	978	0	53	0	337	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	27.0	27.0		36.0	68.0		22.6		22.6	
Effective Green, g (s)	27.0	27.0		36.0	68.0		22.6		22.6	
Actuated g/C Ratio	0.27	0.27		0.36	0.68		0.23		0.23	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0		3.0	
Lane Grp Cap (vph)	429	339		1241	1226		366		439	
v/s Ratio Prot	c0.25	0.04		0.28	c0.54		0.03			
v/s Ratio Perm									0.17	
v/c Ratio	0.91	0.14		0.77	0.80		0.15		0.77	
Uniform Delay, d1	35.1	27.5		28.1	11.0		30.8		36.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	23.3	0.2		2.9	3.7		0.2		7.9	
Delay (s)	58.5	27.7		31.0	14.7		30.9		43.9	
Level of Service	E	C		C	B		C		D	
Approach Delay (s)					22.7				43.9	
Approach LOS					C				D	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

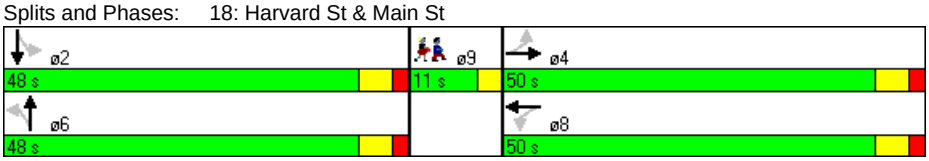
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	100	505	65	85	455	35	50	375	75	70	450	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	712	0	0	625	0	0	527	0	0	727	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.29			1.15			0.93			1.27		
Control Delay		170.9			114.3			52.6			161.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		170.9			114.3			52.6			161.1		
Queue Length 50th (ft)		~562			~453			299			~567		
Queue Length 95th (ft)		#897			#766			#597			#876		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		552			545			568			574		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.29			1.15			0.93			1.27		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	712	625	527	727
v/c Ratio	1.29	1.15	0.93	1.27
Control Delay	170.9	114.3	52.6	161.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	170.9	114.3	52.6	161.1
Queue Length 50th (ft)	~562	~453	299	~567
Queue Length 95th (ft)	#897	#766	#597	#876
Internal Link Dist (ft)	1715	1303	1231	2650
Turn Bay Length (ft)				
Base Capacity (vph)	552	545	568	574
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.29	1.15	0.93	1.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1659			1667			1634			1625	
Flt Permitted		0.76			0.74			0.83			0.84	
Satd. Flow (perm)		1264			1250			1363			1374	
Volume (vph)	100	505	65	85	455	35	50	375	75	70	450	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	106	537	69	92	495	38	53	395	79	80	511	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	712	0	0	625	0	0	527	0	0	727	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		555			549			572			577	
v/s Ratio Prot												
v/s Ratio Perm		c0.56			0.50			0.39			c0.53	
v/c Ratio		1.28			1.14			0.92			1.26	
Uniform Delay, d1		28.8			28.8			28.2			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		140.6			82.6			20.1			130.5	
Delay (s)		169.4			111.4			48.3			160.3	
Level of Service		F			F			D			F	
Approach Delay (s)		169.4			111.4			48.3			160.3	
Approach LOS		F			F			D			F	

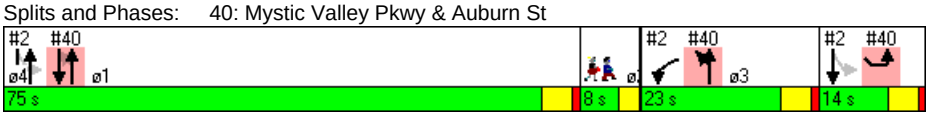
Intersection Summary			
HCM Average Control Delay	128.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	30	1075	1145	35	10	40	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	32	1156	1269	0	70	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	23.0	98.0	75.0	0.0	14.0	0.0	8.0
Total Split (%)	19.2%	81.7%	62.5%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	18.0		70.0		9.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.07	0.73	1.06		0.36		
Control Delay	6.1	13.9	37.8		23.5		
Queue Delay	1.9	2.4	0.0		0.2		
Total Delay	8.0	16.2	37.8		23.7		
Queue Length 50th (ft)	0	382	~1113		10		
Queue Length 95th (ft)	m7	m418	m58		35		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	445	1583	1202		198		
Starvation Cap Reductn	335	289	0		0		
Spillback Cap Reductn	0	0	0		8		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.29	0.89	1.06		0.37		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 55 (46%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Lane Group	NBL	NBT	SBT	SEL
Lane Group Flow (vph)	32	1156	1269	70
v/c Ratio	0.07	0.73	1.06	0.36
Control Delay	6.1	13.9	37.8	23.5
Queue Delay	1.9	2.4	0.0	0.2
Total Delay	8.0	16.2	37.8	23.7
Queue Length 50th (ft)	0	382	~1113	10
Queue Length 95th (ft)	m7	m418	m58	35
Internal Link Dist (ft)		49	1078	208
Turn Bay Length (ft)				
Base Capacity (vph)	445	1583	1202	198
Starvation Cap Reductn	335	289	0	0
Spillback Cap Reductn	0	0	0	8
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.89	1.06	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2018		1755	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	110	1900	2018		1755	
Volume (vph)	30	1075	1145	35	10	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	32	1156	1231	38	14	56
RTOR Reduction (vph)	0	0	1	0	52	0
Lane Group Flow (vph)	32	1156	1268	0	18	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	92.4	92.4	68.0		8.6	
Effective Green, g (s)	94.4	94.4	69.0		9.6	
Actuated g/C Ratio	0.79	0.79	0.57		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	445	1495	1160		140	
v/s Ratio Prot	0.02	c0.61	c0.63		c0.01	
v/s Ratio Perm	0.04					
v/c Ratio	0.07	0.77	1.09		0.13	
Uniform Delay, d1	38.0	7.0	25.5		51.3	
Progression Factor	1.76	2.33	0.26		1.00	
Incremental Delay, d2	0.1	2.2	43.5		0.6	
Delay (s)	66.8	18.5	50.2		51.9	
Level of Service	E	B	D		D	
Approach Delay (s)		19.8	50.2		51.9	
Approach LOS		B	D		D	

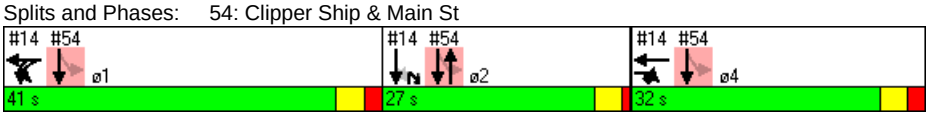
Intersection Summary			
HCM Average Control Delay	35.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	215	950	95	1115		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	247	1092	0	1391		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	27.0	0.0	100.0	100.0	41.0	32.0
Total Split (%)	0.0%	0.0%	27.0%	0.0%	100.0%	100.0%	41%	32%
Maximum Green (s)			23.0				36.0	27.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.59	0.69		0.62		
Control Delay			40.4	2.5		7.7		
Queue Delay			0.4	0.0		0.0		
Total Delay			40.8	2.5		7.7		
Queue Length 50th (ft)			140	0		178		
Queue Length 95th (ft)			213	0		158		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			430	1583		2226		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			25	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.61	0.69		0.62		

Intersection Summary

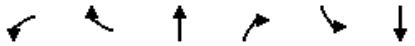
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 99.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 54: Clipper Ship & Main St



Lane Group	NBT	NBR	SBT
Lane Group Flow (vph)	247	1092	1391
v/c Ratio	0.59	0.69	0.62
Control Delay	40.4	2.5	7.7
Queue Delay	0.4	0.0	0.0
Total Delay	40.8	2.5	7.7
Queue Length 50th (ft)	140	0	178
Queue Length 95th (ft)	213	0	158
Internal Link Dist (ft)	240		1
Turn Bay Length (ft)			
Base Capacity (vph)	430	1583	2226
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	25	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.61	0.69	0.62

Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3186
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2237
Volume (vph)	0	0	215	950	95	1115
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	247	1092	109	1282
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	247	1092	0	1391
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			22.6	99.6		99.6
Effective Green, g (s)			22.6	99.6		99.6
Actuated g/C Ratio			0.23	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			423	1583		2237
v/s Ratio Prot			0.13			
v/s Ratio Perm				c0.69		0.62
v/c Ratio			0.58	0.69		0.62
Uniform Delay, d1			34.3	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			2.1	2.5		0.4
Delay (s)			36.4	2.5		0.4
Level of Service			D	A		A
Approach Delay (s)	0.0		8.7			0.4
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	0.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

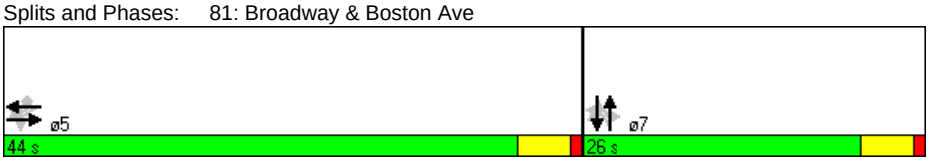
c Critical Lane Group

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		908					717				504			1441
Travel Time (s)		20.6					16.3				11.5			32.8
Volume (vph)	5	635	25	20	20	25	625	225	5	5	30	35	190	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	744	0	0	0	0	728	245	0	0	43	38	0	288
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	14.0	14.0			14.0	14.0	14.0	14.0	14.0	14.0	14.0		14.0	14.0
Minimum Split (s)	21.0	21.0			21.0	21.0	21.0	21.0	19.0	19.0	19.0		19.0	19.0
Total Split (s)	44.0	44.0	0.0	0.0	44.0	44.0	44.0	44.0	26.0	26.0	26.0	0.0	26.0	26.0
Total Split (%)	62.9%	62.9%	0.0%	0.0%	62.9%	62.9%	62.9%	62.9%	37.1%	37.1%	37.1%	0.0%	37.1%	37.1%
Maximum Green (s)	39.0	39.0			39.0	39.0	39.0	39.0	21.0	21.0	21.0		21.0	21.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max	Max	None	None	None		None	None
Walk Time (s)	5.0	5.0			5.0	5.0	5.0	5.0						
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0						
Pedestrian Calls (#/hr)	0	0			0	0	0	0						
v/c Ratio		0.59					0.73	0.27			0.08	0.03		0.76
Control Delay		11.5					16.0	8.0			17.5	0.0		31.6
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		11.5					16.0	8.0			17.5	0.0		31.6
Queue Length 50th (ft)		182					203	46			13	0		107
Queue Length 95th (ft)		296					362	86			33	0		#197
Internal Link Dist (ft)		828					637				424			1361
Turn Bay Length (ft)														
Base Capacity (vph)		1258					1003	924			598	1322		419
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.59					0.73	0.27			0.07	0.03		0.69

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 68.8
Natural Cycle: 55
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 81: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	15	15
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	16
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Maximum Green (s)		
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		
Recall Mode		
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.01
Control Delay		0.0
Queue Delay		0.0
Total Delay		0.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		0
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		1167
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.01

Intersection Summary



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR2
Lane Group Flow (vph)	744	728	245	43	38	288	16
v/c Ratio	0.59	0.73	0.27	0.08	0.03	0.76	0.01
Control Delay	11.5	16.0	8.0	17.5	0.0	31.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	16.0	8.0	17.5	0.0	31.6	0.0
Queue Length 50th (ft)	182	203	46	13	0	107	0
Queue Length 95th (ft)	296	362	86	33	0	#197	0
Internal Link Dist (ft)	828	637		424		1361	
Turn Bay Length (ft)							
Base Capacity (vph)	1258	1003	924	598	1322	419	1167
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.73	0.27	0.07	0.03	0.69	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		0.99
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.97
Satd. Flow (prot)		2092					1795	1531			2087	1322		1724
Flt Permitted		1.00					0.92	1.00			0.92	1.00		0.76
Satd. Flow (perm)		2085					1663	1531			1933	1322		1357
Volume (vph)	5	635	25	20	20	25	625	225	5	5	30	35	190	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	690	27	22	22	27	679	245	5	5	33	38	207	65
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	744	0	0	0	0	728	245	0	0	43	38	0	288
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		40.5					40.5	40.5			18.3	68.8		18.3
Effective Green, g (s)		41.5					41.5	41.5			19.3	68.8		19.3
Actuated g/C Ratio		0.60					0.60	0.60			0.28	1.00		0.28
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		3.0					3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		1258					1003	923			542	1322		381
v/s Ratio Prot														
v/s Ratio Perm		0.36					c0.44	0.16			0.02	0.03		c0.21
v/c Ratio		0.59					0.73	0.27			0.08	0.03		0.76
Uniform Delay, d1		8.4					9.6	6.4			18.2	0.0		22.6
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		2.0					4.6	0.7			0.1	0.0		8.3
Delay (s)		10.5					14.2	7.2			18.3	0.0		30.9
Level of Service		B					B	A			B	A		C
Approach Delay (s)		10.5					12.4				9.7			29.3
Approach LOS		B					B				A			C

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

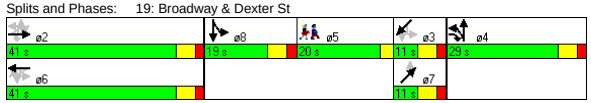
Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1167
Flt Permitted		1.00
Satd. Flow (perm)		1167
Volume (vph)	15	15
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	16	16
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	16
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		68.8
Effective Green, g (s)		68.8
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1167
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.01
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1241						1176			419		
Travel Time (s)			28.2						26.7			9.5		
Volume (vph)	5	25	425	265	10	1	20	20	690	140	260	145	5	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	494	299	0	0	0	0	938	0	0	441	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	41.0	41.0	41.0	29.0	0.0	41.0	41.0	41.0	41.0	0.0	29.0	29.0	0.0	19.0
Total Split (%)	34.2%	34.2%	34.2%	24.2%	0.0%	34.2%	34.2%	34.2%	34.2%	0.0%	24.2%	24.2%	0.0%	15.8%
Maximum Green (s)	35.0	35.0	35.0	23.0		35.0	35.0	35.0	35.0		23.0	23.0		13.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.61	0.30					0.97			1.01		
Control Delay			33.0	11.0					56.1			85.9		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			33.0	11.0					56.1			85.9		
Queue Length 50th (ft)			132	74					299			280		
Queue Length 95th (ft)			243	188					#572			#609		
Internal Link Dist (ft)			1161						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			813	983					971			438		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.61	0.30					0.97			1.01		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	160	5	60	0	50	5	20	5	35	10	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	269	0	0	60	0	0	0	89	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	19.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	15.8%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	13.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.00			0.62				0.98			
Control Delay	99.6			77.9				137.2			
Queue Delay	0.0			0.0				0.0			
Total Delay	99.6			77.9				137.2			
Queue Length 50th (ft)	166			38				54			
Queue Length 95th (ft)	#412			#108				#173			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	269			96				91			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.00			0.63				0.98			

Intersection Summary

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3528	1564					3264			1890		
Flt Permitted			0.73	1.00					0.90			0.97		
Satd. Flow (perm)			2577	1564					2939			1890		
Volume (vph)	5	25	425	265	10	1	20	20	690	140	260	145	5	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	27	462	288	11	1	22	22	742	151	280	156	5	27
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	494	298	0	0	0	0	938	0	0	441	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			35.2	58.3					35.2			23.1		
Effective Green, g (s)			36.2	60.3					36.2			24.1		
Actuated g/C Ratio			0.34	0.57					0.34			0.23		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			878	961					1001			428		
v/s Ratio Prot				0.07								c0.23		
v/s Ratio Perm			0.19	0.12					c0.32					
v/c Ratio			0.56	0.31					0.94			1.03		
Uniform Delay, d1			28.6	12.1					33.9			41.1		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			1.0	0.5					15.6			51.5		
Delay (s)			29.6	12.6					49.5			92.6		
Level of Service			C	B					D			F		
Approach Delay (s)			23.2						49.5			92.6		
Approach LOS			C						D			F		

Intersection Summary				
HCM Average Control Delay	58.6	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	106.7%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 Build Condition Alt 1 - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.96			0.86				0.92		
Flt Protected	1.00			1.00				0.98		
Satd. Flow (prot)	1917			1644				1693		
Flt Permitted	1.00			1.00				0.86		
Satd. Flow (perm)	1917			1644				1487		
Volume (vph)	160	5	60	0	50	5	20	5	35	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	172	5	65	0	60	6	24	6	41	12
RTOR Reduction (vph)	10	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	259	0	0	60	0	0	0	84	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	13.1			5.0				5.0		
Effective Green, g (s)	14.1			6.0				6.0		
Actuated g/C Ratio	0.13			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	254			93				84		
v/s Ratio Prot	c0.14			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.02			0.65				1.00		
Uniform Delay, d1	46.1			49.1				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	62.1			10.9				99.1		
Delay (s)	108.2			60.0				149.3		
Level of Service	F			E				F		
Approach Delay (s)	108.2			60.0				149.3		
Approach LOS	F			E				F		

Intersection Summary

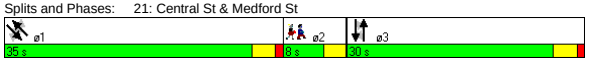
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 1\optimize\coordination\2030 Build Alt 1- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	290	100	5	75	5	15	375	60	65	455	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	528	0	0	105	0	0	523	0	0	606	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	47.9%	47.9%	0.0%	47.9%	47.9%	0.0%	11%
Maximum Green (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.84			0.16			0.60			0.77		
Control Delay		33.0			14.7			17.2			23.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.0			14.7			17.2			23.8		
Queue Length 50th (ft)		169			26			144			187		
Queue Length 95th (ft)		#391			57			273			#437		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		664			718			865			790		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.80			0.15			0.60			0.77		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 64.5	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1880			1826			1840	
Flt Permitted		0.91			0.97			0.98			0.90	
Satd. Flow (perm)		1665			1836			1788			1667	
Volume (vph)	100	290	100	5	75	5	15	375	60	65	455	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	312	108	6	93	6	17	436	70	72	506	28
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	515	0	0	105	0	0	523	0	0	604	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.8			23.8			31.2			31.2	
Effective Green, g (s)		23.8			23.8			31.2			31.2	
Actuated g/C Ratio		0.36			0.36			0.47			0.47	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		592			653			834			777	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.06			0.29			c0.36	
v/c Ratio		0.87			0.16			0.63			0.78	
Uniform Delay, d1		20.1			14.7			13.5			14.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.5			0.2			3.6			7.5	
Delay (s)		33.6			14.9			17.0			22.5	
Level of Service		C			B			B			C	
Approach Delay (s)		33.6			14.9			17.0			22.5	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

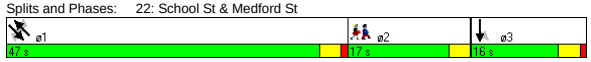
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			541		
Travel Time (s)		21.7			21.8			35.4			12.3		
Volume (vph)	0	0	0	65	240	25	40	405	100	180	540	150	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	375	0	0	605	0	0	898	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	16.0	16.0	0.0	47.0	47.0	0.0	47.0	47.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	20.0%	20.0%	0.0%	58.8%	58.8%	0.0%	58.8%	58.8%	0.0%	21%
Maximum Green (s)				12.0	12.0		43.0	43.0		43.0	43.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					1.04			0.53			0.98		
Control Delay					87.8			9.3			39.4		
Queue Delay					0.0			0.0			0.0		
Total Delay					87.8			9.3			39.4		
Queue Length 50th (ft)					143			86			237		
Queue Length 95th (ft)					#394			300			#771		
Internal Link Dist (ft)		873			879			1476			461		
Turn Bay Length (ft)													
Base Capacity (vph)					362			1146			920		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.04			0.53			0.98		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 66.4
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1967			1908			1916	
Flt Permitted					0.99			0.91			0.78	
Satd. Flow (perm)					1967			1736			1501	
Volume (vph)	0	0	0	65	240	25	40	405	100	180	540	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	74	273	28	44	450	111	186	557	155
RTOR Reduction (vph)	0	0	0	0	3	0	0	8	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	372	0	0	597	0	0	891	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					12.1			43.4			43.4	
Effective Green, g (s)					12.1			43.4			43.4	
Actuated g/C Ratio					0.18			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					346			1095			947	
v/s Ratio Prot												
v/s Ratio Perm					0.19			0.34			c0.59	
v/c Ratio					1.07			0.55			0.94	
Uniform Delay, d1					28.4			7.1			11.5	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					69.6			2.0			18.0	
Delay (s)					97.9			9.1			29.5	
Level of Service					F			A			C	
Approach Delay (s)		0.0			97.9			9.1			29.5	
Approach LOS		A			F			A			C	

Intersection Summary

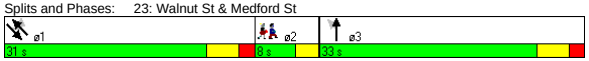
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	13.3
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			994			533		
Travel Time (s)		17.7			19.2			22.6			12.1		
Volume (vph)	120	275	10	0	0	0	5	285	0	0	365	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	540	0	0	0	0	0	367	0	0	432	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.71						0.49			0.56		
Control Delay		22.5						17.7			19.0		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.5						17.7			19.0		
Queue Length 50th (ft)		159						95			116		
Queue Length 95th (ft)		240						173			239		
Internal Link Dist (ft)		699			764			914			453		
Turn Bay Length (ft)													
Base Capacity (vph)		783						756			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.69						0.49			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1830						1880			1890	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1830						1867			1890	
Volume (vph)	120	275	10	0	0	0	5	285	0	0	365	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	160	367	13	0	0	0	6	361	0	0	415	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	367	0	0	430	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			738	
v/s Ratio Prot											c0.23	
v/s Ratio Perm		0.29						0.20				
v/c Ratio		0.73						0.50			0.58	
Uniform Delay, d1		17.0						15.4			16.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		4.1						0.7			1.4	
Delay (s)		21.0						16.2			17.4	
Level of Service		C						B			B	
Approach Delay (s)		21.0			0.0			16.2			17.4	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	18.6	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A		
Analysis Period (min)	15				

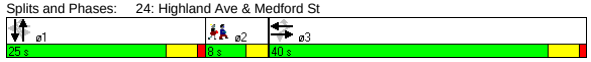
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	460	20	45	530	370	5	0	15	250	25	20	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	558	0	0	631	407	0	27	0	0	339	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	40.0	0.0	40.0	40.0	65.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	0.0%	54.8%	0.0%	54.8%	54.8%	89.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	11%
Maximum Green (s)		35.0		35.0	35.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.56			0.66	0.25		0.05			0.78		
Control Delay		13.3			15.9	0.5		10.2			36.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		13.3			15.9	0.5		10.2			36.2		
Queue Length 50th (ft)		127			158	0		2			117		
Queue Length 95th (ft)		251			339	8		15			#271		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		996			949	1638		505			435		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.56			0.66	0.25		0.05			0.78		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 66.6
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.90			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1688			1771	
Flt Permitted		1.00			0.93	1.00		0.91			0.74	
Satd. Flow (perm)		1834			1841	1680		1559			1365	
Volume (vph)	0	460	20	45	530	370	5	0	15	250	25	20
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	535	23	49	582	407	7	0	20	287	29	23
RTOR Reduction (vph)	0	2	0	0	0	47	0	14	0	0	3	0
Lane Group Flow (vph)	0	556	0	0	631	360	0	13	0	0	336	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		35.1			35.1	60.1		20.0			20.0	
Effective Green, g (s)		36.1			36.1	61.1		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.89		0.30			0.30	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		960			963	1488		474			415	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.34	0.21		0.01			c0.25	
v/c Ratio		0.58			0.66	0.24		0.03			0.81	
Uniform Delay, d1		11.3			11.9	0.6		16.8			22.1	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.5			3.5	0.4		0.1			15.5	
Delay (s)		13.8			15.4	1.0		16.9			37.7	
Level of Service		B			B	A		B			D	
Approach Delay (s)		13.8			9.7			16.9			37.7	
Approach LOS		B			A			B			D	

Intersection Summary

HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

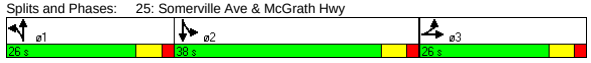
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	185	220	95	0	0	0	100	500	60	210	710	265
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	568	0	0	0	0	0	638	64	226	1048	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.69						0.77	0.04	0.35	0.86	
Control Delay		35.0						39.6	0.0	22.6	33.2	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.0						39.6	0.0	22.6	33.2	
Queue Length 50th (ft)		147						179	0	92	269	
Queue Length 95th (ft)		200						242	0	151	#371	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						827	1706	649	1221	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.69						0.77	0.04	0.35	0.86	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3409						3545	1706	1770	3216	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3409						3545	1706	1770	3216	
Volume (vph)	185	220	95	0	0	0	100	500	60	210	710	265
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	210	250	108	0	0	0	106	532	64	226	763	285
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	545	0	0	0	0	0	638	64	226	1006	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1179	
v/s Ratio Prot		c0.16						c0.18		0.13	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.77	0.04	0.35	0.85	
Uniform Delay, d1		31.5						32.3	0.0	20.7	26.3	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.8						6.9	0.0	1.5	7.9	
Delay (s)		36.3						39.1	0.0	22.2	34.2	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.3			0.0			35.6			32.0	
Approach LOS		D			A			D			C	

Intersection Summary

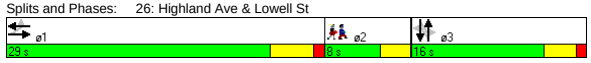
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	500	50	50	100	40	55	0	85	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	166	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	29.0	29.0	0.0	0.0	29.0	0.0	16.0	16.0	0.0	16.0	16.0	0.0	8.0
Total Split (%)	54.7%	54.7%	0.0%	0.0%	54.7%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	15%
Maximum Green (s)	24.0	24.0			24.0		12.0	12.0		12.0	12.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.49			0.49			0.61			0.43		
Control Delay		9.5			9.1			24.3			11.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.5			9.1			24.3			11.0		
Queue Length 50th (ft)		72			80			49			13		
Queue Length 95th (ft)		201			217			113			52		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1039			1163			400			411		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.49			0.49			0.57			0.40		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.5	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



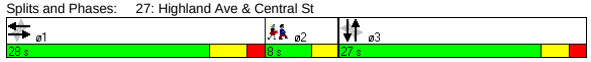
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1840			1804			1702	
Flt Permitted		0.92			1.00			0.88			0.73	
Satd. Flow (perm)		1714			1840			1605			1272	
Volume (vph)	45	420	0	0	500	50	50	100	40	55	0	85
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	515	52	60	119	48	65	0	101
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	82	0
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	84	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		27.6			27.6			9.3			9.3	
Effective Green, g (s)		28.6			28.6			9.3			9.3	
Actuated g/C Ratio		0.57			0.57			0.19			0.19	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		984			1057			300			238	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.07	
v/c Ratio		0.51			0.54			0.76			0.35	
Uniform Delay, d1		6.4			6.5			19.2			17.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			2.0			11.0			1.2	
Delay (s)		8.3			8.5			30.2			18.9	
Level of Service		A			A			C			B	
Approach Delay (s)		8.3			8.5			30.2			18.9	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	13.0	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.54				
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	77.0%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	40	360	25	30	425	40	55	355	100	15	80	40	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	461	0	0	549	0	0	560	0	0	155	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0	8.0
Total Split (%)	44.4%	44.4%	0.0%	44.4%	44.4%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	13%
Maximum Green (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.70			0.78			0.82			0.23		
Control Delay		21.8			24.9			28.5			10.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.8			24.9			28.5			10.9		
Queue Length 50th (ft)		114			141			148			24		
Queue Length 95th (ft)		#288			#354			#374			66		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		699			749			717			711		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.73			0.78			0.22		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 53.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1822			1837			1822			1805	
Flt Permitted		0.92			0.96			0.95			0.94	
Satd. Flow (perm)		1676			1767			1740			1700	
Volume (vph)	40	360	25	30	425	40	55	355	100	15	80	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	43	391	27	33	472	44	60	390	110	17	92	46
RTOR Reduction (vph)	0	4	0	0	5	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	457	0	0	544	0	0	547	0	0	132	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.1			20.1			20.4			20.4	
Effective Green, g (s)		21.1			21.1			20.4			20.4	
Actuated g/C Ratio		0.38			0.38			0.37			0.37	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		639			674			642			627	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.31			c0.31			0.08	
v/c Ratio		0.72			0.81			0.85			0.21	
Uniform Delay, d1		14.5			15.3			16.1			11.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.1			7.4			10.9			0.2	
Delay (s)		18.6			22.7			27.0			12.2	
Level of Service		B			C			C			B	
Approach Delay (s)		18.6			22.7			27.0			12.2	
Approach LOS		B			C			C			B	

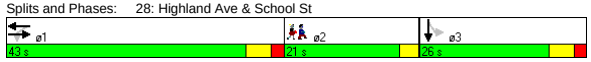
Intersection Summary					
HCM Average Control Delay	22.1	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.76				
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	75.9%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	465	15	55	480	0	0	0	0	110	235	115	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	539	0	0	570	0	0	0	0	0	464	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	43.0	0.0	43.0	43.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	21.0
Total Split (%)	0.0%	47.8%	0.0%	47.8%	47.8%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	23%
Maximum Green (s)		37.0		37.0	37.0					20.0	20.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.57			0.89						0.91		
Control Delay		16.4			35.8						51.8		
Queue Delay		0.0			0.0						0.0		
Total Delay		16.4			35.8						51.8		
Queue Length 50th (ft)		133			186						184		
Queue Length 95th (ft)		361			#571						#496		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		947			643						508		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.57			0.89						0.91		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 110
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1800			1816						1753	
Flt Permitted		1.00			0.86						0.99	
Satd. Flow (perm)		1800			1572						1753	
Volume (vph)	0	465	15	55	480	0	0	0	0	110	235	115
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	522	17	59	511	0	0	0	0	111	237	116
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	0	570	0	0	0	0	0	464	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		37.4			37.4						20.2	
Effective Green, g (s)		38.4			38.4						21.2	
Actuated g/C Ratio		0.51			0.51						0.28	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		915			800						492	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.36						0.26	
v/c Ratio		0.59			0.71						0.94	
Uniform Delay, d1		13.0			14.3						26.6	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.0			3.0						27.0	
Delay (s)		14.0			17.3						53.6	
Level of Service		B			B						D	
Approach Delay (s)		14.0			17.3			0.0			53.6	
Approach LOS		B			B			A			D	

Intersection Summary

HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

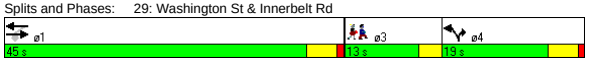
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	670	35	80	730	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	870	45	86	785	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	45.0	45.0	45.0	45.0	19.0	19.0	13.0
Total Split (%)	58.4%	58.4%	58.4%	58.4%	24.7%	24.7%	17%
Maximum Green (s)	40.0	40.0	40.0	40.0	14.0	14.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.76	0.05	0.78	0.70	0.72	0.57	
Control Delay	16.3	2.7	61.4	14.1	37.9	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.3	2.7	61.4	14.1	37.9	21.3	
Queue Length 50th (ft)	193	0	20	163	100	49	
Queue Length 95th (ft)	384	10	#125	#468	152	85	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1166	851	112	1143	401	426	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.75	0.05	0.77	0.69	0.70	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 64.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.16	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	287	1827	1719	1538
Volume (vph)	670	35	80	730	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	870	45	86	785	279	235
RTOR Reduction (vph)	0	18	0	0	0	69
Lane Group Flow (vph)	870	27	86	785	279	166
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	38.6	38.6	38.6	38.6	13.4	13.4
Effective Green, g (s)	39.6	39.6	39.6	39.6	14.4	14.4
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.22	0.22
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1106	791	170	1085	371	332
v/s Ratio Prot	c0.47			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.30			
v/c Ratio	0.79	0.03	0.51	0.72	0.75	0.50
Uniform Delay, d1	10.3	5.6	7.9	9.7	24.5	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.0	0.9	2.0	8.9	1.6
Delay (s)	13.8	5.6	8.7	11.7	33.3	24.6
Level of Service	B	A	A	B	C	C
Approach Delay (s)	13.4			11.4	29.3	
Approach LOS	B			B	C	

Intersection Summary

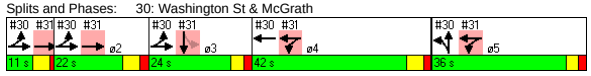
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	12.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	815	445	0	0	1075	170	60	555	685	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	858	459	0	0	1431	0	63	584	721	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	42.0	0.0	36.0	36.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	31.1%	0.0%	26.7%	26.7%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					36.0		31.0	31.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.60	0.24			1.04		0.16	1.39	0.46					
Control Delay	4.0	0.5			81.8		42.9	228.9	1.0					
Queue Delay	0.0	0.0			7.4		0.0	78.3	0.0					
Total Delay	4.0	0.5			89.2		43.0	307.2	1.0					
Queue Length 50th (ft)	65	1			~494		45	~681	0					
Queue Length 95th (ft)	m76	m1			#556		85	#911	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1424	1921			1380		399	420	1553					
Starvation Cap Reductn	0	0			0		0	47	0					
Spillback Cap Reductn	0	0			26		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.60	0.24			1.06		0.16	1.57	0.46					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath



Green Line Extension
30: Washington St & McGrath

2030 Build Condition Alt 1 - PM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	24.0
Total Split (%)	18%
Maximum Green (s)	19.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 1\optimize\coordination\2030 Build Alt 1- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5034		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5034		1736	1827	1553			
Volume (vph)	815	445	0	0	1075	170	60	555	685	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	858	459	0	0	1236	195	63	584	721	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	858	459	0	0	1431	0	63	584	721	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			36.0		31.0	31.0	135.0			
Effective Green, g (s)	52.0	52.0			37.0		31.0	31.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.27		0.23	0.23	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1380		399	420	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.04	c0.32				
v/s Ratio Perm									0.46			
v/c Ratio	0.60	0.24			1.04		0.16	1.39	0.46			
Uniform Delay, d1	33.2	28.1			49.0		41.6	52.0	0.0			
Progression Factor	0.10	0.01			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.8	0.1			34.3		0.8	189.8	1.0			
Delay (s)	4.0	0.5			83.3		42.4	241.8	1.0			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.8			83.3			105.7			0.0	
Approach LOS		A			F			F			A	

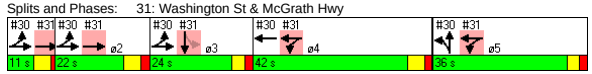
Intersection Summary			
HCM Average Control Delay	65.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1225	40	415	720	0	0	0	0	35	150	385		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1330	0	461	800	0	0	0	0	0	622	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	24.0	24.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	17.8%	17.8%	0.0%	8%	16%
Maximum Green (s)										19.0	19.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.89		0.49	0.42						1.41dr			
Control Delay		60.4		1.6	0.2						151.7			
Queue Delay		4.3		0.0	0.0						53.1			
Total Delay		64.7		1.6	0.2						204.8			
Queue Length 50th (ft)		281		0	0						~315			
Queue Length 95th (ft)		320		m0	m0						#441			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1492		939	1914						516			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		111		0	0						47			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.96		0.49	0.42						1.33			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	42.0	36.0
Total Split (%)	31%	27%
Maximum Green (s)	36.0	31.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3172	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3172	
Volume (vph)	0	1225	40	415	720	0	0	0	0	35	150	385
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1289	41	461	800	0	0	0	0	41	163	418
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1326	0	461	800	0	0	0	0	0	552	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		73.0	73.0						19.0	
Effective Green, g (s)		28.0		73.0	73.0						19.0	
Actuated g/C Ratio		0.21		0.54	0.54						0.14	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1489		939	1914						446	
v/s Ratio Prot		c0.18		c0.27	0.23							
v/s Ratio Perm											0.17	
v/c Ratio		0.89		0.49	0.42						1.41dr	
Uniform Delay, d1		52.0		19.4	18.4						58.0	
Progression Factor		1.00		0.06	0.00						1.00	
Incremental Delay, d2		8.4		0.4	0.2						125.3	
Delay (s)		60.4		1.6	0.2						183.3	
Level of Service		E		A	A						F	
Approach Delay (s)		60.4			0.7			0.0			183.3	
Approach LOS		E			A			A			F	

Intersection Summary			
HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

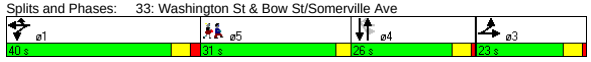
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	330	30	450	390	915	0	0	0	450	260	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	479	415	973	0	0	0	253	590	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	23.0	23.0	0.0	40.0	40.0	40.0	0.0	26.0	0.0	26.0	26.0	0.0	31.0
Total Split (%)	19.2%	19.2%	0.0%	33.3%	33.3%	33.3%	0.0%	21.7%	0.0%	21.7%	21.7%	0.0%	26%
Maximum Green (s)	18.0	18.0		34.0	34.0	34.0		21.0		21.0	21.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.99		1.03	0.85	0.78				0.65	0.73		
Control Delay		90.9		56.7	35.2	8.6				46.7	43.5		
Queue Delay		0.0		0.0	0.0	1.8				0.0	0.0		
Total Delay		90.9		56.7	35.2	10.4				46.7	43.5		
Queue Length 50th (ft)		190		~391	269	0				150	180		
Queue Length 95th (ft)		#303		m321	m247	m91				#436	#445		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		465		465	489	1245				391	806		
Starvation Cap Reductn		0		0	0	138				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		0.99		1.03	0.85	0.88				0.65	0.73		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 15 (13%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2798	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2354	
Volume (vph)	60	330	30	450	390	915	0	0	0	450	260	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	363	33	479	415	973	0	0	0	506	292	45
RTOR Reduction (vph)	0	0	0	0	0	360	0	0	0	0	4	0
Lane Group Flow (vph)	0	462	0	479	415	613	0	0	0	253	586	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		18.0		32.2	32.2	71.8				39.6	39.6	
Effective Green, g (s)		19.0		33.2	33.2	72.8				40.6	40.6	
Actuated g/C Ratio		0.16		0.28	0.28	0.61				0.34	0.34	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		465		441	464	865				391	796	
v/s Ratio Prot		c0.16		c0.30	0.25	0.20						
v/s Ratio Perm						0.23				0.22	c0.25	
v/c Ratio		0.99		1.09	0.89	0.71				0.65	0.74	
Uniform Delay, d1		50.4		43.4	41.7	16.3				33.6	35.0	
Progression Factor		1.00		0.81	0.81	5.24				1.00	1.00	
Incremental Delay, d2		40.2		43.0	2.8	0.3				4.1	3.8	
Delay (s)		90.6		78.3	36.5	85.5				37.7	38.8	
Level of Service		F		E	D	F				D	D	
Approach Delay (s)		90.6			72.8			0.0			38.5	
Approach LOS		F			E			A			D	

Intersection Summary

HCM Average Control Delay	66.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

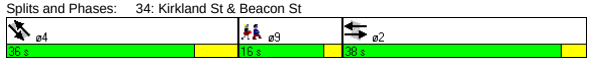
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	310	40	40	270	70	40	360	60	25	475	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	490	0	0	432	0	0	495	0	0	588	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	16.0
Total Split (%)	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	18%
Maximum Green (s)	34.0	34.0		34.0	34.0		29.0	29.0		29.0	29.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.84			0.58			0.83			0.85		
Control Delay		35.5			20.6			36.1			36.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.5			20.6			36.1			36.5		
Queue Length 50th (ft)		183			133			190			230		
Queue Length 95th (ft)		#479			293			#475			#553		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		584			742			598			690		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.84			0.58			0.83			0.85		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1819			1807			1822			1828	
Flt Permitted		0.77			0.93			0.89			0.97	
Satd. Flow (perm)		1415			1681			1622			1772	
Volume (vph)	110	310	40	40	270	70	40	360	60	25	475	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	330	43	45	307	80	43	387	65	26	490	72
RTOR Reduction (vph)	0	3	0	0	9	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	487	0	0	423	0	0	489	0	0	583	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		34.2			34.2			29.2			29.2	
Effective Green, g (s)		34.2			34.2			30.2			30.2	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		608			722			615			672	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.25			0.30			c0.33	
v/c Ratio		0.80			0.59			0.80			0.87	
Uniform Delay, d1		19.7			17.3			22.0			22.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.6			3.5			10.3			14.2	
Delay (s)		30.3			20.8			32.2			37.0	
Level of Service		C			C			C			D	
Approach Delay (s)		30.3			20.8			32.2			37.0	
Approach LOS		C			C			C			D	

Intersection Summary

HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

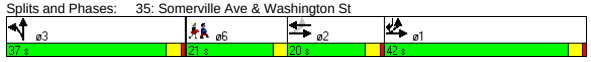
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	390	390	0	0	445	40	525	800	100	0	0	915	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	896	0	0	592	0	486	1014	0	0	0	963	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	42.0	62.0	0.0	0.0	20.0	0.0	37.0	37.0	0.0	0.0	0.0	42.0	21.0
Total Split (%)	35.0%	51.7%	0.0%	0.0%	16.7%	0.0%	30.8%	30.8%	0.0%	0.0%	0.0%	35.0%	18%
Maximum Green (s)	38.0				16.0		33.0	33.0				38.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.60			0.78		1.21	1.21				1.21	
Control Delay		6.9			51.6		152.5	143.0				143.9	
Queue Delay		0.0			0.0		6.5	6.4				0.0	
Total Delay		6.9			51.6		159.0	149.4				143.9	
Queue Length 50th (ft)		117			202		~504	~525				~518	
Queue Length 95th (ft)		m124			#383		#736	#667				#661	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1491			762		403	839				794	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		5	10				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.60			0.78		1.22	1.22				1.21	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3108			3177		1464	3024				2508
Flt Permitted		0.56			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1785			3177		1464	3024				2508
Volume (vph)	390	390	0	0	445	40	525	800	100	0	0	915
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	448	448	0	0	543	49	553	842	105	0	0	963
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	896	0	0	587	0	486	1007	0	0	0	963
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		64.8			28.6		33.0	33.0				36.2
Effective Green, g (s)		64.8			28.6		33.0	33.0				36.2
Actuated g/C Ratio		0.54			0.24		0.28	0.28				0.30
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1363			757		403	832				757
v/s Ratio Prot		0.20			c0.18		0.33	c0.33				c0.38
v/s Ratio Perm		0.16										
v/c Ratio		0.66			0.78		1.21	1.21				1.27
Uniform Delay, d1		19.7			42.7		43.5	43.5				41.9
Progression Factor		0.29			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.5			7.7		114.0	105.7				132.7
Delay (s)		7.2			50.4		157.5	149.2				174.6
Level of Service		A			D		F	F				F
Approach Delay (s)		7.2			50.4			151.8			174.6	
Approach LOS		A			D			F			F	

Intersection Summary			
HCM Average Control Delay	109.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

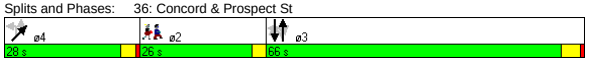
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	680	155	310	265	10	15	635	15	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	860	0	170	643	0	0	0	700	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		25.0
Total Split (s)	66.0	66.0	0.0	66.0	66.0	0.0	0.0	28.0	28.0	0.0	26.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	0.0%	23.3%	23.3%	0.0%	22%
Maximum Green (s)	61.0	61.0		61.0	61.0			24.0	24.0		23.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											10
v/c Ratio		1.50		0.50	0.55				1.43		
Control Delay		253.2		18.8	14.3				235.6		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		253.2		18.8	14.3				235.6		
Queue Length 50th (ft)		~693		45	178				~561		
Queue Length 95th (ft)		#865		176	483				#1039		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		574		342	1168				490		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.50		0.50	0.55				1.43		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 99
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1847				1998	
Flt Permitted		0.65		0.31	1.00				1.00	
Satd. Flow (perm)		1161		611	1847				1998	
Volume (vph)	120	0	680	155	310	265	10	15	635	15
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	731	170	341	291	11	16	668	16
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	831	0	170	643	0	0	0	699	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		61.5		61.5	61.5				24.2	
Effective Green, g (s)		62.5		62.5	62.5				24.2	
Actuated g/C Ratio		0.62		0.62	0.62				0.24	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		716		377	1138				477	
v/s Ratio Prot					0.35					
v/s Ratio Perm		c0.72		0.28					0.35	
v/c Ratio		1.16		0.45	0.56				1.47	
Uniform Delay, d1		19.5		10.3	11.4				38.6	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		87.2		0.3	0.4				220.9	
Delay (s)		106.7		10.6	11.8				259.5	
Level of Service		F		B	B				F	
Approach Delay (s)		106.7			11.6				259.5	
Approach LOS		F			B				F	

Intersection Summary

HCM Average Control Delay	119.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	14.7
Intersection Capacity Utilization	126.9%	ICU Level of Service	H
Analysis Period (min)	15		

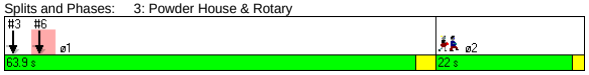
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	470	0	0	1005	480	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	553	0	0	1058	505	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.34			0.59	0.32	
Control Delay		0.6			3.7	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			3.7	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			487	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		9			11	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.34			0.60	0.32	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	470	0	0	1005	480
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	553	0	0	1058	505
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	508	0	0	1058	505
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.57	
v/s Ratio Perm		0.31				c0.32
v/c Ratio		0.34			0.62	0.32
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			1.7	0.5
Delay (s)		1.2			2.6	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.0	
Approach LOS	A			A	A	

Intersection Summary

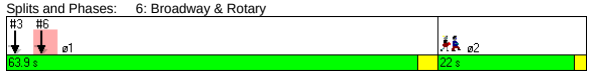
HCM Average Control Delay	1.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	450	0	0	1035	440	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	495	0	0	1089	463	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.32			0.61	0.29	
Control Delay		0.5			2.3	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			2.3	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			121	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.32			0.61	0.29	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	450	0	0	1035	440
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	495	0	0	1089	463
RTOR Reduction (vph)	0	41	0	0	0	0
Lane Group Flow (vph)	0	454	0	0	1089	463
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.58	
v/s Ratio Perm		0.29				c0.29
v/c Ratio		0.31			0.64	0.29
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.6			1.6	0.4
Delay (s)		1.1			2.0	0.4
Level of Service		A			A	A
Approach Delay (s)	1.1			0.0	1.5	
Approach LOS	A			A	A	

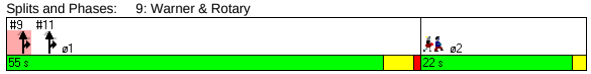
Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	430	1055	520	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	473	1185	584	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.31	0.70	0.40			
Control Delay		0.5	4.6	0.7			
Queue Delay		0.0	0.0	0.0			
Total Delay		0.5	4.6	0.7			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	744	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	99			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.31	0.70	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	430	1055	520	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	473	1185	584	0	0
RTOR Reduction (vph)	0	39	0	48	0	0
Lane Group Flow (vph)	0	434	1185	536	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.67	0.36		
v/s Ratio Perm		0.28				
v/c Ratio		0.30	0.73	0.39		
Uniform Delay, d1		0.6	1.2	0.6		
Progression Factor		1.00	0.70	0.02		
Incremental Delay, d2		0.5	2.5	0.7		
Delay (s)		1.1	3.4	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.1		2.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	760	815	685	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	884	916	770	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.56	0.53	0.51			
Control Delay		1.4	3.0	1.5			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.4	3.0	1.5			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	357	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1497			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		38	5	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.57	0.53	0.51			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	760	815	685	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	884	916	770	0	0
RTOR Reduction (vph)	0	73	0	63	0	0
Lane Group Flow (vph)	0	811	916	707	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.51	0.46		
v/s Ratio Perm		0.50				
v/c Ratio		0.55	0.55	0.50		
Uniform Delay, d1		0.8	0.8	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.5	1.3	1.3		
Delay (s)		2.3	2.2	2.1		
Level of Service		A	A	A		
Approach Delay (s)	2.3		2.1			0.0
Approach LOS	A		A			A

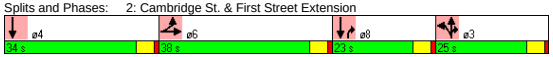
Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	210	50	0	0	0	100	235	505	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	289	0	0	0	0	0	372	561	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.63	0.77						1.18	0.58		0.51			
Control Delay	50.6	56.9						151.2	4.8		10.2			
Queue Delay	14.6	0.0						65.5	0.0		0.9			
Total Delay	65.2	56.9						216.7	4.8		11.2			
Queue Length 50th (ft)	144	183						~303	0		124			
Queue Length 95th (ft)	199	246						#472	71		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						316	961		1763			
Starvation Cap Reductn	0	0						0	0		551			
Spillback Cap Reductn	251	0						36	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.91	0.56						1.33	0.58		0.74			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1809	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1809	1459		3222	
Volume (vph)	205	210	50	0	0	0	100	235	505	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	233	56	0	0	0	111	261	561	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	311	0	194	0
Lane Group Flow (vph)	228	281	0	0	0	0	0	372	250	0	705	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.5	23.5						20.0	52.5		56.5	
Effective Green, g (s)	24.5	24.5						21.0	53.5		58.5	
Actuated g/C Ratio	0.20	0.20						0.18	0.45		0.49	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	361	366						317	650		1571	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.63	0.77						1.17	0.38		0.45	
Uniform Delay, d1	43.6	45.1						49.5	22.2		20.2	
Progression Factor	1.00	1.00						1.00	1.00		1.53	
Incremental Delay, d2	3.6	9.3						106.3	0.4		0.7	
Delay (s)	47.2	54.4						155.8	22.6		31.4	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.2			0.0			75.7			31.4	
Approach LOS		D			A			E			C	

Intersection Summary

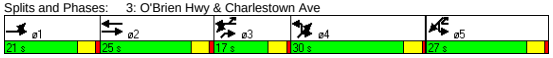
HCM Average Control Delay	53.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	980	330	380	710	420	430	1225	585	300	520	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1077	363	384	717	424	453	1289	616	319	814	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.64	0.23	2.27	0.73	0.63	1.29	1.71	1.07	1.09	1.29		
Control Delay	744.8	34.8	0.3	607.4	30.6	19.0	189.3	357.6	93.0	124.0	181.0		
Queue Delay	0.0	0.0	0.0	0.0	177.5	1.3	0.0	0.0	176.9	0.0	0.0		
Total Delay	744.8	34.8	0.3	607.4	208.1	20.3	189.3	357.6	269.9	124.0	181.0		
Queue Length 50th (ft)	~678	223	0	~433	259	113	~394	~681	~441	~269	~375		
Queue Length 95th (ft)	#874	268	0	m#601	m315	m201	#575	#802	#643	#445	#493		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	574	293	629		
Starvation Cap Reductn	0	0	0	0	472	100	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	158	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.64	0.23	2.27	1.39	0.74	1.29	1.71	1.48	1.09	1.29		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Volume (vph)	540	980	330	380	710	420	430	1225	585	300	520	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1077	363	384	717	424	453	1289	616	319	553	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	36	0	42	0
Lane Group Flow (vph)	593	1077	363	384	717	173	453	1289	580	319	772	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.23	0.12	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.64	0.23	2.27	0.73	0.41	1.29	1.71	1.08	1.09	1.32	
Uniform Delay, d1	51.5	32.6	0.0	53.5	36.4	33.5	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.71	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	583.9	1.7	0.4	150.6	327.0	61.6	78.3	153.6	
Delay (s)	774.3	33.4	0.3	628.9	29.0	158.4	197.6	374.0	100.1	126.8	202.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		243.6			216.0			268.5			180.9	
Approach LOS		F			F			F			F	

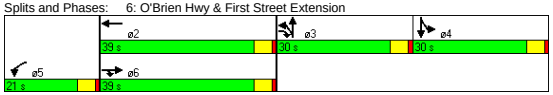
Intersection Summary					
HCM Average Control Delay	235.9	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.65				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	117.4%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	950	120	350	885	55	205	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1056	133	389	1044	0	228	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.70	0.16	0.82	1.01		0.69	0.75			0.76	
Control Delay		23.7	1.1	64.9	71.9		61.0	62.9			49.0	
Queue Delay		0.0	0.0	2.1	0.0		255.9	349.4			37.5	
Total Delay		23.7	1.1	67.0	71.9		316.9	412.3			86.5	
Queue Length 50th (ft)		151	7	134	~395		167	191			218	
Queue Length 95th (ft)		180	0	#195	#515		m188	m212			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1037		384	404			858	
Starvation Cap Reductn		0	0	0	0		237	256			0	
Spillback Cap Reductn		0	7	31	0		0	0			247	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.70	0.15	0.85	1.01		1.55	1.76			1.06	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3508		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3508		1770	1863			3459	
Volume (vph)	0	950	120	350	885	55	205	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1056	133	389	983	61	228	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1056	103	389	1040	0	228	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.30		0.13	c0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.70	0.13	0.82	1.01		0.69	0.75			0.76	
Uniform Delay, d1		37.6	15.1	50.2	42.3		45.7	46.3			41.8	
Progression Factor		0.55	0.09	1.00	1.00		1.25	1.25			1.00	
Incremental Delay, d2		2.7	0.1	10.6	29.3		2.4	3.5			6.2	
Delay (s)		23.5	1.4	60.8	71.6		59.5	61.3			48.0	
Level of Service		C	A	E	E		E	E			D	
Approach Delay (s)		21.0			68.6			60.4			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

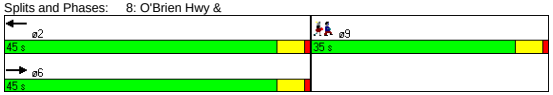
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1845	0	0	1335	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2005	0	0	1451	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.44			
Control Delay	3.0			3.3			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.3			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	279			315			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.44			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

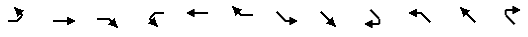
Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1845	0	0	1335	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2005	0	0	1451	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2005	0	0	1451	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.39			c0.41		
v/s Ratio Perm						
v/c Ratio	0.45			0.47		
Uniform Delay, d1	1.5			1.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.0		
Level of Service	A			A		
Approach Delay (s)	1.8			2.0	0.0	
Approach LOS	A			A	A	

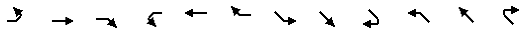
Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	715	0	0	5	0	1130	0	0	1305	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	794	0	0	6	0	1256	0	0	1406	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	715	0	0	5	0	1130	0	0	1305	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	794	0	0	6	0	1256	0	0	1374	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.82	0.86	0.86	0.91	0.91			0.82		
vC, conflicting volume	1948	2661	419	2602	2645	703	1405			1256		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1419	2243	0	2176	2225	574	1346			871		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	10	100	100	99	100			100		
cM capacity (veh/h)	82	35	886	2	35	413	377			577		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	794	6	419	419	419	916	489
Volume Left	0	0	0	0	0	0	0
Volume Right	794	6	0	0	0	0	32
cSH	886	413	1700	1700	1700	1700	1700
Volume to Capacity	0.90	0.01	0.25	0.25	0.25	0.54	0.29
Queue Length 95th (ft)	274	1	0	0	0	0	0
Control Delay (s)	32.5	13.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	32.5	13.8	0.0			0.0	
Approach LOS	D	B					

Intersection Summary				
Average Delay	7.5			
Intersection Capacity Utilization	72.8%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1845	1315	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2050	1539	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1845	1315	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2050	1461	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.81				0.85	0.81
vC, conflicting volume	1539				2183	769
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1429				1826	477
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	381				58	432

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	683	683	683	974	565	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	432
Volume to Capacity	0.40	0.40	0.40	0.57	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.8
Approach LOS						B

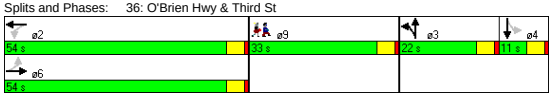
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1270	375	1	1395	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1829	0	0	1552	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.94		2.17	1.95			0.04		
Control Delay		30.7			50.7		566.2	471.0			48.3		
Queue Delay		0.2			1.1		0.0	36.0			0.0		
Total Delay		30.9			51.8		566.2	507.0			48.3		
Queue Length 50th (ft)		358			484		~586	~555			1		
Queue Length 95th (ft)		#544			#744		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			27		0	0			0		
Spillback Cap Reductn		40			0		0	10			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.86			0.95		2.17	2.03			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4911			3539		1569	1674			1750	
Flt Permitted		0.91			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4485			3376		1569	1674			1779	
Volume (vph)	1	1270	375	1	1395	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1411	417	1	1550	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1788	0	0	1552	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2048			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.40			c0.46						c0.00	
v/c Ratio		0.87			1.01		2.17	1.97			0.06	
Uniform Delay, d1		29.5			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.41		1.00	1.00			1.00	
Incremental Delay, d2		5.5			22.5		540.4	448.8			0.8	
Delay (s)		35.0			68.6		591.4	499.8			58.7	
Level of Service		C			E		F	F			E	
Approach Delay (s)		35.0			68.6			546.3			58.7	
Approach LOS		C			E			F			E	

Intersection Summary

HCM Average Control Delay	164.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	975	15	0	1160	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1064	0	0	1234	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	975	15	0	1160	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1048	16	0	1234	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1065		1673	358
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			896		1147	128
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			681		147	829

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	419	419	226	617	617	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	829
Volume to Capacity	0.25	0.25	0.13	0.36	0.36	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

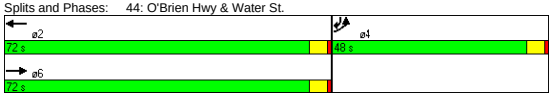
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	990	0	0	1080	80	0	0	0	0	0	315
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1065	0	0	1234	0	0	0	0	0	0	350
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.31			0.52							0.80
Control Delay	72.9	0.6			5.8							46.8
Queue Delay	1.0	0.3			0.5							674.0
Total Delay	73.9	0.8			6.3							720.9
Queue Length 50th (ft)	240	6			70							182
Queue Length 95th (ft)	m278	m11			m83							252
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3445			2377							643
Starvation Cap Reductn	117	1507			207							0
Spillback Cap Reductn	0	0			624							607
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.55			0.70							9.72

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3403							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3403							1627
Volume (vph)	310	990	0	0	1080	80	0	0	0	0	0	315
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1065	0	0	1149	85	0	0	0	0	0	350
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	56
Lane Group Flow (vph)	333	1065	0	0	1231	0	0	0	0	0	0	294
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.22			c0.36							0.18
v/s Ratio Perm												
v/c Ratio	0.82	0.31			0.52							0.77
Uniform Delay, d1	43.5	7.0			8.6							42.8
Progression Factor	1.51	0.06			0.58							1.00
Incremental Delay, d2	6.3	0.1			0.3							8.8
Delay (s)	72.1	0.5			5.2							51.6
Level of Service	E	A			A							D
Approach Delay (s)		17.6			5.2			0.0			51.6	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

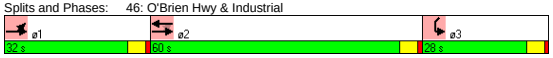
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1785	1380	225	370	130
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2032	1690	0	555	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.77	0.76		0.89	
Control Delay		11.9	28.2		61.9	
Queue Delay		1.6	9.0		2.6	
Total Delay		13.5	37.1		64.5	
Queue Length 50th (ft)		179	338		178	
Queue Length 95th (ft)		m186	393		#260	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2648	2230		637	
Starvation Cap Reductn		411	0		0	
Spillback Cap Reductn		0	522		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	0.99		0.91	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4631		3036	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3258	4631		3036	
Volume (vph)	85	1785	1380	225	370	130
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1940	1453	237	411	144
RTOR Reduction (vph)	0	0	18	0	31	0
Lane Group Flow (vph)	0	2032	1672	0	524	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.7	56.3		22.3	
Effective Green, g (s)		84.7	57.3		23.3	
Actuated g/C Ratio		0.71	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2627	2211		589	
v/s Ratio Prot		c0.18	0.36		c0.17	
v/s Ratio Perm		c0.37				
v/c Ratio		0.77	0.76		0.89	
Uniform Delay, d1		11.4	25.6		47.1	
Progression Factor		1.38	1.00		1.00	
Incremental Delay, d2		0.8	2.5		15.5	
Delay (s)		16.5	28.1		62.6	
Level of Service		B	C		E	
Approach Delay (s)		16.5	28.1		62.6	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

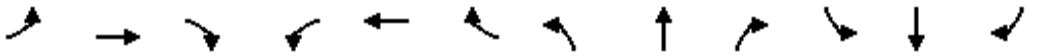
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	700	150	70	430	10	5	10	5	100	15	140
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	916	0	0	548	0	0	44	0	0	152	184
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	700	150	70	430	10	5	10	5	100	15	140
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	11	745	160	75	462	11	11	22	11	132	20	184
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	473			904			1658	1544	468	1486	1469	824
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	473			904			1658	1544	468	1486	1469	824
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			90			64	78	98	0	82	50
cM capacity (veh/h)	1084			752			31	103	599	76	111	367

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	915	548	44	151	184
Volume Left	11	75	11	132	0
Volume Right	160	11	11	0	184
cSH	1084	752	75	79	367
Volume to Capacity	0.01	0.10	0.59	1.92	0.50
Queue Length 95th (ft)	1	8	65	333	68
Control Delay (s)	0.3	2.7	106.5	542.6	24.3
Lane LOS	A	A	F	F	C
Approach Delay (s)	0.3	2.7	106.5	258.1	
Approach LOS			F	F	

Intersection Summary				
Average Delay	50.5			
Intersection Capacity Utilization	88.4%	ICU Level of Service		E
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	170	45	105	290	1060	0	0	925	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	355	0	315	1116	0	0	1005	207
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	170	45	105	290	1060	0	0	925	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	189	49	117	315	1116	0	0	1005	207
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.15	0.15	0.15	0.15	0.15		0.15					
vC, conflicting volume	2893	2752	1005	2752	2958	1116	1212			1116		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	14003	13033	1037	13033	14452	1116	2456			1116		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	54	0			100		
cM capacity (veh/h)	0	0	41	0	0	254	28			626		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	354	315	1116	1005	207
Volume Left	189	315	0	0	0
Volume Right	117	0	0	0	207
cSH	0	28	1700	1700	1700
Volume to Capacity	Err	11.43	0.66	0.59	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	4967.7	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1094.3		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	149.3%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	205	0	0	0	0	1105	500	80	1015	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	739	0	0	0	0	0	1228	556	84	1068	0
Sign Control		Stop			Stop			Free			Free	

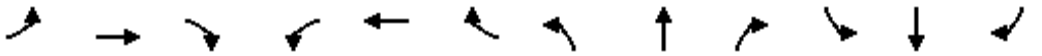
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	205	0	0	0	0	1105	500	80	1015	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	228	0	0	0	0	1228	556	84	1068	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2465	3020	1068	2812	2465	1228	1068			1783		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2465	3020	1068	2812	2465	1228	1068			1783		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	16	0	100	100	100			76		
cM capacity (veh/h)	17	10	270	0	23	217	652			345		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	347	1228	556	84	1068
Volume Left	272	0	0	0	84	0
Volume Right	0	228	0	556	0	0
cSH	14	27	1700	1700	345	1700
Volume to Capacity	27.98	12.73	0.72	0.33	0.24	0.63
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	18.8	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	2010.9			
Intersection Capacity Utilization	149.3%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	450	5	10	0	1	10	85	1145	1	5	365	850
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	528	0	0	25	0	0	1352	0	0	377	867
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	450	5	10	0	1	10	85	1145	1	5	365	850
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	511	6	11	0	2	23	93	1258	1	5	372	867
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1852	1829	372	1842	1828	1259	372			1259		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1852	1829	372	1842	1828	1259	372			1259		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	89	92			99		
cM capacity (veh/h)	46	70	674	48	68	202	1192			552		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	528	25	1353	378	867
Volume Left	511	0	93	5	0
Volume Right	11	23	1	0	867
cSH	47	171	1192	552	1700
Volume to Capacity	11.24	0.15	0.08	0.01	0.51
Queue Length 95th (ft)	Err	12	6	1	0
Control Delay (s)	Err	29.6	2.9	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	29.6	2.9	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1678.3		
Intersection Capacity Utilization	131.0%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	35	425	415	100	55	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	464	566	0	149	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

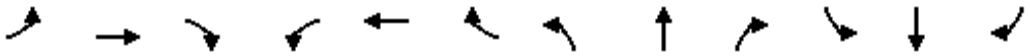
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	35	425	415	100	55	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	35	429	456	110	63	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	566				1011	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				1012	464
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				73	84
cM capacity (veh/h)	951				234	548

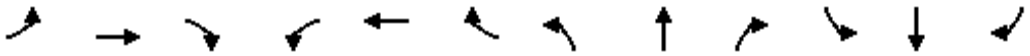
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	465	566	149
Volume Left	35	0	63
Volume Right	0	110	86
cSH	951	1700	349
Volume to Capacity	0.04	0.33	0.43
Queue Length 95th (ft)	3	0	52
Control Delay (s)	1.1	0.0	22.8
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	22.8
Approach LOS			C

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization		65.6%	ICU Level of Service C
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	15	175	115	245	305	10	75	20	120	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	377	0	0	596	0	0	253	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

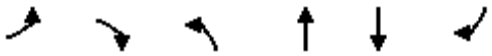
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	175	115	245	305	10	75	20	120	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	19	216	142	261	324	11	88	24	141	0	7	0

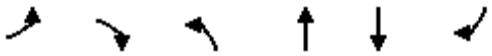
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	377	596	253	7
Volume Left (vph)	19	261	88	0
Volume Right (vph)	142	11	141	0
Hadj (s)	-0.20	0.11	-0.23	0.00
Departure Headway (s)	5.5	5.5	6.2	7.3
Degree Utilization, x	0.58	0.91	0.44	0.01
Capacity (veh/h)	624	596	556	429
Control Delay (s)	15.7	39.0	13.9	10.4
Approach Delay (s)	15.7	39.0	13.9	10.4
Approach LOS	C	E	B	B

Intersection Summary			
Delay	26.5		
HCM Level of Service	D		
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	205	90	185	575	430	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	311	0	0	826	865	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	205	90	185	575	430	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	216	95	201	625	462	403
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1691	664	866			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1691	664	866			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	79	74			
cM capacity (veh/h)	76	461	778			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	311	826	866
Volume Left	216	201	0
Volume Right	95	0	403
cSH	102	778	1700
Volume to Capacity	3.05	0.26	0.51
Queue Length 95th (ft)	Err	26	0
Control Delay (s)	Err	6.2	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1553.3		
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		849			541			994		250		
Travel Time (s)		19.3			12.3			22.6		5.7		
Volume (vph)	25	0	375	195	240	35	35	460	10	35	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	511	0	0	549	0	76	0	0
Sign Control		Stop			Free			Free		Stop		

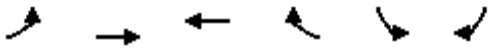
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	195	240	35	35	460	10	35	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	212	261	38	38	500	11	38	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					541			994				
pX, platoon unblocked	0.93	0.93	0.88	0.88			0.89			0.93	0.93	0.89
vC, conflicting volume	1323	1304	505	511			299			1693	1291	280
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1173	1153	435	442			214			1571	1138	193
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	78	100	25	78			97			0	100	95
cM capacity (veh/h)	122	139	544	984			1210			17	142	757

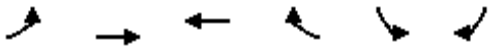
Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	511	549	76
Volume Left	27	212	38	38
Volume Right	408	38	11	38
cSH	447	984	1210	33
Volume to Capacity	0.97	0.22	0.03	2.29
Queue Length 95th (ft)	301	20	2	216
Control Delay (s)	66.7	5.5	0.9	845.2
Lane LOS	F	A	A	F
Approach Delay (s)	66.7	5.5	0.9	845.2
Approach LOS	F			F

Intersection Summary			
Average Delay	61.5		
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		717	1241		848	
Travel Time (s)		16.3	28.2		19.3	
Volume (vph)	60	800	840	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	935	973	0	120	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	60	800	840	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	870	913	60	60	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		717	1241			
pX, platoon unblocked	0.69				0.83	0.69
vC, conflicting volume	973				1943	943
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	961				1659	918
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				22	74
cM capacity (veh/h)	496				77	228

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	935	973	120
Volume Left	65	0	60
Volume Right	0	60	60
cSH	496	1700	115
Volume to Capacity	0.13	0.57	1.04
Queue Length 95th (ft)	11	0	175
Control Delay (s)	4.3	0.0	166.4
Lane LOS	A		F
Approach Delay (s)	4.3	0.0	166.4
Approach LOS			F

Intersection Summary			
Average Delay	11.8		
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 1 PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	452	0.0	0.612	14.3	LOS B	179	0.85	0.93	22.7
8T	T	914	0.0	1.238	125.2	LOS F	1964	1.00	3.30	7.5
Approach		**1366**	**0.0**	**1.238**	**88.5**	**LOS F**	**1964**	**0.95**	**2.51**	**9.7**
Mystic Valley Parkway										
4T	T	803	0.0	0.916	20.9	LOS C	572	1.00	1.38	20.0
4R	R	576	0.0	0.752	13.9	LOS B	288	0.97	1.10	22.5
Approach		**1379**	**0.0**	**0.915**	**18.0**	**LOS B**	**572**	**0.99**	**1.27**	**21.0**
Mystic Valley Parkway										
5L	L	377	0.0	0.714	23.5	LOS C	247	1.00	1.22	19.6
2R	R	327	0.0	0.690	19.5	LOS B	219	1.00	1.20	20.4
Approach		**704**	**0.0**	**0.714**	**21.7**	**LOS C**	**247**	**1.00**	**1.21**	**20.0**
All Vehicles		**3449**	**0.0**	**1.238**	**46.7**	**LOS D**	**1964**	**0.97**	**1.75**	**14.3**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\Alt 1\Mystic&Alewife Alt1.aap
Processed Oct 06, 2008 03:06:23PM

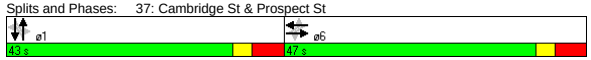
2030 Build Alternative 2a Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	55	305	10	80	355	15	35	275	80	30	335	45
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	474	0	0	476	0	0	466	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	32.0	32.0		32.0	32.0		25.0	25.0		25.0	25.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.57			0.72			0.73			0.66	
Control Delay		23.2			28.6			22.1			28.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.2			28.6			22.1			28.3	
Queue Length 50th (ft)		164			215			91			214	
Queue Length 95th (ft)		256			337			m169			313	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		692			659			654			701	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.57			0.72			0.73			0.66	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1832			1791			1825			1910	
Flt Permitted		0.87			0.84			0.92			0.94	
Satd. Flow (perm)		1597			1522			1682			1802	
Volume (vph)	55	305	10	80	355	15	35	275	80	30	335	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	59	324	11	84	374	16	43	335	98	34	381	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	474	0	0	476	0	0	466	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		39.0			39.0			35.0			35.0	
Effective Green, g (s)		39.0			39.0			35.0			35.0	
Actuated g/C Ratio		0.43			0.43			0.39			0.39	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		692			660			654			701	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.31			c0.28			0.26	
v/c Ratio		0.57			0.72			0.73			0.66	
Uniform Delay, d1		19.2			21.0			23.4			22.7	
Progression Factor		1.00			1.00			0.67			1.00	
Incremental Delay, d2		3.4			6.6			5.8			4.9	
Delay (s)		22.6			27.6			21.6			27.6	
Level of Service		C			C			C			C	
Approach Delay (s)		22.6			27.6			21.6			27.6	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

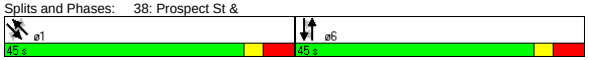
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	345	30	25	390	10	20	510	90	40	280	25
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	559	0	0	467	0	0	660	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.58			0.66			0.91			0.64	
Control Delay		23.5			11.0			43.3			27.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.5			11.1			43.3			27.1	
Queue Length 50th (ft)		126			68			344			176	
Queue Length 95th (ft)		165			90			#561			263	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		962			712			729			618	
Starvation Cap Reductn		0			6			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.58			0.66			0.91			0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 38: Prospect St &



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3355			1831			1811			1793	
Flt Permitted		0.69			0.94			0.98			0.83	
Satd. Flow (perm)		2340			1732			1775			1504	
Volume (vph)	100	345	30	25	390	10	20	510	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	406	35	27	429	11	21	543	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	559	0	0	467	0	0	660	0	0	397	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		962			712			730			618	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.27			c0.37			0.26	
v/c Ratio		0.58			0.66			0.90			0.64	
Uniform Delay, d1		20.5			21.4			24.8			21.2	
Progression Factor		1.00			0.34			1.00			1.00	
Incremental Delay, d2		2.6			3.5			16.7			5.1	
Delay (s)		23.1			10.8			41.6			26.3	
Level of Service		C			B			D			C	
Approach Delay (s)		23.1			10.8			41.6			26.3	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

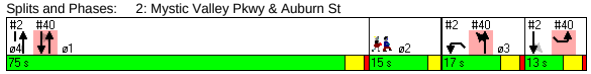
c Critical Lane Group

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	479			104	899			
Travel Time (s)	10.9			2.4	20.4			
Volume (vph)	840	20	110	1265	120	70		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	966	0	0	1528	231	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		15.0	13.0
Total Split (s)	75.0	0.0	88.0	88.0	17.0	0.0	15.0	13.0
Total Split (%)	62.5%	0.0%	73.3%	73.3%	14.2%	0.0%	13%	11%
Maximum Green (s)	70.0				12.0		12.0	8.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.45			0.88	0.61			
Control Delay	9.7			4.9	48.7			
Queue Delay	0.1			0.0	0.5			
Total Delay	9.8			4.9	49.2			
Queue Length 50th (ft)	207			37	146			
Queue Length 95th (ft)	m208			m36	#299			
Internal Link Dist (ft)	399			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2131			1739	378			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	261			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.52			0.88	0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3598			3323	1849	
Flt Permitted	1.00			0.73	0.97	
Satd. Flow (perm)	3598			2441	1849	
Volume (vph)	840	20	110	1265	120	70
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	944	22	122	1406	146	85
RTOR Reduction (vph)	1	0	0	0	16	0
Lane Group Flow (vph)	965	0	0	1528	215	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	67.6			82.1	22.5	
Effective Green, g (s)	68.6			83.1	23.5	
Actuated g/C Ratio	0.57			0.69	0.20	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2057			1690	362	
v/s Ratio Prot	0.27				c0.12	
v/s Ratio Perm				c0.63		
v/c Ratio	0.47			0.90	0.59	
Uniform Delay, d1	15.0			15.2	43.9	
Progression Factor	0.69			0.18	1.00	
Incremental Delay, d2	0.2			2.0	3.0	
Delay (s)	10.6			4.6	47.0	
Level of Service	B			A	D	
Approach Delay (s)	10.6			4.6	47.0	
Approach LOS	B			A	D	

Intersection Summary

HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

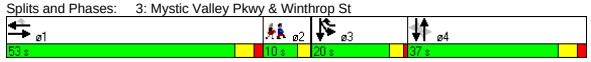
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	975	20	0	1105	205	30	405	365	565	875	125	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1058	0	0	1176	218	0	1025	0	0	1683	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	53.0	0.0	0.0	53.0	20.0	37.0	37.0	0.0	20.0	57.0	0.0	10.0
Total Split (%)	0.0%	44.2%	0.0%	0.0%	44.2%	16.7%	30.8%	30.8%	0.0%	16.7%	47.5%	0.0%	8%
Maximum Green (s)		47.0			47.0	16.0	31.0	31.0		16.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.31			1.56	0.21		1.63			1.48dl		
Control Delay		174.5			288.7	4.1		319.8			202.3		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		174.5			288.7	4.1		319.8			202.3		
Queue Length 50th (ft)		~1083			~1289	24		~562			~649		
Queue Length 95th (ft)		m#1346			#1549	53		#562			#1158		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		809			752	1048		627			1218		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.31			1.56	0.21		1.63			1.38		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3323			3469	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1953			2058	
Volume (vph)	0	975	20	0	1105	205	30	405	365	565	875	125
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1037	21	0	1176	218	38	519	468	608	941	134
RTOR Reduction (vph)	0	1	0	0	0	55	0	106	0	0	5	0
Lane Group Flow (vph)	0	1057	0	0	1176	163	0	919	0	0	1678	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		44.6			44.6	68.6		31.0			55.0	
Effective Green, g (s)		45.6			45.6	68.6		32.0			55.0	
Actuated g/C Ratio		0.38			0.38	0.57		0.27			0.46	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		768			715	914		521			1214	
v/s Ratio Prot		0.52			c0.63	0.03					c0.27	
v/s Ratio Perm						0.07		c0.47			0.37	
v/c Ratio		1.38			1.64	0.18		1.76			1.48dl	
Uniform Delay, d1		37.2			37.2	12.3		44.0			32.5	
Progression Factor		0.83			1.00	1.00		1.00			1.00	
Incremental Delay, d2		176.6			296.4	0.0		351.3			177.2	
Delay (s)		207.6			333.6	12.3		395.3			209.7	
Level of Service		F			F	B		F			F	
Approach Delay (s)		207.6			283.4			395.3			209.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	266.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	139.0%	ICU Level of Service	H
Analysis Period (min)	15		

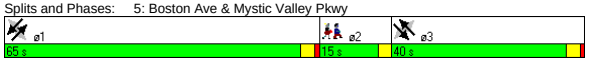
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2678			387			591			390		
Travel Time (s)		60.9			8.8			13.4			8.9		
Volume (vph)	65	420	85	75	280	10	40	810	180	50	1230	85	
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.85	0.85	0.85	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	0%	0%	0%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	704	0	0	434	0	0	1212	0	0	1534	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	65.0	65.0	0.0	65.0	65.0	0.0	15.0
Total Split (%)	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%	54.2%	54.2%	0.0%	54.2%	54.2%	0.0%	13%
Maximum Green (s)	36.0	36.0		36.0	36.0		61.0	61.0		61.0	61.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.11			1.15			1.04			1.17		
Control Delay		104.9			128.0			65.7			119.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		104.9			128.0			65.7			119.1		
Queue Length 50th (ft)		~590			~377			~526			~767		
Queue Length 95th (ft)		#851			#619			#600			#867		
Internal Link Dist (ft)		2598			307			511			310		
Turn Bay Length (ft)													
Base Capacity (vph)		633			377			1168			1306		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			1.15			1.04			1.17		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NESW, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Boston Ave & Mystic Valley Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1917			1894			3508			3534	
Flt Permitted		0.87			0.63			0.63			0.71	
Satd. Flow (perm)		1673			1203			2202			2505	
Volume (vph)	65	420	85	75	280	10	40	810	180	50	1230	85
Peak-hour factor, PHF	0.81	0.81	0.81	0.84	0.84	0.84	0.85	0.85	0.85	0.89	0.89	0.89
Adj. Flow (vph)	80	519	105	89	333	12	47	953	212	56	1382	96
RTOR Reduction (vph)	0	5	0	0	1	0	0	15	0	0	4	0
Lane Group Flow (vph)	0	699	0	0	433	0	0	1197	0	0	1530	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		48.0			48.0			58.6			58.6	
Effective Green, g (s)		48.0			48.0			58.6			58.6	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		669			481			1075			1223	
v/s Ratio Prot												
v/s Ratio Perm		c0.42			0.36			0.54			c0.61	
v/c Ratio		1.05			0.90			1.11			1.25	
Uniform Delay, d1		36.0			33.8			30.7			30.7	
Progression Factor		1.00			1.00			1.00			1.32	
Incremental Delay, d2		47.2			20.2			64.0			116.9	
Delay (s)		83.2			53.9			94.7			157.6	
Level of Service		F			D			F			F	
Approach Delay (s)		83.2			53.9			94.7			157.6	
Approach LOS		F			D			F			F	

Intersection Summary

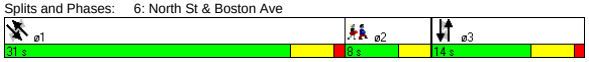
HCM Average Control Delay	112.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			958			1456		
Travel Time (s)		22.5			15.0			21.8			33.1		
Volume (vph)	30	20	15	65	50	45	5	555	55	15	300	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	98	0	0	188	0	0	661	0	0	365	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	14.0	14.0	0.0	14.0	14.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0	8.0
Total Split (%)	26.4%	26.4%	0.0%	26.4%	26.4%	0.0%	58.5%	58.5%	0.0%	58.5%	58.5%	0.0%	15%
Maximum Green (s)	9.0	9.0		9.0	9.0		26.0	26.0		26.0	26.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.35			0.62			0.56			0.32		
Control Delay		20.3			28.5			9.5			6.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		20.3			28.5			9.5			6.4		
Queue Length 50th (ft)		21			43			88			39		
Queue Length 95th (ft)		44			#117			#263			114		
Internal Link Dist (ft)		911			582			878			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		286			306			1174			1145		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.34			0.61			0.56			0.32		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 49.9	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1799			1756			1778			1789	
Flt Permitted		0.75			0.87			1.00			0.97	
Satd. Flow (perm)		1378			1559			1775			1734	
Volume (vph)	30	20	15	65	50	45	5	555	55	15	300	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	45	30	23	76	59	53	5	597	59	17	337	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	98	0	0	188	0	0	661	0	0	365	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		7.7			7.7			31.4			31.4	
Effective Green, g (s)		8.7			8.7			32.4			32.4	
Actuated g/C Ratio		0.16			0.16			0.61			0.61	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		226			256			1085			1060	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.12			c0.37			0.21	
v/c Ratio		0.43			0.73			0.61			0.34	
Uniform Delay, d1		19.9			21.1			6.4			5.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.8			11.1			2.5			0.9	
Delay (s)		21.7			32.1			8.9			6.0	
Level of Service		C			C			A			A	
Approach Delay (s)		21.7			32.1			8.9			6.0	
Approach LOS		C			C			A			A	

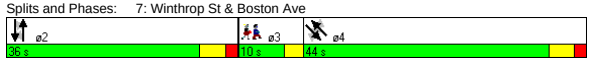
Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	15	345	70	135	120	90	200	415	25	35	195	95	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	524	0	0	391	0	0	681	0	0	350	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	15.0	15.0		15.0	15.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	10.0
Total Split (%)	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	11%
Maximum Green (s)	29.9	29.9		29.9	29.9		38.0	38.0		38.0	38.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.77			1.22			1.09			0.47		
Control Delay		32.8			150.5			88.3			17.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		32.8			150.5			88.3			17.8		
Queue Length 50th (ft)		221			~240			~383			110		
Queue Length 95th (ft)		#363			#453			#686			225		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		677			321			623			741		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.77			1.22			1.09			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 82	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1819			1880			1807			1729	
Flt Permitted		0.98			0.48			0.73			0.90	
Satd. Flow (perm)		1785			915			1338			1563	
Volume (vph)	15	345	70	135	120	90	200	415	25	35	195	95
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	18	421	85	153	136	102	213	441	27	38	210	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	524	0	0	391	0	0	681	0	0	350	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.0			30.0			38.1			38.1	
Effective Green, g (s)		31.1			31.1			39.1			39.1	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		657			337			619			723	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.43			c0.51			0.22	
v/c Ratio		0.80			1.16			1.10			0.48	
Uniform Delay, d1		23.9			26.7			22.7			15.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.3			100.0			66.7			2.3	
Delay (s)		30.1			126.7			89.4			18.0	
Level of Service		C			F			F			B	
Approach Delay (s)		30.1			126.7			89.4			18.0	
Approach LOS		C			F			F			B	

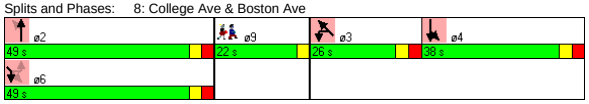
Intersection Summary					
HCM Average Control Delay	68.1	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.13				
Actuated Cycle Length (s)	84.5	Sum of lost time (s)		14.3	
Intersection Capacity Utilization	118.6%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	130	5	60	335	85	70	335	210	10	190	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	150	0	0	539	0	0	465	241	0	318	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	49.0	49.0	0.0	38.0	38.0	0.0	49.0	49.0	49.0	26.0	26.0	0.0	22.0
Total Split (%)	36.3%	36.3%	0.0%	28.1%	28.1%	0.0%	36.3%	36.3%	36.3%	19.3%	19.3%	0.0%	16%
Maximum Green (s)	43.0	43.0		32.0	32.0		43.0	43.0	43.0	20.0	20.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.23			1.04			1.01	0.40		0.98		
Control Delay	29.7	30.4			94.8			83.7	19.4		95.4		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.7	30.4			94.8			83.7	19.4		95.4		
Queue Length 50th (ft)	39	72			384			322	65		226		
Queue Length 95th (ft)	93	155			#770			#650	159		#364		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	669	660			516			462	609		325		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.23			1.04			1.01	0.40		0.98		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	0.99			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1852			1927			1832	1516		1940	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1852			1927			1299	1516		1940	
Volume (vph)	75	130	5	60	335	85	70	335	210	10	190	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	144	6	67	376	96	80	385	241	14	257	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	70	0	4	0
Lane Group Flow (vph)	83	149	0	0	533	0	0	465	171	0	314	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	43.3	43.3			32.2			43.3	43.3		20.2	
Effective Green, g (s)	43.3	43.3			32.2			43.3	43.3		20.2	
Actuated g/C Ratio	0.35	0.35			0.26			0.35	0.35		0.16	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	659	649			502			455	531		317	
v/s Ratio Prot		0.08			c0.28				0.11		c0.16	
v/s Ratio Perm	0.04							c0.36				
v/c Ratio	0.13	0.23			1.06			1.02	0.32		0.99	
Uniform Delay, d1	27.3	28.4			45.7			40.2	29.4		51.6	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			57.6			47.9	0.4		47.2	
Delay (s)	27.4	28.5			103.3			88.0	29.8		98.8	
Level of Service	C	C			F			F	C		F	
Approach Delay (s)		28.1			103.3			68.1			98.8	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	78.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

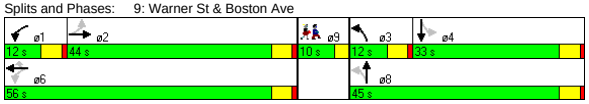
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1450			1738		
Travel Time (s)		12.0			40.8			33.0			39.5		
Volume (vph)	5	365	45	65	640	170	25	40	65	50	305	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	451	0	0	774	187	0	146	0	0	413	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	44.0	44.0	0.0	12.0	56.0	56.0	12.0	45.0	0.0	33.0	33.0	0.0	10.0
Total Split (%)	39.6%	39.6%	0.0%	10.8%	50.5%	50.5%	10.8%	40.5%	0.0%	29.7%	29.7%	0.0%	9%
Maximum Green (s)	39.0	39.0		7.0	51.0	51.0	7.0	40.0		28.0	28.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.41			0.84	0.22		0.30			0.80		
Control Delay		11.5			26.0	3.2		17.9			41.9		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		11.5			26.0	3.2		17.9			41.9		
Queue Length 50th (ft)		113			300	5		38			199		
Queue Length 95th (ft)		250			#720	41		95			329		
Internal Link Dist (ft)		447			1715			1370			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1107			924	854		664			592		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.41			0.84	0.22		0.22			0.70		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 86.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1872			1973	
Flt Permitted		0.99			0.92	1.00		0.82			0.94	
Satd. Flow (perm)		1945			1677	1301		1556			1870	
Volume (vph)	5	365	45	65	640	170	25	40	65	50	305	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	397	49	71	703	187	28	45	73	58	355	0
RTOR Reduction (vph)	0	2	0	0	0	66	0	37	0	0	0	0
Lane Group Flow (vph)	0	449	0	0	774	121	0	109	0	0	413	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		51.4			51.4	51.4		23.0			23.0	
Effective Green, g (s)		52.4			52.4	52.4		24.0			24.0	
Actuated g/C Ratio		0.59			0.59	0.59		0.27			0.27	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1150			992	769		421			507	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46	0.09		0.07			c0.22	
v/c Ratio		0.39			0.78	0.16		0.26			0.81	
Uniform Delay, d1		9.6			13.7	8.2		25.3			30.2	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			3.7	0.0		0.1			9.2	
Delay (s)		9.7			17.5	8.2		25.4			39.5	
Level of Service		A			B	A		C			D	
Approach Delay (s)		9.7			15.7			25.4			39.5	
Approach LOS		A			B			C			D	

Intersection Summary

HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	88.6	Sum of lost time (s)	12.2
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

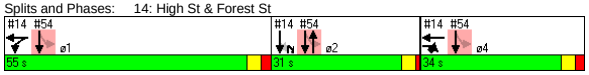
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	365	290	1375	605	80	80	40	440	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	392	312	1545	770	0	100	0	510	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	25.0	25.0	25.0			24.0	24.0	24.0	
Total Split (s)	34.0	34.0	55.0	89.0	0.0	31.0	31.0	31.0	0.0
Total Split (%)	28.3%	28.3%	45.8%	74.2%	0.0%	25.8%	25.8%	25.8%	0.0%
Maximum Green (s)	29.0	29.0	50.0			27.0	27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.07	0.99	1.10	0.61		0.11		1.16	
Control Delay	109.1	90.8	90.7	11.8		0.4		135.9	
Queue Delay	0.0	2.4	212.3	0.0		0.0		0.0	
Total Delay	109.1	93.2	302.9	11.8		0.4		135.9	
Queue Length 50th (ft)	~335	222	~701	276		0		~468	
Queue Length 95th (ft)	#530	#414	#821	377		0		#684	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	368	314	1403	1260		943		440	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	424	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.07	1.00	1.58	0.61		0.11		1.16	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 140
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	365	290	1375	605	80	80	40	440	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	392	312	1545	680	90	100	41	449	20
RTOR Reduction (vph)	0	24	0	4	0	78	0	2	0
Lane Group Flow (vph)	392	288	1545	766	0	23	0	508	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	29.0	29.0	50.0	84.0		27.0		27.0	
Effective Green, g (s)	29.0	29.0	50.0	84.0		27.0		27.0	
Actuated g/C Ratio	0.24	0.24	0.42	0.70		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	368	291	1403	1257		372		439	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.07	0.99	1.10	0.61		0.06		1.16	
Uniform Delay, d1	45.5	45.4	35.0	9.4		36.5		46.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	65.3	50.6	56.7	2.2		0.3		93.9	
Delay (s)	110.8	96.0	91.7	11.6		36.8		140.4	
Level of Service	F	F	F	B		D		F	
Approach Delay (s)				65.1				140.4	
Approach LOS				E				F	

Intersection Summary

HCM Average Control Delay	82.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

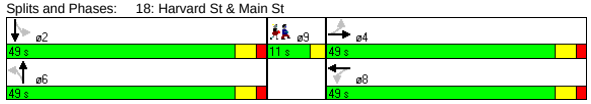
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	450	50	105	500	15	45	320	100	35	610	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	627	0	0	690	0	0	604	0	0	835	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.11			1.41			1.17			1.26		
Control Delay		98.8			223.5			123.3			154.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		98.8			223.5			123.3			154.4		
Queue Length 50th (ft)		~441			~576			~444			~647		
Queue Length 95th (ft)		#755			#904			#594			#977		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		567			489			517			665		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			1.41			1.17			1.26		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1613	
Flt Permitted		0.80			0.71			0.78			0.95	
Satd. Flow (perm)		1323			1156			1234			1530	
Volume (vph)	70	450	50	105	500	15	45	320	100	35	610	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	495	55	117	556	17	58	416	130	40	693	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	627	0	0	690	0	0	604	0	0	835	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		568			496			530			657	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.60			0.49			c0.55	
v/c Ratio		1.10			1.39			1.14			1.27	
Uniform Delay, d1		29.3			29.3			29.3			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		69.4			188.1			83.7			133.6	
Delay (s)		98.7			217.4			113.0			162.9	
Level of Service		F			F			F			F	
Approach Delay (s)		98.7			217.4			113.0			162.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	151.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		

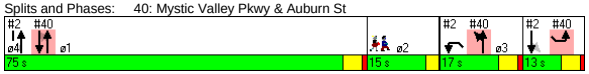
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	55	855	1235	25	15	140	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	59	919	1286	0	187	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	17.0	92.0	75.0	0.0	13.0	0.0	15.0
Total Split (%)	14.2%	76.7%	62.5%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	12.0		70.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.14	0.59	1.09		0.89		
Control Delay	21.3	9.6	57.8		76.9		
Queue Delay	0.0	0.0	27.7		14.6		
Total Delay	21.3	9.6	85.4		91.5		
Queue Length 50th (ft)	11	386	~418		99		
Queue Length 95th (ft)	m52	352	m61		#218		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	416	1547	1185		209		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	67		18		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.14	0.59	1.15		0.98		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1805	1900	2001		1771	
Flt Permitted	0.06	1.00	1.00		1.00	
Satd. Flow (perm)	111	1900	2001		1771	
Volume (vph)	55	855	1235	25	15	140
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	59	919	1260	26	18	169
RTOR Reduction (vph)	0	0	1	0	55	0
Lane Group Flow (vph)	59	919	1285	0	132	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	90.1	90.1	67.6		9.5	
Effective Green, g (s)	92.1	92.1	68.6		10.5	
Actuated g/C Ratio	0.77	0.77	0.57		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	417	1458	1144		155	
v/s Ratio Prot	0.03	c0.48	c0.64		c0.07	
v/s Ratio Perm	0.08					
v/c Ratio	0.14	0.63	1.12		0.85	
Uniform Delay, d1	40.1	6.3	25.7		54.0	
Progression Factor	2.21	1.76	0.61		1.00	
Incremental Delay, d2	0.2	0.9	56.8		34.9	
Delay (s)	89.0	12.0	72.6		88.9	
Level of Service	F	B	E		F	
Approach Delay (s)		16.6	72.6		88.9	
Approach LOS		B	E		F	

Intersection Summary

HCM Average Control Delay	51.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

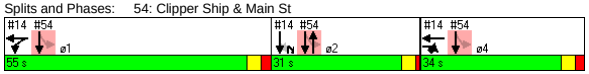
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	440	50	2055		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	473	0	2171		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			24.0				25.0	25.0
Total Split (s)	0.0	0.0	31.0	0.0	120.0	120.0	55.0	34.0
Total Split (%)	0.0%	0.0%	25.8%	0.0%	100.0%	100.0%	46%	28%
Maximum Green (s)			27.0				50.0	29.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.31		0.85		
Control Delay			39.6	0.5		9.8		
Queue Delay			0.0	0.0		0.0		
Total Delay			39.6	0.5		9.8		
Queue Length 50th (ft)			55	0		362		
Queue Length 95th (ft)			101	0		m153		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			400	1509		2568		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			5	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.22	0.31		0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 86 (72%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.82
Satd. Flow (perm)			1776	1509		2568
Volume (vph)	0	0	80	440	50	2055
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	473	52	2119
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	473	0	2171
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			27.0	120.0		120.0
Effective Green, g (s)			27.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			400	1509		2568
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.31		c0.85
v/c Ratio			0.22	0.31		0.85
Uniform Delay, d1			37.9	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.2	0.5		0.3
Delay (s)			39.1	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		6.5			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

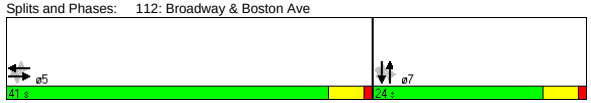
c Critical Lane Group

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		1009					744				1293			1450
Travel Time (s)		22.9					16.9				29.4			33.0
Volume (vph)	10	885	30	20	10	5	530	130	5	15	50	70	315	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1028	0	0	0	0	592	141	0	0	75	76	0	380
Turn Type	Perm				custom		Over	Free	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		Free	7	7		Free	7	
Detector Phases	5	5			5	5	5		7	7	7		7	7
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0		20.0	20.0	20.0		20.0	20.0
Total Split (s)	41.0	41.0	0.0	0.0	41.0	41.0	41.0	0.0	24.0	24.0	24.0	0.0	24.0	24.0
Total Split (%)	63.1%	63.1%	0.0%	0.0%	63.1%	63.1%	63.1%	0.0%	36.9%	36.9%	36.9%	0.0%	36.9%	36.9%
Maximum Green (s)	36.0	36.0			36.0	36.0	36.0		19.0	19.0	19.0		19.0	19.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max		None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0							
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0							
Pedestrian Calls (#/hr)	0	0			0	0	0							
v/c Ratio		0.87					0.60	0.09			0.14	0.06		1.04
Control Delay		22.2					12.3	0.1			17.2	0.1		85.9
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		22.2					12.3	0.1			17.2	0.1		85.9
Queue Length 50th (ft)		310					138	0			21	0		~176
Queue Length 95th (ft)		#582					227	0			49	0		#334
Internal Link Dist (ft)		929					664				1213			1370
Turn Bay Length (ft)														
Base Capacity (vph)		1186					992	1531			534	1322		364
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.87					0.60	0.09			0.14	0.06		1.04

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 65
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 112: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	10	20
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	22
Turn Type		Perm
Protected Phases		
Permitted Phases		7
Detector Phases		7
Minimum Initial (s)		4.0
Minimum Split (s)		20.0
Total Split (s)	0.0	24.0
Total Split (%)	0.0%	36.9%
Maximum Green (s)		19.0
Yellow Time (s)		4.0
All-Red Time (s)		1.0
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		3.0
Recall Mode		None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.06
Control Delay		8.0
Queue Delay		0.0
Total Delay		8.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		14
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		356
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.06

Intersection Summary

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		0.95
Frt		0.99					1.00	0.85			1.00	0.85		1.00
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.96
Satd. Flow (prot)		2095					1798	1531			2082	1322		1630
Flt Permitted		0.99					0.97	1.00			0.82	1.00		0.69
Satd. Flow (perm)		2083					1743	1531			1737	1322		1182
Volume (vph)	10	885	30	20	10	5	530	130	5	15	50	70	315	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	962	33	22	11	5	576	141	5	16	54	76	342	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1028	0	0	0	0	592	141	0	0	75	76	0	380
Turn Type	Perm				custom		Over	Free	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		Free	7	7		Free	7	
Actuated Green, G (s)		36.0					36.0	65.0			19.0	65.0		19.0
Effective Green, g (s)		37.0					37.0	65.0			20.0	65.0		20.0
Actuated g/C Ratio		0.57					0.57	1.00			0.31	1.00		0.31
Clearance Time (s)		5.0					5.0				5.0			5.0
Vehicle Extension (s)		3.0					3.0				3.0			3.0
Lane Grp Cap (vph)		1186					992	1531			534	1322		364
v/s Ratio Prot														
v/s Ratio Perm		c0.49					0.34	0.09			0.04	0.06		c0.32
v/c Ratio		0.87					0.60	0.09			0.14	0.06		1.04
Uniform Delay, d1		11.9					9.1	0.0			16.3	0.0		22.5
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		8.6					2.6	0.1			0.1	0.1		59.1
Delay (s)		20.5					11.8	0.1			16.4	0.1		81.6
Level of Service		C					B	A			B	A		F
Approach Delay (s)		20.5					9.5				8.2			78.0
Approach LOS		C					A				A			E

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extention
112: Broadway & Boston Ave
2030 Build Alt 2a Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		0.95
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1108
Flt Permitted		1.00
Satd. Flow (perm)		1108
Volume (vph)	10	20
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	11	22
RTOR Reduction (vph)	0	15
Lane Group Flow (vph)	0	7
Turn Type		Perm
Protected Phases		
Permitted Phases		7
Actuated Green, G (s)		19.0
Effective Green, g (s)		20.0
Actuated g/C Ratio		0.31
Clearance Time (s)		5.0
Vehicle Extension (s)		3.0
Lane Grp Cap (vph)		341
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.02
Uniform Delay, d1		15.7
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		15.7
Level of Service		B
Approach Delay (s)		
Approach LOS		

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1219						1176			419		
Travel Time (s)			27.7						26.7			9.5		
Volume (vph)	5	15	650	495	20	1	5	20	490	55	235	155	35	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	712	548	0	0	0	0	621	0	0	447	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	32.0	32.0	32.0	26.0	0.0	32.0	32.0	32.0	32.0	0.0	26.0	26.0	0.0	23.0
Total Split (%)	26.7%	26.7%	26.7%	21.7%	0.0%	26.7%	26.7%	26.7%	26.7%	0.0%	21.7%	21.7%	0.0%	19.2%
Maximum Green (s)	26.0	26.0	26.0	20.0		26.0	26.0	26.0	26.0		20.0	20.0		17.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.98	0.69					1.07			1.18		
Control Delay			68.7	26.2					94.4			141.3		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			68.7	26.2					94.4			141.3		
Queue Length 50th (ft)			234	240					~224			~334		
Queue Length 95th (ft)			#462	516					#432			#664		
Internal Link Dist (ft)			1139						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			725	795					582			380		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.98	0.69					1.07			1.18		

Intersection Summary

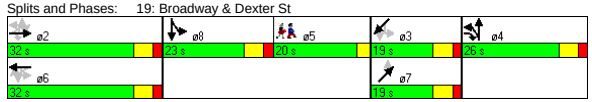
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extention
19: Broadway & Dexter St
2030 Build Alt 2a Condition - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	295	20	25	0	90	20	85	15	40	5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	418	0	0	105	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	23.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	20.0
Total Split (%)	19.2%	0.0%	0.0%	15.8%	0.0%	15.8%	15.8%	15.8%	0.0%	0.0%	17%
Maximum Green (s)	17.0			13.0		13.0	13.0	13.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.23			0.47				1.19			
Control Delay	164.7			50.9				170.2			
Queue Delay	0.0			0.0				0.0			
Total Delay	164.7			50.9				170.2			
Queue Length 50th (ft)	~323			62				~147			
Queue Length 95th (ft)	#603			131				#329			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	339			222				164			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.23			0.47				1.19			

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008



Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3265			1861		
Flt Permitted			0.86	1.00					0.75			0.97		
Satd. Flow (perm)			3012	1549					2465			1861		
Volume (vph)	5	15	650	495	20	1	5	20	490	55	235	155	35	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	691	527	21	1	5	22	533	60	247	163	37	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	712	547	0	0	0	0	621	0	0	445	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			26.1	46.2					26.1			20.1		
Effective Green, g (s)			27.1	48.2					27.1			21.1		
Actuated g/C Ratio			0.25	0.45					0.25			0.20		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			768	775					628			369		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.24	0.21					c0.25					
v/c Ratio			0.93	0.71					0.99			1.20		
Uniform Delay, d1			38.6	23.3					39.4			42.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			17.3	4.3					32.8			115.2		
Delay (s)			56.0	27.7					72.2			157.8		
Level of Service			E	C					E			F		
Approach Delay (s)			43.7						72.2			157.8		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	92.5	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	112.0%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St
2030 Build Alt 2a Condition - AM Peak
HCM Signalized Intersection Capacity Analysis



Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1938			1644				1765		
Flt Permitted	1.00			1.00				0.71		
Satd. Flow (perm)	1938			1644				1288		
Volume (vph)	295	20	25	0	90	20	85	15	40	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	343	23	29	0	105	24	100	18	47	6
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	416	0	0	105	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	17.1			13.1				13.1		
Effective Green, g (s)	18.1			14.1				14.1		
Actuated g/C Ratio	0.17			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	330			218				171		
v/s Ratio Prot	c0.21			0.06						
v/s Ratio Perm								c0.15		
v/c Ratio	1.26			0.48				1.14		
Uniform Delay, d1	44.1			42.7				46.1		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	138.9			0.6				109.8		
Delay (s)	183.0			43.3				155.9		
Level of Service	F			D				F		
Approach Delay (s)	183.0			43.3				155.9		
Approach LOS	F			D				F		

Intersection Summary

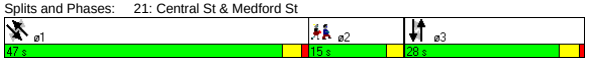
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	80	25	180	15	15	635	120	85	260	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	403	0	0	259	0	0	846	0	0	390	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	47.0	47.0	0.0	47.0	47.0	0.0	15.0
Total Split (%)	31.1%	31.1%	0.0%	31.1%	31.1%	0.0%	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	17%
Maximum Green (s)	24.0	24.0		24.0	24.0		43.0	43.0		43.0	43.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.84			0.52			0.84			0.62		
Control Delay		43.3			27.9			25.2			18.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		43.3			27.9			25.2			18.8		
Queue Length 50th (ft)		162			96			288			108		
Queue Length 95th (ft)		#341			194			#720			#296		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		487			505			1012			625		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			0.51			0.84			0.62		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.3
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1787			1817			1822			1799	
Flt Permitted		0.89			0.92			0.99			0.69	
Satd. Flow (perm)		1596			1682			1807			1258	
Volume (vph)	55	195	80	25	180	15	15	635	120	85	260	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	98	29	212	18	16	698	132	93	286	11
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	390	0	0	259	0	0	846	0	0	389	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.4			23.4			43.3			43.3	
Effective Green, g (s)		23.4			23.4			43.3			43.3	
Actuated g/C Ratio		0.29			0.29			0.54			0.54	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		468			493			980			683	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.15			c0.47			0.31	
v/c Ratio		0.83			0.53			0.86			0.57	
Uniform Delay, d1		26.4			23.6			15.7			12.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.6			1.3			10.0			3.4	
Delay (s)		39.0			24.9			25.7			15.5	
Level of Service		D			C			C			B	
Approach Delay (s)		39.0			24.9			25.7			15.5	
Approach LOS		D			C			C			B	

Intersection Summary

HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	13.1
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

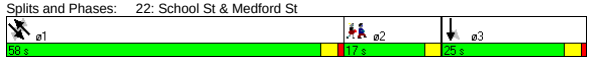
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			327		
Travel Time (s)		21.7			21.8			35.4			7.4		
Volume (vph)	0	0	0	135	300	20	10	765	100	160	285	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	495	0	0	911	0	0	591	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	25.0	25.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	25.0%	25.0%	0.0%	58.0%	58.0%	0.0%	58.0%	58.0%	0.0%	17%
Maximum Green (s)				21.0	21.0		54.0	54.0		54.0	54.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.06			0.77			1.09		
Control Delay					92.6			20.7			85.3		
Queue Delay					0.0			0.0			0.0		
Total Delay					92.6			20.7			85.3		
Queue Length 50th (ft)					255			271			~288		
Queue Length 95th (ft)					#585			#747			#654		
Internal Link Dist (ft)		873			879			1476			247		
Turn Bay Length (ft)													
Base Capacity (vph)					469			1181			544		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.06			0.77			1.09		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 89.8	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1985			1951			1877	
Flt Permitted					0.99			0.99			0.52	
Satd. Flow (perm)					1985			1940			994	
Volume (vph)	0	0	0	135	300	20	10	765	100	160	285	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	147	326	22	10	797	104	182	324	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	4	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	493	0	0	907	0	0	586	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					21.2			54.5			54.5	
Effective Green, g (s)					21.2			54.5			54.5	
Actuated g/C Ratio					0.23			0.59			0.59	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					459			1153			591	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.47			c0.59	
v/c Ratio					1.08			0.79			0.99	
Uniform Delay, d1					35.2			14.2			18.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					63.6			5.4			34.9	
Delay (s)					98.9			19.6			53.3	
Level of Service					F			B			D	
Approach Delay (s)		0.0			98.9			19.6			53.3	
Approach LOS		A			F			B			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		

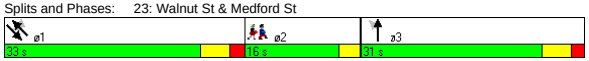
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1208			533		
Travel Time (s)		17.7			19.2			27.5			12.1		
Volume (vph)	80	200	10	0	0	0	10	615	0	0	170	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	651	0	0	216	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.42						0.83			0.28		
Control Delay		18.4						30.2			14.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.4						30.2			14.8		
Queue Length 50th (ft)		81						208			49		
Queue Length 95th (ft)		197						#541			127		
Internal Link Dist (ft)		699			764			1128			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						786			768		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.42						0.83			0.28		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1818	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1847						1871			1818	
Volume (vph)	80	200	10	0	0	0	10	615	0	0	170	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	10	641	0	0	193	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	305	0	0	0	0	0	651	0	0	211	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						758			737	
v/s Ratio Prot											0.12	
v/s Ratio Perm		0.17						c0.35				
v/c Ratio		0.44						0.86			0.29	
Uniform Delay, d1		16.2						18.9			13.9	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						9.9			0.3	
Delay (s)		16.8						28.8			14.2	
Level of Service		B						C			B	
Approach Delay (s)		16.8			0.0			28.8			14.2	
Approach LOS		B			A			C			B	

Intersection Summary

HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

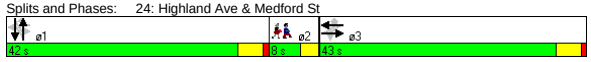
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	195	5	0	20	585	35	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	224	0	45	0	0	658	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	43.0	43.0	0.0	43.0	43.0	85.0	42.0	42.0	0.0	42.0	42.0	0.0	8.0
Total Split (%)	46.2%	46.2%	0.0%	46.2%	46.2%	91.4%	45.2%	45.2%	0.0%	45.2%	45.2%	0.0%	9%
Maximum Green (s)	38.0	38.0		38.0	38.0		37.0	37.0		37.0	37.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.80			1.04	0.14		0.07			1.14		
Control Delay		29.9			78.4	0.3		7.1			107.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		29.9			78.4	0.3		7.1			107.2		
Queue Length 50th (ft)		286			~280	0		3			~411		
Queue Length 95th (ft)		#553			#517	5		10			#700		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		829			490	1596		655			579		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.80			1.04	0.14		0.07			1.14		

Intersection Summary

Area Type: Other
Cycle Length: 93
Actuated Cycle Length: 86.6
Natural Cycle: 100
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1913	1632		1598			1778	
Flt Permitted		1.00			0.63	1.00		0.90			0.71	
Satd. Flow (perm)		1834			1211	1632		1448			1315	
Volume (vph)	0	590	25	35	410	195	5	0	20	585	35	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	224	9	0	36	616	37	5
RTOR Reduction (vph)	0	2	0	0	0	20	0	21	0	0	1	0
Lane Group Flow (vph)	0	659	0	0	511	204	0	24	0	0	657	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		38.0			38.0	80.0		37.0			37.0	
Effective Green, g (s)		39.0			39.0	81.0		38.0			38.0	
Actuated g/C Ratio		0.44			0.44	0.91		0.43			0.43	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		805			531	1487		619			562	
v/s Ratio Prot		0.36										
v/s Ratio Perm					c0.42	0.13		0.02			c0.50	
v/c Ratio		0.82			0.96	0.14		0.04			1.17	
Uniform Delay, d1		21.9			24.2	0.4		14.8			25.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		9.1			30.8	0.2		0.1			94.3	
Delay (s)		31.0			55.0	0.6		14.9			119.7	
Level of Service		C			E	A		B			F	
Approach Delay (s)		31.0			38.4			14.9			119.7	
Approach LOS		C			D			B			F	

Intersection Summary

HCM Average Control Delay	61.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

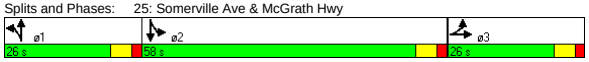
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	360	115	0	0	0	45	200	25	200	1245	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	619	0	0	0	0	0	266	27	213	1473	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	58.0	58.0	0.0
Total Split (%)	23.6%	23.6%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	52.7%	52.7%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		52.0	52.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.95						0.40	0.02	0.25	0.94	
Control Delay		67.9						41.1	0.0	17.9	39.6	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		67.9						41.1	0.0	17.9	39.6	
Queue Length 50th (ft)		221						87	0	86	498	
Queue Length 95th (ft)		#336						128	0	136	#670	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		651						663	1672	836	1568	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.95						0.40	0.02	0.25	0.94	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3306						3473	1672	1736	3239	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3306						3473	1672	1736	3239	
Volume (vph)	100	360	115	0	0	0	45	200	25	200	1245	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	387	124	0	0	0	49	217	27	213	1324	149
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	599	0	0	0	0	0	266	27	213	1465	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	110.0	52.0	52.0	
Effective Green, g (s)		21.0						21.0	110.0	53.0	53.0	
Actuated g/C Ratio		0.19						0.19	1.00	0.48	0.48	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		631						663	1672	836	1561	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.95						0.40	0.02	0.25	0.94	
Uniform Delay, d1		44.0						39.0	0.0	16.8	27.0	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		25.3						1.8	0.0	0.7	12.2	
Delay (s)		69.2						40.8	0.0	17.6	39.2	
Level of Service		E						D	A	B	D	
Approach Delay (s)		69.2			0.0			37.0			36.5	
Approach LOS		E			A			D			D	

Intersection Summary

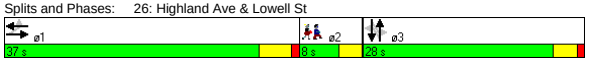
HCM Average Control Delay	44.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	385	0	0	455	25	25	70	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	483	0	0	632	0	0	190	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	37.0	37.0	0.0	0.0	37.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0	8.0
Total Split (%)	50.7%	50.7%	0.0%	0.0%	50.7%	0.0%	38.4%	38.4%	0.0%	38.4%	38.4%	0.0%	11%
Maximum Green (s)	32.0	32.0			32.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.64			0.65			0.37			0.82		
Control Delay		17.6			16.8			19.0			33.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.6			16.8			19.0			33.8		
Queue Length 50th (ft)		129			171			52			95		
Queue Length 95th (ft)		270			270			87			#257		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		759			967			588			482		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.64			0.65			0.32			0.73		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 62.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1814			1772			1693	
Flt Permitted		0.93			1.00			0.91			0.71	
Satd. Flow (perm)		1702			1814			1631			1233	
Volume (vph)	30	385	0	0	455	25	25	70	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	448	0	0	599	33	35	99	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	43	0
Lane Group Flow (vph)	0	483	0	0	632	0	0	190	0	0	308	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		32.4			32.4			19.8			19.8	
Effective Green, g (s)		33.4			33.4			19.8			19.8	
Actuated g/C Ratio		0.51			0.51			0.30			0.30	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		873			931			496			375	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.28						0.12			c0.25	
v/c Ratio		0.55			0.68			0.38			0.82	
Uniform Delay, d1		10.8			11.8			17.8			21.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			4.0			0.7			14.0	
Delay (s)		13.3			15.8			18.5			35.0	
Level of Service		B			B			B			D	
Approach Delay (s)		13.3			15.8			18.5			35.0	
Approach LOS		B			B			B			D	

Intersection Summary					
HCM Average Control Delay	19.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	65.1	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	77.5%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

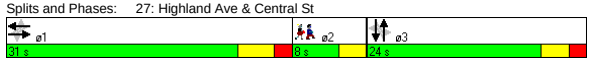
Green Line Extention
27: Highland Ave & Central St

2030 Build Alt 2a Condition - AM Peak
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	35	195	45	25	210	45	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	313	0	0	368	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	13%
Maximum Green (s)	25.0	25.0		25.0	25.0		19.0	19.0		19.0	19.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.70			0.65			0.59			0.66		
Control Delay		18.4			16.5			20.0			22.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.4			16.5			20.0			22.0		
Queue Length 50th (ft)		121			104			76			93		
Queue Length 95th (ft)		262			176			166			159		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		866			838			622			654		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.62			0.57			0.50			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 48.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 27: Highland Ave & Central St



Green Line Extention
27: Highland Ave & Central St

2030 Build Alt 2a Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1793			1805	
Flt Permitted		0.95			0.93			0.92			0.95	
Satd. Flow (perm)		1736			1690			1662			1729	
Volume (vph)	30	405	35	30	300	25	35	195	45	25	210	45
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	40	222	51	33	276	59
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	11	0
Lane Group Flow (vph)	0	535	0	0	476	0	0	302	0	0	357	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.3			20.3			15.5			15.5	
Effective Green, g (s)		21.3			21.3			15.5			15.5	
Actuated g/C Ratio		0.42			0.42			0.31			0.31	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		731			711			509			530	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.21	
v/c Ratio		0.73			0.67			0.59			0.67	
Uniform Delay, d1		12.3			11.8			14.9			15.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.1			2.6			2.2			3.7	
Delay (s)		16.3			14.5			17.0			19.0	
Level of Service		B			B			B			B	
Approach Delay (s)		16.3			14.5			17.0			19.0	
Approach LOS		B			B			B			B	

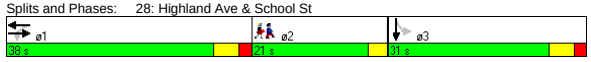
Intersection Summary					
HCM Average Control Delay	16.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.64				
Actuated Cycle Length (s)	50.6	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	61.1%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	495	15	40	380	0	0	0	0	200	255	90	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	593	0	0	483	0	0	0	0	0	586	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	38.0	0.0	38.0	38.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	21.0
Total Split (%)	0.0%	42.2%	0.0%	42.2%	42.2%	0.0%	0.0%	0.0%	0.0%	34.4%	34.4%	0.0%	23%
Maximum Green (s)		32.0		32.0	32.0					25.0	25.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.73			1.21						0.91		
Control Delay		24.8			138.7						44.2		
Queue Delay		0.0			0.0						0.0		
Total Delay		24.8			138.7						44.2		
Queue Length 50th (ft)		185			~247						223		
Queue Length 95th (ft)		#479			#548						#591		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		815			400						646		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.73			1.21						0.91		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1797	
Flt Permitted		1.00			0.73						0.98	
Satd. Flow (perm)		1786			1303						1797	
Volume (vph)	0	495	15	40	380	0	0	0	0	200	255	90
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	576	17	46	437	0	0	0	0	215	274	97
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	592	0	0	483	0	0	0	0	0	586	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		32.4			32.4						25.3	
Effective Green, g (s)		33.4			33.4						26.3	
Actuated g/C Ratio		0.44			0.44						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		789			576						625	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.37						0.33	
v/c Ratio		0.75			0.84						0.94	
Uniform Delay, d1		17.6			18.7						23.9	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		4.0			10.3						21.9	
Delay (s)		21.7			29.1						45.8	
Level of Service		C			C						D	
Approach Delay (s)		21.7			29.1			0.0			45.8	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	75.6	Sum of lost time (s)	15.9
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	420	100	310	1020	220	315	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	545	130	333	1097	324	463	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.47	0.15	0.86	0.95	0.80	1.08	
Control Delay	9.9	2.0	38.0	33.6	45.4	91.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.9	2.0	38.0	33.6	45.4	91.4	
Queue Length 50th (ft)	107	0	101	381	139	~203	
Queue Length 95th (ft)	208	15	#350	#920	192	#278	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	887	386	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.15	0.86	0.95	0.80	1.08	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	677	1827	1719	1538
Volume (vph)	420	100	310	1020	220	315
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	545	130	333	1097	324	463
RTOR Reduction (vph)	0	51	0	0	0	68
Lane Group Flow (vph)	545	79	333	1097	324	395
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	413	1113	393	352
v/s Ratio Prot	0.29			c0.60	0.19	c0.26
v/s Ratio Perm		0.06	0.49			
v/c Ratio	0.48	0.10	0.81	0.99	0.82	1.12
Uniform Delay, d1	8.5	6.4	11.9	15.1	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	10.4	23.3	13.7	85.4
Delay (s)	8.6	6.4	22.2	38.4	42.7	115.9
Level of Service	A	A	C	D	D	F
Approach Delay (s)	8.2			34.6	85.8	
Approach LOS	A			C	F	

Intersection Summary

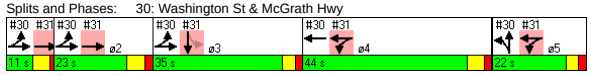
HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	575	380	0	0	1300	110	25	235	540	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	625	427	0	0	1566	0	29	270	621	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	69.0	69.0	0.0	0.0	44.0	0.0	22.0	22.0	0.0	0.0	0.0	0.0	11.0	23.0
Total Split (%)	51.1%	51.1%	0.0%	0.0%	32.6%	0.0%	16.3%	16.3%	0.0%	0.0%	0.0%	0.0%	8%	17%
Maximum Green (s)					38.0		17.0	17.0					6.0	17.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.37	0.19			1.10		0.14	1.23	0.42					
Control Delay	1.8	0.6			100.3		54.5	185.7	0.9					
Queue Delay	0.0	0.0			42.0		0.1	0.0	0.0					
Total Delay	1.8	0.6			142.3		54.6	185.7	0.9					
Queue Length 50th (ft)	16	1			~569		23	~292	0					
Queue Length 95th (ft)	m18	m1			#666		53	#450	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1686	2235			1425		209	219	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			115		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.37	0.19			1.20		0.15	1.23	0.42					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Green Line Extention
30: Washington St & McGrath Hwy
2030 Build Alt 2a Condition - AM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	35.0
Total Split (%)	26%
Maximum Green (s)	30.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4934		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4934		1656	1743	1482			
Volume (vph)	575	380	0	0	1300	110	25	235	540	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	625	427	0	0	1444	122	29	270	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	625	427	0	0	1566	0	29	270	621	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	64.0	64.0			38.0		17.0	17.0	135.0			
Effective Green, g (s)	64.0	64.0			39.0		17.0	17.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.29		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1686	2235			1425		209	219	1482			
v/s Ratio Prot	0.18	0.09			c0.32		0.02	c0.15				
v/s Ratio Perm									c0.42			
v/c Ratio	0.37	0.19			1.10		0.14	1.23	0.42			
Uniform Delay, d1	22.7	20.5			48.0		52.5	59.0	0.0			
Progression Factor	0.06	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			55.7		1.4	137.9	0.9			
Delay (s)	1.8	0.6			103.7		53.9	196.9	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		1.3			103.7			60.1			0.0	
Approach LOS		A			F			E			A	

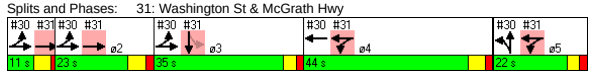
Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	910	35	585	740	0	0	0	0	45	170	500		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	1028	0	622	841	0	0	0	0	0	823	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	34.0	0.0	66.0	66.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	11.0	23.0
Total Split (%)	0.0%	25.2%	0.0%	48.9%	48.9%	0.0%	0.0%	0.0%	0.0%	25.9%	25.9%	0.0%	8%	17%
Maximum Green (s)										30.0	30.0		6.0	17.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.70		0.80	0.55						1.40dr			
Control Delay		51.8		7.1	0.3						115.7			
Queue Delay		0.1		0.0	0.0						30.1			
Total Delay		51.9		7.1	0.3						145.8			
Queue Length 50th (ft)		206		106	0						~407			
Queue Length 95th (ft)		241		m56	m0						#520			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1459		777	1539						732			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		42		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.73		0.80	0.55						1.19			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	44.0	22.0
Total Split (%)	33%	16%
Maximum Green (s)	38.0	17.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6774		1719	3406						3015	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6774		1719	3406						3015	
Volume (vph)	0	910	35	585	740	0	0	0	0	45	170	500
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	989	39	622	841	0	0	0	0	62	193	568
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	63	0
Lane Group Flow (vph)	0	1023	0	622	841	0	0	0	0	0	760	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		28.0		61.0	61.0						30.0	
Effective Green, g (s)		29.0		61.0	61.0						30.0	
Actuated g/C Ratio		0.21		0.45	0.45						0.22	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1455		777	1539						670	
v/s Ratio Prot		c0.15		c0.36	0.25							
v/s Ratio Perm											0.25	
v/c Ratio		0.70		0.80	0.55						1.40dr	
Uniform Delay, d1		49.0		31.8	26.9						52.5	
Progression Factor		1.00		0.19	0.01						1.00	
Incremental Delay, d2		2.9		0.8	0.1						78.0	
Delay (s)		51.9		6.8	0.3						130.5	
Level of Service		D		A	A						F	
Approach Delay (s)		51.9			3.1			0.0			130.5	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	49.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

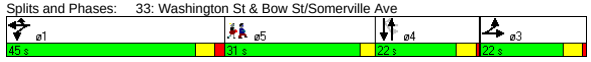
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	345	65	590	490	470	0	0	0	420	360	65	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	479	0	648	538	516	0	0	0	257	642	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	45.0	45.0	45.0	0.0	22.0	0.0	22.0	22.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	37.5%	37.5%	37.5%	0.0%	18.3%	0.0%	18.3%	18.3%	0.0%	26%
Maximum Green (s)	17.0	17.0		39.0	39.0	39.0		17.0		17.0	17.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.16		1.27	1.00	0.48				0.75	0.88		
Control Delay		140.8		145.4	34.9	2.5				55.6	54.4		
Queue Delay		0.0		0.0	0.0	0.6				0.0	0.0		
Total Delay		140.8		145.4	34.9	3.1				55.6	54.4		
Queue Length 50th (ft)		~231		~624	~360	38				165	214		
Queue Length 95th (ft)		#340		m#490	m273	m24				#490	#534		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		413		511	538	1076				342	733		
Starvation Cap Reductn		0		0	0	244				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.16		1.27	1.00	0.62				0.75	0.88		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2751		1533	1613	1371				1408	2722	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2751		1533	1613	1371				1122	2368	
Volume (vph)	35	345	65	590	490	470	0	0	0	420	360	65
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	371	70	648	538	516	0	0	0	447	383	69
RTOR Reduction (vph)	0	0	0	0	0	199	0	0	0	0	6	0
Lane Group Flow (vph)	0	479	0	648	538	317	0	0	0	257	636	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		37.2	37.2	72.8				35.6	35.6	
Effective Green, g (s)		18.0		38.2	38.2	73.8				36.6	36.6	
Actuated g/C Ratio		0.15		0.32	0.32	0.62				0.30	0.30	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		413		488	513	843				342	722	
v/s Ratio Prot		c0.17		c0.42	0.33	0.12						
v/s Ratio Perm						0.11				0.23	c0.27	
v/c Ratio		1.16		1.33	1.05	0.38				0.75	0.88	
Uniform Delay, d1		51.0		40.9	40.9	11.6				37.6	39.6	
Progression Factor		1.00		0.52	0.51	2.66				1.00	1.00	
Incremental Delay, d2		95.7		148.9	27.4	0.0				9.5	12.4	
Delay (s)		146.7		170.2	48.3	30.9				47.1	52.0	
Level of Service		F		F	D	C				D	D	
Approach Delay (s)		146.7			89.4			0.0			50.6	
Approach LOS		F			F			A			D	

Intersection Summary

HCM Average Control Delay	87.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

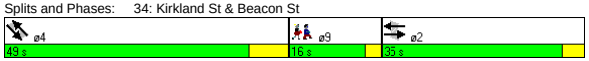
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	215	35	45	335	60	40	500	140	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	386	0	0	489	0	0	756	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	16.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	49.0%	49.0%	0.0%	49.0%	49.0%	0.0%	16%
Maximum Green (s)	31.0	31.0		31.0	31.0		42.0	42.0		42.0	42.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.89			0.92			0.92			0.47		
Control Delay		54.6			54.0			41.3			19.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		54.6			54.0			41.3			19.7		
Queue Length 50th (ft)		180			231			323			111		
Queue Length 95th (ft)		#351			#529			#737			249		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		432			533			824			761		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.89			0.92			0.92			0.47		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 90.4
Natural Cycle: 100
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1749			1702			1771			1731	
Flt Permitted		0.75			0.91			0.96			0.92	
Satd. Flow (perm)		1322			1564			1703			1605	
Volume (vph)	55	215	35	45	335	60	40	500	140	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	272	44	50	372	67	44	556	156	27	299	33
RTOR Reduction (vph)	0	5	0	0	5	0	0	8	0	0	3	0
Lane Group Flow (vph)	0	381	0	0	484	0	0	748	0	0	356	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		31.2			31.2			42.3			42.3	
Effective Green, g (s)		31.2			31.2			43.3			43.3	
Actuated g/C Ratio		0.34			0.34			0.47			0.47	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		447			529			800			754	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.31			c0.44			0.22	
v/c Ratio		0.85			0.91			0.93			0.47	
Uniform Delay, d1		28.4			29.2			23.1			16.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		18.3			22.8			19.4			2.1	
Delay (s)		46.7			52.0			42.5			18.8	
Level of Service		D			D			D			B	
Approach Delay (s)		46.7			52.0			42.5			18.8	
Approach LOS		D			D			D			B	

Intersection Summary

HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	92.2	Sum of lost time (s)	17.7
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

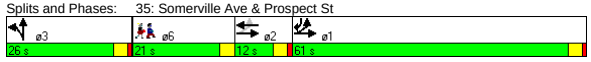
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	260	505	0	0	160	35	150	560	70	0	0	1290	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	823	0	0	219	0	165	692	0	0	0	1449	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	61.0	73.0	0.0	0.0	12.0	0.0	26.0	26.0	0.0	0.0	0.0	61.0	21.0
Total Split (%)	50.8%	60.8%	0.0%	0.0%	10.0%	0.0%	21.7%	21.7%	0.0%	0.0%	0.0%	50.8%	18%
Maximum Green (s)	57.0				8.0		22.0	22.0				57.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.35		0.64	1.29				1.26	
Control Delay		0.8			41.5		58.2	183.8				155.7	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		0.8			41.5		58.2	183.8				155.7	
Queue Length 50th (ft)		1			67		131	~374				~802	
Queue Length 95th (ft)		m2			#170		217	#503				#935	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1840			623		256	536				1146	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.35		0.64	1.29				1.26	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2986			2955		1395	2887				2413
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2218			2955		1395	2887				2413
Volume (vph)	260	505	0	0	160	35	150	560	70	0	0	1290
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	280	543	0	0	180	39	165	615	77	0	0	1449
RTOR Reduction (vph)	0	0	0	0	13	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	823	0	0	206	0	165	685	0	0	0	1449
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		79.4			24.8		22.0	22.0				54.6
Effective Green, g (s)		79.4			24.8		22.0	22.0				54.6
Actuated g/C Ratio		0.66			0.21		0.18	0.18				0.46
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1817			611		256	529				1098
v/s Ratio Prot		0.21			0.07		0.12	c0.24				c0.60
v/s Ratio Perm		c0.09										
v/c Ratio		0.45			0.34		0.64	1.29				1.32
Uniform Delay, d1		9.8			40.6		45.4	49.0				32.7
Progression Factor		0.06			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.5		6.1	146.0				150.3
Delay (s)		0.8			42.1		51.5	195.0				183.0
Level of Service		A			D		D	F				F
Approach Delay (s)		0.8			42.1			167.4			183.0	
Approach LOS		A			D			F			F	

Intersection Summary

HCM Average Control Delay	125.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		

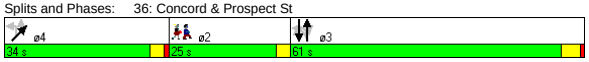
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	210	125	510	375	5	20	360	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	300	0	129	918	0	0	0	455	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	61.0	61.0	0.0	61.0	61.0	0.0	0.0	34.0	34.0	0.0	25.0
Total Split (%)	50.8%	50.8%	0.0%	50.8%	50.8%	0.0%	0.0%	28.3%	28.3%	0.0%	21%
Maximum Green (s)	56.0	56.0		56.0	56.0			30.0	30.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											12
v/c Ratio		1.55		0.22	0.87				0.75		
Control Delay		289.8		13.5	30.0				42.0		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		289.8		13.5	30.0				42.0		
Queue Length 50th (ft)		~133		33	407				241		
Queue Length 95th (ft)		#391		103	#1023				#516		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		194		596	1059				603		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.55		0.22	0.87				0.75		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1677		1869	1842				1988	
Flt Permitted		0.37		0.56	1.00				1.00	
Satd. Flow (perm)		620		1095	1842				1988	
Volume (vph)	60	0	210	125	510	375	5	20	360	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	233	129	526	387	5	23	409	23
RTOR Reduction (vph)	0	33	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	267	0	129	918	0	0	0	454	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		56.5		56.5	56.5				30.3	
Effective Green, g (s)		57.5		57.5	57.5				30.3	
Actuated g/C Ratio		0.56		0.56	0.56				0.30	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		348		614	1033				588	
v/s Ratio Prot					c0.50					
v/s Ratio Perm		0.43		0.12					0.23	
v/c Ratio		0.77		0.21	0.89				0.77	
Uniform Delay, d1		17.3		11.2	19.7				32.9	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		8.8		0.1	9.2				5.7	
Delay (s)		26.1		11.3	28.9				38.6	
Level of Service		C		B	C				D	
Approach Delay (s)		26.1			26.7				38.6	
Approach LOS		C			C				D	

Intersection Summary

HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

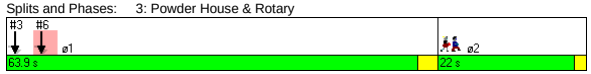
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	545	0	0	1550	505	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	586	0	0	1598	521	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.37			0.96	0.34	
Control Delay		0.7			25.1	0.6	
Queue Delay		0.0			0.3	0.0	
Total Delay		0.7			25.4	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1687	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		20			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.38			0.96	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	545	0	0	1550	505
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	586	0	0	1598	521
RTOR Reduction (vph)	0	68	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	1598	521
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.87	
v/s Ratio Perm		0.32				c0.34
v/c Ratio		0.36			0.99	0.34
Uniform Delay, d1		1.2			6.4	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			19.9	0.6
Delay (s)		1.9			26.3	0.6
Level of Service		A			C	A
Approach Delay (s)	1.9			0.0	20.0	
Approach LOS	A			A	C	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	138.9%	ICU Level of Service	H
Analysis Period (min)	15		

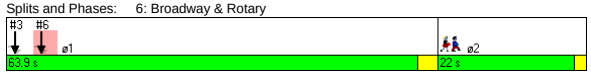
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	570	0	0	1265	830	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	648	0	0	1346	883	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.42			0.80	0.56	
Control Delay		0.8			6.0	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			6.0	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m141	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.42			0.80	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	570	0	0	1265	830
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	648	0	0	1346	883
RTOR Reduction (vph)	0	75	0	0	0	0
Lane Group Flow (vph)	0	573	0	0	1346	883
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.73	
v/s Ratio Perm		0.36				c0.56
v/c Ratio		0.41			0.82	0.56
Uniform Delay, d1		1.3			3.0	0.0
Progression Factor		1.00			0.37	1.00
Incremental Delay, d2		0.9			3.0	0.9
Delay (s)		2.2			4.1	0.9
Level of Service		A			A	A
Approach Delay (s)	2.2			0.0	2.8	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	660	990	420	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	759	1021	433	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.49	0.59	0.27			
Control Delay		1.1	2.9	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.9	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	461	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.49	0.59	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	660	990	420	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	759	1021	433	0	0
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	0	697	1021	433	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.56			
v/s Ratio Perm		0.44		c0.27		
v/c Ratio		0.48	0.61	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.74	1.00		
Incremental Delay, d2		1.1	1.5	0.4		
Delay (s)		1.9	2.1	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	755	655	990	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	968	675	1021	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.60	0.38	0.66			
Control Delay		1.7	2.0	2.5			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.7	2.0	2.5			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	205	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1540			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.61	0.38	0.66			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	755	655	990	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	968	675	1021	0	0
RTOR Reduction (vph)	0	80	0	84	0	0
Lane Group Flow (vph)	0	888	675	937	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.37	c0.60		
v/s Ratio Perm		0.54				
v/c Ratio		0.59	0.40	0.65		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.7	0.7	2.3		
Delay (s)		2.6	1.4	3.4		
Level of Service		A	A	A		
Approach Delay (s)	2.6		2.6			0.0
Approach LOS	A		A			A

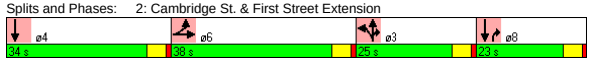
Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	220	55	0	0	0	60	130	105	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	286	0	0	0	0	0	211	117	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.39	0.78						0.74	0.26		0.51			
Control Delay	43.4	57.7						63.0	7.5		1.8			
Queue Delay	0.7	0.0						8.9	0.0		0.4			
Total Delay	44.1	57.7						71.9	7.5		2.2			
Queue Length 50th (ft)	84	181						137	0		11			
Queue Length 95th (ft)	126	243						209	40		m7			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	514						326	581		1943			
Starvation Cap Reductn	0	0						0	0		412			
Spillback Cap Reductn	164	0						82	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.42	0.56						0.86	0.20		0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1790						1806	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1790						1806	1459		3201	
Volume (vph)	135	220	55	0	0	0	60	130	105	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	229	57	0	0	0	67	144	117	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	88	0	218	0
Lane Group Flow (vph)	141	278	0	0	0	0	0	211	29	0	776	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.2	23.2						18.1	28.6		63.7	
Effective Green, g (s)	24.2	24.2						19.1	29.6		64.7	
Actuated g/C Ratio	0.20	0.20						0.16	0.25		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	357	361						287	360		1726	
v/s Ratio Prot	0.08	c0.16						c0.12	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.39	0.77						0.74	0.08		0.45	
Uniform Delay, d1	41.5	45.3						48.0	34.7		16.8	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.7						9.4	0.1		0.1	
Delay (s)	42.3	55.0						57.4	34.8		2.1	
Level of Service	D	E						E	C		A	
Approach Delay (s)		50.8			0.0			49.4			2.1	
Approach LOS		D			A			D			A	

Intersection Summary

HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

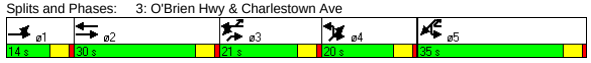
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	175	1335	445	310	830	295	140	435	285	535	915	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	192	1467	489	341	912	324	147	458	300	559	1169	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.42	0.91	0.30	1.54	0.75	0.43	0.68	0.99	0.62	1.42	1.42		
Control Delay	267.3	48.1	0.5	299.7	54.0	3.0	66.4	91.4	39.2	237.4	229.9		
Queue Delay	0.0	671.7	0.0	32.7	485.9	0.5	0.0	0.0	0.5	0.0	0.8		
Total Delay	267.3	719.9	0.5	332.4	540.0	3.5	66.4	91.4	39.7	237.4	230.7		
Queue Length 50th (ft)	~177	349	0	~338	348	27	97	166	161	~563	~591		
Queue Length 95th (ft)	#309	#417	0	m#417	m400	m28	#173	#264	248	#775	#718		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	753	216	463	480	394	824		
Starvation Cap Reductn	0	0	0	10	783	152	0	0	0	0	0		
Spillback Cap Reductn	0	1024	0	0	0	0	0	0	31	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.42	2.52	0.30	1.62	2.08	0.54	0.68	0.99	0.67	1.42	1.42		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	175	1335	445	310	830	295	140	435	285	535	915	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	192	1467	489	341	912	324	147	458	300	594	1017	117
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	17	0	7	0
Lane Group Flow (vph)	192	1467	489	341	912	130	147	458	283	559	1162	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.30		c0.22	0.29	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.30									
v/c Ratio	1.42	0.91	0.30	1.54	0.75	0.23	0.68	0.99	0.61	1.42	1.42	
Uniform Delay, d1	55.0	38.3	0.0	51.5	31.4	23.8	49.6	51.9	35.4	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.63	1.41	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	227.5	8.3	0.5	255.6	1.3	0.1	8.5	38.6	2.4	202.8	197.4	
Delay (s)	282.5	46.6	0.5	328.2	52.4	33.7	58.1	90.5	37.7	247.3	241.9	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		57.2			108.2			67.7			243.6	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	122.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extention
6: O'Brien Hwy & First Street Extension

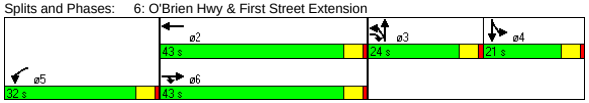
2030 Build Condition Alt 2a - AM Peak
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1515	165	445	480	75	30	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1683	183	494	616	0	33	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.90	0.20	0.76	0.48		0.11	0.84			0.94	
Control Delay		18.7	3.8	53.5	30.6		19.3	45.9			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	157.4			0.0	
Total Delay		18.7	3.8	53.5	30.6		19.3	203.3			78.1	
Queue Length 50th (ft)		294	28	165	164		14	188			165	
Queue Length 95th (ft)		#524	45	207	228		m26	m#277			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	117			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.90	0.20	0.62	0.48		0.11	1.35			0.94	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Green Line Extention
6: O'Brien Hwy & First Street Extension

2030 Build Condition Alt 2a - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3468		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3468		1770	1863			3472	
Volume (vph)	0	1515	165	445	480	75	30	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1683	183	494	533	83	33	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1683	157	494	607	0	33	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1277		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.17		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.90	0.17	0.76	0.47		0.11	0.84			0.93	
Uniform Delay, d1		35.8	12.4	46.0	29.0		42.5	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.43	0.50			1.00	
Incremental Delay, d2		6.0	0.3	5.0	1.3		0.6	20.0			27.0	
Delay (s)		16.7	5.0	51.0	30.3		19.1	44.1			78.0	
Level of Service		B	A	D	C		B	D			E	
Approach Delay (s)		15.5			39.5			41.3			78.0	
Approach LOS		B			D			D			E	

Intersection Summary

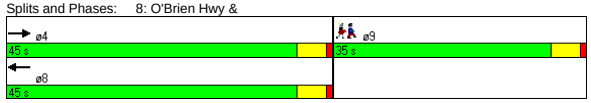
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1955	0	0	1075	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2172	0	0	1194	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.47			0.37			
Control Delay	5.0			4.5			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.5			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	341			251			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.37			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1955	0	0	1075	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2172	0	0	1194	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2172	0	0	1194	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.4			30.4		
Effective Green, g (s)	31.4			31.4		
Actuated g/C Ratio	0.72			0.72		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3679			2560		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.59			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	325	0	0	5	0	1630	0	0	990	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	339	0	0	6	0	1680	0	0	1181	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	325	0	0	5	0	1630	0	0	990	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	339	0	0	6	0	1680	0	0	1088	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.77	0.77	0.69	0.77	0.77	0.85	0.85			0.69		
vC, conflicting volume	2230	2862	560	2033	2815	591	1181			1680		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1329	2153	0	1072	2092	350	1042			1096		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	55	100	100	99	100			100		
cM capacity (veh/h)	85	36	749	72	38	544	475			396		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	339	6	560	560	560	725	456
Volume Left	0	0	0	0	0	0	0
Volume Right	339	6	0	0	0	0	93
cSH	749	544	1700	1700	1700	1700	1700
Volume to Capacity	0.45	0.01	0.33	0.33	0.33	0.43	0.27
Queue Length 95th (ft)	52	1	0	0	0	0	0
Control Delay (s)	13.7	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.7	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary					
Average Delay	1.5				
Intersection Capacity Utilization	58.3%	ICU Level of Service		B	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1955	1035	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2172	1194	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1955	1035	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2172	1150	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.76				0.87	0.76
vC, conflicting volume	1194				1896	597
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	938				851	150
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	551				260	659

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	724	724	724	767	428	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	659
Volume to Capacity	0.43	0.43	0.43	0.45	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.9
Approach LOS						B

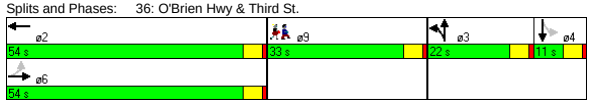
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	41.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2230	655	0	650	15	175	1	45	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	2979	0	0	723	0	120	125	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.30			0.42		0.51	0.48			0.03		
Control Delay		164.6			27.9		55.4	44.2			48.0		
Queue Delay		54.8			0.4		0.0	0.0			0.0		
Total Delay		219.4			28.3		55.4	44.3			48.0		
Queue Length 50th (ft)		~924			204		80	66			1		
Queue Length 95th (ft)		#1110			309		138	125			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2299			1730		235	263			91		
Starvation Cap Reductn		0			507		0	0			0		
Spillback Cap Reductn		198			0		0	2			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.42			0.59		0.51	0.48			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.94			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4912			3527		1569	1616			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4612			3527		1569	1616			1779	
Volume (vph)	5	2230	655	0	650	15	175	1	45	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2299	675	0	707	16	194	1	50	1	1	1
RTOR Reduction (vph)	0	41	0	0	1	0	0	20	0	0	1	0
Lane Group Flow (vph)	0	2938	0	0	722	0	120	105	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2106			1611		235	242			33	
v/s Ratio Prot					0.20		c0.08	0.06				
v/s Ratio Perm		c0.64									c0.00	
v/c Ratio		1.40			0.45		0.51	0.43			0.06	
Uniform Delay, d1		32.6			22.3		46.9	46.4			57.9	
Progression Factor		1.00			1.33		1.00	1.00			1.00	
Incremental Delay, d2		180.8			0.9		7.7	5.5			0.8	
Delay (s)		213.4			30.6		54.7	51.9			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		213.4			30.6			53.3			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	169.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1650	165	0	490	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1931	0	0	538	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1650	165	0	490	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1755	176	0	538	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.80	0.74
vC, conflicting volume			1931		2112	673
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1559		1403	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			305		105	807

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	702	702	527	269	269	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	176	0	0	33
cSH	1700	1700	1700	1700	1700	807
Volume to Capacity	0.41	0.41	0.31	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

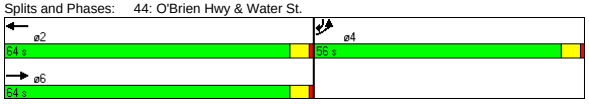
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	45.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1815	0	0	425	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1931	0	0	538	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.27							0.36
Control Delay	49.5	2.8			15.2							2.3
Queue Delay	38.0	1.2			0.0							0.0
Total Delay	87.5	4.0			15.2							2.3
Queue Length 50th (ft)	352	32			52							0
Queue Length 95th (ft)	m276	m32			m141							21
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2965			2030							889
Starvation Cap Reductn	282	744			0							0
Spillback Cap Reductn	0	0			112							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.87			0.28							0.31

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3370							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3370							1627
Volume (vph)	460	1815	0	0	425	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1931	0	0	467	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1931	0	0	530	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2022							542
v/s Ratio Prot	c0.28	c0.39			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.26							0.17
Uniform Delay, d1	37.3	15.8			11.4							28.2
Progression Factor	1.31	0.15			1.22							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.2	2.5			14.2							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.2			14.2			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

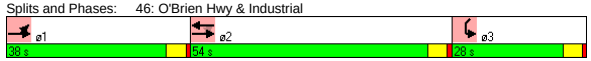
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1975	1295	305	285	140
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2368	1702	0	473	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.88	0.87		0.80	
Control Delay		19.4	37.2		51.4	
Queue Delay		119.7	94.6		160.1	
Total Delay		139.1	131.9		211.4	
Queue Length 50th (ft)		480	373		137	
Queue Length 95th (ft)		m447	436		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1946		656	
Starvation Cap Reductn		813	0		0	
Spillback Cap Reductn		0	539		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.27	1.21		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4595		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3004	4595		3013	
Volume (vph)	180	1975	1295	305	285	140
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2170	1378	324	317	156
RTOR Reduction (vph)	0	0	33	0	54	0
Lane Group Flow (vph)	0	2368	1669	0	419	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1915		535	
v/s Ratio Prot		c0.27	0.36		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.88	0.87		0.78	
Uniform Delay, d1		12.8	32.1		47.1	
Progression Factor		2.22	1.00		1.00	
Incremental Delay, d2		0.4	5.8		7.3	
Delay (s)		28.7	37.9		54.5	
Level of Service		C	D		D	
Approach Delay (s)		28.7	37.9		54.5	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

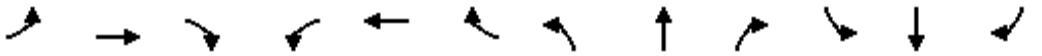
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	360	155	235	510	5	5	30	35	125	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	589	0	0	893	0	0	98	0	0	173	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	360	155	235	510	5	5	30	35	125	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	404	174	280	607	6	7	42	49	160	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	613			579			1780	1771	610	1754	1687	492
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	613			579			1780	1771	610	1754	1687	492
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			71			80	28	90	0	80	84
cM capacity (veh/h)	942			980			35	58	492	20	65	571

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	590	893	99	173	90
Volume Left	11	280	7	160	0
Volume Right	174	6	49	0	90
cSH	942	980	96	21	571
Volume to Capacity	0.01	0.29	1.02	8.41	0.16
Queue Length 95th (ft)	1	30	155	Err	14
Control Delay (s)	0.3	6.3	178.4	Err	12.5
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.3	178.4	6589.0	
Approach LOS			F	F	

Intersection Summary				
Average Delay	951.7			
Intersection Capacity Utilization	93.2%	ICU Level of Service		F
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	45	80	90	440	0	0	1780	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	302	0	98	524	0	0	1816	299
Sign Control		Stop			Stop			Free			Free	

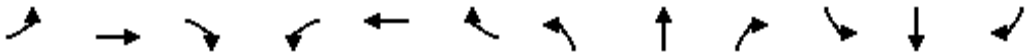
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	45	80	90	440	0	0	1780	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	49	99	98	524	0	0	1816	299
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2659	2536	1816	2536	2835	524	2115			524		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2044	861	893	721	0	1127	189	372	2603	6		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	82	0			100		
cM capacity (veh/h)	0	0	0	0	0	544	0			1033		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	302	98	524	1816	299
Volume Left	154	98	0	0	0
Volume Right	99	0	0	0	299
cSH	0	0	1700	1700	1700
Volume to Capacity	2.66115998809187904E67		0.31	1.07	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1573.5		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	122.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	85	285	320	0	0	0	0	445	485	185	1720	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	767	0	0	0	0	0	473	516	189	1755	0
Sign Control		Stop			Stop			Free			Free	

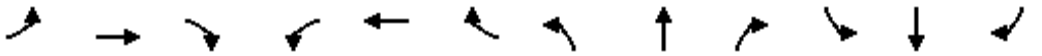
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	85	285	320	0	0	0	0	445	485	185	1720	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	94	317	356	0	0	0	0	473	516	189	1755	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2606	3122	1755	3120	2606	473	1755			989		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	93428	123121	44456	123002	93428	473	44456			989		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	591	0			691		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	253	514	473	516	189	1755
Volume Left	94	0	0	0	189	0
Volume Right	0	356	0	516	0	0
cSH	0	0	1700	1700	691	1700
Volume to Capacity	Err	Err	0.28	0.30	0.27	1.03
Queue Length 95th (ft)	Err	Err	0	0	28	0
Control Delay (s)	Err	Err	0.0	0.0	12.2	0.0
Lane LOS	F	F			B	
Approach Delay (s)	9999.0		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2072.5			
Intersection Capacity Utilization	122.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	450	5	30	0	1	10	40	470	0	5	965	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	527	0	0	22	0	0	573	0	0	1065	1176
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	450	5	30	0	1	10	40	470	0	5	965	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	489	5	33	0	2	20	45	528	0	5	1060	1176
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1710	1689	1060	1725	1689	528	1060			528		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1710	1689	1060	1725	1689	528	1060			528		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	88	100	98	96	93			99		
cM capacity (veh/h)	63	85	270	56	87	554	642			1034		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	527	22	573	1066	1176
Volume Left	489	0	45	5	0
Volume Right	33	20	0	0	1176
cSH	66	373	642	1034	1700
Volume to Capacity	7.93	0.06	0.07	0.01	0.69
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.3	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.3	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1567.4		
Intersection Capacity Utilization	106.5%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	65	360	890	190	80	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	467	1187	0	171	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

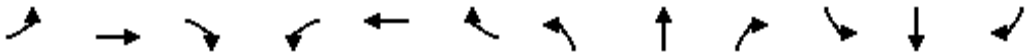
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	65	360	890	190	80	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	71	396	978	209	105	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.83				0.83	0.83
vC, conflicting volume	1187				1621	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1224				1746	1099
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	70
cM capacity (veh/h)	471				68	217

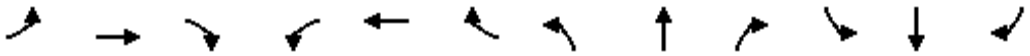
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	467	1187	171
Volume Left	71	0	105
Volume Right	0	209	66
cSH	471	1700	92
Volume to Capacity	0.15	0.70	1.86
Queue Length 95th (ft)	13	0	359
Control Delay (s)	4.5	0.0	502.0
Lane LOS	A		F
Approach Delay (s)	4.5	0.0	502.0
Approach LOS			F

Intersection Summary			
Average Delay	48.2		
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	180	130	375	205	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	335	0	0	616	0	0	195	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

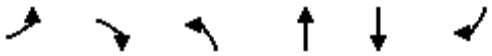
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	130	375	205	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	186	134	395	216	5	53	18	124	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	616	194	29
Volume Left (vph)	15	395	53	7
Volume Right (vph)	134	5	124	7
Hadj (s)	-0.20	0.19	-0.31	-0.10
Departure Headway (s)	5.3	5.3	6.1	6.8
Degree Utilization, x	0.50	0.91	0.33	0.05
Capacity (veh/h)	651	616	561	470
Control Delay (s)	13.5	38.7	12.0	10.2
Approach Delay (s)	13.5	38.7	12.0	10.2
Approach LOS	B	E	B	B

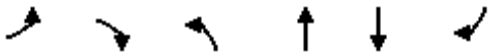
Intersection Summary			
Delay	26.4		
HCM Level of Service	D		
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	165	125	95	425	565	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	306	0	0	702	1087	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	165	125	95	425	565	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	174	132	128	574	582	505
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1666	835	1088			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1666	835	1088			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	64	80			
cM capacity (veh/h)	84	366	627			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	305	703	1088
Volume Left	174	128	0
Volume Right	132	0	505
cSH	126	627	1700
Volume to Capacity	2.43	0.20	0.64
Queue Length 95th (ft)	668	19	0
Control Delay (s)	721.5	5.3	0.0
Lane LOS	F	A	
Approach Delay (s)	721.5	5.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	106.9		
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		803			498			1036		215		
Travel Time (s)		18.3			11.3			23.5		4.9		
Volume (vph)	50	5	300	250	590	60	15	200	5	20	0	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	385	0	0	978	0	0	238	0	82	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

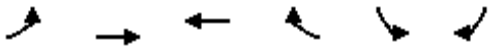
Control Type: Unsignalized



Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	5	300	250	590	60	15	200	5	20	0	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	5	326	272	641	65	16	217	5	22	0	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					498			1036				
pX, platoon unblocked	0.61	0.61					0.61			0.61	0.61	0.61
vC, conflicting volume	1530	1503	220	223			707			1799	1473	674
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1862	1818	220	223			522			2300	1770	469
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	85	60	79			97			0	100	84
cM capacity (veh/h)	24	37	815	1317			642			7	40	365

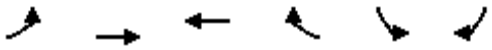
Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	386	978	239	82
Volume Left	54	272	16	22
Volume Right	326	65	5	60
cSH	137	1317	642	26
Volume to Capacity	2.81	0.21	0.03	3.11
Queue Length 95th (ft)	880	19	2	Err
Control Delay (s)	885.3	4.5	1.0	Err
Lane LOS	F	A	A	F
Approach Delay (s)	885.3	4.5	1.0	Err
Approach LOS	F			F

Intersection Summary			
Average Delay	689.4		
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		744	1219		873	
Travel Time (s)		16.9	27.7		19.8	
Volume (vph)	35	1235	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1380	695	0	202	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	1235	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	1342	652	43	120	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		744	1219			
pX, platoon unblocked	0.80				0.59	0.80
vC, conflicting volume	696				2092	674
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	617				2333	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	80
cM capacity (veh/h)	766				23	404

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1380	696	201
Volume Left	38	0	120
Volume Right	0	43	82
cSH	766	1700	37
Volume to Capacity	0.05	0.41	5.47
Queue Length 95th (ft)	4	0	Err
Control Delay (s)	2.6	0.0	Err
Lane LOS	A		F
Approach Delay (s)	2.6	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	884.5		
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 2a AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	305	1.0	0.400	11.6	LOS B	87	0.70	0.78	23.8
8T	T	678	1.0	0.890	18.9	LOS B	499	1.00	1.26	20.6
Approach		**983**	**1.0**	**0.890**	**16.7**	**LOS B**	**499**	**0.91**	**1.11**	**21.6**
Mystic Valley Parkway										
4T	T	984	0.0	0.925	16.8	LOS B	648	1.00	1.18	21.4
4R	R	527	0.0	0.624	9.0	LOS A	185	0.79	0.81	24.7
Approach		**1511**	**0.0**	**0.925**	**14.1**	**LOS B**	**648**	**0.93**	**1.05**	**22.4**
Mystic Valley Parkway										
5L	L	454	0.0	1.312	184.4	LOS F	1280	1.00	2.84	5.8
2R	R	500	0.0	1.282	165.8	LOS F	1323	1.00	2.88	6.0
Approach		**954**	**0.0**	**1.314**	**174.7**	**LOS F**	**1323**	**1.00**	**2.86**	**5.9**
All Vehicles		**3448**	**0.3**	**1.312**	**59.2**	**LOS E**	**1323**	**0.94**	**1.57**	**12.5**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 2a\Mystic&Alewife - Alt 2a.aap
Processed Oct 06, 2008 02:40:15PM

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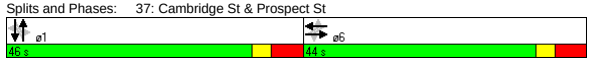
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	340	30	70	505	85	35	280	70
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	452	0	0	725	0	0	423	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	44.0	44.0		44.0	44.0		46.0	46.0		46.0	46.0	
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Total Split (%)	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	29.0	29.0		29.0	29.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		1.02			0.69			0.99			0.60	
Control Delay		73.6			29.1			50.0			24.4	
Queue Delay		0.0			0.0			16.4			0.0	
Total Delay		73.6			29.1			66.4			24.4	
Queue Length 50th (ft)		~292			208			431			181	
Queue Length 95th (ft)		#463			321			#663			278	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		497			653			733			710	
Starvation Cap Reductn		0			0			40			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		1.02			0.69			1.05			0.60	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



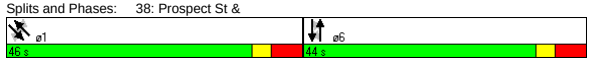
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1793			1815			1938			1908	
Flt Permitted		0.68			0.90			0.89			0.88	
Satd. Flow (perm)		1243			1633			1734			1683	
Volume (vph)	125	285	25	45	340	30	70	505	85	35	280	70
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	370	33	77	555	93	38	308	77
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	452	0	0	725	0	0	423	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		36.0			36.0			38.0			38.0	
Effective Green, g (s)		36.0			36.0			38.0			38.0	
Actuated g/C Ratio		0.40			0.40			0.42			0.42	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		497			653			732			711	
v/s Ratio Prot												
v/s Ratio Perm		c0.41			0.28			c0.42			0.25	
v/c Ratio		1.02			0.69			0.99			0.59	
Uniform Delay, d1		27.0			22.4			25.8			20.1	
Progression Factor		1.00			1.00			0.90			1.00	
Incremental Delay, d2		44.5			5.9			24.9			3.6	
Delay (s)		71.5			28.3			48.2			23.7	
Level of Service		E			C			D			C	
Approach Delay (s)		71.5			28.3			48.2			23.7	
Approach LOS		E			C			D			C	

Intersection Summary					
HCM Average Control Delay	44.6	HCM Level of Service		D	
HCM Volume to Capacity ratio	1.00				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	111.0%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	140	575	40	25	295	20	45	280	70	20	330	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	812	0	0	373	0	0	445	0	0	429	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	44.0	44.0		44.0	44.0		46.0	46.0		46.0	46.0	
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Total Split (%)	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		29.0	29.0		29.0	29.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.77			0.56			0.64			0.57	
Control Delay		29.3			36.9			25.6			23.5	
Queue Delay		1.2			0.0			3.4			1.8	
Total Delay		30.5			36.9			29.0			25.2	
Queue Length 50th (ft)		205			206			194			180	
Queue Length 95th (ft)		280			m288			294			275	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1058			670			700			753	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		92			0			165			178	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.84			0.56			0.83			0.75	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St &



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3494			1853			1814			1847	
Flt Permitted		0.75			0.90			0.91			0.96	
Satd. Flow (perm)		2646			1675			1656			1783	
Volume (vph)	140	575	40	25	295	20	45	280	70	20	330	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	151	618	43	27	324	22	51	315	79	22	363	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	812	0	0	373	0	0	445	0	0	429	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		36.0			36.0			38.0			38.0	
Effective Green, g (s)		36.0			36.0			38.0			38.0	
Actuated g/C Ratio		0.40			0.40			0.42			0.42	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1058			670			699			753	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.22			c0.27			0.24	
v/c Ratio		0.77			0.56			0.64			0.57	
Uniform Delay, d1		23.4			20.8			20.5			19.8	
Progression Factor		1.00			1.60			1.00			1.00	
Incremental Delay, d2		5.3			2.6			4.4			3.1	
Delay (s)		28.7			35.9			24.9			22.9	
Level of Service		C			D			C			C	
Approach Delay (s)		28.7			35.9			24.9			22.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		447			129		
Travel Time (s)	20.5		10.2			2.9		
Volume (vph)	205	115	1065	40	65	1105		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	415	0	1227	0	0	1258		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				15.0	13.0
Total Split (s)	23.0	0.0	69.0	0.0	82.0	82.0	15.0	13.0
Total Split (%)	19.2%	0.0%	57.5%	0.0%	68.3%	68.3%	13%	11%
Maximum Green (s)	18.0		64.0				12.0	8.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.83		0.63			0.75		
Control Delay	56.1		19.2			3.1		
Queue Delay	0.6		0.4			57.3		
Total Delay	56.7		19.6			60.4		
Queue Length 50th (ft)	281		448			27		
Queue Length 95th (ft)	#481		m358			m22		
Internal Link Dist (ft)	821		367			49		
Turn Bay Length (ft)								
Base Capacity (vph)	498		1948			1673		
Starvation Cap Reductn	0		0			550		
Spillback Cap Reductn	8		270			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.85		0.73			1.12		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 50 (42%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1869		3591			3360
Flt Permitted	0.97		1.00			0.76
Satd. Flow (perm)	1869		3591			2574
Volume (vph)	205	115	1065	40	65	1105
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	266	149	1183	44	70	1188
RTOR Reduction (vph)	15	0	2	0	0	0
Lane Group Flow (vph)	400	0	1225	0	0	1258
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	30.0		61.6			74.6
Effective Green, g (s)	31.0		62.6			75.6
Actuated g/C Ratio	0.26		0.52			0.63
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	483		1873			1622
v/s Ratio Prot	c0.21		0.34			
v/s Ratio Perm						c0.49
v/c Ratio	0.83		0.65			0.78
Uniform Delay, d1	42.0		20.8			16.1
Progression Factor	1.00		0.98			0.19
Incremental Delay, d2	11.7		0.2			0.2
Delay (s)	53.7		20.7			3.3
Level of Service	D		C			A
Approach Delay (s)	53.7		20.7			3.3
Approach LOS	D		C			A

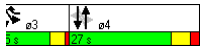
Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1140	5	0	1100	435	20	430	170	425	520	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1263	0	0	1170	463	0	755	0	0	1157	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	68.0	68.0	0.0	0.0	68.0	15.0	27.0	27.0	0.0	15.0	42.0	0.0	10.0
Total Split (%)	56.7%	56.7%	0.0%	0.0%	56.7%	12.5%	22.5%	22.5%	0.0%	12.5%	35.0%	0.0%	8%
Maximum Green (s)	62.0	62.0			62.0	11.0	21.0	21.0		11.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.79			1.17	0.38		1.71			1.47dl		
Control Delay		378.4			116.6	3.0		359.7			147.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		378.4			116.6	3.0		359.7			147.1		
Queue Length 50th (ft)		~1499			~1082	35		~443			~382		
Queue Length 95th (ft)		#1788			#1340	67		#501			#775		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		707			998	1228		441			937		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.79			1.17	0.38		1.71			1.23		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3422			3508	
Flt Permitted		0.66			1.00	1.00		0.72			0.62	
Satd. Flow (perm)		1341			1900	1615		2470			2223	
Volume (vph)	5	1140	5	0	1100	435	20	430	170	425	520	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1253	5	0	1170	463	24	524	207	494	605	58
RTOR Reduction (vph)	0	0	0	0	0	100	0	33	0	0	3	0
Lane Group Flow (vph)	0	1263	0	0	1170	363	0	722	0	0	1154	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		59.6			59.6	78.6		21.0			40.0	
Effective Green, g (s)		60.6			60.6	78.6		22.0			40.0	
Actuated g/C Ratio		0.50			0.50	0.65		0.18			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		677			960	1058		453			934	
v/s Ratio Prot					0.62	0.05					c0.19	
v/s Ratio Perm		c0.94				0.17		c0.29			0.23	
v/c Ratio		1.87			1.22	0.34		1.59			1.47dl	
Uniform Delay, d1		29.7			29.7	9.2		49.0			40.0	
Progression Factor		0.70			1.00	1.00		1.00			1.00	
Incremental Delay, d2		393.0			108.0	0.1		277.8			115.4	
Delay (s)		413.6			137.7	9.3		326.8			155.4	
Level of Service		F			F	A		F			F	
Approach Delay (s)		413.6			101.3			326.8			155.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	231.8	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.69				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	123.0%	ICU Level of Service		H	
Analysis Period (min)	15				

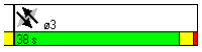
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2678			394			665			426		
Travel Time (s)		60.9			9.0			15.1			9.7		
Volume (vph)	60	240	40	140	345	60	85	950	150	55	1205	85	
Peak Hour Factor	0.79	0.79	0.79	0.78	0.78	0.78	0.93	0.93	0.93	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	431	0	0	698	0	0	1274	0	0	1415	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	67.0	67.0	0.0	67.0	67.0	0.0	15.0
Total Split (%)	31.7%	31.7%	0.0%	31.7%	31.7%	0.0%	55.8%	55.8%	0.0%	55.8%	55.8%	0.0%	13%
Maximum Green (s)	34.0	34.0		34.0	34.0		63.0	63.0		63.0	63.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.83			1.60			1.20			1.07		
Control Delay		48.6			307.9			127.8			75.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		48.6			307.9			127.8			75.0		
Queue Length 50th (ft)		282			~754			~630			~646		
Queue Length 95th (ft)		#474			#923			#770			#770		
Internal Link Dist (ft)		2598			314			585			346		
Turn Bay Length (ft)													
Base Capacity (vph)		521			437			1060			1325		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			1.60			1.20			1.07		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NESW, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Boston Ave & Mystic Valley Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1919			1905			3529			3569	
Flt Permitted		0.75			0.67			0.55			0.69	
Satd. Flow (perm)		1446			1287			1963			2462	
Volume (vph)	60	240	40	140	345	60	85	950	150	55	1205	85
Peak-hour factor, PHF	0.79	0.79	0.79	0.78	0.78	0.78	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	76	304	51	179	442	77	91	1022	161	58	1268	89
RTOR Reduction (vph)	0	4	0	0	3	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	427	0	0	695	0	0	1264	0	0	1411	0
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		46.0			46.0			60.6			60.6	
Effective Green, g (s)		46.0			46.0			60.6			60.6	
Actuated g/C Ratio		0.38			0.38			0.50			0.50	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		554			493			991			1243	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.54			c0.64			0.57	
v/c Ratio		0.77			1.41			1.28			1.13	
Uniform Delay, d1		32.4			37.0			29.7			29.7	
Progression Factor		1.00			1.00			1.00			1.23	
Incremental Delay, d2		7.0			196.1			131.9			67.8	
Delay (s)		39.4			233.1			161.6			104.4	
Level of Service		D			F			F			F	
Approach Delay (s)		39.4			233.1			161.6			104.4	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	139.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	126.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			950			1456		
Travel Time (s)		22.5			15.0			21.6			33.1		
Volume (vph)	30	10	30	30	40	25	10	395	55	50	445	15	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	105	0	0	121	0	0	542	0	0	526	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	14.0	14.0	0.0	14.0	14.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0	8.0
Total Split (%)	26.4%	26.4%	0.0%	26.4%	26.4%	0.0%	58.5%	58.5%	0.0%	58.5%	58.5%	0.0%	15%
Maximum Green (s)	9.0	9.0		9.0	9.0		26.0	26.0		26.0	26.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.38			0.41			0.46			0.47		
Control Delay		20.6			21.0			7.6			7.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		20.6			21.0			7.6			7.8		
Queue Length 50th (ft)		23			26			65			64		
Queue Length 95th (ft)		47			63			172			190		
Internal Link Dist (ft)		911			582			870			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		287			304			1174			1114		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.37			0.40			0.46			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 61.4	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.96			0.98			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1753			1804			1787			1820	
Flt Permitted		0.84			0.90			0.99			0.92	
Satd. Flow (perm)		1497			1643			1768			1681	
Volume (vph)	30	10	30	30	40	25	10	395	55	50	445	15
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	45	15	45	38	51	32	12	465	65	52	459	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	105	0	0	121	0	0	542	0	0	526	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		9.3			9.3			39.2			39.2	
Effective Green, g (s)		10.3			10.3			40.2			40.2	
Actuated g/C Ratio		0.16			0.16			0.64			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		246			270			1134			1078	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.07			0.31			c0.31	
v/c Ratio		0.43			0.45			0.48			0.49	
Uniform Delay, d1		23.5			23.6			5.8			5.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.6			1.6			1.4			1.6	
Delay (s)		25.2			25.2			7.3			7.5	
Level of Service		C			C			A			A	
Approach Delay (s)		25.2			25.2			7.3			7.5	
Approach LOS		C			C			A			A	

Intersection Summary					
HCM Average Control Delay	10.5	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.48				
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	12.2		
Intersection Capacity Utilization	64.0%	ICU Level of Service	B		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	80	110	140	35	405	55	55	375	160	200	360	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	359	0	0	576	0	0	648	0	0	628	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	15.0	15.0		15.0	15.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	59.0	59.0	0.0	59.0	59.0	0.0	20.0
Total Split (%)	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	17%
Maximum Green (s)	34.9	34.9		34.9	34.9		53.0	53.0		53.0	53.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.27			0.92			0.80			1.32		
Control Delay		180.2			58.1			33.8			185.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		180.2			58.1			33.8			185.5		
Queue Length 50th (ft)		~277			337			304			~498		
Queue Length 95th (ft)		#566			#649			#693			#898		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		282			624			805			475		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.27			0.92			0.80			1.32		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1752			1989			1786			1819	
Flt Permitted		0.54			0.94			0.90			0.54	
Satd. Flow (perm)		961			1881			1610			1007	
Volume (vph)	80	110	140	35	405	55	55	375	160	200	360	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	87	120	152	41	471	64	60	412	176	213	383	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	359	0	0	576	0	0	648	0	0	628	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.2			35.2			53.4			53.4	
Effective Green, g (s)		36.3			36.3			54.4			54.4	
Actuated g/C Ratio		0.33			0.33			0.50			0.50	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		318			622			798			499	
v/s Ratio Prot												
v/s Ratio Perm		c0.37			0.31			0.40			c0.62	
v/c Ratio		1.13			0.93			0.81			1.26	
Uniform Delay, d1		36.8			35.5			23.4			27.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		90.0			19.5			8.8			131.8	
Delay (s)		126.7			55.0			32.2			159.5	
Level of Service		F			D			C			F	
Approach Delay (s)		126.7			55.0			32.2			159.5	
Approach LOS		F			D			C			F	

Intersection Summary					
HCM Average Control Delay	89.7	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.21				
Actuated Cycle Length (s)	109.8	Sum of lost time (s)		19.1	
Intersection Capacity Utilization	118.5%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	155	235	1	35	230	130	115	205	130	10	320	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	167	256	0	0	434	0	0	359	146	0	444	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	47.0	47.0	0.0	33.0	33.0	0.0	47.0	47.0	47.0	33.0	33.0	0.0	22.0
Total Split (%)	34.8%	34.8%	0.0%	24.4%	24.4%	0.0%	34.8%	34.8%	34.8%	24.4%	24.4%	0.0%	16%
Maximum Green (s)	41.0	41.0		27.0	27.0		41.0	41.0	41.0	27.0	27.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.26	0.41			1.00			0.96	0.25		1.00		
Control Delay	32.7	35.1			88.9			78.0	11.5		91.2		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	32.7	35.1			88.9			78.0	11.5		91.2		
Queue Length 50th (ft)	84	136			300			244	18		314		
Queue Length 95th (ft)	176	266			#637			#537	76		#647		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	632	631			435			375	590		442		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.26	0.41			1.00			0.96	0.25		1.00		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.96			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1890			1830	1531		1953	
Flt Permitted	1.00	1.00			1.00			0.61	1.00		1.00	
Satd. Flow (perm)	1863	1862			1890			1143	1531		1953	
Volume (vph)	155	235	1	35	230	130	115	205	130	10	320	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	167	255	1	38	253	143	129	230	146	11	360	73
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	72	0	5	0
Lane Group Flow (vph)	167	256	0	0	422	0	0	359	74	0	439	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Effective Green, g (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Actuated g/C Ratio	0.33	0.33			0.22			0.33	0.33		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	623	622			416			382	512		430	
v/s Ratio Prot		0.14			c0.22				0.05		c0.22	
v/s Ratio Perm	0.09							c0.31				
v/c Ratio	0.27	0.41			1.01			0.94	0.14		1.02	
Uniform Delay, d1	30.1	31.8			48.2			39.9	28.8		48.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.4			47.5			30.6	0.1		48.5	
Delay (s)	30.3	32.2			95.7			70.6	28.9		96.7	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		31.5			95.7			58.5			96.7	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	70.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1449			1738		
Travel Time (s)		11.7			40.8			32.9			39.5		
Volume (vph)	10	475	10	140	405	80	20	275	35	110	180	10	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	562	0	0	649	95	0	375	0	0	349	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	45.0	45.0	0.0	12.0	57.0	57.0	12.0	44.0	0.0	32.0	32.0	0.0	19.0
Total Split (%)	37.5%	37.5%	0.0%	10.0%	47.5%	47.5%	10.0%	36.7%	0.0%	26.7%	26.7%	0.0%	16%
Maximum Green (s)	40.0	40.0		7.0	52.0	52.0	7.0	39.0		27.0	27.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.51			1.47	0.12		0.62			0.79		
Control Delay		16.3			247.2	4.1		33.3			45.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		16.3			247.2	4.1		33.3			45.0		
Queue Length 50th (ft)		165			~494	2		175			177		
Queue Length 95th (ft)		418			#875	28		332			#357		
Internal Link Dist (ft)		435			1715			1369			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1096			441	799		741			441		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.51			1.47	0.12		0.51			0.79		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1980			1848	1340		1991			1981	
Flt Permitted		0.99			0.69	1.00		0.97			0.53	
Satd. Flow (perm)		1956			1288	1340		1934			1076	
Volume (vph)	10	475	10	140	405	80	20	275	35	110	180	10
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	11	540	11	167	482	95	23	312	40	128	209	12
RTOR Reduction (vph)	0	0	0	0	0	39	0	3	0	0	0	0
Lane Group Flow (vph)	0	562	0	0	649	56	0	372	0	0	349	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		52.6			52.6	52.6		28.5			28.5	
Effective Green, g (s)		53.6			53.6	53.6		29.5			29.5	
Actuated g/C Ratio		0.55			0.55	0.55		0.31			0.31	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1084			714	743		590			328	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.50	0.04		0.19			c0.32	
v/c Ratio		0.52			0.91	0.08		0.63			1.06	
Uniform Delay, d1		13.5			19.4	10.0		28.9			33.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2			15.1	0.0		1.5			67.7	
Delay (s)		13.6			34.4	10.0		30.4			101.3	
Level of Service		B			C	B		C			F	
Approach Delay (s)		13.6			31.3			30.4			101.3	
Approach LOS		B			C			C			F	

Intersection Summary

HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	96.7	Sum of lost time (s)	13.6
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	350	145	2	895	690	220	235	80	205	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	380	158	0	975	989	0	255	0	348	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	26.0	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	33.0	33.0	39.0	39.0	72.0	0.0	28.0	28.0	28.0	0.0
Total Split (%)	33.0%	33.0%	39.0%	39.0%	72.0%	0.0%	28.0%	28.0%	28.0%	0.0%
Maximum Green (s)	28.0	28.0	34.0	34.0			24.0	24.0	24.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.86	0.35		0.84	0.81		0.28		0.74	
Control Delay	54.3	8.0		38.1	18.5		1.3		45.5	
Queue Delay	0.0	0.1		109.4	0.0		0.0		0.0	
Total Delay	54.3	8.1		147.5	18.5		1.3		45.5	
Queue Length 50th (ft)	229	5		292	396		8		202	
Queue Length 95th (ft)	#391	53		374	606		15		#323	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	443	457		1167	1215		901		469	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	16		381	0		0		1	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.86	0.36		1.24	0.81		0.28		0.74	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 14: High St & Forest St

Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.99	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1933	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1933	
Volume (vph)	350	145	2	895	690	220	235	80	205	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	158	2	973	750	239	255	87	223	38
RTOR Reduction (vph)	0	107	0	0	12	0	194	0	5	0
Lane Group Flow (vph)	380	51	0	975	977	0	61	0	343	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	28.0	28.0		34.0	67.0		24.0		24.0	
Effective Green, g (s)	28.0	28.0		34.0	67.0		24.0		24.0	
Actuated g/C Ratio	0.28	0.28		0.34	0.67		0.24		0.24	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	443	350		1167	1203		387		464	
v/s Ratio Prot	0.24	0.04		0.28	c0.54		0.04			
v/s Ratio Perm									0.18	
v/c Ratio	0.86	0.15		0.84	0.81		0.16		0.74	
Uniform Delay, d1	34.1	27.0		30.4	12.0		30.0		35.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	18.9	0.9		7.1	6.1		0.7		10.2	
Delay (s)	53.0	27.9		37.6	18.0		30.7		45.3	
Level of Service	D	C		D	B		C		D	
Approach Delay (s)					27.7				45.3	
Approach LOS					C				D	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	90	475	65	85	455	35	50	360	70	70	460	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	670	0	0	625	0	0	506	0	0	739	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		Max	Max		Min	Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.23			1.17			0.87			1.23		
Control Delay		145.8			122.0			44.0			145.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		145.8			122.0			44.0			145.6		
Queue Length 50th (ft)		~512			~459			274			~565		
Queue Length 95th (ft)		#837			#772			#556			#876		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		546			536			580			601		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.23			1.17			0.87			1.23		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1658			1667			1635			1626	
Flt Permitted		0.77			0.75			0.83			0.86	
Satd. Flow (perm)		1280			1258			1360			1401	
Volume (vph)	90	475	65	85	455	35	50	360	70	70	460	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	96	505	69	92	495	38	53	379	74	80	523	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	670	0	0	625	0	0	506	0	0	739	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		550			540			584			602	
v/s Ratio Prot												
v/s Ratio Perm		c0.52			0.50			0.37			c0.53	
v/c Ratio		1.22			1.16			0.87			1.23	
Uniform Delay, d1		29.3			29.3			26.6			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		113.9			90.1			15.8			116.6	
Delay (s)		143.2			119.4			42.5			145.9	
Level of Service		F			F			D			F	
Approach Delay (s)		143.2			119.4			42.5			145.9	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	118.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	30	1150	1145	35	10	25	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	32	1237	1269	0	49	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	23.0	92.0	69.0	0.0	13.0	0.0	15.0
Total Split (%)	19.2%	76.7%	57.5%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	18.0		64.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.06	0.79	1.16		0.30		
Control Delay	3.5	16.2	85.8		28.5		
Queue Delay	1.5	14.6	9.4		0.2		
Total Delay	5.0	30.8	95.2		28.6		
Queue Length 50th (ft)	0	425	~1138		10		
Queue Length 95th (ft)	m1	#1117	m152		34		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	530	1571	1095		165		
Starvation Cap Reductn	408	343	0		0		
Spillback Cap Reductn	0	0	20		8		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.26	1.01	1.18		0.31		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 50 (42%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2018		1770	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	121	1900	2018		1770	
Volume (vph)	30	1150	1145	35	10	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	32	1237	1231	38	14	35
RTOR Reduction (vph)	0	0	1	0	32	0
Lane Group Flow (vph)	32	1237	1268	0	17	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	91.6	91.6	61.6		8.0	
Effective Green, g (s)	93.6	93.6	62.6		9.0	
Actuated g/C Ratio	0.78	0.78	0.52		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	529	1482	1053		133	
v/s Ratio Prot	0.02	c0.65	c0.63		c0.01	
v/s Ratio Perm	0.03					
v/c Ratio	0.06	0.83	1.20		0.12	
Uniform Delay, d1	33.0	8.3	28.7		51.8	
Progression Factor	1.10	2.09	0.28		1.00	
Incremental Delay, d2	0.0	3.4	92.8		0.6	
Delay (s)	36.5	20.8	100.8		52.4	
Level of Service	D	C	F		D	
Approach Delay (s)		21.2	100.8		52.4	
Approach LOS		C	F		D	

Intersection Summary

HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	235	950	95	1150		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	270	1092	0	1431		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	28.0	0.0	100.0	100.0	39.0	33.0
Total Split (%)	0.0%	0.0%	28.0%	0.0%	100.0%	100.0%	39%	33%
Maximum Green (s)			24.0				34.0	28.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.60	0.69		0.64		
Control Delay			40.4	2.5		8.6		
Queue Delay			0.4	0.0		0.0		
Total Delay			40.8	2.5		8.6		
Queue Length 50th (ft)			154	0		211		
Queue Length 95th (ft)			229	0		192		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			447	1583		2245		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			26	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.64	0.69		0.64		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3186
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2246
Volume (vph)	0	0	235	950	95	1150
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	270	1092	109	1322
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	270	1092	0	1431
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			24.0	100.0		100.0
Effective Green, g (s)			24.0	100.0		100.0
Actuated g/C Ratio			0.24	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			447	1583		2246
v/s Ratio Prot			0.14			
v/s Ratio Perm				c0.69		0.64
v/c Ratio			0.60	0.69		0.64
Uniform Delay, d1			33.8	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			5.9	2.5		0.9
Delay (s)			39.7	2.5		0.9
Level of Service			D	A		A
Approach Delay (s)	0.0		9.9			0.9
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		924					664				415			1449
Travel Time (s)		21.0					15.1				9.4			32.9
Volume (vph)	5	620	25	25	20	25	615	225	5	5	30	35	190	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	733	0	0	0	0	717	245	0	0	43	38	0	288
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	14.0	14.0			14.0	14.0	14.0	14.0	14.0	14.0	14.0		14.0	14.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0	24.0	19.0	19.0	19.0		19.0	19.0
Total Split (s)	41.0	41.0	0.0	0.0	41.0	41.0	41.0	41.0	24.0	24.0	24.0	0.0	24.0	24.0
Total Split (%)	63.1%	63.1%	0.0%	0.0%	63.1%	63.1%	63.1%	63.1%	36.9%	36.9%	36.9%	0.0%	36.9%	36.9%
Maximum Green (s)	36.0	36.0			36.0	36.0	36.0	36.0	19.0	19.0	19.0		19.0	19.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max	Max	None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0	8.0						
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0						
Pedestrian Calls (#/hr)	0	0			0	0	0	0						
v/c Ratio		0.59					0.72	0.27			0.08	0.03		0.75
Control Delay		11.2					15.5	7.8			16.7	0.0		35.1
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		11.2					15.5	7.8			16.7	0.0		35.1
Queue Length 50th (ft)		173					192	45			12	0		99
Queue Length 95th (ft)		272					332	81			32	0		#201
Internal Link Dist (ft)		844					584				335			1369
Turn Bay Length (ft)														
Base Capacity (vph)		1240					991	912			596	1322		418
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.59					0.72	0.27			0.07	0.03		0.69

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 112: Broadway & Boston Ave

Green Line Extention
112: Broadway & Boston Ave
2030 Build Condition - Alt 2a - PM Peak
Lanes, Volumes, Timings

Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	15	15
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	16
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Maximum Green (s)		
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		
Recall Mode		
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.01
Control Delay		0.0
Queue Delay		0.0
Total Delay		0.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		0
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		1167
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.01

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		0.99
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.97
Satd. Flow (prot)		2089					1795	1531			2087	1322		1724
Flt Permitted		1.00					0.92	1.00			0.91	1.00		0.76
Satd. Flow (perm)		2082					1664	1531			1931	1322		1357
Volume (vph)	5	620	25	25	20	25	615	225	5	5	30	35	190	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	674	27	27	22	27	668	245	5	5	33	38	207	65
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	733	0	0	0	0	717	245	0	0	43	38	0	288
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		37.7					37.7	37.7			17.3	65.0		17.3
Effective Green, g (s)		38.7					38.7	38.7			18.3	65.0		18.3
Actuated g/C Ratio		0.60					0.60	0.60			0.28	1.00		0.28
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		3.0					3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		1240					991	912			544	1322		382
v/s Ratio Prot														
v/s Ratio Perm		0.35					c0.43	0.16			0.02	0.03		c0.21
v/c Ratio		0.59					0.72	0.27			0.08	0.03		0.75
Uniform Delay, d1		8.2					9.3	6.3			17.2	0.0		21.3
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		2.1					4.6	0.7			0.1	0.0		8.2
Delay (s)		10.3					13.9	7.1			17.2	0.0		29.5
Level of Service		B					B	A			B	A		C
Approach Delay (s)		10.3					12.2				9.2			27.9
Approach LOS		B					B				A			C

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extention
112: Broadway & Boston Ave
2030 Build Condition - Alt 2a - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1167
Flt Permitted		1.00
Satd. Flow (perm)		1167
Volume (vph)	15	15
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	16	16
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	16
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		65.0
Effective Green, g (s)		65.0
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1167
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.01
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1286						1176			419		
Travel Time (s)			29.2						26.7			9.5		
Volume (vph)	2	25	415	260	10	1	20	20	675	140	270	150	10	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	480	294	0	0	0	0	922	0	0	462	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	40.0	40.0	40.0	30.0	0.0	40.0	40.0	40.0	40.0	0.0	30.0	30.0	0.0	19.0
Total Split (%)	33.3%	33.3%	33.3%	25.0%	0.0%	33.3%	33.3%	33.3%	33.3%	0.0%	25.0%	25.0%	0.0%	15.8%
Maximum Green (s)	34.0	34.0	34.0	24.0		34.0	34.0	34.0	34.0		24.0	24.0		13.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.60	0.30					0.98			1.01		
Control Delay			33.4	10.9					59.7			85.2		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			33.4	10.9					59.7			85.2		
Queue Length 50th (ft)			130	72					297			293		
Queue Length 95th (ft)			236	183					#568			#638		
Internal Link Dist (ft)			1206						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			803	984					942			457		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.60	0.30					0.98			1.01		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Broadway & Dexter St

Green Line Extention
19: Broadway & Dexter St
2030 Build Condition - Alt 2a - PM Peak
Lanes, Volumes, Timings

Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	160	5	55	0	50	5	22	5	33	9	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	263	0	0	60	0	0	0	88	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	19.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	15.8%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	13.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	0.98			0.62				0.98			
Control Delay	94.2			77.9				137.0			
Queue Delay	0.0			0.0				0.0			
Total Delay	94.2			77.9				137.0			
Queue Length 50th (ft)	163			38				54			
Queue Length 95th (ft)	#402			#108				#172			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	269			96				90			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	0.98			0.63				0.98			

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3529	1564					3263			1888		
Flt Permitted			0.74	1.00					0.90			0.97		
Satd. Flow (perm)			2621	1564					2939			1888		
Volume (vph)	2	25	415	260	10	1	20	20	675	140	270	150	10	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	451	283	11	1	22	22	726	151	290	161	11	27
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	0	480	293	0	0	0	0	922	0	0	461	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			34.2	58.3					34.2			24.1		
Effective Green, g (s)			35.2	60.3					35.2			25.1		
Actuated g/C Ratio			0.33	0.57					0.33			0.24		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			868	961					973			446		
v/s Ratio Prot				0.07								c0.24		
v/s Ratio Perm			0.18	0.12					c0.31					
v/c Ratio			0.55	0.30					0.95			1.03		
Uniform Delay, d1			29.1	12.0					34.7			40.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			0.9	0.5					17.6			51.7		
Delay (s)			30.1	12.5					52.2			92.3		
Level of Service			C	B					D			F		
Approach Delay (s)			23.4						52.2			92.3		
Approach LOS			C						D			F		

Intersection Summary				
HCM Average Control Delay	59.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	106.7%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St
2030 Build Condition - Alt 2a - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	0.99			1.00				0.98		
Satd. Flow (prot)	1921			1644				1697		
Flt Permitted	0.99			1.00				0.86		
Satd. Flow (perm)	1921			1644				1478		
Volume (vph)	160	5	55	0	50	5	22	5	33	9
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	172	5	59	0	60	6	26	6	39	11
RTOR Reduction (vph)	9	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	254	0	0	60	0	0	0	83	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	13.1			5.0				5.0		
Effective Green, g (s)	14.1			6.0				6.0		
Actuated g/C Ratio	0.13			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	255			93				83		
v/s Ratio Prot	c0.13			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.00			0.65				1.00		
Uniform Delay, d1	46.1			49.1				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	55.2			10.9				99.7		
Delay (s)	101.3			60.0				149.9		
Level of Service	F			E				F		
Approach Delay (s)	101.3			60.0				149.9		
Approach LOS	F			E				F		

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	295	100	5	90	5	15	375	60	65	455	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	533	0	0	123	0	0	523	0	0	606	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	47.9%	47.9%	0.0%	47.9%	47.9%	0.0%	11%
Maximum Green (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.85			0.18			0.61			0.77		
Control Delay		33.5			14.9			17.3			24.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.5			14.9			17.3			24.1		
Queue Length 50th (ft)		173			30			144			187		
Queue Length 95th (ft)		#399			65			273			#437		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		661			721			861			787		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.81			0.17			0.61			0.77		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 64.7
Natural Cycle: 75
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1883			1826			1840	
Flt Permitted		0.91			0.98			0.98			0.90	
Satd. Flow (perm)		1659			1845			1788			1666	
Volume (vph)	100	295	100	5	90	5	15	375	60	65	455	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	317	108	6	111	6	17	436	70	72	506	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	521	0	0	123	0	0	523	0	0	604	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		24.1			24.1			31.2			31.2	
Effective Green, g (s)		24.1			24.1			31.2			31.2	
Actuated g/C Ratio		0.36			0.36			0.46			0.46	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		595			662			830			774	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.07			0.29			c0.36	
v/c Ratio		0.88			0.19			0.63			0.78	
Uniform Delay, d1		20.1			14.8			13.6			15.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.9			0.2			3.6			7.7	
Delay (s)		34.1			15.0			17.2			22.8	
Level of Service		C			B			B			C	
Approach Delay (s)		34.1			15.0			17.2			22.8	
Approach LOS		C			B			B			C	

Intersection Summary

HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	67.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			363		
Travel Time (s)		21.7			21.8			35.4			8.3		
Volume (vph)	0	0	0	65	245	25	40	415	100	180	540	155	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	380	0	0	616	0	0	903	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%	19%
Maximum Green (s)				16.0	16.0		49.0	49.0		49.0	49.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.91			0.55			1.01		
Control Delay					58.5			10.6			50.1		
Queue Delay					0.0			0.0			0.0		
Total Delay					58.5			10.6			50.1		
Queue Length 50th (ft)					165			115			323		
Queue Length 95th (ft)					#405			340			#860		
Internal Link Dist (ft)		873			879			1476			283		
Turn Bay Length (ft)													
Base Capacity (vph)					418			1130			892		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.91			0.55			1.01		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 76.4	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1967			1909			1915	
Flt Permitted					0.99			0.90			0.76	
Satd. Flow (perm)					1967			1733			1470	
Volume (vph)	0	0	0	65	245	25	40	415	100	180	540	155
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	74	278	28	44	461	111	186	557	160
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	377	0	0	609	0	0	896	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			49.3			49.3	
Effective Green, g (s)					16.1			49.3			49.3	
Actuated g/C Ratio					0.20			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					402			1084			920	
v/s Ratio Prot												
v/s Ratio Perm					0.19			0.35			c0.61	
v/c Ratio					0.94			0.56			0.97	
Uniform Delay, d1					30.9			8.5			14.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					29.5			2.1			24.0	
Delay (s)					60.4			10.6			38.1	
Level of Service					E			B			D	
Approach Delay (s)		0.0			60.4			10.6			38.1	
Approach LOS		A			E			B			D	

Intersection Summary					
HCM Average Control Delay	33.6	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.97				
Actuated Cycle Length (s)	78.8	Sum of lost time (s)		13.4	
Intersection Capacity Utilization	105.9%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1172			533		
Travel Time (s)		17.7			19.2			26.6			12.1		
Volume (vph)	120	275	10	0	0	0	5	280	0	0	365	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	540	0	0	0	0	0	360	0	0	432	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.71						0.48			0.56		
Control Delay		22.5						17.5			19.0		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.5						17.5			19.0		
Queue Length 50th (ft)		159						93			116		
Queue Length 95th (ft)		240						169			239		
Internal Link Dist (ft)		699			764			1092			453		
Turn Bay Length (ft)													
Base Capacity (vph)		783						756			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.69						0.48			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1830						1880			1890	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1830						1866			1890	
Volume (vph)	120	275	10	0	0	0	5	280	0	0	365	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	160	367	13	0	0	0	6	354	0	0	415	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	360	0	0	430	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			738	
v/s Ratio Prot											c0.23	
v/s Ratio Perm		0.29						0.19				
v/c Ratio		0.73						0.49			0.58	
Uniform Delay, d1		17.0						15.4			16.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		4.1						0.7			1.4	
Delay (s)		21.0						16.1			17.4	
Level of Service		C						B			B	
Approach Delay (s)		21.0			0.0			16.1			17.4	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	18.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	50.9%	ICU Level of Service		A	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	460	20	50	530	390	5	0	20	250	25	15	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	558	0	0	637	429	0	34	0	0	333	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	46.0	0.0	46.0	46.0	75.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	0.0%	55.4%	0.0%	55.4%	55.4%	90.4%	34.9%	34.9%	0.0%	34.9%	34.9%	0.0%	10%
Maximum Green (s)		41.0		41.0	41.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.55			0.69	0.26		0.06			0.75		
Control Delay		14.2			18.1	0.5		9.8			36.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		14.2			18.1	0.5		9.8			36.2		
Queue Length 50th (ft)		149			193	0		2			134		
Queue Length 95th (ft)		274			389	7		17			#283		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		1009			922	1644		534			444		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.55			0.69	0.26		0.06			0.75		

Intersection Summary

Area Type: Other
Cycle Length: 83
Actuated Cycle Length: 76.6
Natural Cycle: 65
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1968	1680		1679			1773	
Flt Permitted		1.00			0.90	1.00		0.93			0.73	
Satd. Flow (perm)		1834			1779	1680		1579			1353	
Volume (vph)	0	460	20	50	530	390	5	0	20	250	25	15
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	535	23	55	582	429	7	0	27	287	29	17
RTOR Reduction (vph)	0	2	0	0	0	43	0	18	0	0	2	0
Lane Group Flow (vph)	0	556	0	0	637	386	0	16	0	0	331	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		41.1			41.1	70.1		24.0			24.0	
Effective Green, g (s)		42.1			42.1	71.1		25.0			25.0	
Actuated g/C Ratio		0.53			0.53	0.90		0.32			0.32	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		977			948	1512		500			428	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.36	0.23		0.01			c0.24	
v/c Ratio		0.57			0.67	0.26		0.03			0.77	
Uniform Delay, d1		12.4			13.4	0.5		18.6			24.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.4			3.8	0.4		0.1			12.7	
Delay (s)		14.8			17.2	0.9		18.8			37.2	
Level of Service		B			B	A		B			D	
Approach Delay (s)		14.8			10.7			18.8			37.2	
Approach LOS		B			B			B			D	

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	190	220	95	0	0	0	100	490	60	205	705	265
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	574	0	0	0	0	0	627	64	220	1043	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.70						0.76	0.04	0.34	0.85	
Control Delay		35.3						39.0	0.0	22.5	32.9	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.3						39.0	0.0	22.5	32.9	
Queue Length 50th (ft)		150						175	0	89	266	
Queue Length 95th (ft)		202						237	0	148	#364	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						827	1706	649	1222	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.70						0.76	0.04	0.34	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3409						3544	1706	1770	3216	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3409						3544	1706	1770	3216	
Volume (vph)	190	220	95	0	0	0	100	490	60	205	705	265
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	216	250	108	0	0	0	106	521	64	220	758	285
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	43	0
Lane Group Flow (vph)	0	552	0	0	0	0	0	627	64	220	1000	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1179	
v/s Ratio Prot		c0.16						c0.18		0.12	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.76	0.04	0.34	0.85	
Uniform Delay, d1		31.6						32.1	0.0	20.6	26.2	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.0						6.4	0.0	1.4	7.7	
Delay (s)		36.5						38.6	0.0	22.0	33.9	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.5			0.0			35.0			31.8	
Approach LOS		D			A			D			C	

Intersection Summary

HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	500	50	50	100	40	55	0	85	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	166	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	29.0	29.0	0.0	0.0	29.0	0.0	16.0	16.0	0.0	16.0	16.0	0.0	8.0
Total Split (%)	54.7%	54.7%	0.0%	0.0%	54.7%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	15%
Maximum Green (s)	24.0	24.0			24.0		12.0	12.0		12.0	12.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.49			0.49			0.61			0.43		
Control Delay		9.5			9.1			24.3			11.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.5			9.1			24.3			11.0		
Queue Length 50th (ft)		72			80			49			13		
Queue Length 95th (ft)		201			217			113			52		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1039			1163			400			411		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.49			0.49			0.57			0.40		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.5	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1840			1804			1702	
Flt Permitted		0.92			1.00			0.88			0.73	
Satd. Flow (perm)		1714			1840			1605			1272	
Volume (vph)	45	420	0	0	500	50	50	100	40	55	0	85
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	515	52	60	119	48	65	0	101
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	82	0
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	84	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		27.6			27.6			9.3			9.3	
Effective Green, g (s)		28.6			28.6			9.3			9.3	
Actuated g/C Ratio		0.57			0.57			0.19			0.19	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		984			1057			300			238	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.07	
v/c Ratio		0.51			0.54			0.76			0.35	
Uniform Delay, d1		6.4			6.5			19.2			17.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			2.0			11.0			1.2	
Delay (s)		8.3			8.5			30.2			18.9	
Level of Service		A			A			C			B	
Approach Delay (s)		8.3			8.5			30.2			18.9	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	13.0	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.54				
Actuated Cycle Length (s)	49.8	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	77.0%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	45	365	25	30	420	40	55	350	100	15	80	40	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	473	0	0	544	0	0	555	0	0	155	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0	8.0
Total Split (%)	46.0%	46.0%	0.0%	46.0%	46.0%	0.0%	41.3%	41.3%	0.0%	41.3%	41.3%	0.0%	13%
Maximum Green (s)	23.0	23.0		23.0	23.0		21.0	21.0		21.0	21.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.71			0.76			0.83			0.24		
Control Delay		21.4			22.9			30.1			11.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.4			22.9			30.1			11.5		
Queue Length 50th (ft)		114			134			151			25		
Queue Length 95th (ft)		#291			#338			#381			68		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		716			773			693			684		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.70			0.80			0.23		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 53.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1821			1837			1821			1805	
Flt Permitted		0.90			0.96			0.95			0.94	
Satd. Flow (perm)		1656			1765			1738			1702	
Volume (vph)	45	365	25	30	420	40	55	350	100	15	80	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	49	397	27	33	467	44	60	385	110	17	92	46
RTOR Reduction (vph)	0	4	0	0	5	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	469	0	0	539	0	0	542	0	0	132	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.5			20.5			20.0			20.0	
Effective Green, g (s)		21.5			21.5			20.0			20.0	
Actuated g/C Ratio		0.39			0.39			0.36			0.36	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		644			686			629			616	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.31			c0.31			0.08	
v/c Ratio		0.73			0.79			0.86			0.21	
Uniform Delay, d1		14.4			14.9			16.4			12.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.4			6.3			12.0			0.2	
Delay (s)		18.8			21.1			28.3			12.5	
Level of Service		B			C			C			B	
Approach Delay (s)		18.8			21.1			28.3			12.5	
Approach LOS		B			C			C			B	

Intersection Summary					
HCM Average Control Delay	22.0	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.75				
Actuated Cycle Length (s)	55.3	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	77.6%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	465	15	65	480	0	0	0	0	110	235	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	539	0	0	580	0	0	0	0	0	469	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	43.0	0.0	43.0	43.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	21.0
Total Split (%)	0.0%	47.8%	0.0%	47.8%	47.8%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	23%
Maximum Green (s)		37.0		37.0	37.0					20.0	20.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.57			0.97						0.92		
Control Delay		16.4			49.8						53.4		
Queue Delay		0.0			0.0						0.0		
Total Delay		16.4			49.8						53.4		
Queue Length 50th (ft)		133			204						187		
Queue Length 95th (ft)		361			#605						#503		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		947			601						508		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.57			0.97						0.92		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1800			1815						1751	
Flt Permitted		1.00			0.81						0.99	
Satd. Flow (perm)		1800			1487						1751	
Volume (vph)	0	465	15	65	480	0	0	0	0	110	235	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	522	17	69	511	0	0	0	0	111	237	121
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	0	580	0	0	0	0	0	469	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		37.4			37.4						20.2	
Effective Green, g (s)		38.4			38.4						21.2	
Actuated g/C Ratio		0.51			0.51						0.28	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		915			756						492	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.39						0.27	
v/c Ratio		0.59			0.77						0.95	
Uniform Delay, d1		13.0			14.9						26.7	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.0			4.7						29.1	
Delay (s)		14.0			19.6						55.8	
Level of Service		B			B						E	
Approach Delay (s)		14.0			19.6			0.0			55.8	
Approach LOS		B			B			A			E	

Intersection Summary

HCM Average Control Delay	28.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	670	35	80	730	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	870	45	86	785	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	45.0	45.0	45.0	45.0	19.0	19.0	13.0
Total Split (%)	58.4%	58.4%	58.4%	58.4%	24.7%	24.7%	17%
Maximum Green (s)	40.0	40.0	40.0	40.0	14.0	14.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.76	0.05	0.78	0.70	0.72	0.57	
Control Delay	16.3	2.7	61.4	14.1	37.9	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.3	2.7	61.4	14.1	37.9	21.3	
Queue Length 50th (ft)	193	0	20	163	100	49	
Queue Length 95th (ft)	384	10	#125	#468	152	85	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1166	851	112	1143	401	426	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.75	0.05	0.77	0.69	0.70	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 64.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.16	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	287	1827	1719	1538
Volume (vph)	670	35	80	730	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	870	45	86	785	279	235
RTOR Reduction (vph)	0	18	0	0	0	69
Lane Group Flow (vph)	870	27	86	785	279	166
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	38.6	38.6	38.6	38.6	13.4	13.4
Effective Green, g (s)	39.6	39.6	39.6	39.6	14.4	14.4
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.22	0.22
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1106	791	170	1085	371	332
v/s Ratio Prot	c0.47			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.30			
v/c Ratio	0.79	0.03	0.51	0.72	0.75	0.50
Uniform Delay, d1	10.3	5.6	7.9	9.7	24.5	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.0	0.9	2.0	8.9	1.6
Delay (s)	13.8	5.6	8.7	11.7	33.3	24.6
Level of Service	B	A	A	B	C	C
Approach Delay (s)	13.4			11.4	29.3	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	12.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	815	445	0	0	1070	170	60	555	680	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	858	459	0	0	1425	0	63	584	716	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	38.0	0.0	40.0	40.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	28.1%	0.0%	29.6%	29.6%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					32.0		35.0	35.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.60	0.24			1.16		0.14	1.23	0.46					
Control Delay	4.1	0.5			125.8		39.6	163.8	1.0					
Queue Delay	0.0	0.0			17.1		0.0	114.4	0.0					
Total Delay	4.1	0.5			142.9		39.6	278.1	1.0					
Queue Length 50th (ft)	65	1			~540		43	~632	0					
Queue Length 95th (ft)	m76	m1			#602		82	#861	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1424	1921			1230		450	474	1553					
Starvation Cap Reductn	0	0			0		0	82	0					
Spillback Cap Reductn	0	0			40		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.60	0.24			1.20		0.15	1.49	0.46					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St &

Green Line Extention
30: Washington St &

2030 Build Condition - Alt 2a - PM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	24.0
Total Split (%)	18%
Maximum Green (s)	19.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2A\Optimize\coordination\2030 Build Alt 2A- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5033		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5033		1736	1827	1553			
Volume (vph)	815	445	0	0	1070	170	60	555	680	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	858	459	0	0	1230	195	63	584	716	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	858	459	0	0	1425	0	63	584	716	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			32.0		35.0	35.0	135.0			
Effective Green, g (s)	52.0	52.0			33.0		35.0	35.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.24		0.26	0.26	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1230		450	474	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.04	c0.32				
v/s Ratio Perm									0.46			
v/c Ratio	0.60	0.24			1.16		0.14	1.23	0.46			
Uniform Delay, d1	33.2	28.1			51.0		38.4	50.0	0.0			
Progression Factor	0.10	0.01			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.8	0.1			80.8		0.7	121.7	1.0			
Delay (s)	4.0	0.5			131.8		39.1	171.7	1.0			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.8			131.8			75.9			0.0	
Approach LOS		A			F			E			A	

Intersection Summary			
HCM Average Control Delay	71.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1225	40	410	720	0	0	0	0	35	150	380		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1330	0	456	800	0	0	0	0	0	617	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	24.0	24.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	17.8%	17.8%	0.0%	8%	16%
Maximum Green (s)										19.0	19.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.89		0.49	0.42						1.39dr			
Control Delay		60.4		2.2	0.4						147.3			
Queue Delay		4.3		0.0	0.0						53.6			
Total Delay		64.7		2.2	0.4						200.8			
Queue Length 50th (ft)		281		7	0						~310			
Queue Length 95th (ft)		320		m0	m0						#435			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1492		939	1914						517			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		111		0	0						48			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.96		0.49	0.42						1.32			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy

Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	38.0	40.0
Total Split (%)	28%	30%
Maximum Green (s)	32.0	35.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3174	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3174	
Volume (vph)	0	1225	40	410	720	0	0	0	0	35	150	380
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1289	41	456	800	0	0	0	0	41	163	413
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1326	0	456	800	0	0	0	0	0	547	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		73.0	73.0						19.0	
Effective Green, g (s)		28.0		73.0	73.0						19.0	
Actuated g/C Ratio		0.21		0.54	0.54						0.14	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1489		939	1914						447	
v/s Ratio Prot		c0.18		c0.26	0.23							
v/s Ratio Perm											0.17	
v/c Ratio		0.89		0.49	0.42						1.39dr	
Uniform Delay, d1		52.0		19.3	18.4						58.0	
Progression Factor		1.00		0.11	0.02						1.00	
Incremental Delay, d2		8.4		0.2	0.1						119.6	
Delay (s)		60.4		2.2	0.4						177.6	
Level of Service		E		A	A						F	
Approach Delay (s)		60.4			1.1			0.0			177.6	
Approach LOS		E			A			A			F	

Intersection Summary			
HCM Average Control Delay	59.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	330	30	450	390	915	0	0	0	450	255	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	479	415	973	0	0	0	253	585	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	40.0	40.0	40.0	0.0	27.0	0.0	27.0	27.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	33.3%	33.3%	33.3%	0.0%	22.5%	0.0%	22.5%	22.5%	0.0%	26%
Maximum Green (s)	17.0	17.0		34.0	34.0	34.0		22.0		22.0	22.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.05		1.03	0.85	0.78				0.63	0.71		
Control Delay		105.7		55.4	33.6	9.6				45.4	42.1		
Queue Delay		0.0		0.0	0.0	1.8				0.0	0.0		
Total Delay		105.7		55.4	33.6	11.5				45.4	42.1		
Queue Length 50th (ft)		~205		~392	270	0				148	175		
Queue Length 95th (ft)		#313		m317	m243	m430				#427	#431		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		440		465	489	1249				400	824		
Starvation Cap Reductn		0		0	0	141				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.05		1.03	0.85	0.88				0.63	0.71		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2797	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2351	
Volume (vph)	60	330	30	450	390	915	0	0	0	450	255	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	363	33	479	415	973	0	0	0	506	287	45
RTOR Reduction (vph)	0	0	0	0	0	352	0	0	0	0	4	0
Lane Group Flow (vph)	0	462	0	479	415	621	0	0	0	253	581	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		32.2	32.2	72.8				40.6	40.6	
Effective Green, g (s)		18.0		33.2	33.2	73.8				41.6	41.6	
Actuated g/C Ratio		0.15		0.28	0.28	0.62				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		440		441	464	876				400	815	
v/s Ratio Prot		c0.16		c0.30	0.25	0.20						
v/s Ratio Perm						0.24				0.22	c0.25	
v/c Ratio		1.05		1.09	0.89	0.71				0.63	0.71	
Uniform Delay, d1		51.0		43.4	41.7	15.8				32.8	34.0	
Progression Factor		1.00		0.78	0.77	6.00				1.00	1.00	
Incremental Delay, d2		56.6		43.0	2.8	0.3				3.7	3.2	
Delay (s)		107.6		76.7	34.8	94.9				36.5	37.2	
Level of Service		F		E	C	F				D	D	
Approach Delay (s)		107.6			76.9			0.0			37.0	
Approach LOS		F			E			A			D	

Intersection Summary					
HCM Average Control Delay	70.8	HCM Level of Service		E	
HCM Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.2	
Intersection Capacity Utilization	84.3%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	310	40	40	275	70	40	360	60	30	460	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	490	0	0	437	0	0	495	0	0	577	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	16.0
Total Split (%)	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	18%
Maximum Green (s)	34.0	34.0		34.0	34.0		29.0	29.0		29.0	29.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.84			0.59			0.82			0.85		
Control Delay		36.1			20.8			35.4			36.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		36.1			20.8			35.4			36.6		
Queue Length 50th (ft)		183			135			189			225		
Queue Length 95th (ft)		#480			298			#472			#544		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		580			742			603			677		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.84			0.59			0.82			0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 77.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 34: Kirkland St & Beacon St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1819			1807			1822			1826	
Flt Permitted		0.77			0.93			0.89			0.96	
Satd. Flow (perm)		1410			1683			1630			1753	
Volume (vph)	110	310	40	40	275	70	40	360	60	30	460	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	330	43	45	312	80	43	387	65	31	474	72
RTOR Reduction (vph)	0	3	0	0	8	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	487	0	0	429	0	0	489	0	0	571	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		34.2			34.2			29.2			29.2	
Effective Green, g (s)		34.2			34.2			30.2			30.2	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		606			723			618			665	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.25			0.30			c0.33	
v/c Ratio		0.80			0.59			0.79			0.86	
Uniform Delay, d1		19.8			17.4			21.9			22.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.8			3.6			10.0			13.6	
Delay (s)		30.6			20.9			31.9			36.3	
Level of Service		C			C			C			D	
Approach Delay (s)		30.6			20.9			31.9			36.3	
Approach LOS		C			C			C			D	

Intersection Summary					
HCM Average Control Delay	30.5	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.83				
Actuated Cycle Length (s)	79.6	Sum of lost time (s)		15.2	
Intersection Capacity Utilization	91.1%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	385	390	0	0	445	40	520	810	100	0	0	905	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	891	0	0	592	0	487	1018	0	0	0	953	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	42.0	59.0	0.0	0.0	17.0	0.0	40.0	40.0	0.0	0.0	0.0	42.0	21.0
Total Split (%)	35.0%	49.2%	0.0%	0.0%	14.2%	0.0%	33.3%	33.3%	0.0%	0.0%	0.0%	35.0%	18%
Maximum Green (s)	38.0				13.0		36.0	36.0				38.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.61			0.87		1.11	1.11				1.20	
Control Delay		6.9			59.9		115.8	104.7				138.9	
Queue Delay		0.0			0.0		4.1	4.7				0.0	
Total Delay		6.9			59.9		119.9	109.4				138.9	
Queue Length 50th (ft)		142			210		~473	~495				~509	
Queue Length 95th (ft)		m138			#417		#704	#636				#651	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1451			683		439	915				794	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		4	9				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.61			0.87		1.12	1.12				1.20	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3108			3177		1464	3025				2508
Flt Permitted		0.58			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1833			3177		1464	3025				2508
Volume (vph)	385	390	0	0	445	40	520	810	100	0	0	905
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	448	0	0	543	49	547	853	105	0	0	953
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	587	0	487	1011	0	0	0	953
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		61.8			25.6		36.0	36.0				36.2
Effective Green, g (s)		61.8			25.6		36.0	36.0				36.2
Actuated g/C Ratio		0.52			0.21		0.30	0.30				0.30
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1329			678		439	908				757
v/s Ratio Prot		0.20			c0.18		0.33	c0.33				c0.38
v/s Ratio Perm		0.14										
v/c Ratio		0.67			0.87		1.11	1.11				1.26
Uniform Delay, d1		21.6			45.5		42.0	42.0				41.9
Progression Factor		0.27			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.5			14.0		76.1	66.1				127.1
Delay (s)		7.3			59.5		118.1	108.1				169.0
Level of Service		A			E		F	F				F
Approach Delay (s)		7.3			59.5			111.3			169.0	
Approach LOS		A			E			F			F	

Intersection Summary

HCM Average Control Delay	94.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	695	155	310	260	10	15	640	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	876	0	170	638	0	0	0	701	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	0.0	36.0	36.0	0.0	25.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	0.0%	30.0%	30.0%	0.0%	21%
Maximum Green (s)	54.0	54.0		54.0	54.0			32.0	32.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											10
v/c Ratio		2.13		0.63	0.62				1.08		
Control Delay		535.2		31.3	20.3				94.0		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		535.2		31.3	20.3				94.0		
Queue Length 50th (ft)		~589		62	230				~460		
Queue Length 95th (ft)		#1117		#237	552				#941		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		411		268	1026				647		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		2.13		0.63	0.62				1.08		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 100	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St

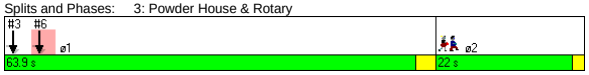
Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.88		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1848				2000	
Flt Permitted		0.56		0.28	1.00				1.00	
Satd. Flow (perm)		989		554	1848				2000	
Volume (vph)	120	0	695	155	310	260	10	15	640	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	747	170	341	286	11	16	674	11
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	841	0	170	638	0	0	0	700	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		54.5		54.5	54.5				32.3	
Effective Green, g (s)		55.5		55.5	55.5				32.3	
Actuated g/C Ratio		0.54		0.54	0.54				0.32	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		536		300	1001				630	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.85		0.31					0.35	
v/c Ratio		1.57		0.57	0.64				1.11	
Uniform Delay, d1		23.5		15.5	16.4				35.1	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		265.1		1.5	1.0				70.5	
Delay (s)		288.6		17.0	17.4				105.6	
Level of Service		F		B	B				F	
Approach Delay (s)		288.6			17.3				105.6	
Approach LOS		F			B				F	

Intersection Summary			
HCM Average Control Delay	142.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	465	0	0	1035	480	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	547	0	0	1089	505	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.34			0.61	0.32	
Control Delay		0.6			3.9	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			3.9	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			525	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		9			11	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.34			0.61	0.32	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	465	0	0	1035	480
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	547	0	0	1089	505
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	502	0	0	1089	505
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.58	
v/s Ratio Perm		0.31				c0.32
v/c Ratio		0.33			0.64	0.32
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			1.8	0.5
Delay (s)		1.2			2.8	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.1	
Approach LOS	A			A	A	

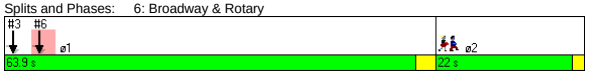
Intersection Summary			
HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	470	0	0	1050	450	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	516	0	0	1105	474	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.62	0.30	
Control Delay		0.6			2.3	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			2.3	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			121	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	470	0	0	1050	450
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	516	0	0	1105	474
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	0	474	0	0	1105	474
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.30
v/c Ratio		0.33			0.65	0.30
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			0.36	1.00
Incremental Delay, d2		0.6			1.6	0.4
Delay (s)		1.2			2.0	0.4
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	1.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	480	1025	520	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	527	1152	584	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.34	0.68	0.40			
Control Delay		0.6	4.2	0.7			
Queue Delay		0.0	0.0	0.0			
Total Delay		0.6	4.2	0.7			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	676	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	94			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.34	0.68	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	480	1025	520	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	527	1152	584	0	0
RTOR Reduction (vph)	0	43	0	48	0	0
Lane Group Flow (vph)	0	484	1152	536	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.65	0.36		
v/s Ratio Perm		0.31				
v/c Ratio		0.34	0.71	0.39		
Uniform Delay, d1		0.6	1.2	0.6		
Progression Factor		1.00	0.73	0.02		
Incremental Delay, d2		0.6	2.3	0.7		
Delay (s)		1.2	3.1	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.2		2.3			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	770	775	725	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	895	871	815	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.56	0.51	0.54			
Control Delay		1.5	2.8	1.6			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.5	2.8	1.6			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	321	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1499			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		38	6	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.58	0.51	0.54			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	770	775	725	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	895	871	815	0	0
RTOR Reduction (vph)	0	74	0	67	0	0
Lane Group Flow (vph)	0	821	871	748	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			0.48	0.49		
v/s Ratio Perm		c0.51				
v/c Ratio		0.56	0.53	0.53		
Uniform Delay, d1		0.8	0.8	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.5	1.2	1.5		
Delay (s)		2.3	2.0	2.3		
Level of Service		A	A	A		
Approach Delay (s)	2.3		2.1			0.0
Approach LOS	A		A			A

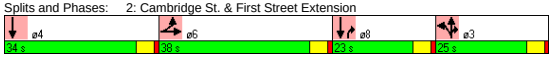
Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	215	50	0	0	0	100	240	500	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	295	0	0	0	0	0	378	556	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.62	0.77						1.19	0.58		0.51			
Control Delay	49.7	56.6						156.5	4.9		10.3			
Queue Delay	14.6	0.0						66.4	0.0		0.9			
Total Delay	64.3	56.6						222.9	4.9		11.2			
Queue Length 50th (ft)	143	186						~311	0		124			
Queue Length 95th (ft)	197	250						#482	71		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						317	955		1753			
Starvation Cap Reductn	0	0						0	0		540			
Spillback Cap Reductn	251	0						36	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.91	0.57						1.35	0.58		0.74			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1792						1810	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1792						1810	1459		3222	
Volume (vph)	205	215	50	0	0	0	100	240	500	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	239	56	0	0	0	111	267	556	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	310	0	195	0
Lane Group Flow (vph)	228	287	0	0	0	0	0	378	246	0	704	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	24.0	24.0						20.0	52.0		56.0	
Effective Green, g (s)	25.0	25.0						21.0	53.0		58.0	
Actuated g/C Ratio	0.21	0.21						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	369	373						317	644		1557	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.62	0.77						1.19	0.38		0.45	
Uniform Delay, d1	43.2	44.8						49.5	22.5		20.5	
Progression Factor	1.00	1.00						1.00	1.00		1.50	
Incremental Delay, d2	3.1	9.2						113.4	0.4		0.7	
Delay (s)	46.2	54.0						162.9	22.9		31.5	
Level of Service	D	D						F	C		C	
Approach Delay (s)		50.6			0.0			79.6			31.5	
Approach LOS		D			A			E			C	

Intersection Summary

HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

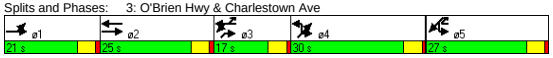
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	980	330	385	695	425	425	1215	585	305	525	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1077	363	389	702	429	447	1279	616	324	820	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.64	0.23	2.30	0.71	0.64	1.27	1.70	1.08	1.11	1.31		
Control Delay	744.8	34.8	0.3	620.4	30.1	19.4	182.7	351.8	93.7	129.1	185.8		
Queue Delay	0.0	0.0	0.0	0.0	167.1	1.4	0.0	0.0	173.0	0.0	0.0		
Total Delay	744.8	34.8	0.3	620.4	197.2	20.8	182.7	351.8	266.7	129.1	185.8		
Queue Length 50th (ft)	~678	223	0	~441	253	116	~385	~674	~442	~276	~380		
Queue Length 95th (ft)	#874	268	0	m#609	m309	m204	#564	#795	#644	#452	#499		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	573	293	628		
Starvation Cap Reductn	0	0	0	0	474	100	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	155	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.64	0.23	2.30	1.37	0.75	1.27	1.70	1.47	1.11	1.31		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Volume (vph)	540	980	330	385	695	425	425	1215	585	305	525	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1077	363	389	702	429	447	1279	616	324	559	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	35	0	41	0
Lane Group Flow (vph)	593	1077	363	389	702	178	447	1279	581	324	779	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.23	0.13	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.64	0.23	2.30	0.71	0.42	1.27	1.70	1.08	1.11	1.33	
Uniform Delay, d1	51.5	32.6	0.0	53.5	36.2	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.60	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	597.2	1.5	0.4	143.5	321.1	62.0	84.0	158.6	
Delay (s)	774.3	33.4	0.3	642.2	28.6	155.4	190.5	368.1	100.5	132.5	207.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		243.6			221.4			263.8			185.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	236.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		

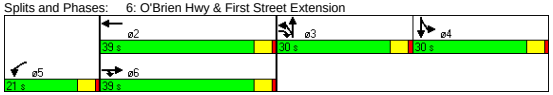
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	955	120	350	870	55	215	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1061	133	389	1028	0	239	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.71	0.16	0.82	0.99		0.73	0.75			0.76	
Control Delay		23.8	1.0	64.9	68.3		62.4	63.2			48.9	
Queue Delay		0.0	0.0	2.1	0.0		288.6	344.1			36.9	
Total Delay		23.8	1.0	67.0	68.3		351.0	407.3			85.8	
Queue Length 50th (ft)		151	7	134	~368		175	191			218	
Queue Length 95th (ft)		181	0	#195	#502		m194	m211			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1037		384	404			859	
Starvation Cap Reductn		0	0	0	0		237	255			0	
Spillback Cap Reductn		0	7	31	0		0	0			247	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.71	0.15	0.85	0.99		1.63	1.75			1.06	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3508		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3508		1770	1863			3459	
Volume (vph)	0	955	120	350	870	55	215	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1061	133	389	967	61	239	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1061	103	389	1024	0	239	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.29		0.14	c0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.71	0.13	0.82	0.99		0.73	0.75			0.76	
Uniform Delay, d1		37.7	15.1	50.2	42.1		46.0	46.3			41.8	
Progression Factor		0.55	0.08	1.00	1.00		1.25	1.25			1.00	
Incremental Delay, d2		2.8	0.1	10.6	25.6		3.1	3.6			6.2	
Delay (s)		23.6	1.4	60.8	67.8		60.6	61.5			48.0	
Level of Service		C	A	E	E		E	E			D	
Approach Delay (s)		21.1			65.8			61.1			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

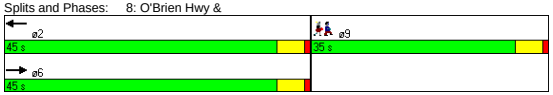
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1850	0	0	1315	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2011	0	0	1429	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.43			
Control Delay	3.0			3.3			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.3			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	280			307			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.43			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1850	0	0	1315	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2011	0	0	1429	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2011	0	0	1429	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.40			c0.40		
v/s Ratio Perm						
v/c Ratio	0.45			0.46		
Uniform Delay, d1	1.5			1.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.0		
Level of Service	A			A		
Approach Delay (s)	1.8			2.0	0.0	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	710	0	0	5	0	1135	0	0	1285	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	789	0	0	6	0	1261	0	0	1385	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	710	0	0	5	0	1135	0	0	1285	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	789	0	0	6	0	1261	0	0	1353	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.82	0.86	0.86	0.91	0.91			0.82		
vC, conflicting volume	1943	2645	420	2578	2630	692	1384			1261		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1419	2234	0	2155	2215	567	1325			875		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	11	100	100	99	100			100		
cM capacity (veh/h)	82	36	885	2	36	419	386			574		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	789	6	420	420	420	902	482
Volume Left	0	0	0	0	0	0	0
Volume Right	789	6	0	0	0	0	32
cSH	885	419	1700	1700	1700	1700	1700
Volume to Capacity	0.89	0.01	0.25	0.25	0.25	0.53	0.28
Queue Length 95th (ft)	269	1	0	0	0	0	0
Control Delay (s)	31.9	13.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	31.9	13.7	0.0			0.0	
Approach LOS	D	B					

Intersection Summary				
Average Delay	7.3			
Intersection Capacity Utilization	72.6%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1850	1295	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2056	1517	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1850	1295	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2056	1439	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.81				0.86	0.81
vC, conflicting volume	1517				2163	758
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1406				1801	474
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	392				61	437

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	685	685	685	959	557	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	437
Volume to Capacity	0.40	0.40	0.40	0.56	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.7
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.7
Approach LOS						B

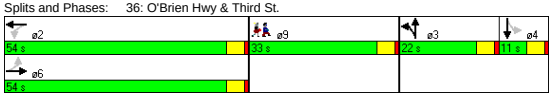
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		48.0%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1280	375	1	1380	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1840	0	0	1535	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.93		2.17	1.95			0.04		
Control Delay		30.9			49.3		566.2	471.0			48.3		
Queue Delay		0.2			0.9		0.0	28.6			0.0		
Total Delay		31.1			50.2		566.2	499.6			48.3		
Queue Length 50th (ft)		362			479		~586	~555			1		
Queue Length 95th (ft)		#549			#730		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			27		0	0			0		
Spillback Cap Reductn		40			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.87			0.94		2.17	2.02			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4912			3539		1569	1674			1750	
Flt Permitted		0.92			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4518			3376		1569	1674			1779	
Volume (vph)	1	1280	375	1	1380	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1422	417	1	1533	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1799	0	0	1535	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2063			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.40			c0.45						c0.00	
v/c Ratio		0.87			1.00		2.17	1.97			0.06	
Uniform Delay, d1		29.4			32.5		51.0	51.0			57.9	
Progression Factor		1.00			1.41		1.00	1.00			1.00	
Incremental Delay, d2		5.4			20.0		540.4	448.8			0.8	
Delay (s)		34.9			65.7		591.4	499.8			58.7	
Level of Service		C			E		F	F			E	
Approach Delay (s)		34.9			65.7			546.3			58.7	
Approach LOS		C			E			F			E	

Intersection Summary

HCM Average Control Delay	163.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	980	15	0	1155	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1070	0	0	1229	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	980	15	0	1155	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1054	16	0	1229	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1070		1676	359
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			901		1151	128
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			678		147	829

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	422	422	227	614	614	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	829
Volume to Capacity	0.25	0.25	0.13	0.36	0.36	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

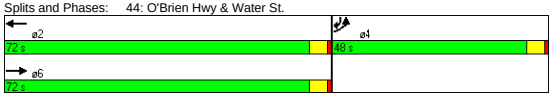
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	995	0	0	1075	80	0	0	0	0	0	305
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1070	0	0	1229	0	0	0	0	0	0	339
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.31			0.52							0.77
Control Delay	72.8	0.6			6.0							44.4
Queue Delay	1.0	0.3			0.4							674.1
Total Delay	73.8	0.8			6.4							718.5
Queue Length 50th (ft)	240	6			74							173
Queue Length 95th (ft)	m276	m11			m88							241
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3446			2378							643
Starvation Cap Reductn	117	1508			207							0
Spillback Cap Reductn	0	0			550							605
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.55			0.67							8.92

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3402							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3402							1627
Volume (vph)	310	995	0	0	1075	80	0	0	0	0	0	305
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1070	0	0	1144	85	0	0	0	0	0	339
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	57
Lane Group Flow (vph)	333	1070	0	0	1226	0	0	0	0	0	0	282
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2373							384
v/s Ratio Prot	c0.19	0.22			c0.36							0.17
v/s Ratio Perm												
v/c Ratio	0.82	0.31			0.52							0.74
Uniform Delay, d1	43.5	7.0			8.6							42.4
Progression Factor	1.51	0.06			0.60							1.00
Incremental Delay, d2	6.2	0.1			0.3							7.2
Delay (s)	71.9	0.5			5.4							49.5
Level of Service	E	A			A							D
Approach Delay (s)		17.5			5.4			0.0			49.5	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

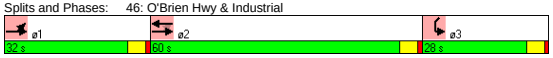
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1785	1375	225	370	125
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2032	1684	0	550	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.77	0.76		0.89	
Control Delay		11.8	28.1		61.6	
Queue Delay		1.6	7.7		2.4	
Total Delay		13.4	35.8		64.0	
Queue Length 50th (ft)		179	335		177	
Queue Length 95th (ft)		m183	391		#257	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2646	2227		636	
Starvation Cap Reductn		412	0		0	
Spillback Cap Reductn		0	512		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	0.98		0.91	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4630		3039	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3261	4630		3039	
Volume (vph)	85	1785	1375	225	370	125
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1940	1447	237	411	139
RTOR Reduction (vph)	0	0	18	0	29	0
Lane Group Flow (vph)	0	2032	1666	0	521	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.7	56.2		22.3	
Effective Green, g (s)		84.7	57.2		23.3	
Actuated g/C Ratio		0.71	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2629	2207		590	
v/s Ratio Prot		c0.18	0.36		c0.17	
v/s Ratio Perm		c0.37				
v/c Ratio		0.77	0.75		0.88	
Uniform Delay, d1		11.4	25.7		47.0	
Progression Factor		1.37	1.00		1.00	
Incremental Delay, d2		0.8	2.5		14.6	
Delay (s)		16.4	28.1		61.6	
Level of Service		B	C		E	
Approach Delay (s)		16.4	28.1		61.6	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

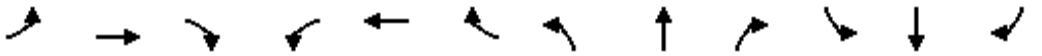
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	15	695	150	65	405	10	5	10	1	105	15	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	915	0	0	516	0	0	35	0	0	158	197
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	695	150	65	405	10	5	10	1	105	15	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	16	739	160	70	435	11	11	22	2	138	20	197
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	446			899			1639	1511	441	1445	1437	819
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446			899			1639	1511	441	1445	1437	819
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			91			63	80	100	0	83	47
cM capacity (veh/h)	1109			756			30	108	621	83	117	369

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	915	516	36	158	197
Volume Left	16	70	11	138	0
Volume Right	160	11	2	0	197
cSH	1109	756	62	86	369
Volume to Capacity	0.01	0.09	0.58	1.83	0.53
Queue Length 95th (ft)	1	8	59	335	75
Control Delay (s)	0.4	2.5	123.2	497.2	25.4
Lane LOS	A	A	F	F	D
Approach Delay (s)	0.4	2.5	123.2	235.1	
Approach LOS			F	F	

Intersection Summary				
Average Delay	49.2			
Intersection Capacity Utilization	79.7%	ICU Level of Service	D	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	175	45	100	290	1085	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	354	0	315	1142	0	0	1033	212
Sign Control		Stop			Stop			Free			Free	

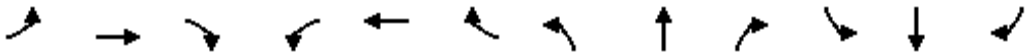
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	175	45	100	290	1085	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	194	49	111	315	1142	0	0	1033	212
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.09	0.09	0.09	0.09	0.09		0.09					
vC, conflicting volume	2941	2805	1033	2805	3017	1142	1245			1142		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23053	21513	1371	21513	23921	1142	3779			1142		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	55	0			100		
cM capacity (veh/h)	0	0	16	0	0	245	5			612		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	354	315	1142	1033	212
Volume Left	194	315	0	0	0
Volume Right	111	0	0	0	212
cSH	0	5	1700	1700	1700
Volume to Capacity	Err	64.64	0.67	0.61	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	2162.8		0.0	
Approach LOS	F				

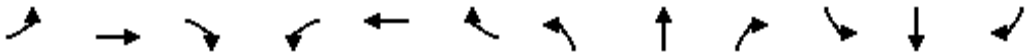
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	151.9%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	205	0	0	0	0	1130	500	80	1045	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	739	0	0	0	0	0	1256	556	84	1100	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

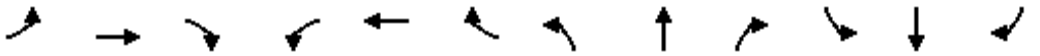
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	205	0	0	0	0	1130	500	80	1045	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	228	0	0	0	0	1256	556	84	1100	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2524	3080	1100	2871	2524	1256	1100			1811		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2524	3080	1100	2871	2524	1256	1100			1811		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	12	0	100	100	100			75		
cM capacity (veh/h)	15	9	259	0	21	209	635			337		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	347	1256	556	84	1100
Volume Left	272	0	0	0	84	0
Volume Right	0	228	0	556	0	0
cSH	13	25	1700	1700	337	1700
Volume to Capacity	30.99	14.00	0.74	0.33	0.25	0.65
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	19.2	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	1978.9			
Intersection Capacity Utilization	151.9%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	460	5	10	0	1	10	85	1160	1	5	370	875
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	540	0	0	25	0	0	1369	0	0	383	893
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	460	5	10	0	1	10	85	1160	1	5	370	875
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	523	6	11	0	2	23	93	1275	1	5	378	893
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1874	1850	378	1864	1850	1275	378			1276		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1874	1850	378	1864	1850	1275	378			1276		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	89	92			99		
cM capacity (veh/h)	44	68	669	46	65	198	1186			544		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	540	25	1369	383	893
Volume Left	523	0	93	5	0
Volume Right	11	23	1	0	893
cSH	45	167	1186	544	1700
Volume to Capacity	11.95	0.15	0.08	0.01	0.53
Queue Length 95th (ft)	Err	13	6	1	0
Control Delay (s)	Err	30.3	3.0	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	30.3	3.0	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1683.2		
Intersection Capacity Utilization	133.3%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	40	445	415	100	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	489	566	0	155	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

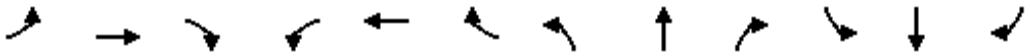
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	40	445	415	100	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	40	449	456	110	69	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	566				1041	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				1045	464
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				69	84
cM capacity (veh/h)	951				222	548

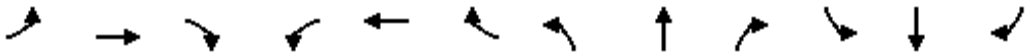
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	490	566	155
Volume Left	40	0	69
Volume Right	0	110	86
cSH	951	1700	332
Volume to Capacity	0.04	0.33	0.47
Queue Length 95th (ft)	3	0	60
Control Delay (s)	1.2	0.0	25.1
Lane LOS	A		D
Approach Delay (s)	1.2	0.0	25.1
Approach LOS			D

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		71.2%	ICU Level of Service C
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	15	185	115	245	300	10	85	25	160	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	389	0	0	591	0	0	317	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

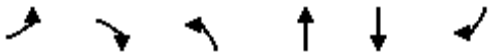
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	185	115	245	300	10	85	25	160	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	19	228	142	261	319	11	100	29	188	0	7	0

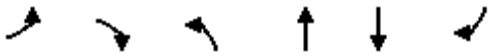
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	389	590	318	7
Volume Left (vph)	19	261	100	0
Volume Right (vph)	142	11	188	0
Hadj (s)	-0.19	0.11	-0.26	0.00
Departure Headway (s)	5.8	5.8	6.3	7.7
Degree Utilization, x	0.63	0.95	0.56	0.02
Capacity (veh/h)	597	611	548	392
Control Delay (s)	18.3	48.8	17.0	10.9
Approach Delay (s)	18.3	48.8	17.0	10.9
Approach LOS	C	E	C	B

Intersection Summary			
Delay	31.7		
HCM Level of Service	D		
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	250	100	185	575	460	380
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	368	0	0	826	904	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	250	100	185	575	460	380
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	263	105	201	625	495	409
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1726	699	903			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1726	699	903			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	76	73			
cM capacity (veh/h)	71	440	753			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	368	826	903
Volume Left	263	201	0
Volume Right	105	0	409
cSH	94	753	1700
Volume to Capacity	3.92	0.27	0.53
Queue Length 95th (ft)	Err	27	0
Control Delay (s)	Err	6.5	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1758.7		
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		825			561			974		242		
Travel Time (s)		18.8			12.8			22.1		5.5		
Volume (vph)	25	0	375	195	250	35	40	460	10	40	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	522	0	0	554	0	81	0	0
Sign Control		Stop			Free			Free		Stop		

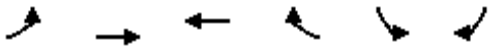
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	195	250	35	40	460	10	40	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	212	272	38	43	500	11	43	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					561			974				
pX, platoon unblocked	0.93	0.93	0.87	0.87			0.87			0.93	0.93	0.87
vC, conflicting volume	1345	1326	505	511			310			1715	1312	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1167	1147	431	437			210			1563	1132	188
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	78	100	25	78			96			0	100	95
cM capacity (veh/h)	122	140	543	981			1189			17	143	746

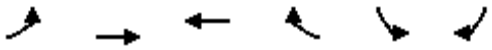
Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	522	554	82
Volume Left	27	212	43	43
Volume Right	408	38	11	38
cSH	447	981	1189	31
Volume to Capacity	0.97	0.22	0.04	2.60
Queue Length 95th (ft)	301	21	3	237
Control Delay (s)	66.7	5.5	1.0	991.8
Lane LOS	F	A	A	F
Approach Delay (s)	66.7	5.5	1.0	991.8
Approach LOS	F			F

Intersection Summary			
Average Delay	71.1		
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		664	1286		744	
Travel Time (s)		15.1	29.2		16.9	
Volume (vph)	60	785	830	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	918	962	0	120	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	60	785	830	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	853	902	60	60	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		664	1286			
pX, platoon unblocked	0.70				0.83	0.70
vC, conflicting volume	962				1916	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946				1635	903
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				25	75
cM capacity (veh/h)	507				80	235

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	918	962	120
Volume Left	65	0	60
Volume Right	0	60	60
cSH	507	1700	120
Volume to Capacity	0.13	0.57	1.00
Queue Length 95th (ft)	11	0	167
Control Delay (s)	4.1	0.0	151.6
Lane LOS	A		F
Approach Delay (s)	4.1	0.0	151.6
Approach LOS			F

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 2a PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	457	0.0	0.618	14.4	LOS B	183	0.85	0.94	22.6
8T	T	941	0.0	1.273	140.5	LOS F	2167	1.00	3.52	6.9
Approach		**1398**	**0.0**	**1.273**	**99.3**	**LOS F**	**2167**	**0.95**	**2.68**	**9.0**
Mystic Valley Parkway										
4T	T	823	0.0	0.943	24.7	LOS C	652	1.00	1.50	18.8
4R	R	591	0.0	0.776	14.9	LOS B	312	0.99	1.15	22.1
Approach		**1414**	**0.0**	**0.943**	**20.6**	**LOS C**	**652**	**1.00**	**1.35**	**20.1**
Mystic Valley Parkway										
5L	L	377	0.0	0.738	25.3	LOS C	262	1.00	1.25	19.1
2R	R	321	0.0	0.704	20.9	LOS C	226	1.00	1.21	20.0
Approach		**698**	**0.0**	**0.738**	**23.3**	**LOS C**	**262**	**1.00**	**1.23**	**19.5**
All Vehicles		**3510**	**0.0**	**1.273**	**52.5**	**LOS D**	**2167**	**0.98**	**1.85**	**13.4**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\Alt 2a\Mystic&Alewife - Alt 2a.aap
Processed Oct 06, 2008 02:40:16PM

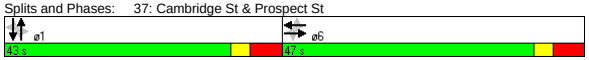
2030 Build Alternative 2b Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	55	305	10	80	355	15	35	275	80	30	335	45
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	474	0	0	476	0	0	466	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	32.0	32.0		32.0	32.0		25.0	25.0		25.0	25.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.57			0.72			0.73			0.66	
Control Delay		23.2			28.6			22.1			28.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.2			28.6			22.1			28.3	
Queue Length 50th (ft)		164			215			91			214	
Queue Length 95th (ft)		256			337			m169			313	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		692			659			654			701	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.57			0.72			0.73			0.66	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1832			1791			1825			1910	
Flt Permitted		0.87			0.84			0.92			0.94	
Satd. Flow (perm)		1597			1522			1682			1802	
Volume (vph)	55	305	10	80	355	15	35	275	80	30	335	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	59	324	11	84	374	16	43	335	98	34	381	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	474	0	0	476	0	0	466	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		39.0			39.0			35.0			35.0	
Effective Green, g (s)		39.0			39.0			35.0			35.0	
Actuated g/C Ratio		0.43			0.43			0.39			0.39	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		692			660			654			701	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.31			c0.28			0.26	
v/c Ratio		0.57			0.72			0.73			0.66	
Uniform Delay, d1		19.2			21.0			23.4			22.7	
Progression Factor		1.00			1.00			0.67			1.00	
Incremental Delay, d2		3.4			6.6			5.8			4.9	
Delay (s)		22.6			27.6			21.6			27.6	
Level of Service		C			C			C			C	
Approach Delay (s)		22.6			27.6			21.6			27.6	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

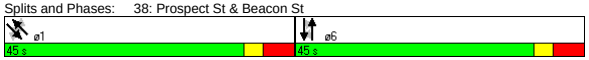
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	345	30	25	390	10	20	510	90	40	280	25
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	559	0	0	467	0	0	660	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.58			0.66			0.91			0.64	
Control Delay		23.5			11.0			43.3			27.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.5			11.1			43.3			27.1	
Queue Length 50th (ft)		126			68			344			176	
Queue Length 95th (ft)		165			90			#561			263	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		962			712			729			618	
Starvation Cap Reductn		0			6			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.58			0.66			0.91			0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3355			1831			1811			1793	
Flt Permitted		0.69			0.94			0.98			0.83	
Satd. Flow (perm)		2340			1732			1775			1504	
Volume (vph)	100	345	30	25	390	10	20	510	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	406	35	27	429	11	21	543	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	559	0	0	467	0	0	660	0	0	397	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		962			712			730			618	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.27			c0.37			0.26	
v/c Ratio		0.58			0.66			0.90			0.64	
Uniform Delay, d1		20.5			21.4			24.8			21.2	
Progression Factor		1.00			0.34			1.00			1.00	
Incremental Delay, d2		2.6			3.5			16.7			5.1	
Delay (s)		23.1			10.8			41.6			26.3	
Level of Service		C			B			D			C	
Approach Delay (s)		23.1			10.8			41.6			26.3	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	26.8	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	94.8%	ICU Level of Service		F	
Analysis Period (min)	15				

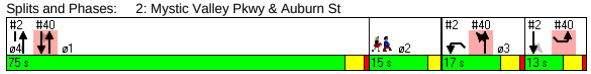
c Critical Lane Group

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	859			104	899			
Travel Time (s)	19.5			2.4	20.4			
Volume (vph)	810	20	110	1230	115	70		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	932	0	0	1489	225	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		15.0	13.0
Total Split (s)	75.0	0.0	88.0	88.0	17.0	0.0	15.0	13.0
Total Split (%)	62.5%	0.0%	73.3%	73.3%	14.2%	0.0%	13%	11%
Maximum Green (s)	70.0				12.0		12.0	8.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.44			0.84	0.61			
Control Delay	9.1			4.3	49.2			
Queue Delay	0.1			0.0	0.6			
Total Delay	9.2			4.3	49.8			
Queue Length 50th (ft)	196			35	143			
Queue Length 95th (ft)	m201			m35	#287			
Internal Link Dist (ft)	779			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2129			1768	366			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	261			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.50			0.84	0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3597			3322	1847	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3597			2457	1847	
Volume (vph)	810	20	110	1230	115	70
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	910	22	122	1367	140	85
RTOR Reduction (vph)	1	0	0	0	16	0
Lane Group Flow (vph)	931	0	0	1489	209	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	67.6			82.9	21.7	
Effective Green, g (s)	68.6			83.9	22.7	
Actuated g/C Ratio	0.57			0.70	0.19	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2056			1718	349	
v/s Ratio Prot	0.26				c0.11	
v/s Ratio Perm				c0.61		
v/c Ratio	0.45			0.87	0.60	
Uniform Delay, d1	14.9			13.8	44.5	
Progression Factor	0.66			0.19	1.00	
Incremental Delay, d2	0.1			1.6	3.2	
Delay (s)	9.9			4.1	47.7	
Level of Service	A			A	D	
Approach Delay (s)	9.9			4.1	47.7	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

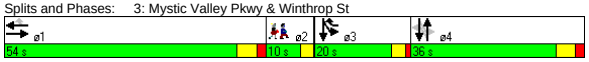
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	970	20	0	1080	205	30	405	365	565	875	120	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1053	0	0	1149	218	0	1025	0	0	1678	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	54.0	0.0	0.0	54.0	20.0	36.0	36.0	0.0	20.0	56.0	0.0	10.0
Total Split (%)	0.0%	45.0%	0.0%	0.0%	45.0%	16.7%	30.0%	30.0%	0.0%	16.7%	46.7%	0.0%	8%
Maximum Green (s)		48.0			48.0	16.0	30.0	30.0		16.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.27			1.50	0.21		1.68			1.49dl		
Control Delay		161.1			259.2	3.7		338.5			209.3		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		161.1			259.2	3.7		338.5			209.3		
Queue Length 50th (ft)		~1055			~1233	22		~568			~660		
Queue Length 95th (ft)		#1325			#1491	50		#568			#1161		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		826			768	1061		611			1201		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.27			1.50	0.21		1.68			1.40		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3323			3470	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1948			2065	
Volume (vph)	0	970	20	0	1080	205	30	405	365	565	875	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1032	21	0	1149	218	38	519	468	608	941	129
RTOR Reduction (vph)	0	1	0	0	0	56	0	108	0	0	4	0
Lane Group Flow (vph)	0	1052	0	0	1149	162	0	917	0	0	1674	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		45.6			45.6	69.6		30.0			54.0	
Effective Green, g (s)		46.6			46.6	69.6		31.0			54.0	
Actuated g/C Ratio		0.39			0.39	0.58		0.26			0.45	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		785			730	927		503			1199	
v/s Ratio Prot		0.52			c0.61	0.03					c0.27	
v/s Ratio Perm						0.07		c0.47			0.36	
v/c Ratio		1.34			1.57	0.17		1.82			1.49dl	
Uniform Delay, d1		36.7			36.7	11.8		44.5			33.0	
Progression Factor		0.87			1.00	1.00		1.00			1.00	
Incremental Delay, d2		160.8			264.9	0.0		378.5			183.3	
Delay (s)		192.8			301.6	11.8		423.0			216.3	
Level of Service		F			F	B		F			F	
Approach Delay (s)		192.8			255.4			423.0			216.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	263.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	137.6%	ICU Level of Service	H
Analysis Period (min)	15		

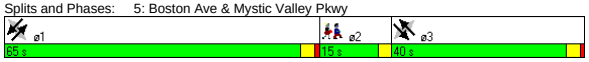
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2678			387			591			859		
Travel Time (s)		60.9			8.8			13.4			19.5		
Volume (vph)	50	420	85	75	280	10	40	795	180	45	1215	85	
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.85	0.85	0.85	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	0%	0%	0%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	686	0	0	434	0	0	1194	0	0	1512	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	65.0	65.0	0.0	65.0	65.0	0.0	15.0
Total Split (%)	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%	54.2%	54.2%	0.0%	54.2%	54.2%	0.0%	13%
Maximum Green (s)	36.0	36.0		36.0	36.0		61.0	61.0		61.0	61.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.03			1.21			1.01			1.12		
Control Delay		77.7			148.7			58.8			97.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		77.7			148.7			58.8			97.6		
Queue Length 50th (ft)		506			~392			~485			~731		
Queue Length 95th (ft)		#801			#630			#580			#827		
Internal Link Dist (ft)		2598			307			511			779		
Turn Bay Length (ft)													
Base Capacity (vph)		668			360			1178			1349		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.03			1.21			1.01			1.12		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NESW, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Boston Ave & Mystic Valley Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			1.00			0.97			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1918			1894			3507			3534	
Flt Permitted		0.91			0.62			0.63			0.73	
Satd. Flow (perm)		1747			1190			2223			2593	
Volume (vph)	50	420	85	75	280	10	40	795	180	45	1215	85
Peak-hour factor, PHF	0.81	0.81	0.81	0.84	0.84	0.84	0.85	0.85	0.85	0.89	0.89	0.89
Adj. Flow (vph)	62	519	105	89	333	12	47	935	212	51	1365	96
RTOR Reduction (vph)	0	5	0	0	1	0	0	16	0	0	4	0
Lane Group Flow (vph)	0	681	0	0	433	0	0	1178	0	0	1508	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		48.0			48.0			58.6			58.6	
Effective Green, g (s)		48.0			48.0			58.6			58.6	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		699			476			1086			1266	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.36			0.53			c0.58	
v/c Ratio		0.97			0.91			1.08			1.19	
Uniform Delay, d1		35.4			34.0			30.7			30.7	
Progression Factor		1.00			1.00			1.00			1.36	
Incremental Delay, d2		27.7			21.8			53.3			90.6	
Delay (s)		63.1			55.8			84.0			132.2	
Level of Service		E			E			F			F	
Approach Delay (s)		63.1			55.8			84.0			132.2	
Approach LOS		E			E			F			F	

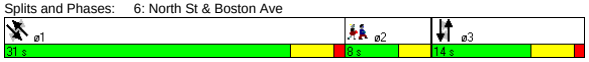
Intersection Summary			
HCM Average Control Delay	96.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	111.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			958			1456		
Travel Time (s)		22.5			15.0			21.8			33.1		
Volume (vph)	30	20	15	65	50	45	5	550	55	15	285	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	98	0	0	188	0	0	655	0	0	348	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	14.0	14.0	0.0	14.0	14.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0	8.0
Total Split (%)	26.4%	26.4%	0.0%	26.4%	26.4%	0.0%	58.5%	58.5%	0.0%	58.5%	58.5%	0.0%	15%
Maximum Green (s)	9.0	9.0		9.0	9.0		26.0	26.0		26.0	26.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.35			0.62			0.56			0.30		
Control Delay		20.3			28.5			9.3			6.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		20.3			28.5			9.3			6.3		
Queue Length 50th (ft)		21			43			87			36		
Queue Length 95th (ft)		44			#117			255			108		
Internal Link Dist (ft)		911			582			878			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		286			306			1175			1144		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.34			0.61			0.56			0.30		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 49.9	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1799			1756			1778			1788	
Flt Permitted		0.75			0.87			1.00			0.97	
Satd. Flow (perm)		1378			1559			1775			1732	
Volume (vph)	30	20	15	65	50	45	5	550	55	15	285	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	45	30	23	76	59	53	5	591	59	17	320	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	98	0	0	188	0	0	655	0	0	348	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		7.7			7.7			31.4			31.4	
Effective Green, g (s)		8.7			8.7			32.4			32.4	
Actuated g/C Ratio		0.16			0.16			0.61			0.61	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		226			256			1085			1059	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.12			c0.37			0.20	
v/c Ratio		0.43			0.73			0.60			0.33	
Uniform Delay, d1		19.9			21.1			6.3			5.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.8			11.1			2.5			0.8	
Delay (s)		21.7			32.1			8.8			5.8	
Level of Service		C			C			A			A	
Approach Delay (s)		21.7			32.1			8.8			5.8	
Approach LOS		C			C			A			A	

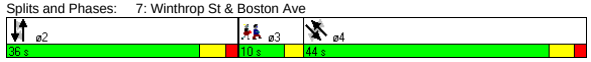
Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	15	345	70	135	120	90	200	410	25	35	180	95	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	524	0	0	391	0	0	676	0	0	334	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	15.0	15.0		15.0	15.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	10.0
Total Split (%)	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	11%
Maximum Green (s)	29.9	29.9		29.9	29.9		38.0	38.0		38.0	38.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.77			1.22			1.07			0.45		
Control Delay		32.8			150.5			80.3			17.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		32.8			150.5			80.3			17.5		
Queue Length 50th (ft)		221			~240			~373			104		
Queue Length 95th (ft)		#363			#453			#675			213		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		677			321			632			736		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.77			1.22			1.07			0.45		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 82	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1819			1880			1806			1725	
Flt Permitted		0.98			0.48			0.74			0.90	
Satd. Flow (perm)		1785			915			1354			1554	
Volume (vph)	15	345	70	135	120	90	200	410	25	35	180	95
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	18	421	85	153	136	102	213	436	27	38	194	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	524	0	0	391	0	0	676	0	0	334	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.0			30.0			38.1			38.1	
Effective Green, g (s)		31.1			31.1			39.1			39.1	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		657			337			627			719	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.43			c0.50			0.21	
v/c Ratio		0.80			1.16			1.08			0.46	
Uniform Delay, d1		23.9			26.7			22.7			15.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.3			100.0			58.8			2.2	
Delay (s)		30.1			126.7			81.5			17.7	
Level of Service		C			F			F			B	
Approach Delay (s)		30.1			126.7			81.5			17.7	
Approach LOS		C			F			F			B	

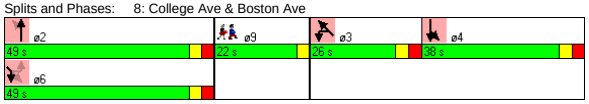
Intersection Summary					
HCM Average Control Delay		65.6	HCM Level of Service		E
HCM Volume to Capacity ratio		1.12			
Actuated Cycle Length (s)		84.5	Sum of lost time (s)		14.3
Intersection Capacity Utilization		118.3%	ICU Level of Service		H
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	70	130	5	60	335	80	70	330	210	10	185	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	78	150	0	0	533	0	0	459	241	0	311	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	49.0	49.0	0.0	38.0	38.0	0.0	49.0	49.0	49.0	26.0	26.0	0.0	22.0
Total Split (%)	36.3%	36.3%	0.0%	28.1%	28.1%	0.0%	36.3%	36.3%	36.3%	19.3%	19.3%	0.0%	16%
Maximum Green (s)	43.0	43.0		32.0	32.0		43.0	43.0	43.0	20.0	20.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.23			1.03			0.99	0.40		0.95		
Control Delay	29.7	30.4			91.9			79.1	19.4		89.8		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.7	30.4			91.9			79.1	19.4		89.8		
Queue Length 50th (ft)	36	72			378			315	65		219		
Queue Length 95th (ft)	89	155			#760			#637	159		#351		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	669	660			516			465	609		326		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.23			1.03			0.99	0.40		0.95		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	0.99			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1852			1930			1832	1516		1939	
Flt Permitted	1.00	1.00			0.99			0.71	1.00		1.00	
Satd. Flow (perm)	1881	1852			1930			1305	1516		1939	
Volume (vph)	70	130	5	60	335	80	70	330	210	10	185	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	78	144	6	67	376	90	80	379	241	14	250	47
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	70	0	5	0
Lane Group Flow (vph)	78	149	0	0	528	0	0	459	171	0	306	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	43.3	43.3			32.2			43.3	43.3		20.2	
Effective Green, g (s)	43.3	43.3			32.2			43.3	43.3		20.2	
Actuated g/C Ratio	0.35	0.35			0.26			0.35	0.35		0.16	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	659	649			503			457	531		317	
v/s Ratio Prot		0.08			c0.27				0.11		c0.16	
v/s Ratio Perm	0.04							c0.35				
v/c Ratio	0.12	0.23			1.05			1.00	0.32		0.97	
Uniform Delay, d1	27.2	28.4			45.7			40.2	29.4		51.4	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			53.7			43.2	0.4		40.7	
Delay (s)	27.3	28.5			99.4			83.3	29.8		92.0	
Level of Service	C	C			F			F	C		F	
Approach Delay (s)		28.1			99.4			64.9			92.0	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	75.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

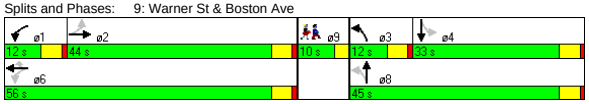
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1450			1738		
Travel Time (s)		12.0			40.8			33.0			39.5		
Volume (vph)	5	365	45	65	640	165	25	40	65	50	305	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	451	0	0	774	181	0	146	0	0	413	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	44.0	44.0	0.0	12.0	56.0	56.0	12.0	45.0	0.0	33.0	33.0	0.0	10.0
Total Split (%)	39.6%	39.6%	0.0%	10.8%	50.5%	50.5%	10.8%	40.5%	0.0%	29.7%	29.7%	0.0%	9%
Maximum Green (s)	39.0	39.0		7.0	51.0	51.0	7.0	40.0		28.0	28.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.41			0.84	0.21		0.30			0.80		
Control Delay		11.5			26.0	3.2		17.9			41.9		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		11.5			26.0	3.2		17.9			41.9		
Queue Length 50th (ft)		113			300	5		38			199		
Queue Length 95th (ft)		250			#720	40		95			329		
Internal Link Dist (ft)		447			1715			1370			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1107			924	852		664			592		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.41			0.84	0.21		0.22			0.70		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 86.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1872			1973	
Flt Permitted		0.99			0.92	1.00		0.82			0.94	
Satd. Flow (perm)		1945			1677	1301		1556			1870	
Volume (vph)	5	365	45	65	640	165	25	40	65	50	305	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	397	49	71	703	181	28	45	73	58	355	0
RTOR Reduction (vph)	0	2	0	0	0	64	0	37	0	0	0	0
Lane Group Flow (vph)	0	449	0	0	774	117	0	109	0	0	413	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		51.4			51.4	51.4		23.0			23.0	
Effective Green, g (s)		52.4			52.4	52.4		24.0			24.0	
Actuated g/C Ratio		0.59			0.59	0.59		0.27			0.27	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1150			992	769		421			507	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46	0.09		0.07			c0.22	
v/c Ratio		0.39			0.78	0.15		0.26			0.81	
Uniform Delay, d1		9.6			13.7	8.1		25.3			30.2	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			3.7	0.0		0.1			9.2	
Delay (s)		9.7			17.5	8.2		25.4			39.5	
Level of Service		A			B	A		C			D	
Approach Delay (s)		9.7			15.7			25.4			39.5	
Approach LOS		A			B			C			D	

Intersection Summary

HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	88.6	Sum of lost time (s)	12.2
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

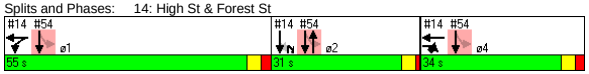
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	365	290	1375	605	80	80	40	440	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	392	312	1545	770	0	100	0	510	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	25.0	25.0	25.0			24.0	24.0	24.0	
Total Split (s)	34.0	34.0	55.0	89.0	0.0	31.0	31.0	31.0	0.0
Total Split (%)	28.3%	28.3%	45.8%	74.2%	0.0%	25.8%	25.8%	25.8%	0.0%
Maximum Green (s)	29.0	29.0	50.0			27.0	27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.07	0.99	1.10	0.61		0.11		1.16	
Control Delay	109.1	90.8	90.7	11.8		0.4		135.9	
Queue Delay	0.0	2.4	212.3	0.0		0.0		0.0	
Total Delay	109.1	93.2	302.9	11.8		0.4		135.9	
Queue Length 50th (ft)	~335	222	~701	276		0		~468	
Queue Length 95th (ft)	#530	#414	#821	377		0		#684	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	368	314	1403	1260		943		440	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	424	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.07	1.00	1.58	0.61		0.11		1.16	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 140
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	365	290	1375	605	80	80	40	440	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	392	312	1545	680	90	100	41	449	20
RTOR Reduction (vph)	0	24	0	4	0	78	0	2	0
Lane Group Flow (vph)	392	288	1545	766	0	23	0	508	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	29.0	29.0	50.0	84.0		27.0		27.0	
Effective Green, g (s)	29.0	29.0	50.0	84.0		27.0		27.0	
Actuated g/C Ratio	0.24	0.24	0.42	0.70		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	368	291	1403	1257		372		439	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.07	0.99	1.10	0.61		0.06		1.16	
Uniform Delay, d1	45.5	45.4	35.0	9.4		36.5		46.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	65.3	50.6	56.7	2.2		0.3		93.9	
Delay (s)	110.8	96.0	91.7	11.6		36.8		140.4	
Level of Service	F	F	F	B		D		F	
Approach Delay (s)				65.1				140.4	
Approach LOS				E				F	

Intersection Summary

HCM Average Control Delay	82.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

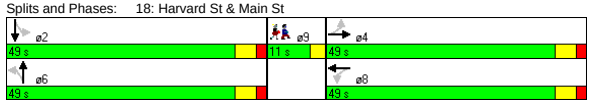
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	450	50	105	500	15	45	320	100	35	610	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	627	0	0	690	0	0	604	0	0	835	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.11			1.41			1.17			1.26		
Control Delay		98.8			223.5			123.3			154.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		98.8			223.5			123.3			154.4		
Queue Length 50th (ft)		~441			~576			~444			~647		
Queue Length 95th (ft)		#755			#904			#594			#977		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		567			489			517			665		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			1.41			1.17			1.26		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1613	
Flt Permitted		0.80			0.71			0.78			0.95	
Satd. Flow (perm)		1323			1156			1234			1530	
Volume (vph)	70	450	50	105	500	15	45	320	100	35	610	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	495	55	117	556	17	58	416	130	40	693	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	627	0	0	690	0	0	604	0	0	835	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		568			496			530			657	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.60			0.49			c0.55	
v/c Ratio		1.10			1.39			1.14			1.27	
Uniform Delay, d1		29.3			29.3			29.3			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		69.4			188.1			83.7			133.6	
Delay (s)		98.7			217.4			113.0			162.9	
Level of Service		F			F			F			F	
Approach Delay (s)		98.7			217.4			113.0			162.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	151.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		

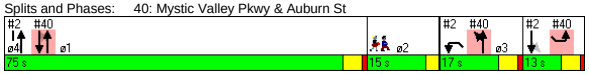
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	55	825	1205	25	15	135	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	59	887	1256	0	181	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	17.0	92.0	75.0	0.0	13.0	0.0	15.0
Total Split (%)	14.2%	76.7%	62.5%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	12.0		70.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.15	0.58	1.06		0.82		
Control Delay	22.1	9.3	45.9		64.5		
Queue Delay	0.0	0.0	25.3		6.8		
Total Delay	22.1	9.3	71.2		71.3		
Queue Length 50th (ft)	11	382	~368		93		
Queue Length 95th (ft)	m53	346	m61		#208		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	405	1535	1185		220		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	65		18		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.15	0.58	1.12		0.90		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1805	1900	2001		1771	
Flt Permitted	0.06	1.00	1.00		1.00	
Satd. Flow (perm)	111	1900	2001		1771	
Volume (vph)	55	825	1205	25	15	135
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	59	887	1230	26	18	163
RTOR Reduction (vph)	0	0	1	0	54	0
Lane Group Flow (vph)	59	887	1255	0	127	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	89.3	89.3	67.6		10.3	
Effective Green, g (s)	91.3	91.3	68.6		11.3	
Actuated g/C Ratio	0.76	0.76	0.57		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	405	1446	1144		167	
v/s Ratio Prot	0.03	c0.47	c0.63		c0.07	
v/s Ratio Perm	0.08					
v/c Ratio	0.15	0.61	1.10		0.76	
Uniform Delay, d1	40.8	6.4	25.7		53.0	
Progression Factor	2.27	1.74	0.57		1.00	
Incremental Delay, d2	0.2	0.8	45.3		18.8	
Delay (s)	92.8	12.0	60.0		71.8	
Level of Service	F	B	E		E	
Approach Delay (s)		17.0	60.0		71.8	
Approach LOS		B	E		E	

Intersection Summary

HCM Average Control Delay	43.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

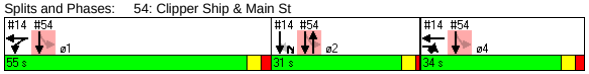
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	440	50	2055		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	473	0	2171		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			24.0				25.0	25.0
Total Split (s)	0.0	0.0	31.0	0.0	120.0	120.0	55.0	34.0
Total Split (%)	0.0%	0.0%	25.8%	0.0%	100.0%	100.0%	46%	28%
Maximum Green (s)			27.0				50.0	29.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.31		0.85		
Control Delay			39.6	0.5		9.8		
Queue Delay			0.0	0.0		0.0		
Total Delay			39.6	0.5		9.8		
Queue Length 50th (ft)			55	0		362		
Queue Length 95th (ft)			101	0		m153		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			400	1509		2568		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			5	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.22	0.31		0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 86 (72%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.82
Satd. Flow (perm)			1776	1509		2568
Volume (vph)	0	0	80	440	50	2055
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	473	52	2119
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	473	0	2171
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			27.0	120.0		120.0
Effective Green, g (s)			27.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			400	1509		2568
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.31		c0.85
v/c Ratio			0.22	0.31		0.85
Uniform Delay, d1			37.9	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.2	0.5		0.3
Delay (s)			39.1	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		6.5			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

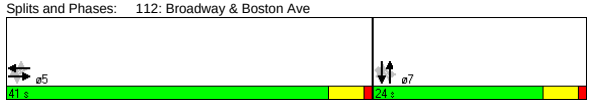
c Critical Lane Group

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		1069					744				1293			1450
Travel Time (s)		24.3					16.9				29.4			33.0
Volume (vph)	10	885	30	20	10	5	530	130	5	15	50	70	315	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1028	0	0	0	0	592	141	0	0	75	76	0	380
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		Free	7	7		Free	7	
Detector Phases	5	5			5	5	5		7	7	7		7	7
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0		20.0	20.0	20.0		20.0	20.0
Total Split (s)	41.0	41.0	0.0	0.0	41.0	41.0	41.0	0.0	24.0	24.0	24.0	0.0	24.0	24.0
Total Split (%)	63.1%	63.1%	0.0%	0.0%	63.1%	63.1%	63.1%	0.0%	36.9%	36.9%	36.9%	0.0%	36.9%	36.9%
Maximum Green (s)	36.0	36.0			36.0	36.0	36.0		19.0	19.0	19.0		19.0	19.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max		None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0							
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0							
Pedestrian Calls (#/hr)	0	0			0	0	0							
v/c Ratio		0.87					0.60	0.09			0.14	0.06		1.04
Control Delay		22.2					12.3	0.1			17.2	0.1		85.9
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		22.2					12.3	0.1			17.2	0.1		85.9
Queue Length 50th (ft)		310					138	0			21	0		~176
Queue Length 95th (ft)		#582					227	0			49	0		#334
Internal Link Dist (ft)		989					664				1213			1370
Turn Bay Length (ft)														
Base Capacity (vph)		1186					992	1531			534	1322		364
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.87					0.60	0.09			0.14	0.06		1.04

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 65
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 112: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	10	20
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	22
Turn Type		Perm
Protected Phases		
Permitted Phases		7
Detector Phases		7
Minimum Initial (s)		4.0
Minimum Split (s)		20.0
Total Split (s)	0.0	24.0
Total Split (%)	0.0%	36.9%
Maximum Green (s)		19.0
Yellow Time (s)		4.0
All-Red Time (s)		1.0
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		3.0
Recall Mode		None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.06
Control Delay		8.0
Queue Delay		0.0
Total Delay		8.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		14
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		356
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.06

Intersection Summary

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		0.95
Frt		0.99					1.00	0.85			1.00	0.85		1.00
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.96
Satd. Flow (prot)		2095					1798	1531			2082	1322		1630
Flt Permitted		0.99					0.97	1.00			0.82	1.00		0.69
Satd. Flow (perm)		2083					1743	1531			1737	1322		1182
Volume (vph)	10	885	30	20	10	5	530	130	5	15	50	70	315	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	962	33	22	11	5	576	141	5	16	54	76	342	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1028	0	0	0	0	592	141	0	0	75	76	0	380
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		Free	7	7		Free	7	
Actuated Green, G (s)		36.0					36.0	65.0			19.0	65.0		19.0
Effective Green, g (s)		37.0					37.0	65.0			20.0	65.0		20.0
Actuated g/C Ratio		0.57					0.57	1.00			0.31	1.00		0.31
Clearance Time (s)		5.0					5.0				5.0			5.0
Vehicle Extension (s)		3.0					3.0				3.0			3.0
Lane Grp Cap (vph)		1186					992	1531			534	1322		364
v/s Ratio Prot														
v/s Ratio Perm		c0.49					0.34	0.09			0.04	0.06		c0.32
v/c Ratio		0.87					0.60	0.09			0.14	0.06		1.04
Uniform Delay, d1		11.9					9.1	0.0			16.3	0.0		22.5
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		8.6					2.6	0.1			0.1	0.1		59.1
Delay (s)		20.5					11.8	0.1			16.4	0.1		81.6
Level of Service		C					B	A			B	A		F
Approach Delay (s)		20.5					9.5				8.2			78.0
Approach LOS		C					A				A			E

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extention
112: Broadway & Boston Ave
2030 Build Alt 2B Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		0.95
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1108
Flt Permitted		1.00
Satd. Flow (perm)		1108
Volume (vph)	10	20
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	11	22
RTOR Reduction (vph)	0	15
Lane Group Flow (vph)	0	7
Turn Type		Perm
Protected Phases		
Permitted Phases		7
Actuated Green, G (s)		19.0
Effective Green, g (s)		20.0
Actuated g/C Ratio		0.31
Clearance Time (s)		5.0
Vehicle Extension (s)		3.0
Lane Grp Cap (vph)		341
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.02
Uniform Delay, d1		15.7
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		15.7
Level of Service		B
Approach Delay (s)		
Approach LOS		

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\optimize\coordination\2030 Build Alt 2B- AM.sy7
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Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1219						1176			419		
Travel Time (s)			27.7						26.7			9.5		
Volume (vph)	5	15	650	495	20	1	5	20	490	55	235	155	35	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	712	548	0	0	0	0	621	0	0	447	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	32.0	32.0	32.0	26.0	0.0	32.0	32.0	32.0	32.0	0.0	26.0	26.0	0.0	23.0
Total Split (%)	26.7%	26.7%	26.7%	21.7%	0.0%	26.7%	26.7%	26.7%	26.7%	0.0%	21.7%	21.7%	0.0%	19.2%
Maximum Green (s)	26.0	26.0	26.0	20.0		26.0	26.0	26.0	26.0		20.0	20.0		17.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.98	0.69					1.07			1.18		
Control Delay			68.7	26.2					94.4			141.3		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			68.7	26.2					94.4			141.3		
Queue Length 50th (ft)			234	240					~224			~334		
Queue Length 95th (ft)			#462	516					#432			#664		
Internal Link Dist (ft)			1139						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			725	795					582			380		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.98	0.69					1.07			1.18		

Intersection Summary

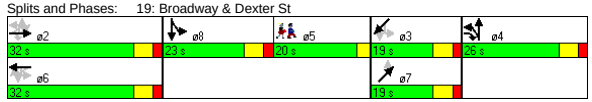
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extention
19: Broadway & Dexter St
2030 Build Alt 2B Condition - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	295	20	25	0	90	20	85	15	40	5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	418	0	0	105	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	23.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	20.0
Total Split (%)	19.2%	0.0%	0.0%	15.8%	0.0%	15.8%	15.8%	15.8%	0.0%	0.0%	17%
Maximum Green (s)	17.0			13.0		13.0	13.0	13.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.23			0.47				1.19			
Control Delay	164.7			50.9				170.2			
Queue Delay	0.0			0.0				0.0			
Total Delay	164.7			50.9				170.2			
Queue Length 50th (ft)	~323			62				~147			
Queue Length 95th (ft)	#603			131				#329			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	339			222				164			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.23			0.47				1.19			

Intersection Summary

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Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3265			1861		
Flt Permitted			0.86	1.00					0.75			0.97		
Satd. Flow (perm)			3012	1549					2465			1861		
Volume (vph)	5	15	650	495	20	1	5	20	490	55	235	155	35	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	691	527	21	1	5	22	533	60	247	163	37	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	712	547	0	0	0	0	621	0	0	445	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			26.1	46.2					26.1			20.1		
Effective Green, g (s)			27.1	48.2					27.1			21.1		
Actuated g/C Ratio			0.25	0.45					0.25			0.20		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			768	775					628			369		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.24	0.21					c0.25					
v/c Ratio			0.93	0.71					0.99			1.20		
Uniform Delay, d1			38.6	23.3					39.4			42.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			17.3	4.3					32.8			115.2		
Delay (s)			56.0	27.7					72.2			157.8		
Level of Service			E	C					E			F		
Approach Delay (s)			43.7						72.2			157.8		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	92.5	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	112.0%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St

2030 Build Alt 2B Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1938			1644				1765		
Flt Permitted	1.00			1.00				0.71		
Satd. Flow (perm)	1938			1644				1288		
Volume (vph)	295	20	25	0	90	20	85	15	40	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	343	23	29	0	105	24	100	18	47	6
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	416	0	0	105	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	17.1			13.1				13.1		
Effective Green, g (s)	18.1			14.1				14.1		
Actuated g/C Ratio	0.17			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	330			218				171		
v/s Ratio Prot	c0.21			0.06						
v/s Ratio Perm								c0.15		
v/c Ratio	1.26			0.48				1.14		
Uniform Delay, d1	44.1			42.7				46.1		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	138.9			0.6				109.8		
Delay (s)	183.0			43.3				155.9		
Level of Service	F			D				F		
Approach Delay (s)	183.0			43.3				155.9		
Approach LOS	F			D				F		

Intersection Summary

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VHB:: VL
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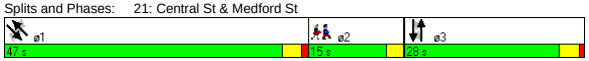
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	80	25	180	15	15	635	120	85	260	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	403	0	0	259	0	0	846	0	0	390	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	47.0	47.0	0.0	47.0	47.0	0.0	15.0
Total Split (%)	31.1%	31.1%	0.0%	31.1%	31.1%	0.0%	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	17%
Maximum Green (s)	24.0	24.0		24.0	24.0		43.0	43.0		43.0	43.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.84			0.52			0.84			0.62		
Control Delay		43.3			27.9			25.2			18.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		43.3			27.9			25.2			18.8		
Queue Length 50th (ft)		162			96			288			108		
Queue Length 95th (ft)		#341			194			#720			#296		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		487			505			1012			625		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			0.51			0.84			0.62		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.3
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1787			1817			1822			1799	
Flt Permitted		0.89			0.92			0.99			0.69	
Satd. Flow (perm)		1596			1682			1807			1258	
Volume (vph)	55	195	80	25	180	15	15	635	120	85	260	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	98	29	212	18	16	698	132	93	286	11
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	390	0	0	259	0	0	846	0	0	389	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.4			23.4			43.3			43.3	
Effective Green, g (s)		23.4			23.4			43.3			43.3	
Actuated g/C Ratio		0.29			0.29			0.54			0.54	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		468			493			980			683	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.15			c0.47			0.31	
v/c Ratio		0.83			0.53			0.86			0.57	
Uniform Delay, d1		26.4			23.6			15.7			12.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.6			1.3			10.0			3.4	
Delay (s)		39.0			24.9			25.7			15.5	
Level of Service		D			C			C			B	
Approach Delay (s)		39.0			24.9			25.7			15.5	
Approach LOS		D			C			C			B	

Intersection Summary

HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	13.1
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

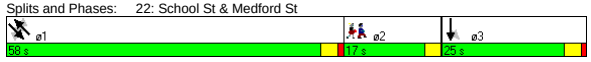
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			327		
Travel Time (s)		21.7			21.8			35.4			7.4		
Volume (vph)	0	0	0	135	300	20	10	765	100	160	285	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	495	0	0	911	0	0	591	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	25.0	25.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	25.0%	25.0%	0.0%	58.0%	58.0%	0.0%	58.0%	58.0%	0.0%	17%
Maximum Green (s)				21.0	21.0		54.0	54.0		54.0	54.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.06			0.77			1.09		
Control Delay					92.6			20.7			85.3		
Queue Delay					0.0			0.0			0.0		
Total Delay					92.6			20.7			85.3		
Queue Length 50th (ft)					255			271			~288		
Queue Length 95th (ft)					#585			#747			#654		
Internal Link Dist (ft)		873			879			1476			247		
Turn Bay Length (ft)													
Base Capacity (vph)					469			1181			544		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.06			0.77			1.09		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 89.8	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1985			1951			1877	
Flt Permitted					0.99			0.99			0.52	
Satd. Flow (perm)					1985			1940			994	
Volume (vph)	0	0	0	135	300	20	10	765	100	160	285	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	147	326	22	10	797	104	182	324	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	4	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	493	0	0	907	0	0	586	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					21.2			54.5			54.5	
Effective Green, g (s)					21.2			54.5			54.5	
Actuated g/C Ratio					0.23			0.59			0.59	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					459			1153			591	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.47			c0.59	
v/c Ratio					1.08			0.79			0.99	
Uniform Delay, d1					35.2			14.2			18.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					63.6			5.4			34.9	
Delay (s)					98.9			19.6			53.3	
Level of Service					F			B			D	
Approach Delay (s)		0.0			98.9			19.6			53.3	
Approach LOS		A			F			B			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		

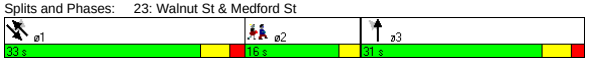
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1208			533		
Travel Time (s)		17.7			19.2			27.5			12.1		
Volume (vph)	80	200	10	0	0	0	10	615	0	0	170	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	651	0	0	216	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.42						0.83			0.28		
Control Delay		18.4						30.2			14.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.4						30.2			14.8		
Queue Length 50th (ft)		81						208			49		
Queue Length 95th (ft)		197						#541			127		
Internal Link Dist (ft)		699			764			1128			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						786			768		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.42						0.83			0.28		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 67.2	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1818	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1847						1871			1818	
Volume (vph)	80	200	10	0	0	0	10	615	0	0	170	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	10	641	0	0	193	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	305	0	0	0	0	0	651	0	0	211	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						758			737	
v/s Ratio Prot											0.12	
v/s Ratio Perm		0.17						c0.35				
v/c Ratio		0.44						0.86			0.29	
Uniform Delay, d1		16.2						18.9			13.9	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						9.9			0.3	
Delay (s)		16.8						28.8			14.2	
Level of Service		B						C			B	
Approach Delay (s)		16.8			0.0			28.8			14.2	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

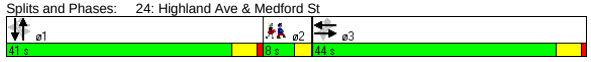
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	195	5	0	20	585	35	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	224	0	45	0	0	658	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	44.0	44.0	0.0	44.0	44.0	85.0	41.0	41.0	0.0	41.0	41.0	0.0	8.0
Total Split (%)	47.3%	47.3%	0.0%	47.3%	47.3%	91.4%	44.1%	44.1%	0.0%	44.1%	44.1%	0.0%	9%
Maximum Green (s)	39.0	39.0		39.0	39.0		36.0	36.0		36.0	36.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.78			0.96	0.14		0.07			1.17		
Control Delay		28.0			56.2	0.3		7.4			120.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		28.0			56.2	0.3		7.4			120.0		
Queue Length 50th (ft)		279			250	0		3			~418		
Queue Length 95th (ft)		#540			#494	5		10			#702		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		850			531	1596		639			563		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.78			0.96	0.14		0.07			1.17		

Intersection Summary

Area Type: Other
Cycle Length: 93
Actuated Cycle Length: 86.6
Natural Cycle: 100
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1913	1632		1598			1778	
Flt Permitted		1.00			0.66	1.00		0.90			0.71	
Satd. Flow (perm)		1834			1270	1632		1447			1315	
Volume (vph)	0	590	25	35	410	195	5	0	20	585	35	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	224	9	0	36	616	37	5
RTOR Reduction (vph)	0	2	0	0	0	20	0	21	0	0	0	0
Lane Group Flow (vph)	0	659	0	0	511	204	0	24	0	0	658	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		39.1			39.1	80.1		36.0			36.0	
Effective Green, g (s)		40.1			40.1	81.1		37.0			37.0	
Actuated g/C Ratio		0.45			0.45	0.91		0.42			0.42	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		826			572	1487		602			547	
v/s Ratio Prot		0.36										
v/s Ratio Perm					c0.40	0.13		0.02			c0.50	
v/c Ratio		0.80			0.89	0.14		0.04			1.20	
Uniform Delay, d1		21.0			22.5	0.4		15.4			26.0	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		7.9			18.9	0.2		0.1			107.8	
Delay (s)		28.9			41.4	0.6		15.6			133.8	
Level of Service		C			D	A		B			F	
Approach Delay (s)		28.9			29.0			15.6			133.8	
Approach LOS		C			C			B			F	

Intersection Summary

HCM Average Control Delay	61.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

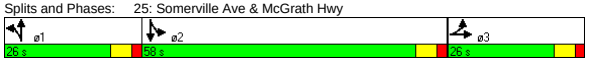
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	360	115	0	0	0	45	200	25	200	1245	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	619	0	0	0	0	0	266	27	213	1473	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	58.0	58.0	0.0
Total Split (%)	23.6%	23.6%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	52.7%	52.7%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		52.0	52.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.95						0.40	0.02	0.25	0.94	
Control Delay		67.9						41.1	0.0	17.9	39.6	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		67.9						41.1	0.0	17.9	39.6	
Queue Length 50th (ft)		221						87	0	86	498	
Queue Length 95th (ft)		#336						128	0	136	#670	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		651						663	1672	836	1568	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.95						0.40	0.02	0.25	0.94	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3306						3473	1672	1736	3239	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3306						3473	1672	1736	3239	
Volume (vph)	100	360	115	0	0	0	45	200	25	200	1245	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	387	124	0	0	0	49	217	27	213	1324	149
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	599	0	0	0	0	0	266	27	213	1465	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	110.0	52.0	52.0	
Effective Green, g (s)		21.0						21.0	110.0	53.0	53.0	
Actuated g/C Ratio		0.19						0.19	1.00	0.48	0.48	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		631						663	1672	836	1561	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.95						0.40	0.02	0.25	0.94	
Uniform Delay, d1		44.0						39.0	0.0	16.8	27.0	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		25.3						1.8	0.0	0.7	12.2	
Delay (s)		69.2						40.8	0.0	17.6	39.2	
Level of Service		E						D	A	B	D	
Approach Delay (s)		69.2			0.0			37.0			36.5	
Approach LOS		E			A			D			D	

Intersection Summary

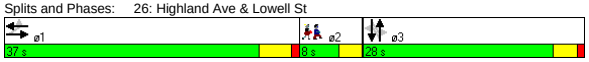
HCM Average Control Delay	44.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	385	0	0	455	25	25	70	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	483	0	0	632	0	0	190	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	37.0	37.0	0.0	0.0	37.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0	8.0
Total Split (%)	50.7%	50.7%	0.0%	0.0%	50.7%	0.0%	38.4%	38.4%	0.0%	38.4%	38.4%	0.0%	11%
Maximum Green (s)	32.0	32.0			32.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.64			0.65			0.37			0.82		
Control Delay		17.6			16.8			19.0			33.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.6			16.8			19.0			33.8		
Queue Length 50th (ft)		129			171			52			95		
Queue Length 95th (ft)		270			270			87			#257		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		759			967			588			482		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.64			0.65			0.32			0.73		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 62.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



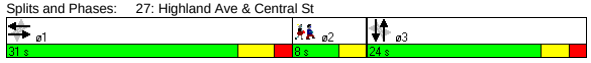
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1814			1772			1693	
Flt Permitted		0.93			1.00			0.91			0.71	
Satd. Flow (perm)		1702			1814			1631			1233	
Volume (vph)	30	385	0	0	455	25	25	70	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	448	0	0	599	33	35	99	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	43	0
Lane Group Flow (vph)	0	483	0	0	632	0	0	190	0	0	308	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		32.4			32.4			19.8			19.8	
Effective Green, g (s)		33.4			33.4			19.8			19.8	
Actuated g/C Ratio		0.51			0.51			0.30			0.30	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		873			931			496			375	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.28						0.12			c0.25	
v/c Ratio		0.55			0.68			0.38			0.82	
Uniform Delay, d1		10.8			11.8			17.8			21.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			4.0			0.7			14.0	
Delay (s)		13.3			15.8			18.5			35.0	
Level of Service		B			B			B			D	
Approach Delay (s)		13.3			15.8			18.5			35.0	
Approach LOS		B			B			B			D	

Intersection Summary					
HCM Average Control Delay	19.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	65.1	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	77.5%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	35	195	45	25	210	45	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	313	0	0	368	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	13%
Maximum Green (s)	25.0	25.0		25.0	25.0		19.0	19.0		19.0	19.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.70			0.65			0.59			0.66		
Control Delay		18.4			16.5			20.0			22.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.4			16.5			20.0			22.0		
Queue Length 50th (ft)		121			104			76			93		
Queue Length 95th (ft)		262			176			166			159		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		866			838			622			654		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.62			0.57			0.50			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 48.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1793			1805	
Flt Permitted		0.95			0.93			0.92			0.95	
Satd. Flow (perm)		1736			1690			1662			1729	
Volume (vph)	30	405	35	30	300	25	35	195	45	25	210	45
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	40	222	51	33	276	59
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	11	0
Lane Group Flow (vph)	0	535	0	0	476	0	0	302	0	0	357	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.3			20.3			15.5			15.5	
Effective Green, g (s)		21.3			21.3			15.5			15.5	
Actuated g/C Ratio		0.42			0.42			0.31			0.31	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		731			711			509			530	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.21	
v/c Ratio		0.73			0.67			0.59			0.67	
Uniform Delay, d1		12.3			11.8			14.9			15.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.1			2.6			2.2			3.7	
Delay (s)		16.3			14.5			17.0			19.0	
Level of Service		B			B			B			B	
Approach Delay (s)		16.3			14.5			17.0			19.0	
Approach LOS		B			B			B			B	

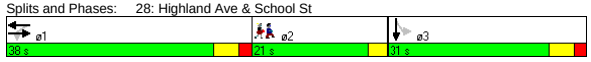
Intersection Summary					
HCM Average Control Delay	16.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.64				
Actuated Cycle Length (s)	50.6	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	61.1%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	495	15	40	380	0	0	0	0	200	255	90	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	593	0	0	483	0	0	0	0	0	586	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	38.0	0.0	38.0	38.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	21.0
Total Split (%)	0.0%	42.2%	0.0%	42.2%	42.2%	0.0%	0.0%	0.0%	0.0%	34.4%	34.4%	0.0%	23%
Maximum Green (s)		32.0		32.0	32.0					25.0	25.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.73			1.21						0.91		
Control Delay		24.8			138.7						44.2		
Queue Delay		0.0			0.0						0.0		
Total Delay		24.8			138.7						44.2		
Queue Length 50th (ft)		185			~247						223		
Queue Length 95th (ft)		#479			#548						#591		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		815			400						646		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.73			1.21						0.91		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1797	
Flt Permitted		1.00			0.73						0.98	
Satd. Flow (perm)		1786			1303						1797	
Volume (vph)	0	495	15	40	380	0	0	0	0	200	255	90
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	576	17	46	437	0	0	0	0	215	274	97
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	592	0	0	483	0	0	0	0	0	586	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		32.4			32.4						25.3	
Effective Green, g (s)		33.4			33.4						26.3	
Actuated g/C Ratio		0.44			0.44						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		789			576						625	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.37						0.33	
v/c Ratio		0.75			0.84						0.94	
Uniform Delay, d1		17.6			18.7						23.9	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		4.0			10.3						21.9	
Delay (s)		21.7			29.1						45.8	
Level of Service		C			C						D	
Approach Delay (s)		21.7			29.1			0.0			45.8	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	75.6	Sum of lost time (s)	15.9
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

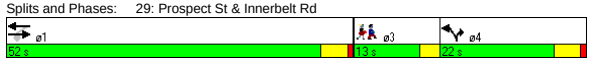
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	420	100	310	1020	220	315	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	545	130	333	1097	324	463	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.47	0.15	0.86	0.95	0.80	1.08	
Control Delay	9.9	2.0	38.0	33.6	45.4	91.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.9	2.0	38.0	33.6	45.4	91.4	
Queue Length 50th (ft)	107	0	101	381	139	~203	
Queue Length 95th (ft)	208	15	#350	#920	192	#278	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	887	386	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.15	0.86	0.95	0.80	1.08	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Prospect St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	677	1827	1719	1538
Volume (vph)	420	100	310	1020	220	315
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	545	130	333	1097	324	463
RTOR Reduction (vph)	0	51	0	0	0	68
Lane Group Flow (vph)	545	79	333	1097	324	395
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	413	1113	393	352
v/s Ratio Prot	0.29			c0.60	0.19	c0.26
v/s Ratio Perm		0.06	0.49			
v/c Ratio	0.48	0.10	0.81	0.99	0.82	1.12
Uniform Delay, d1	8.5	6.4	11.9	15.1	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	10.4	23.3	13.7	85.4
Delay (s)	8.6	6.4	22.2	38.4	42.7	115.9
Level of Service	A	A	C	D	D	F
Approach Delay (s)	8.2			34.6	85.8	
Approach LOS	A			C	F	

Intersection Summary

HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

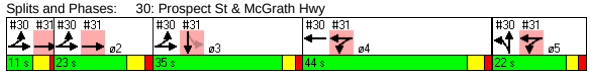
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	575	380	0	0	1300	110	25	235	540	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	625	427	0	0	1566	0	29	270	621	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	69.0	69.0	0.0	0.0	44.0	0.0	22.0	22.0	0.0	0.0	0.0	0.0	11.0	23.0
Total Split (%)	51.1%	51.1%	0.0%	0.0%	32.6%	0.0%	16.3%	16.3%	0.0%	0.0%	0.0%	0.0%	8%	17%
Maximum Green (s)					38.0		17.0	17.0					6.0	17.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.37	0.19			1.10		0.14	1.23	0.42					
Control Delay	1.8	0.6			100.3		54.5	185.7	0.9					
Queue Delay	0.0	0.0			42.0		0.1	0.0	0.0					
Total Delay	1.8	0.6			142.3		54.6	185.7	0.9					
Queue Length 50th (ft)	16	1			~569		23	~292	0					
Queue Length 95th (ft)	m18	m1			#666		53	#450	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1686	2235			1425		209	219	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			115		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.37	0.19			1.20		0.15	1.23	0.42					

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Prospect St & McGrath Hwy



Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	35.0
Total Split (%)	26%
Maximum Green (s)	30.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4934		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4934		1656	1743	1482			
Volume (vph)	575	380	0	0	1300	110	25	235	540	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	625	427	0	0	1444	122	29	270	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	625	427	0	0	1566	0	29	270	621	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	64.0	64.0			38.0		17.0	17.0	135.0			
Effective Green, g (s)	64.0	64.0			39.0		17.0	17.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.29		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1686	2235			1425		209	219	1482			
v/s Ratio Prot	0.18	0.09			c0.32		0.02	c0.15				
v/s Ratio Perm									c0.42			
v/c Ratio	0.37	0.19			1.10		0.14	1.23	0.42			
Uniform Delay, d1	22.7	20.5			48.0		52.5	59.0	0.0			
Progression Factor	0.06	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			55.7		1.4	137.9	0.9			
Delay (s)	1.8	0.6			103.7		53.9	196.9	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		1.3			103.7			60.1			0.0	
Approach LOS		A			F			E			A	

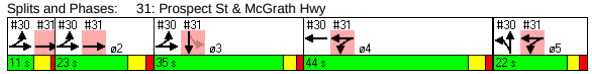
Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	910	35	585	740	0	0	0	0	45	170	500		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	1028	0	622	841	0	0	0	0	0	823	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	34.0	0.0	66.0	66.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	11.0	23.0
Total Split (%)	0.0%	25.2%	0.0%	48.9%	48.9%	0.0%	0.0%	0.0%	0.0%	25.9%	25.9%	0.0%	8%	17%
Maximum Green (s)										30.0	30.0		6.0	17.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.70		0.80	0.55						1.40dr			
Control Delay		51.8		7.1	0.3						115.7			
Queue Delay		0.1		0.0	0.0						30.1			
Total Delay		51.9		7.1	0.3						145.8			
Queue Length 50th (ft)		206		106	0						~407			
Queue Length 95th (ft)		241		m56	m0						#520			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1459		777	1539						732			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		42		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.73		0.80	0.55						1.19			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Prospect St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	44.0	22.0
Total Split (%)	33%	16%
Maximum Green (s)	38.0	17.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6774		1719	3406						3015	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6774		1719	3406						3015	
Volume (vph)	0	910	35	585	740	0	0	0	0	45	170	500
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	989	39	622	841	0	0	0	0	62	193	568
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	63	0
Lane Group Flow (vph)	0	1023	0	622	841	0	0	0	0	0	760	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		28.0		61.0	61.0						30.0	
Effective Green, g (s)		29.0		61.0	61.0						30.0	
Actuated g/C Ratio		0.21		0.45	0.45						0.22	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1455		777	1539						670	
v/s Ratio Prot		c0.15		c0.36	0.25							
v/s Ratio Perm											0.25	
v/c Ratio		0.70		0.80	0.55						1.40dr	
Uniform Delay, d1		49.0		31.8	26.9						52.5	
Progression Factor		1.00		0.19	0.01						1.00	
Incremental Delay, d2		2.9		0.8	0.1						78.0	
Delay (s)		51.9		6.8	0.3						130.5	
Level of Service		D		A	A						F	
Approach Delay (s)		51.9			3.1			0.0			130.5	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	49.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

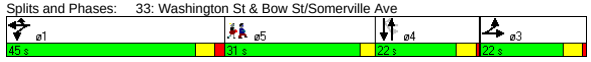
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	345	65	590	490	470	0	0	0	420	360	65	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	479	0	648	538	516	0	0	0	257	642	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	45.0	45.0	45.0	0.0	22.0	0.0	22.0	22.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	37.5%	37.5%	37.5%	0.0%	18.3%	0.0%	18.3%	18.3%	0.0%	26%
Maximum Green (s)	17.0	17.0		39.0	39.0	39.0		17.0		17.0	17.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.16		1.27	1.00	0.48				0.75	0.88		
Control Delay		140.8		145.4	34.9	2.5				55.6	54.4		
Queue Delay		0.0		0.0	0.0	0.6				0.0	0.0		
Total Delay		140.8		145.4	34.9	3.1				55.6	54.4		
Queue Length 50th (ft)		~231		~624	~360	38				165	214		
Queue Length 95th (ft)		#340		m#490	m273	m24				#490	#534		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		413		511	538	1076				342	733		
Starvation Cap Reductn		0		0	0	244				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.16		1.27	1.00	0.62				0.75	0.88		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2751		1533	1613	1371				1408	2722	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2751		1533	1613	1371				1122	2368	
Volume (vph)	35	345	65	590	490	470	0	0	0	420	360	65
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	371	70	648	538	516	0	0	0	447	383	69
RTOR Reduction (vph)	0	0	0	0	0	199	0	0	0	0	6	0
Lane Group Flow (vph)	0	479	0	648	538	317	0	0	0	257	636	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		37.2	37.2	72.8				35.6	35.6	
Effective Green, g (s)		18.0		38.2	38.2	73.8				36.6	36.6	
Actuated g/C Ratio		0.15		0.32	0.32	0.62				0.30	0.30	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		413		488	513	843				342	722	
v/s Ratio Prot		c0.17		c0.42	0.33	0.12						
v/s Ratio Perm						0.11				0.23	c0.27	
v/c Ratio		1.16		1.33	1.05	0.38				0.75	0.88	
Uniform Delay, d1		51.0		40.9	40.9	11.6				37.6	39.6	
Progression Factor		1.00		0.52	0.51	2.66				1.00	1.00	
Incremental Delay, d2		95.7		148.9	27.4	0.0				9.5	12.4	
Delay (s)		146.7		170.2	48.3	30.9				47.1	52.0	
Level of Service		F		F	D	C				D	D	
Approach Delay (s)		146.7			89.4			0.0			50.6	
Approach LOS		F			F			A			D	

Intersection Summary			
HCM Average Control Delay	87.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

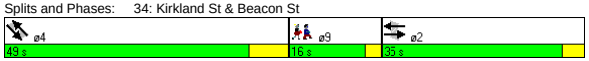
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	215	35	45	335	60	40	500	140	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	386	0	0	489	0	0	756	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	16.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	49.0%	49.0%	0.0%	49.0%	49.0%	0.0%	16%
Maximum Green (s)	31.0	31.0		31.0	31.0		42.0	42.0		42.0	42.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.89			0.92			0.92			0.47		
Control Delay		54.6			54.0			41.3			19.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		54.6			54.0			41.3			19.7		
Queue Length 50th (ft)		180			231			323			111		
Queue Length 95th (ft)		#351			#529			#737			249		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		432			533			824			761		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.89			0.92			0.92			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 90.4	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1749			1702			1771			1731	
Flt Permitted		0.75			0.91			0.96			0.92	
Satd. Flow (perm)		1322			1564			1703			1605	
Volume (vph)	55	215	35	45	335	60	40	500	140	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	272	44	50	372	67	44	556	156	27	299	33
RTOR Reduction (vph)	0	5	0	0	5	0	0	8	0	0	3	0
Lane Group Flow (vph)	0	381	0	0	484	0	0	748	0	0	356	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		31.2			31.2			42.3			42.3	
Effective Green, g (s)		31.2			31.2			43.3			43.3	
Actuated g/C Ratio		0.34			0.34			0.47			0.47	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		447			529			800			754	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.31			c0.44			0.22	
v/c Ratio		0.85			0.91			0.93			0.47	
Uniform Delay, d1		28.4			29.2			23.1			16.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		18.3			22.8			19.4			2.1	
Delay (s)		46.7			52.0			42.5			18.8	
Level of Service		D			D			D			B	
Approach Delay (s)		46.7			52.0			42.5			18.8	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	92.2	Sum of lost time (s)	17.7
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

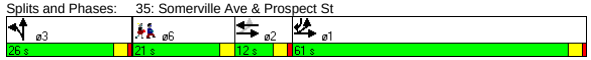
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	260	505	0	0	160	35	150	560	70	0	0	1290	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	823	0	0	219	0	165	692	0	0	0	1449	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	61.0	73.0	0.0	0.0	12.0	0.0	26.0	26.0	0.0	0.0	0.0	61.0	21.0
Total Split (%)	50.8%	60.8%	0.0%	0.0%	10.0%	0.0%	21.7%	21.7%	0.0%	0.0%	0.0%	50.8%	18%
Maximum Green (s)	57.0				8.0		22.0	22.0				57.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.35		0.64	1.29				1.26	
Control Delay		0.8			41.5		58.2	183.8				155.7	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		0.8			41.5		58.2	183.8				155.7	
Queue Length 50th (ft)		1			67		131	~374				~802	
Queue Length 95th (ft)		m2			#170		217	#503				#935	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1840			623		256	536				1146	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.35		0.64	1.29				1.26	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2986			2955		1395	2887				2413
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2218			2955		1395	2887				2413
Volume (vph)	260	505	0	0	160	35	150	560	70	0	0	1290
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	280	543	0	0	180	39	165	615	77	0	0	1449
RTOR Reduction (vph)	0	0	0	0	13	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	823	0	0	206	0	165	685	0	0	0	1449
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		79.4			24.8		22.0	22.0				54.6
Effective Green, g (s)		79.4			24.8		22.0	22.0				54.6
Actuated g/C Ratio		0.66			0.21		0.18	0.18				0.46
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1817			611		256	529				1098
v/s Ratio Prot		0.21			0.07		0.12	c0.24				c0.60
v/s Ratio Perm		c0.09										
v/c Ratio		0.45			0.34		0.64	1.29				1.32
Uniform Delay, d1		9.8			40.6		45.4	49.0				32.7
Progression Factor		0.06			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.5		6.1	146.0				150.3
Delay (s)		0.8			42.1		51.5	195.0				183.0
Level of Service		A			D		D	F				F
Approach Delay (s)		0.8			42.1			167.4			183.0	
Approach LOS		A			D			F			F	

Intersection Summary			
HCM Average Control Delay	125.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		

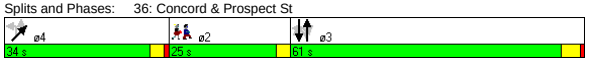
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	210	125	510	375	5	20	360	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	300	0	129	918	0	0	0	455	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	61.0	61.0	0.0	61.0	61.0	0.0	0.0	34.0	34.0	0.0	25.0
Total Split (%)	50.8%	50.8%	0.0%	50.8%	50.8%	0.0%	0.0%	28.3%	28.3%	0.0%	21%
Maximum Green (s)	56.0	56.0		56.0	56.0			30.0	30.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											12
v/c Ratio		1.55		0.22	0.87				0.75		
Control Delay		289.8		13.5	30.0				42.0		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		289.8		13.5	30.0				42.0		
Queue Length 50th (ft)		~133		33	407				241		
Queue Length 95th (ft)		#391		103	#1023				#516		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		194		596	1059				603		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.55		0.22	0.87				0.75		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1677		1869	1842				1988	
Flt Permitted		0.37		0.56	1.00				1.00	
Satd. Flow (perm)		620		1095	1842				1988	
Volume (vph)	60	0	210	125	510	375	5	20	360	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	233	129	526	387	5	23	409	23
RTOR Reduction (vph)	0	33	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	267	0	129	918	0	0	0	454	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		56.5		56.5	56.5				30.3	
Effective Green, g (s)		57.5		57.5	57.5				30.3	
Actuated g/C Ratio		0.56		0.56	0.56				0.30	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		348		614	1033				588	
v/s Ratio Prot					c0.50					
v/s Ratio Perm		0.43		0.12					0.23	
v/c Ratio		0.77		0.21	0.89				0.77	
Uniform Delay, d1		17.3		11.2	19.7				32.9	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		8.8		0.1	9.2				5.7	
Delay (s)		26.1		11.3	28.9				38.6	
Level of Service		C		B	C				D	
Approach Delay (s)		26.1			26.7				38.6	
Approach LOS		C			C				D	

Intersection Summary

HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

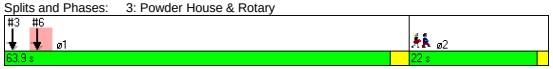
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	569	0	0	1545	495	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	612	0	0	1593	510	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.39			0.95	0.33	
Control Delay		0.7			24.6	0.6	
Queue Delay		0.0			0.3	0.0	
Total Delay		0.7			24.9	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1680	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		28			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.39			0.96	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	569	0	0	1545	495
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	612	0	0	1593	510
RTOR Reduction (vph)	0	71	0	0	0	0
Lane Group Flow (vph)	0	541	0	0	1593	510
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.87	
v/s Ratio Perm		0.33				c0.33
v/c Ratio		0.38			0.99	0.33
Uniform Delay, d1		1.2			6.3	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.8			19.3	0.6
Delay (s)		2.0			25.6	0.6
Level of Service		A			C	A
Approach Delay (s)	2.0			0.0	19.5	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	138.6%	ICU Level of Service	H
Analysis Period (min)	15		

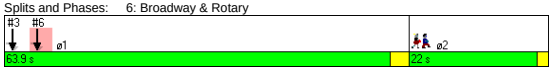
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	558	0	0	1285	829	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	634	0	0	1367	882	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.41			0.81	0.56	
Control Delay		0.8			6.6	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			6.6	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m#316	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.41			0.81	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	558	0	0	1285	829
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	634	0	0	1367	882
RTOR Reduction (vph)	0	73	0	0	0	0
Lane Group Flow (vph)	0	561	0	0	1367	882
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.74	
v/s Ratio Perm		0.35				c0.56
v/c Ratio		0.40			0.84	0.56
Uniform Delay, d1		1.3			3.1	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.9			3.3	0.9
Delay (s)		2.1			4.4	0.9
Level of Service		A			A	A
Approach Delay (s)	2.1			0.0	3.0	
Approach LOS	A			A	A	

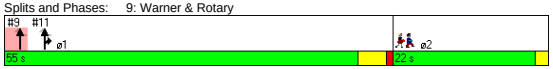
Intersection Summary			
HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	653	970	430	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	751	1000	443	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.48	0.57	0.27			
Control Delay		1.1	2.7	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.7	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	440	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.48	0.57	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



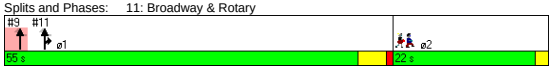
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	653	970	430	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	751	1000	443	0	0
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	0	689	1000	443	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.55			
v/s Ratio Perm		0.44		c0.27		
v/c Ratio		0.48	0.60	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.4	0.4		
Delay (s)		1.9	2.0	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	754	646	994	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	967	666	1025	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.60	0.38	0.67			
Control Delay		1.7	1.9	2.5			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.7	1.9	2.5			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	201	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1540			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.61	0.38	0.67			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	754	646	994	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	967	666	1025	0	0
RTOR Reduction (vph)	0	80	0	84	0	0
Lane Group Flow (vph)	0	887	666	941	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.60		
v/s Ratio Perm		0.54				
v/c Ratio		0.59	0.39	0.66		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.7	0.7	2.4		
Delay (s)		2.6	1.3	3.4		
Level of Service		A	A	A		
Approach Delay (s)	2.6		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Green Line Extention
2: Cambridge St. & First Street Extension

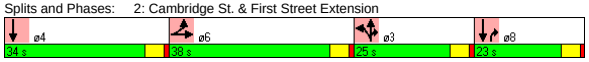
2030 Build Condition Alt 2B - AM Peak
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	225	55	0	0	0	60	125	100	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	291	0	0	0	0	0	206	111	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.39	0.78						0.73	0.25		0.51			
Control Delay	43.0	57.5						63.2	7.6		1.8			
Queue Delay	0.8	0.0						7.8	0.0		0.4			
Total Delay	43.8	57.5						71.0	7.6		2.2			
Queue Length 50th (ft)	84	184						134	0		11			
Queue Length 95th (ft)	126	248						205	39		m7			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						322	574		1943			
Starvation Cap Reductn	0	0						0	0		412			
Spillback Cap Reductn	171	0						79	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.43	0.57						0.85	0.19		0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Cambridge St. & First Street Extension



Green Line Extention
2: Cambridge St. & First Street Extension

2030 Build Condition Alt 2B - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1790						1804	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1790						1804	1459		3201	
Volume (vph)	135	225	55	0	0	0	60	125	100	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	234	57	0	0	0	67	139	111	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	84	0	218	0
Lane Group Flow (vph)	141	283	0	0	0	0	0	206	27	0	776	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.5	23.5						17.8	28.3		63.7	
Effective Green, g (s)	24.5	24.5						18.8	29.3		64.7	
Actuated g/C Ratio	0.20	0.20						0.16	0.24		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	361	365						283	356		1726	
v/s Ratio Prot	0.08	c0.16						c0.11	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.39	0.78						0.73	0.08		0.45	
Uniform Delay, d1	41.3	45.1						48.2	34.9		16.8	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.9						9.0	0.1		0.1	
Delay (s)	42.0	55.0						57.2	35.0		2.1	
Level of Service	D	E						E	D		A	
Approach Delay (s)		50.8			0.0			49.4			2.1	
Approach LOS		D			A			D			A	

Intersection Summary

HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

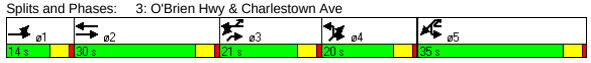
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\2030 Lechmere Build Alt 2b AM.sy7
VHB:: JGM
VHB, Inc.
10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	170	1335	445	310	840	295	135	430	280	535	925	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	187	1467	489	341	923	324	142	453	295	562	1177	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.39	0.91	0.30	1.54	0.76	0.43	0.66	0.98	0.61	1.43	1.43		
Control Delay	253.2	48.1	0.5	299.4	54.2	2.9	64.8	88.9	38.8	240.5	234.0		
Queue Delay	0.0	671.7	0.0	32.7	499.3	0.5	0.0	0.0	0.5	0.0	0.8		
Total Delay	253.2	719.9	0.5	332.2	553.5	3.5	64.8	88.9	39.3	240.5	234.8		
Queue Length 50th (ft)	~170	349	0	~337	352	27	93	164	157	~568	~598		
Queue Length 95th (ft)	#300	#417	0	m#414	m403	m28	#165	#261	244	#780	#725		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	753	216	463	480	394	824		
Starvation Cap Reductn	0	0	0	10	784	152	0	0	0	0	0		
Spillback Cap Reductn	0	1024	0	0	0	0	0	0	33	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.39	2.52	0.30	1.62	2.11	0.54	0.66	0.98	0.66	1.43	1.43		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3162	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3162	
Volume (vph)	170	1335	445	310	840	295	135	430	280	535	925	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	187	1467	489	341	923	324	142	453	295	594	1028	117
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	17	0	7	0
Lane Group Flow (vph)	187	1467	489	341	923	130	142	453	278	562	1170	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.30		c0.22	0.30	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.30									
v/c Ratio	1.39	0.91	0.30	1.54	0.76	0.23	0.66	0.98	0.60	1.43	1.43	
Uniform Delay, d1	55.0	38.3	0.0	51.5	31.5	23.8	49.4	51.8	35.2	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.63	1.41	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	212.5	8.3	0.5	255.4	1.4	0.1	7.0	35.8	2.1	206.1	201.7	
Delay (s)	267.5	46.6	0.5	328.0	52.6	33.6	56.4	87.6	37.3	250.6	246.2	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		55.4			107.9			66.0			247.6	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	122.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extention
6: O'Brien Hwy & First Street Extension

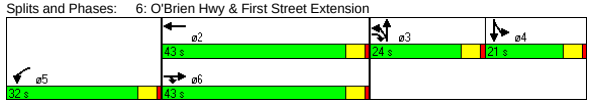
2030 Build Condition Alt 2B - AM Peak
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1510	165	445	485	75	25	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1678	183	494	622	0	28	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.90	0.20	0.76	0.48		0.09	0.84			0.94	
Control Delay		18.4	3.7	53.5	30.7		19.4	46.3			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	157.4			0.0	
Total Delay		18.4	3.7	53.5	30.7		19.4	203.7			78.1	
Queue Length 50th (ft)		291	27	165	166		11	188			165	
Queue Length 95th (ft)		#521	45	207	230		m23	m#278			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	117			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.90	0.20	0.62	0.48		0.09	1.35			0.94	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Green Line Extention
6: O'Brien Hwy & First Street Extension

2030 Build Condition Alt 2B - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3468		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3468		1770	1863			3472	
Volume (vph)	0	1510	165	445	485	75	25	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1678	183	494	539	83	28	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1678	157	494	613	0	28	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1277		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.18		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.90	0.17	0.76	0.48		0.09	0.84			0.93	
Uniform Delay, d1		35.7	12.4	46.0	29.1		42.3	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.44	0.50			1.00	
Incremental Delay, d2		5.8	0.3	5.0	1.3		0.5	20.1			27.0	
Delay (s)		16.4	4.9	51.0	30.4		19.2	44.5			78.0	
Level of Service		B	A	D	C		B	D			E	
Approach Delay (s)		15.3			39.5			42.1			78.0	
Approach LOS		B			D			D			E	

Intersection Summary

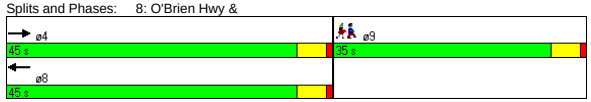
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1950	0	0	1085	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2167	0	0	1206	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.47			0.38			
Control Delay	5.0			4.6			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.6			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	339			255			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.38			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 39.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1950	0	0	1085	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2167	0	0	1206	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2167	0	0	1206	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.2			30.2		
Effective Green, g (s)	31.2			31.2		
Actuated g/C Ratio	0.72			0.72		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3673			2556		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.59			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.2			0.1		
Delay (s)	3.1			2.7		
Level of Service	A			A		
Approach Delay (s)	3.1			2.7	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	325	0	0	5	0	1625	0	0	1000	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	339	0	0	6	0	1675	0	0	1192	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	325	0	0	5	0	1625	0	0	1000	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	339	0	0	6	0	1675	0	0	1099	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.77	0.77	0.69	0.77	0.77	0.85	0.85			0.69		
vC, conflicting volume	2230	2868	558	2043	2821	596	1192			1675		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1321	2149	0	1077	2089	350	1051			1093		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	55	100	100	99	100			100		
cM capacity (veh/h)	86	36	751	72	39	542	469			399		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	339	6	558	558	558	733	460
Volume Left	0	0	0	0	0	0	0
Volume Right	339	6	0	0	0	0	93
cSH	751	542	1700	1700	1700	1700	1700
Volume to Capacity	0.45	0.01	0.33	0.33	0.33	0.43	0.27
Queue Length 95th (ft)	52	1	0	0	0	0	0
Control Delay (s)	13.7	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.7	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary					
Average Delay	1.5				
Intersection Capacity Utilization	58.2%	ICU Level of Service		B	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1950	1045	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2167	1205	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1950	1045	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2167	1161	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.75				0.87	0.75
vC, conflicting volume	1206				1906	603
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946				856	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	544				257	659

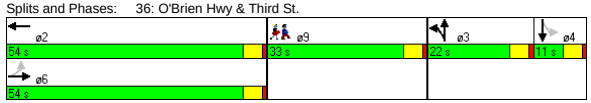
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	722	722	722	774	431	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	659
Volume to Capacity	0.42	0.42	0.42	0.46	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.9
Approach LOS						B

Intersection Summary					
Average Delay		0.1			
Intersection Capacity Utilization		41.0%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2240	645	0	650	15	175	1	35	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	2979	0	0	723	0	116	118	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.29			0.42		0.49	0.46			0.03		
Control Delay		164.2			28.0		54.8	46.0			48.0		
Queue Delay		55.0			0.4		0.0	0.0			0.0		
Total Delay		219.2			28.4		54.8	46.0			48.0		
Queue Length 50th (ft)		~923			204		77	66			1		
Queue Length 95th (ft)		#1110			309		134	123			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2301			1730		235	259			92		
Starvation Cap Reductn		0			507		0	0			0		
Spillback Cap Reductn		199			0		0	1			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.42			0.59		0.49	0.46			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.95			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4915			3527		1569	1628			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4615			3527		1569	1628			1779	
Volume (vph)	5	2240	645	0	650	15	175	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2309	665	0	707	16	194	1	39	1	1	1
RTOR Reduction (vph)	0	40	0	0	1	0	0	14	0	0	1	0
Lane Group Flow (vph)	0	2939	0	0	722	0	116	104	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2108			1611		235	244			33	
v/s Ratio Prot					0.20		c0.07	0.06				
v/s Ratio Perm		c0.64									c0.00	
v/c Ratio		1.39			0.45		0.49	0.42			0.06	
Uniform Delay, d1		32.6			22.3		46.8	46.3			57.9	
Progression Factor		1.00			1.34		1.00	1.00			1.00	
Incremental Delay, d2		180.3			0.9		7.2	5.3			0.8	
Delay (s)		212.9			30.7		54.1	51.6			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		212.9			30.7			52.8			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	169.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1645	165	0	490	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1926	0	0	538	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1645	165	0	490	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1750	176	0	538	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.80	0.74
vC, conflicting volume			1926		2107	671
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1552		1392	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			307		107	807

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	700	700	526	269	269	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	176	0	0	33
cSH	1700	1700	1700	1700	1700	807
Volume to Capacity	0.41	0.41	0.31	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

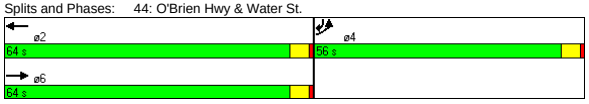
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	45.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1815	0	0	425	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1931	0	0	538	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.27							0.36
Control Delay	49.6	2.8			15.3							2.3
Queue Delay	38.8	1.2			0.0							0.0
Total Delay	88.4	4.0			15.3							2.3
Queue Length 50th (ft)	353	30			50							0
Queue Length 95th (ft)	m276	m31			m141							21
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2963			2029							889
Starvation Cap Reductn	283	739			0							0
Spillback Cap Reductn	0	0			112							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.87			0.28							0.31

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3370							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3370							1627
Volume (vph)	460	1815	0	0	425	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1931	0	0	467	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1931	0	0	530	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2022							542
v/s Ratio Prot	c0.28	c0.39			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.26							0.17
Uniform Delay, d1	37.3	15.8			11.4							28.2
Progression Factor	1.32	0.16			1.23							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.4	2.6			14.3							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.2			14.3			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1975	1305	305	285	145
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2368	1712	0	478	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.88	0.88		0.81	
Control Delay		20.1	37.5		51.2	
Queue Delay		119.7	98.9		161.2	
Total Delay		139.8	136.4		212.3	
Queue Length 50th (ft)		482	377		138	
Queue Length 95th (ft)		m447	439		189	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1948		659	
Starvation Cap Reductn		813	0		0	
Spillback Cap Reductn		0	544		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.27	1.22		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4596		3011	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3004	4596		3011	
Volume (vph)	180	1975	1305	305	285	145
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2170	1388	324	317	161
RTOR Reduction (vph)	0	0	32	0	58	0
Lane Group Flow (vph)	0	2368	1680	0	420	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1915		534	
v/s Ratio Prot		c0.27	0.37		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.88	0.88		0.79	
Uniform Delay, d1		12.8	32.2		47.2	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.9	6.1		7.5	
Delay (s)		29.3	38.2		54.7	
Level of Service		C	D		D	
Approach Delay (s)		29.3	38.2		54.7	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

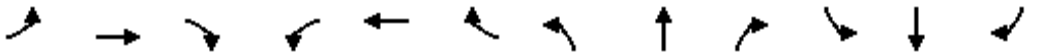
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	360	150	230	510	5	5	30	35	125	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	584	0	0	887	0	0	98	0	0	173	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	360	150	230	510	5	5	30	35	125	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	404	169	274	607	6	7	42	49	160	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	613			573			1765	1753	610	1739	1672	489
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	613			573			1765	1753	610	1739	1672	489
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			72			81	30	90	0	81	84
cM capacity (veh/h)	942			985			37	61	492	21	67	573

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	584	887	99	173	90
Volume Left	11	274	7	160	0
Volume Right	169	6	49	0	90
cSH	942	985	100	22	573
Volume to Capacity	0.01	0.28	0.99	7.75	0.16
Queue Length 95th (ft)	1	29	150	Err	14
Control Delay (s)	0.3	6.1	165.8	Err	12.4
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.1	165.8	6589.0	
Approach LOS			F	F	

Intersection Summary				
Average Delay	956.9			
Intersection Capacity Utilization	92.6%	ICU Level of Service		F
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	45	80	90	440	0	0	1780	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	302	0	98	524	0	0	1816	299
Sign Control		Stop			Stop			Free			Free	

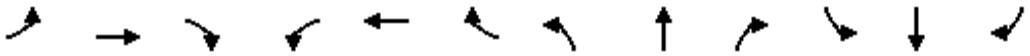
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	45	80	90	440	0	0	1780	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	49	99	98	524	0	0	1816	299
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2659	2536	1816	2536	2835	524	2115			524		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2044	861	893	721	0	1127	189	372	2603	6		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	82	0			100		
cM capacity (veh/h)	0	0	0	0	0	544	0			1033		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	302	98	524	1816	299
Volume Left	154	98	0	0	0
Volume Right	99	0	0	0	299
cSH	0	0	1700	1700	1700
Volume to Capacity	2.66115998809187904E67		0.31	1.07	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1573.5		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	122.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	85	285	320	0	0	0	0	445	485	185	1720	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	767	0	0	0	0	0	473	516	189	1755	0
Sign Control		Stop			Stop			Free			Free	

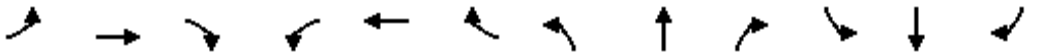
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	85	285	320	0	0	0	0	445	485	185	1720	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	94	317	356	0	0	0	0	473	516	189	1755	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2606	3122	1755	3120	2606	473	1755			989		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	93428	123121	44456	123002	93428	473	44456			989		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	591	0			691		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	253	514	473	516	189	1755
Volume Left	94	0	0	0	189	0
Volume Right	0	356	0	516	0	0
cSH	0	0	1700	1700	691	1700
Volume to Capacity	Err	Err	0.28	0.30	0.27	1.03
Queue Length 95th (ft)	Err	Err	0	0	28	0
Control Delay (s)	Err	Err	0.0	0.0	12.2	0.0
Lane LOS	F	F			B	
Approach Delay (s)	9999.0		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2072.5			
Intersection Capacity Utilization	122.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	450	5	30	0	1	10	40	470	0	5	965	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	527	0	0	22	0	0	573	0	0	1065	1176
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	450	5	30	0	1	10	40	470	0	5	965	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	489	5	33	0	2	20	45	528	0	5	1060	1176
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1710	1689	1060	1725	1689	528	1060			528		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1710	1689	1060	1725	1689	528	1060			528		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	88	100	98	96	93			99		
cM capacity (veh/h)	63	85	270	56	87	554	642			1034		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	527	22	573	1066	1176
Volume Left	489	0	45	5	0
Volume Right	33	20	0	0	1176
cSH	66	373	642	1034	1700
Volume to Capacity	7.93	0.06	0.07	0.01	0.69
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.3	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.3	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1567.4		
Intersection Capacity Utilization	106.5%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	65	360	890	190	80	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	467	1187	0	171	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

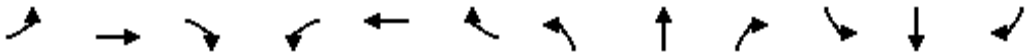
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	65	360	890	190	80	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	71	396	978	209	105	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.83				0.83	0.83
vC, conflicting volume	1187				1621	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1224				1746	1099
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	70
cM capacity (veh/h)	471				68	217

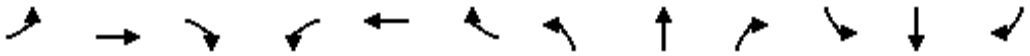
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	467	1187	171
Volume Left	71	0	105
Volume Right	0	209	66
cSH	471	1700	92
Volume to Capacity	0.15	0.70	1.86
Queue Length 95th (ft)	13	0	359
Control Delay (s)	4.5	0.0	502.0
Lane LOS	A		F
Approach Delay (s)	4.5	0.0	502.0
Approach LOS			F

Intersection Summary			
Average Delay	48.2		
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	180	130	375	205	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	335	0	0	616	0	0	195	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

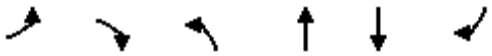
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	130	375	205	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	186	134	395	216	5	53	18	124	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	616	194	29
Volume Left (vph)	15	395	53	7
Volume Right (vph)	134	5	124	7
Hadj (s)	-0.20	0.19	-0.31	-0.10
Departure Headway (s)	5.3	5.3	6.1	6.8
Degree Utilization, x	0.50	0.91	0.33	0.05
Capacity (veh/h)	651	616	561	470
Control Delay (s)	13.5	38.7	12.0	10.2
Approach Delay (s)	13.5	38.7	12.0	10.2
Approach LOS	B	E	B	B

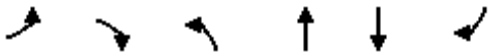
Intersection Summary			
Delay	26.4		
HCM Level of Service	D		
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	165	125	95	425	565	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	306	0	0	702	1087	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	165	125	95	425	565	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	174	132	128	574	582	505
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1666	835	1088			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1666	835	1088			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	64	80			
cM capacity (veh/h)	84	366	627			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	305	703	1088
Volume Left	174	128	0
Volume Right	132	0	505
cSH	126	627	1700
Volume to Capacity	2.43	0.20	0.64
Queue Length 95th (ft)	668	19	0
Control Delay (s)	721.5	5.3	0.0
Lane LOS	F	A	
Approach Delay (s)	721.5	5.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	106.9		
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		803			519			1016		215		
Travel Time (s)		18.3			11.8			23.1		4.9		
Volume (vph)	50	5	300	250	590	60	15	200	5	20	0	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	385	0	0	978	0	0	238	0	82	0	0
Sign Control		Stop			Free			Free		Stop		

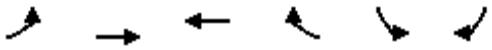
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	5	300	250	590	60	15	200	5	20	0	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	5	326	272	641	65	16	217	5	22	0	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					519			1016				
pX, platoon unblocked	0.61	0.61					0.61			0.61	0.61	0.61
vC, conflicting volume	1530	1503	220	223			707			1799	1473	674
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1864	1820	220	223			521			2303	1771	468
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	85	60	79			97			0	100	84
cM capacity (veh/h)	24	37	815	1317			641			7	39	365

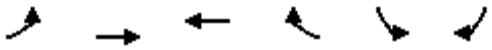
Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	386	978	239	82
Volume Left	54	272	16	22
Volume Right	326	65	5	60
cSH	137	1317	641	26
Volume to Capacity	2.82	0.21	0.03	3.13
Queue Length 95th (ft)	881	19	2	Err
Control Delay (s)	890.6	4.5	1.0	Err
Lane LOS	F	A	A	F
Approach Delay (s)	890.6	4.5	1.0	Err
Approach LOS	F			F

Intersection Summary			
Average Delay	690.6		
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		744	1219		851	
Travel Time (s)		16.9	27.7		19.3	
Volume (vph)	35	1235	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1380	695	0	202	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	1235	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	1342	652	43	120	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		744	1219			
pX, platoon unblocked	0.80				0.59	0.80
vC, conflicting volume	696				2092	674
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	617				2333	590
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	80
cM capacity (veh/h)	766				23	404

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1380	696	201
Volume Left	38	0	120
Volume Right	0	43	82
cSH	766	1700	37
Volume to Capacity	0.05	0.41	5.47
Queue Length 95th (ft)	4	0	Err
Control Delay (s)	2.6	0.0	Err
Lane LOS	A		F
Approach Delay (s)	2.6	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	884.5		
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 2b AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	305	1.0	0.403	11.6	LOS B	88	0.70	0.79	23.8
8T	T	667	1.0	0.882	18.4	LOS B	480	1.00	1.25	20.8
Approach		**972**	**1.0**	**0.882**	**16.3**	**LOS B**	**480**	**0.91**	**1.10**	**21.7**
Mystic Valley Parkway										
4T	T	973	0.0	0.915	15.9	LOS B	617	1.00	1.15	21.7
4R	R	522	0.0	0.618	8.9	LOS A	182	0.78	0.81	24.7
Approach		**1495**	**0.0**	**0.916**	**13.4**	**LOS B**	**617**	**0.92**	**1.03**	**22.7**
Mystic Valley Parkway										
5L	L	449	0.0	1.276	168.2	LOS F	1195	1.00	2.74	6.3
2R	R	500	0.0	1.259	155.2	LOS F	1268	1.00	2.82	6.3
Approach		**949**	**0.0**	**1.276**	**161.3**	**LOS F**	**1268**	**1.00**	**2.78**	**6.3**
All Vehicles		**3416**	**0.3**	**1.276**	**55.3**	**LOS E**	**1268**	**0.94**	**1.54**	**13.0**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 2b\Mystic&Alewife - Alt2b.aap
Processed Oct 06, 2008 02:51:34PM

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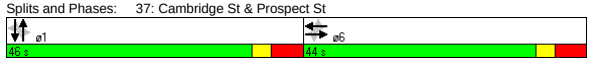
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	340	30	70	505	85	35	280	70
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	452	0	0	725	0	0	423	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	44.0	44.0		44.0	44.0		46.0	46.0		46.0	46.0	
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Total Split (%)	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	29.0	29.0		29.0	29.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		1.02			0.69			0.99			0.60	
Control Delay		73.6			29.1			50.0			24.4	
Queue Delay		0.0			0.0			16.4			0.0	
Total Delay		73.6			29.1			66.4			24.4	
Queue Length 50th (ft)		~292			208			431			181	
Queue Length 95th (ft)		#463			321			#663			278	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		497			653			733			710	
Starvation Cap Reductn		0			0			40			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		1.02			0.69			1.05			0.60	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



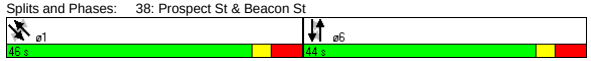
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1793			1815			1938			1908	
Flt Permitted		0.68			0.90			0.89			0.88	
Satd. Flow (perm)		1243			1633			1734			1683	
Volume (vph)	125	285	25	45	340	30	70	505	85	35	280	70
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	370	33	77	555	93	38	308	77
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	452	0	0	725	0	0	423	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		36.0			36.0			38.0			38.0	
Effective Green, g (s)		36.0			36.0			38.0			38.0	
Actuated g/C Ratio		0.40			0.40			0.42			0.42	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		497			653			732			711	
v/s Ratio Prot												
v/s Ratio Perm		c0.41			0.28			c0.42			0.25	
v/c Ratio		1.02			0.69			0.99			0.59	
Uniform Delay, d1		27.0			22.4			25.8			20.1	
Progression Factor		1.00			1.00			0.90			1.00	
Incremental Delay, d2		44.5			5.9			24.9			3.6	
Delay (s)		71.5			28.3			48.2			23.7	
Level of Service		E			C			D			C	
Approach Delay (s)		71.5			28.3			48.2			23.7	
Approach LOS		E			C			D			C	

Intersection Summary					
HCM Average Control Delay	44.6	HCM Level of Service		D	
HCM Volume to Capacity ratio	1.00				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	111.0%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	140	575	40	25	295	20	45	280	70	20	330	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	812	0	0	373	0	0	445	0	0	429	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	44.0	44.0		44.0	44.0		46.0	46.0		46.0	46.0	
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Total Split (%)	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		29.0	29.0		29.0	29.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.77			0.56			0.64			0.57	
Control Delay		29.3			36.9			25.6			23.5	
Queue Delay		1.2			0.0			3.4			1.8	
Total Delay		30.5			36.9			29.0			25.2	
Queue Length 50th (ft)		205			206			194			180	
Queue Length 95th (ft)		280			m288			294			275	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1058			670			700			753	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		92			0			165			178	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.84			0.56			0.83			0.75	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3494			1853			1814			1847	
Flt Permitted		0.75			0.90			0.91			0.96	
Satd. Flow (perm)		2646			1675			1656			1783	
Volume (vph)	140	575	40	25	295	20	45	280	70	20	330	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	151	618	43	27	324	22	51	315	79	22	363	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	812	0	0	373	0	0	445	0	0	429	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		36.0			36.0			38.0			38.0	
Effective Green, g (s)		36.0			36.0			38.0			38.0	
Actuated g/C Ratio		0.40			0.40			0.42			0.42	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1058			670			699			753	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.22			c0.27			0.24	
v/c Ratio		0.77			0.56			0.64			0.57	
Uniform Delay, d1		23.4			20.8			20.5			19.8	
Progression Factor		1.00			1.60			1.00			1.00	
Incremental Delay, d2		5.3			2.6			4.4			3.1	
Delay (s)		28.7			35.9			24.9			22.9	
Level of Service		C			D			C			C	
Approach Delay (s)		28.7			35.9			24.9			22.9	
Approach LOS		C			D			C			C	

Intersection Summary					
HCM Average Control Delay	28.0	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.70				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	105.2%	ICU Level of Service	G		
Analysis Period (min)	15				

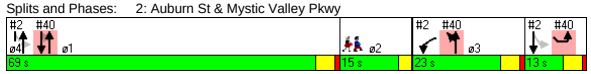
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		862			129		
Travel Time (s)	20.5		19.6			2.9		
Volume (vph)	205	115	1060	40	65	1100		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	415	0	1222	0	0	1253		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				15.0	13.0
Total Split (s)	23.0	0.0	69.0	0.0	82.0	82.0	15.0	13.0
Total Split (%)	19.2%	0.0%	57.5%	0.0%	68.3%	68.3%	13%	11%
Maximum Green (s)	18.0		64.0				12.0	8.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.83		0.63			0.75		
Control Delay	56.1		19.3			3.0		
Queue Delay	0.6		0.4			55.0		
Total Delay	56.7		19.7			58.0		
Queue Length 50th (ft)	281		453			27		
Queue Length 95th (ft)	#481		m361			m22		
Internal Link Dist (ft)	821		782			49		
Turn Bay Length (ft)								
Base Capacity (vph)	498		1948			1676		
Starvation Cap Reductn	0		0			552		
Spillback Cap Reductn	8		270			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.85		0.73			1.11		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 50 (42%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1869		3591			3360
Flt Permitted	0.97		1.00			0.76
Satd. Flow (perm)	1869		3591			2576
Volume (vph)	205	115	1060	40	65	1100
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	266	149	1178	44	70	1183
RTOR Reduction (vph)	15	0	2	0	0	0
Lane Group Flow (vph)	400	0	1220	0	0	1253
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	30.0		61.6			74.6
Effective Green, g (s)	31.0		62.6			75.6
Actuated g/C Ratio	0.26		0.52			0.63
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	483		1873			1623
v/s Ratio Prot	c0.21		0.34			
v/s Ratio Perm						c0.49
v/c Ratio	0.83		0.65			0.77
Uniform Delay, d1	42.0		20.8			16.0
Progression Factor	1.00		1.00			0.18
Incremental Delay, d2	11.7		0.2			0.2
Delay (s)	53.7		20.8			3.2
Level of Service	D		C			A
Approach Delay (s)	53.7		20.8			3.2
Approach LOS	D		C			A

Intersection Summary

HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

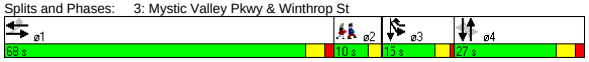
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1100	5	0	1095	435	20	430	170	425	520	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1219	0	0	1165	463	0	755	0	0	1157	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	68.0	68.0	0.0	0.0	68.0	15.0	27.0	27.0	0.0	15.0	42.0	0.0	10.0
Total Split (%)	56.7%	56.7%	0.0%	0.0%	56.7%	12.5%	22.5%	22.5%	0.0%	12.5%	35.0%	0.0%	8%
Maximum Green (s)	62.0	62.0			62.0	11.0	21.0	21.0		11.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.72			1.17	0.38		1.71			1.47dl		
Control Delay		350.8			114.6	3.0		359.7			147.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		350.8			114.6	3.0		359.7			147.1		
Queue Length 50th (ft)		~1425			~1074	35		~443			~382		
Queue Length 95th (ft)		#1714			#1333	67		#501			#775		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		707			998	1228		441			937		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.72			1.17	0.38		1.71			1.23		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3422			3508	
Flt Permitted		0.66			1.00	1.00		0.72			0.62	
Satd. Flow (perm)		1341			1900	1615		2470			2223	
Volume (vph)	5	1100	5	0	1095	435	20	430	170	425	520	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1209	5	0	1165	463	24	524	207	494	605	58
RTOR Reduction (vph)	0	0	0	0	0	100	0	33	0	0	3	0
Lane Group Flow (vph)	0	1219	0	0	1165	363	0	722	0	0	1154	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		59.6			59.6	78.6		21.0			40.0	
Effective Green, g (s)		60.6			60.6	78.6		22.0			40.0	
Actuated g/C Ratio		0.50			0.50	0.65		0.18			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		677			960	1058		453			934	
v/s Ratio Prot					0.61	0.05					c0.19	
v/s Ratio Perm		c0.91				0.17		c0.29			0.23	
v/c Ratio		1.80			1.21	0.34		1.59			1.47dl	
Uniform Delay, d1		29.7			29.7	9.2		49.0			40.0	
Progression Factor		0.70			1.00	1.00		1.00			1.00	
Incremental Delay, d2		363.8			105.8	0.1		277.8			115.4	
Delay (s)		384.5			135.5	9.3		326.8			155.4	
Level of Service		F			F	A		F			F	
Approach Delay (s)		384.5			99.6			326.8			155.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	222.2	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.65				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	120.9%	ICU Level of Service		H	
Analysis Period (min)	15				

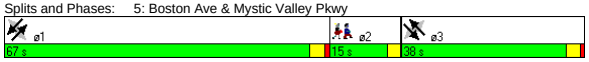
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2678			394			665			862		
Travel Time (s)		60.9			9.0			15.1			19.6		
Volume (vph)	60	240	40	140	345	60	85	945	150	55	1185	85	
Peak Hour Factor	0.79	0.79	0.79	0.78	0.78	0.78	0.93	0.93	0.93	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	431	0	0	698	0	0	1268	0	0	1394	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	67.0	67.0	0.0	67.0	67.0	0.0	15.0
Total Split (%)	31.7%	31.7%	0.0%	31.7%	31.7%	0.0%	55.8%	55.8%	0.0%	55.8%	55.8%	0.0%	13%
Maximum Green (s)	34.0	34.0		34.0	34.0		63.0	63.0		63.0	63.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.83			1.60			1.19			1.05		
Control Delay		48.6			307.9			121.2			69.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		48.6			307.9			121.2			69.5		
Queue Length 50th (ft)		282			~754			~620			~630		
Queue Length 95th (ft)		#474			#923			#760			#750		
Internal Link Dist (ft)		2598			314			585			782		
Turn Bay Length (ft)													
Base Capacity (vph)		521			437			1069			1325		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			1.60			1.19			1.05		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NESW, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Boston Ave & Mystic Valley Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1919			1905			3529			3568	
Flt Permitted		0.75			0.67			0.56			0.69	
Satd. Flow (perm)		1446			1287			1979			2465	
Volume (vph)	60	240	40	140	345	60	85	945	150	55	1185	85
Peak-hour factor, PHF	0.79	0.79	0.79	0.78	0.78	0.78	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	76	304	51	179	442	77	91	1016	161	58	1247	89
RTOR Reduction (vph)	0	4	0	0	3	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	427	0	0	695	0	0	1258	0	0	1390	0
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		46.0			46.0			60.6			60.6	
Effective Green, g (s)		46.0			46.0			60.6			60.6	
Actuated g/C Ratio		0.38			0.38			0.50			0.50	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		554			493			999			1245	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.54			c0.64			0.56	
v/c Ratio		0.77			1.41			1.26			1.12	
Uniform Delay, d1		32.4			37.0			29.7			29.7	
Progression Factor		1.00			1.00			1.00			1.25	
Incremental Delay, d2		7.0			196.1			124.9			59.8	
Delay (s)		39.4			233.1			154.6			96.9	
Level of Service		D			F			F			F	
Approach Delay (s)		39.4			233.1			154.6			96.9	
Approach LOS		D			F			F			F	

Intersection Summary

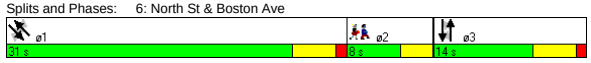
HCM Average Control Delay	134.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	126.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			950			1456		
Travel Time (s)		22.5			15.0			21.6			33.1		
Volume (vph)	30	10	30	30	40	25	10	395	55	50	445	15	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	105	0	0	121	0	0	542	0	0	526	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	14.0	14.0	0.0	14.0	14.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0	8.0
Total Split (%)	26.4%	26.4%	0.0%	26.4%	26.4%	0.0%	58.5%	58.5%	0.0%	58.5%	58.5%	0.0%	15%
Maximum Green (s)	9.0	9.0		9.0	9.0		26.0	26.0		26.0	26.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.38			0.41			0.46			0.47		
Control Delay		20.6			21.0			7.6			7.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		20.6			21.0			7.6			7.8		
Queue Length 50th (ft)		23			26			65			64		
Queue Length 95th (ft)		47			63			172			190		
Internal Link Dist (ft)		911			582			870			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		287			304			1174			1114		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.37			0.40			0.46			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 61.4	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.96			0.98			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1753			1804			1787			1820	
Flt Permitted		0.84			0.90			0.99			0.92	
Satd. Flow (perm)		1497			1643			1768			1681	
Volume (vph)	30	10	30	30	40	25	10	395	55	50	445	15
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	45	15	45	38	51	32	12	465	65	52	459	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	105	0	0	121	0	0	542	0	0	526	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		9.3			9.3			39.2			39.2	
Effective Green, g (s)		10.3			10.3			40.2			40.2	
Actuated g/C Ratio		0.16			0.16			0.64			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		246			270			1134			1078	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.07			0.31			c0.31	
v/c Ratio		0.43			0.45			0.48			0.49	
Uniform Delay, d1		23.5			23.6			5.8			5.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.6			1.6			1.4			1.6	
Delay (s)		25.2			25.2			7.3			7.5	
Level of Service		C			C			A			A	
Approach Delay (s)		25.2			25.2			7.3			7.5	
Approach LOS		C			C			A			A	

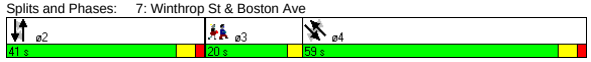
Intersection Summary					
HCM Average Control Delay	10.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.48				
Actuated Cycle Length (s)	62.7	Sum of lost time (s)		12.2	
Intersection Capacity Utilization	64.0%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	80	110	140	35	405	55	55	375	160	200	360	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	359	0	0	576	0	0	648	0	0	628	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	15.0	15.0		15.0	15.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	59.0	59.0	0.0	59.0	59.0	0.0	20.0
Total Split (%)	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	17%
Maximum Green (s)	34.9	34.9		34.9	34.9		53.0	53.0		53.0	53.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.27			0.92			0.80			1.32		
Control Delay		180.2			58.1			33.8			185.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		180.2			58.1			33.8			185.5		
Queue Length 50th (ft)		~277			337			304			~498		
Queue Length 95th (ft)		#566			#649			#693			#898		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		282			624			805			475		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.27			0.92			0.80			1.32		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1752			1989			1786			1819	
Flt Permitted		0.54			0.94			0.90			0.54	
Satd. Flow (perm)		961			1881			1610			1007	
Volume (vph)	80	110	140	35	405	55	55	375	160	200	360	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	87	120	152	41	471	64	60	412	176	213	383	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	359	0	0	576	0	0	648	0	0	628	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.2			35.2			53.4			53.4	
Effective Green, g (s)		36.3			36.3			54.4			54.4	
Actuated g/C Ratio		0.33			0.33			0.50			0.50	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		318			622			798			499	
v/s Ratio Prot												
v/s Ratio Perm		c0.37			0.31			0.40			c0.62	
v/c Ratio		1.13			0.93			0.81			1.26	
Uniform Delay, d1		36.8			35.5			23.4			27.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		90.0			19.5			8.8			131.8	
Delay (s)		126.7			55.0			32.2			159.5	
Level of Service		F			D			C			F	
Approach Delay (s)		126.7			55.0			32.2			159.5	
Approach LOS		F			D			C			F	

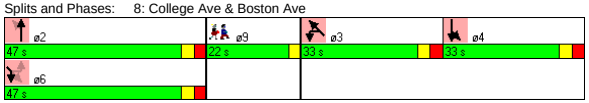
Intersection Summary					
HCM Average Control Delay	89.7	HCM Level of Service	F		
HCM Volume to Capacity ratio	1.21				
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	19.1		
Intersection Capacity Utilization	118.5%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	155	235	1	35	230	130	115	205	130	10	320	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	167	256	0	0	434	0	0	359	146	0	444	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	47.0	47.0	0.0	33.0	33.0	0.0	47.0	47.0	47.0	33.0	33.0	0.0	22.0
Total Split (%)	34.8%	34.8%	0.0%	24.4%	24.4%	0.0%	34.8%	34.8%	34.8%	24.4%	24.4%	0.0%	16%
Maximum Green (s)	41.0	41.0		27.0	27.0		41.0	41.0	41.0	27.0	27.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.26	0.41			1.00			0.96	0.25		1.00		
Control Delay	32.7	35.1			88.9			78.0	11.5		91.2		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	32.7	35.1			88.9			78.0	11.5		91.2		
Queue Length 50th (ft)	84	136			300			244	18		314		
Queue Length 95th (ft)	176	266			#637			#537	76		#647		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	632	631			435			375	590		442		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.26	0.41			1.00			0.96	0.25		1.00		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.96			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1890			1830	1531		1953	
Flt Permitted	1.00	1.00			1.00			0.61	1.00		1.00	
Satd. Flow (perm)	1863	1862			1890			1143	1531		1953	
Volume (vph)	155	235	1	35	230	130	115	205	130	10	320	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	167	255	1	38	253	143	129	230	146	11	360	73
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	72	0	5	0
Lane Group Flow (vph)	167	256	0	0	422	0	0	359	74	0	439	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Effective Green, g (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Actuated g/C Ratio	0.33	0.33			0.22			0.33	0.33		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	623	622			416			382	512		430	
v/s Ratio Prot		0.14			c0.22				0.05		c0.22	
v/s Ratio Perm	0.09							c0.31				
v/c Ratio	0.27	0.41			1.01			0.94	0.14		1.02	
Uniform Delay, d1	30.1	31.8			48.2			39.9	28.8		48.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.4			47.5			30.6	0.1		48.5	
Delay (s)	30.3	32.2			95.7			70.6	28.9		96.7	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		31.5			95.7			58.5			96.7	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	70.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

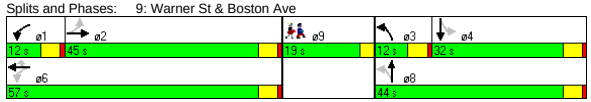
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1449			1738		
Travel Time (s)		11.7			40.8			32.9			39.5		
Volume (vph)	10	475	10	140	405	80	20	275	35	110	180	10	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	562	0	0	649	95	0	375	0	0	349	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	45.0	45.0	0.0	12.0	57.0	57.0	12.0	44.0	0.0	32.0	32.0	0.0	19.0
Total Split (%)	37.5%	37.5%	0.0%	10.0%	47.5%	47.5%	10.0%	36.7%	0.0%	26.7%	26.7%	0.0%	16%
Maximum Green (s)	40.0	40.0		7.0	52.0	52.0	7.0	39.0		27.0	27.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.51			1.47	0.12		0.62			0.79		
Control Delay		16.3			247.2	4.1		33.3			45.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		16.3			247.2	4.1		33.3			45.0		
Queue Length 50th (ft)		165			~494	2		175			177		
Queue Length 95th (ft)		418			#875	28		332			#357		
Internal Link Dist (ft)		435			1715			1369			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1096			441	799		741			441		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.51			1.47	0.12		0.51			0.79		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 94.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1980			1848	1340		1991			1981	
Flt Permitted		0.99			0.69	1.00		0.97			0.53	
Satd. Flow (perm)		1956			1288	1340		1934			1076	
Volume (vph)	10	475	10	140	405	80	20	275	35	110	180	10
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	11	540	11	167	482	95	23	312	40	128	209	12
RTOR Reduction (vph)	0	0	0	0	0	39	0	3	0	0	0	0
Lane Group Flow (vph)	0	562	0	0	649	56	0	372	0	0	349	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		52.6			52.6	52.6		28.5			28.5	
Effective Green, g (s)		53.6			53.6	53.6		29.5			29.5	
Actuated g/C Ratio		0.55			0.55	0.55		0.31			0.31	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1084			714	743		590			328	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.50	0.04		0.19			c0.32	
v/c Ratio		0.52			0.91	0.08		0.63			1.06	
Uniform Delay, d1		13.5			19.4	10.0		28.9			33.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2			15.1	0.0		1.5			67.7	
Delay (s)		13.6			34.4	10.0		30.4			101.3	
Level of Service		B			C	B		C			F	
Approach Delay (s)		13.6			31.3			30.4			101.3	
Approach LOS		B			C			C			F	

Intersection Summary

HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	96.7	Sum of lost time (s)	13.6
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

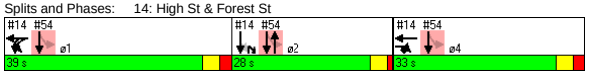
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	350	145	2	895	690	220	235	80	205	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	380	158	0	975	989	0	255	0	348	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	26.0	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	33.0	33.0	39.0	39.0	72.0	0.0	28.0	28.0	28.0	0.0
Total Split (%)	33.0%	33.0%	39.0%	39.0%	72.0%	0.0%	28.0%	28.0%	28.0%	0.0%
Maximum Green (s)	28.0	28.0	34.0	34.0			24.0	24.0	24.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.86	0.35		0.84	0.81		0.28		0.74	
Control Delay	54.3	8.0		38.1	18.5		1.3		45.5	
Queue Delay	0.0	0.1		109.4	0.0		0.0		0.0	
Total Delay	54.3	8.1		147.5	18.5		1.3		45.5	
Queue Length 50th (ft)	229	5		292	396		8		202	
Queue Length 95th (ft)	#391	53		374	606		15		#323	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	443	457		1167	1215		901		469	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	16		381	0		0		1	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.86	0.36		1.24	0.81		0.28		0.74	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.99	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1933	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1933	
Volume (vph)	350	145	2	895	690	220	235	80	205	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	158	2	973	750	239	255	87	223	38
RTOR Reduction (vph)	0	107	0	0	12	0	194	0	5	0
Lane Group Flow (vph)	380	51	0	975	977	0	61	0	343	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	28.0	28.0		34.0	67.0		24.0		24.0	
Effective Green, g (s)	28.0	28.0		34.0	67.0		24.0		24.0	
Actuated g/C Ratio	0.28	0.28		0.34	0.67		0.24		0.24	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	443	350		1167	1203		387		464	
v/s Ratio Prot	0.24	0.04		0.28	c0.54		0.04			
v/s Ratio Perm									0.18	
v/c Ratio	0.86	0.15		0.84	0.81		0.16		0.74	
Uniform Delay, d1	34.1	27.0		30.4	12.0		30.0		35.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	18.9	0.9		7.1	6.1		0.7		10.2	
Delay (s)	53.0	27.9		37.6	18.0		30.7		45.3	
Level of Service	D	C		D	B		C		D	
Approach Delay (s)					27.7				45.3	
Approach LOS					C				D	

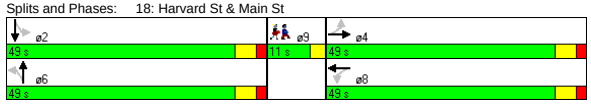
Intersection Summary

HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	90	475	65	85	455	35	50	360	70	70	460	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	670	0	0	625	0	0	506	0	0	739	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		Max	Max		Min	Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.23			1.17			0.87			1.23		
Control Delay		145.8			122.0			44.0			145.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		145.8			122.0			44.0			145.6		
Queue Length 50th (ft)		~512			~459			274			~565		
Queue Length 95th (ft)		#837			#772			#556			#876		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		546			536			580			601		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.23			1.17			0.87			1.23		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1658			1667			1635			1626	
Flt Permitted		0.77			0.75			0.83			0.86	
Satd. Flow (perm)		1280			1258			1360			1401	
Volume (vph)	90	475	65	85	455	35	50	360	70	70	460	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	96	505	69	92	495	38	53	379	74	80	523	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	670	0	0	625	0	0	506	0	0	739	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		550			540			584			602	
v/s Ratio Prot												
v/s Ratio Perm		c0.52			0.50			0.37			c0.53	
v/c Ratio		1.22			1.16			0.87			1.23	
Uniform Delay, d1		29.3			29.3			26.6			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		113.9			90.1			15.8			116.6	
Delay (s)		143.2			119.4			42.5			145.9	
Level of Service		F			F			D			F	
Approach Delay (s)		143.2			119.4			42.5			145.9	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	118.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

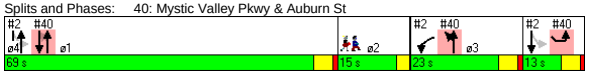
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	30	1145	1140	35	10	25	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	32	1231	1264	0	49	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	23.0	92.0	69.0	0.0	13.0	0.0	15.0
Total Split (%)	19.2%	76.7%	57.5%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	18.0		64.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.06	0.78	1.15		0.30		
Control Delay	3.6	16.1	83.7		28.5		
Queue Delay	1.5	13.4	8.4		0.1		
Total Delay	5.1	29.5	92.1		28.6		
Queue Length 50th (ft)	0	419	~1131		10		
Queue Length 95th (ft)	m1	#1105	m152		34		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	530	1571	1095		165		
Starvation Cap Reductn	408	343	0		0		
Spillback Cap Reductn	0	0	18		7		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.26	1.00	1.17		0.31		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 50 (42%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2018		1770	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	121	1900	2018		1770	
Volume (vph)	30	1145	1140	35	10	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	32	1231	1226	38	14	35
RTOR Reduction (vph)	0	0	1	0	32	0
Lane Group Flow (vph)	32	1231	1263	0	17	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	91.6	91.6	61.6		8.0	
Effective Green, g (s)	93.6	93.6	62.6		9.0	
Actuated g/C Ratio	0.78	0.78	0.52		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	529	1482	1053		133	
v/s Ratio Prot	0.02	c0.65	c0.63		c0.01	
v/s Ratio Perm	0.03					
v/c Ratio	0.06	0.83	1.20		0.12	
Uniform Delay, d1	33.0	8.2	28.7		51.8	
Progression Factor	1.13	2.09	0.28		1.00	
Incremental Delay, d2	0.0	3.3	90.7		0.6	
Delay (s)	37.4	20.6	98.7		52.4	
Level of Service	D	C	F		D	
Approach Delay (s)		21.0	98.7		52.4	
Approach LOS		C	F		D	

Intersection Summary

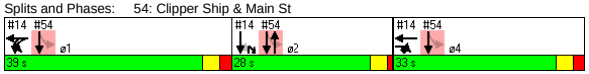
HCM Average Control Delay	59.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	235	950	95	1150		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	270	1092	0	1431		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	28.0	0.0	100.0	100.0	39.0	33.0
Total Split (%)	0.0%	0.0%	28.0%	0.0%	100.0%	100.0%	39%	33%
Maximum Green (s)			24.0				34.0	28.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.60	0.69		0.64		
Control Delay			40.4	2.5		8.6		
Queue Delay			0.4	0.0		0.0		
Total Delay			40.8	2.5		8.6		
Queue Length 50th (ft)			154	0		211		
Queue Length 95th (ft)			229	0		192		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			447	1583		2245		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			26	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.64	0.69		0.64		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3186
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2246
Volume (vph)	0	0	235	950	95	1150
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	270	1092	109	1322
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	270	1092	0	1431
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			24.0	100.0		100.0
Effective Green, g (s)			24.0	100.0		100.0
Actuated g/C Ratio			0.24	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			447	1583		2246
v/s Ratio Prot			0.14			
v/s Ratio Perm				c0.69		0.64
v/c Ratio			0.60	0.69		0.64
Uniform Delay, d1			33.8	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			5.9	2.5		0.9
Delay (s)			39.7	2.5		0.9
Level of Service			D	A		A
Approach Delay (s)	0.0		9.9			0.9
Approach LOS	A		A			A

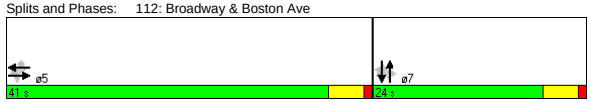
Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width (ft)	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				No				No				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		924					664				415			1449
Travel Time (s)		21.0					15.1				9.4			32.9
Volume (vph)	5	620	25	25	20	25	615	225	5	5	30	35	190	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	733	0	0	0	0	717	245	0	0	43	38	0	288
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	14.0	14.0			14.0	14.0	14.0	14.0	14.0	14.0	14.0		14.0	14.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0	24.0	19.0	19.0	19.0		19.0	19.0
Total Split (s)	41.0	41.0	0.0	0.0	41.0	41.0	41.0	41.0	24.0	24.0	24.0	0.0	24.0	24.0
Total Split (%)	63.1%	63.1%	0.0%	0.0%	63.1%	63.1%	63.1%	63.1%	36.9%	36.9%	36.9%	0.0%	36.9%	36.9%
Maximum Green (s)	36.0	36.0			36.0	36.0	36.0	36.0	19.0	19.0	19.0		19.0	19.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max	Max	None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0	8.0						
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0						
Pedestrian Calls (#/hr)	0	0			0	0	0	0						
v/c Ratio		0.59					0.72	0.27			0.08	0.03		0.75
Control Delay		11.2					15.5	7.8			16.7	0.0		35.1
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		11.2					15.5	7.8			16.7	0.0		35.1
Queue Length 50th (ft)		173					192	45			12	0		99
Queue Length 95th (ft)		272					332	81			32	0		#201
Internal Link Dist (ft)		844					584				335			1369
Turn Bay Length (ft)														
Base Capacity (vph)		1240					991	912			596	1322		418
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.59					0.72	0.27			0.07	0.03		0.69

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 112: Broadway & Boston Ave



Green Line Extention
112: Broadway & Boston Ave
2030 Build Condition - Alt 2B - PM Peak
Lanes, Volumes, Timings

Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width (ft)	11	12
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	15	15
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	16
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Maximum Green (s)		
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		
Recall Mode		
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.01
Control Delay		0.0
Queue Delay		0.0
Total Delay		0.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		0
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		1167
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.01

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\optimize\coordination\2030 Build Alt 2B- PM.sy7
VHB:: VL
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1400	1900	1900
Lane Width	16	16	16	16	11	11	11	11	16	16	16	16	11	11
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		0.99
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.97
Satd. Flow (prot)		2089					1795	1531			2087	1322		1724
Flt Permitted		1.00					0.92	1.00			0.91	1.00		0.76
Satd. Flow (perm)		2082					1664	1531			1931	1322		1357
Volume (vph)	5	620	25	25	20	25	615	225	5	5	30	35	190	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	674	27	27	22	27	668	245	5	5	33	38	207	65
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	733	0	0	0	0	717	245	0	0	43	38	0	288
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		37.7					37.7	37.7			17.3	65.0		17.3
Effective Green, g (s)		38.7					38.7	38.7			18.3	65.0		18.3
Actuated g/C Ratio		0.60					0.60	0.60			0.28	1.00		0.28
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		3.0					3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		1240					991	912			544	1322		382
v/s Ratio Prot														
v/s Ratio Perm		0.35					c0.43	0.16			0.02	0.03		c0.21
v/c Ratio		0.59					0.72	0.27			0.08	0.03		0.75
Uniform Delay, d1		8.2					9.3	6.3			17.2	0.0		21.3
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		2.1					4.6	0.7			0.1	0.0		8.2
Delay (s)		10.3					13.9	7.1			17.2	0.0		29.5
Level of Service		B					B	A			B	A		C
Approach Delay (s)		10.3					12.2				9.2			27.9
Approach LOS		B					B				A			C

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extention
112: Broadway & Boston Ave
2030 Build Condition - Alt 2B - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1400
Lane Width	11	12
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1167
Flt Permitted		1.00
Satd. Flow (perm)		1167
Volume (vph)	15	15
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	16	16
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	16
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		65.0
Effective Green, g (s)		65.0
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1167
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.01
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

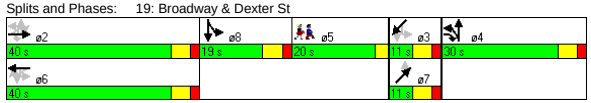
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\optimize\coordination\2030 Build Alt 2B- PM.sy7
VHB:: VL
VHB, Inc.
10/28/2008

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1286						1176			419		
Travel Time (s)			29.2						26.7			9.5		
Volume (vph)	2	25	415	260	10	1	20	20	675	140	270	150	10	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	480	294	0	0	0	0	922	0	0	462	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	40.0	40.0	40.0	30.0	0.0	40.0	40.0	40.0	40.0	0.0	30.0	30.0	0.0	19.0
Total Split (%)	33.3%	33.3%	33.3%	25.0%	0.0%	33.3%	33.3%	33.3%	33.3%	0.0%	25.0%	25.0%	0.0%	15.8%
Maximum Green (s)	34.0	34.0	34.0	24.0		34.0	34.0	34.0	34.0		24.0	24.0		13.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.60	0.30					0.98			1.01		
Control Delay			33.4	10.9					59.7			85.2		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			33.4	10.9					59.7			85.2		
Queue Length 50th (ft)			130	72					297			293		
Queue Length 95th (ft)			236	183					#568			#638		
Internal Link Dist (ft)			1206						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			803	984					942			457		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.60	0.30					0.98			1.01		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Broadway & Dexter St



Green Line Extention
19: Broadway & Dexter St
2030 Build Condition - Alt 2B - PM Peak
Lanes, Volumes, Timings

Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	160	5	55	0	50	5	22	5	33	9	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	263	0	0	60	0	0	0	88	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	19.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	15.8%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	13.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	0.98			0.62				0.98			
Control Delay	94.2			77.9				137.0			
Queue Delay	0.0			0.0				0.0			
Total Delay	94.2			77.9				137.0			
Queue Length 50th (ft)	163			38				54			
Queue Length 95th (ft)	#402			#108				#172			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	269			96				90			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	0.98			0.63				0.98			

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\optimize\coordination\2030 Build Alt 2B- PM.sy7
VHB:: VL
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3529	1564					3263			1888		
Flt Permitted			0.74	1.00					0.90			0.97		
Satd. Flow (perm)			2621	1564					2939			1888		
Volume (vph)	2	25	415	260	10	1	20	20	675	140	270	150	10	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	451	283	11	1	22	22	726	151	290	161	11	27
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	0	480	293	0	0	0	0	922	0	0	461	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			34.2	58.3					34.2			24.1		
Effective Green, g (s)			35.2	60.3					35.2			25.1		
Actuated g/C Ratio			0.33	0.57					0.33			0.24		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			868	961					973			446		
v/s Ratio Prot				0.07								c0.24		
v/s Ratio Perm			0.18	0.12					c0.31					
v/c Ratio			0.55	0.30					0.95			1.03		
Uniform Delay, d1			29.1	12.0					34.7			40.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			0.9	0.5					17.6			51.7		
Delay (s)			30.1	12.5					52.2			92.3		
Level of Service			C	B					D			F		
Approach Delay (s)			23.4						52.2			92.3		
Approach LOS			C						D			F		

Intersection Summary				
HCM Average Control Delay	59.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	106.7%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St

2030 Build Condition - Alt 2B - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	0.99			1.00				0.98		
Satd. Flow (prot)	1921			1644				1697		
Flt Permitted	0.99			1.00				0.86		
Satd. Flow (perm)	1921			1644				1478		
Volume (vph)	160	5	55	0	50	5	22	5	33	9
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	172	5	59	0	60	6	26	6	39	11
RTOR Reduction (vph)	9	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	254	0	0	60	0	0	0	83	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	13.1			5.0				5.0		
Effective Green, g (s)	14.1			6.0				6.0		
Actuated g/C Ratio	0.13			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	255			93				83		
v/s Ratio Prot	c0.13			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.00			0.65				1.00		
Uniform Delay, d1	46.1			49.1				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	55.2			10.9				99.7		
Delay (s)	101.3			60.0				149.9		
Level of Service	F			E				F		
Approach Delay (s)	101.3			60.0				149.9		
Approach LOS	F			E				F		

Intersection Summary

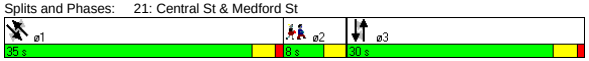
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\optimize\coordination\2030 Build Alt 2B- PM.sy7
VHB:: VL
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	295	100	5	90	5	15	375	60	65	455	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	533	0	0	123	0	0	523	0	0	606	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	47.9%	47.9%	0.0%	47.9%	47.9%	0.0%	11%
Maximum Green (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.85			0.18			0.61			0.77		
Control Delay		33.5			14.9			17.3			24.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.5			14.9			17.3			24.1		
Queue Length 50th (ft)		173			30			144			187		
Queue Length 95th (ft)		#399			65			273			#437		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		661			721			861			787		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.81			0.17			0.61			0.77		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 64.7	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1883			1826			1840	
Flt Permitted		0.91			0.98			0.98			0.90	
Satd. Flow (perm)		1659			1845			1788			1666	
Volume (vph)	100	295	100	5	90	5	15	375	60	65	455	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	317	108	6	111	6	17	436	70	72	506	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	521	0	0	123	0	0	523	0	0	604	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		24.1			24.1			31.2			31.2	
Effective Green, g (s)		24.1			24.1			31.2			31.2	
Actuated g/C Ratio		0.36			0.36			0.46			0.46	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		595			662			830			774	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.07			0.29			c0.36	
v/c Ratio		0.88			0.19			0.63			0.78	
Uniform Delay, d1		20.1			14.8			13.6			15.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.9			0.2			3.6			7.7	
Delay (s)		34.1			15.0			17.2			22.8	
Level of Service		C			B			B			C	
Approach Delay (s)		34.1			15.0			17.2			22.8	
Approach LOS		C			B			B			C	

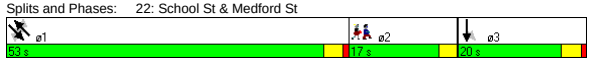
Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	67.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			363		
Travel Time (s)		21.7			21.8			35.4			8.3		
Volume (vph)	0	0	0	65	245	25	40	415	100	180	540	155	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	380	0	0	616	0	0	903	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%	19%
Maximum Green (s)				16.0	16.0		49.0	49.0		49.0	49.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.91			0.55			1.01		
Control Delay					58.5			10.6			50.1		
Queue Delay					0.0			0.0			0.0		
Total Delay					58.5			10.6			50.1		
Queue Length 50th (ft)					165			115			323		
Queue Length 95th (ft)					#405			340			#860		
Internal Link Dist (ft)		873			879			1476			283		
Turn Bay Length (ft)													
Base Capacity (vph)					418			1130			892		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.91			0.55			1.01		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 76.4	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1967			1909			1915	
Flt Permitted					0.99			0.90			0.76	
Satd. Flow (perm)					1967			1733			1470	
Volume (vph)	0	0	0	65	245	25	40	415	100	180	540	155
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	74	278	28	44	461	111	186	557	160
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	377	0	0	609	0	0	896	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			49.3			49.3	
Effective Green, g (s)					16.1			49.3			49.3	
Actuated g/C Ratio					0.20			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					402			1084			920	
v/s Ratio Prot												
v/s Ratio Perm					0.19			0.35			c0.61	
v/c Ratio					0.94			0.56			0.97	
Uniform Delay, d1					30.9			8.5			14.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					29.5			2.1			24.0	
Delay (s)					60.4			10.6			38.1	
Level of Service					E			B			D	
Approach Delay (s)		0.0			60.4			10.6			38.1	
Approach LOS		A			E			B			D	

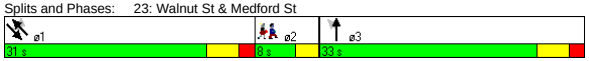
Intersection Summary					
HCM Average Control Delay	33.6	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.97				
Actuated Cycle Length (s)	78.8	Sum of lost time (s)		13.4	
Intersection Capacity Utilization	105.9%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1172			533		
Travel Time (s)		17.7			19.2			26.6			12.1		
Volume (vph)	120	275	10	0	0	0	5	280	0	0	365	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	540	0	0	0	0	0	360	0	0	432	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.71						0.48			0.56		
Control Delay		22.5						17.5			19.0		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.5						17.5			19.0		
Queue Length 50th (ft)		159						93			116		
Queue Length 95th (ft)		240						169			239		
Internal Link Dist (ft)		699			764			1092			453		
Turn Bay Length (ft)													
Base Capacity (vph)		783						756			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.69						0.48			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1830						1880			1890	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1830						1866			1890	
Volume (vph)	120	275	10	0	0	0	5	280	0	0	365	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	160	367	13	0	0	0	6	354	0	0	415	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	360	0	0	430	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			738	
v/s Ratio Prot											c0.23	
v/s Ratio Perm		0.29						0.19				
v/c Ratio		0.73						0.49			0.58	
Uniform Delay, d1		17.0						15.4			16.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		4.1						0.7			1.4	
Delay (s)		21.0						16.1			17.4	
Level of Service		C						B			B	
Approach Delay (s)		21.0			0.0			16.1			17.4	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	18.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	50.9%	ICU Level of Service		A	
Analysis Period (min)	15				

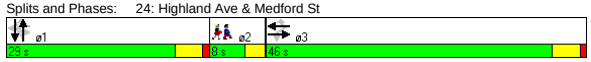
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	460	20	50	530	390	5	0	20	250	25	15	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	558	0	0	637	429	0	34	0	0	333	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	46.0	0.0	46.0	46.0	75.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	0.0%	55.4%	0.0%	55.4%	55.4%	90.4%	34.9%	34.9%	0.0%	34.9%	34.9%	0.0%	10%
Maximum Green (s)		41.0		41.0	41.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.55			0.69	0.26		0.06			0.75		
Control Delay		14.2			18.1	0.5		9.8			36.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		14.2			18.1	0.5		9.8			36.2		
Queue Length 50th (ft)		149			193	0		2			134		
Queue Length 95th (ft)		274			389	7		17			#283		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		1009			922	1644		534			444		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.55			0.69	0.26		0.06			0.75		

Intersection Summary

Area Type: Other
Cycle Length: 83
Actuated Cycle Length: 76.6
Natural Cycle: 65
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1968	1680		1679			1773	
Flt Permitted		1.00			0.90	1.00		0.93			0.73	
Satd. Flow (perm)		1834			1779	1680		1579			1353	
Volume (vph)	0	460	20	50	530	390	5	0	20	250	25	15
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	535	23	55	582	429	7	0	27	287	29	17
RTOR Reduction (vph)	0	2	0	0	0	43	0	18	0	0	2	0
Lane Group Flow (vph)	0	556	0	0	637	386	0	16	0	0	331	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		41.1			41.1	70.1		24.0			24.0	
Effective Green, g (s)		42.1			42.1	71.1		25.0			25.0	
Actuated g/C Ratio		0.53			0.53	0.90		0.32			0.32	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		977			948	1512		500			428	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.36	0.23		0.01			c0.24	
v/c Ratio		0.57			0.67	0.26		0.03			0.77	
Uniform Delay, d1		12.4			13.4	0.5		18.6			24.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.4			3.8	0.4		0.1			12.7	
Delay (s)		14.8			17.2	0.9		18.8			37.2	
Level of Service		B			B	A		B			D	
Approach Delay (s)		14.8			10.7			18.8			37.2	
Approach LOS		B			B			B			D	

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

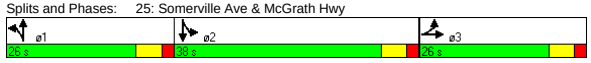
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	190	220	95	0	0	0	100	490	60	205	705	265
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	574	0	0	0	0	0	627	64	220	1043	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.70						0.76	0.04	0.34	0.85	
Control Delay		35.3						39.0	0.0	22.5	32.9	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.3						39.0	0.0	22.5	32.9	
Queue Length 50th (ft)		150						175	0	89	266	
Queue Length 95th (ft)		202						237	0	148	#364	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						827	1706	649	1222	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.70						0.76	0.04	0.34	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3409						3544	1706	1770	3216	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3409						3544	1706	1770	3216	
Volume (vph)	190	220	95	0	0	0	100	490	60	205	705	265
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	216	250	108	0	0	0	106	521	64	220	758	285
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	43	0
Lane Group Flow (vph)	0	552	0	0	0	0	0	627	64	220	1000	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1179	
v/s Ratio Prot		c0.16						c0.18		0.12	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.76	0.04	0.34	0.85	
Uniform Delay, d1		31.6						32.1	0.0	20.6	26.2	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.0						6.4	0.0	1.4	7.7	
Delay (s)		36.5						38.6	0.0	22.0	33.9	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.5			0.0			35.0			31.8	
Approach LOS		D			A			D			C	

Intersection Summary

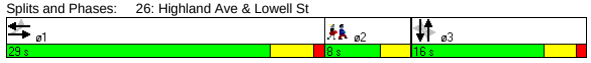
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	500	50	50	100	40	55	0	85	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	166	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	29.0	29.0	0.0	0.0	29.0	0.0	16.0	16.0	0.0	16.0	16.0	0.0	8.0
Total Split (%)	54.7%	54.7%	0.0%	0.0%	54.7%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	15%
Maximum Green (s)	24.0	24.0			24.0		12.0	12.0		12.0	12.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.49			0.49			0.61			0.43		
Control Delay		9.5			9.1			24.3			11.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.5			9.1			24.3			11.0		
Queue Length 50th (ft)		72			80			49			13		
Queue Length 95th (ft)		201			217			113			52		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1039			1163			400			411		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.49			0.49			0.57			0.40		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.5	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



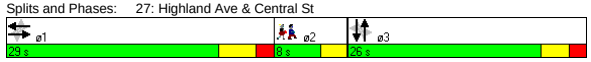
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1840			1804			1702	
Flt Permitted		0.92			1.00			0.88			0.73	
Satd. Flow (perm)		1714			1840			1605			1272	
Volume (vph)	45	420	0	0	500	50	50	100	40	55	0	85
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	515	52	60	119	48	65	0	101
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	82	0
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	84	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		27.6			27.6			9.3			9.3	
Effective Green, g (s)		28.6			28.6			9.3			9.3	
Actuated g/C Ratio		0.57			0.57			0.19			0.19	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		984			1057			300			238	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.07	
v/c Ratio		0.51			0.54			0.76			0.35	
Uniform Delay, d1		6.4			6.5			19.2			17.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			2.0			11.0			1.2	
Delay (s)		8.3			8.5			30.2			18.9	
Level of Service		A			A			C			B	
Approach Delay (s)		8.3			8.5			30.2			18.9	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	13.0	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.54				
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	77.0%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	45	365	25	30	420	40	55	350	100	15	80	40	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	473	0	0	544	0	0	555	0	0	155	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0	8.0
Total Split (%)	46.0%	46.0%	0.0%	46.0%	46.0%	0.0%	41.3%	41.3%	0.0%	41.3%	41.3%	0.0%	13%
Maximum Green (s)	23.0	23.0		23.0	23.0		21.0	21.0		21.0	21.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.71			0.76			0.83			0.24		
Control Delay		21.4			22.9			30.1			11.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.4			22.9			30.1			11.5		
Queue Length 50th (ft)		114			134			151			25		
Queue Length 95th (ft)		#291			#338			#381			68		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		716			773			693			684		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.70			0.80			0.23		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 53.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1821			1837			1821			1805	
Flt Permitted		0.90			0.96			0.95			0.94	
Satd. Flow (perm)		1656			1765			1738			1702	
Volume (vph)	45	365	25	30	420	40	55	350	100	15	80	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	49	397	27	33	467	44	60	385	110	17	92	46
RTOR Reduction (vph)	0	4	0	0	5	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	469	0	0	539	0	0	542	0	0	132	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.5			20.5			20.0			20.0	
Effective Green, g (s)		21.5			21.5			20.0			20.0	
Actuated g/C Ratio		0.39			0.39			0.36			0.36	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		644			686			629			616	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.31			c0.31			0.08	
v/c Ratio		0.73			0.79			0.86			0.21	
Uniform Delay, d1		14.4			14.9			16.4			12.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.4			6.3			12.0			0.2	
Delay (s)		18.8			21.1			28.3			12.5	
Level of Service		B			C			C			B	
Approach Delay (s)		18.8			21.1			28.3			12.5	
Approach LOS		B			C			C			B	

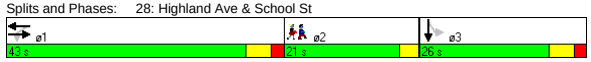
Intersection Summary					
HCM Average Control Delay	22.0	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.75				
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	77.6%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	465	15	65	480	0	0	0	0	110	235	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	539	0	0	580	0	0	0	0	0	469	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	43.0	0.0	43.0	43.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	21.0
Total Split (%)	0.0%	47.8%	0.0%	47.8%	47.8%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	23%
Maximum Green (s)		37.0		37.0	37.0					20.0	20.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.57			0.97						0.92		
Control Delay		16.4			49.8						53.4		
Queue Delay		0.0			0.0						0.0		
Total Delay		16.4			49.8						53.4		
Queue Length 50th (ft)		133			204						187		
Queue Length 95th (ft)		361			#605						#503		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		947			601						508		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.57			0.97						0.92		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1800			1815						1751	
Flt Permitted		1.00			0.81						0.99	
Satd. Flow (perm)		1800			1487						1751	
Volume (vph)	0	465	15	65	480	0	0	0	0	110	235	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	522	17	69	511	0	0	0	0	111	237	121
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	0	580	0	0	0	0	0	469	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		37.4			37.4						20.2	
Effective Green, g (s)		38.4			38.4						21.2	
Actuated g/C Ratio		0.51			0.51						0.28	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		915			756						492	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.39						0.27	
v/c Ratio		0.59			0.77						0.95	
Uniform Delay, d1		13.0			14.9						26.7	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.0			4.7						29.1	
Delay (s)		14.0			19.6						55.8	
Level of Service		B			B						E	
Approach Delay (s)		14.0			19.6			0.0			55.8	
Approach LOS		B			B			A			E	

Intersection Summary

HCM Average Control Delay	28.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

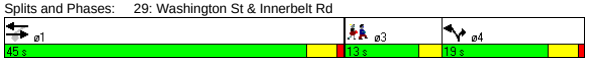
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	670	35	80	730	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	870	45	86	785	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	45.0	45.0	45.0	45.0	19.0	19.0	13.0
Total Split (%)	58.4%	58.4%	58.4%	58.4%	24.7%	24.7%	17%
Maximum Green (s)	40.0	40.0	40.0	40.0	14.0	14.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.76	0.05	0.78	0.70	0.72	0.57	
Control Delay	16.3	2.7	61.4	14.1	37.9	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.3	2.7	61.4	14.1	37.9	21.3	
Queue Length 50th (ft)	193	0	20	163	100	49	
Queue Length 95th (ft)	384	10	#125	#468	152	85	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1166	851	112	1143	401	426	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.75	0.05	0.77	0.69	0.70	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 64.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.16	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	287	1827	1719	1538
Volume (vph)	670	35	80	730	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	870	45	86	785	279	235
RTOR Reduction (vph)	0	18	0	0	0	69
Lane Group Flow (vph)	870	27	86	785	279	166
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	38.6	38.6	38.6	38.6	13.4	13.4
Effective Green, g (s)	39.6	39.6	39.6	39.6	14.4	14.4
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.22	0.22
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1106	791	170	1085	371	332
v/s Ratio Prot	c0.47			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.30			
v/c Ratio	0.79	0.03	0.51	0.72	0.75	0.50
Uniform Delay, d1	10.3	5.6	7.9	9.7	24.5	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.0	0.9	2.0	8.9	1.6
Delay (s)	13.8	5.6	8.7	11.7	33.3	24.6
Level of Service	B	A	A	B	C	C
Approach Delay (s)	13.4			11.4	29.3	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	12.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

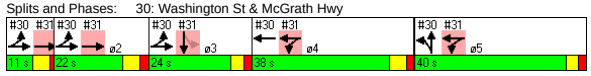
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	815	445	0	0	1070	170	60	555	680	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	858	459	0	0	1425	0	63	584	716	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	38.0	0.0	40.0	40.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	28.1%	0.0%	29.6%	29.6%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					32.0		35.0	35.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.60	0.24			1.16		0.14	1.23	0.46					
Control Delay	4.1	0.5			125.8		39.6	163.8	1.0					
Queue Delay	0.0	0.0			17.1		0.0	114.4	0.0					
Total Delay	4.1	0.5			142.9		39.6	278.1	1.0					
Queue Length 50th (ft)	65	1			~540		43	~632	0					
Queue Length 95th (ft)	m76	m1			#602		82	#861	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1424	1921			1230		450	474	1553					
Starvation Cap Reductn	0	0			0		0	82	0					
Spillback Cap Reductn	0	0			40		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.60	0.24			1.20		0.15	1.49	0.46					

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Washington St & McGrath Hwy



Green Line Extention
30: Washington St & McGrath Hwy
2030 Build Condition - Alt 2B - PM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	24.0
Total Split (%)	18%
Maximum Green (s)	19.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 2B\optimize\coordination\2030 Build Alt 2B- PM.sy7
VHB:: VL
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5033		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5033		1736	1827	1553			
Volume (vph)	815	445	0	0	1070	170	60	555	680	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	858	459	0	0	1230	195	63	584	716	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	858	459	0	0	1425	0	63	584	716	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			32.0		35.0	35.0	135.0			
Effective Green, g (s)	52.0	52.0			33.0		35.0	35.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.24		0.26	0.26	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1230		450	474	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.04	c0.32				
v/s Ratio Perm									0.46			
v/c Ratio	0.60	0.24			1.16		0.14	1.23	0.46			
Uniform Delay, d1	33.2	28.1			51.0		38.4	50.0	0.0			
Progression Factor	0.10	0.01			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.8	0.1			80.8		0.7	121.7	1.0			
Delay (s)	4.0	0.5			131.8		39.1	171.7	1.0			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.8			131.8			75.9			0.0	
Approach LOS		A			F			E			A	

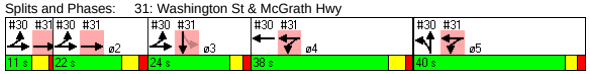
Intersection Summary			
HCM Average Control Delay	71.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1225	40	410	720	0	0	0	0	35	150	380		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1330	0	456	800	0	0	0	0	0	617	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	24.0	24.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	17.8%	17.8%	0.0%	8%	16%
Maximum Green (s)										19.0	19.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.89		0.49	0.42						1.39dr			
Control Delay		60.4		2.2	0.4						147.3			
Queue Delay		4.3		0.0	0.0						53.6			
Total Delay		64.7		2.2	0.4						200.8			
Queue Length 50th (ft)		281		7	0						~310			
Queue Length 95th (ft)		320		m0	m0						#435			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1492		939	1914						517			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		111		0	0						48			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.96		0.49	0.42						1.32			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	38.0	40.0
Total Split (%)	28%	30%
Maximum Green (s)	32.0	35.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3174	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3174	
Volume (vph)	0	1225	40	410	720	0	0	0	0	35	150	380
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1289	41	456	800	0	0	0	0	41	163	413
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1326	0	456	800	0	0	0	0	0	547	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		73.0	73.0						19.0	
Effective Green, g (s)		28.0		73.0	73.0						19.0	
Actuated g/C Ratio		0.21		0.54	0.54						0.14	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1489		939	1914						447	
v/s Ratio Prot		c0.18		c0.26	0.23							
v/s Ratio Perm											0.17	
v/c Ratio		0.89		0.49	0.42						1.39dr	
Uniform Delay, d1		52.0		19.3	18.4						58.0	
Progression Factor		1.00		0.11	0.02						1.00	
Incremental Delay, d2		8.4		0.2	0.1						119.6	
Delay (s)		60.4		2.2	0.4						177.6	
Level of Service		E		A	A						F	
Approach Delay (s)		60.4			1.1			0.0			177.6	
Approach LOS		E			A			A			F	

Intersection Summary			
HCM Average Control Delay	59.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

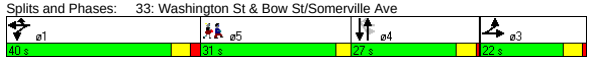
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	330	30	450	390	915	0	0	0	450	255	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	479	415	973	0	0	0	253	585	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	40.0	40.0	40.0	0.0	27.0	0.0	27.0	27.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	33.3%	33.3%	33.3%	0.0%	22.5%	0.0%	22.5%	22.5%	0.0%	26%
Maximum Green (s)	17.0	17.0		34.0	34.0	34.0		22.0		22.0	22.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.05		1.03	0.85	0.78				0.63	0.71		
Control Delay		105.7		55.4	33.6	9.6				45.4	42.1		
Queue Delay		0.0		0.0	0.0	1.8				0.0	0.0		
Total Delay		105.7		55.4	33.6	11.5				45.4	42.1		
Queue Length 50th (ft)		~205		~392	270	0				148	175		
Queue Length 95th (ft)		#313		m317	m243	m430				#427	#431		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		440		465	489	1249				400	824		
Starvation Cap Reductn		0		0	0	141				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.05		1.03	0.85	0.88				0.63	0.71		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2797	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2351	
Volume (vph)	60	330	30	450	390	915	0	0	0	450	255	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	363	33	479	415	973	0	0	0	506	287	45
RTOR Reduction (vph)	0	0	0	0	0	352	0	0	0	0	4	0
Lane Group Flow (vph)	0	462	0	479	415	621	0	0	0	253	581	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		32.2	32.2	72.8				40.6	40.6	
Effective Green, g (s)		18.0		33.2	33.2	73.8				41.6	41.6	
Actuated g/C Ratio		0.15		0.28	0.28	0.62				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		440		441	464	876				400	815	
v/s Ratio Prot		c0.16		c0.30	0.25	0.20						
v/s Ratio Perm						0.24				0.22	c0.25	
v/c Ratio		1.05		1.09	0.89	0.71				0.63	0.71	
Uniform Delay, d1		51.0		43.4	41.7	15.8				32.8	34.0	
Progression Factor		1.00		0.78	0.77	6.00				1.00	1.00	
Incremental Delay, d2		56.6		43.0	2.8	0.3				3.7	3.2	
Delay (s)		107.6		76.7	34.8	94.9				36.5	37.2	
Level of Service		F		E	C	F				D	D	
Approach Delay (s)		107.6			76.9			0.0			37.0	
Approach LOS		F			E			A			D	

Intersection Summary					
HCM Average Control Delay	70.8	HCM Level of Service		E	
HCM Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.2	
Intersection Capacity Utilization	84.3%	ICU Level of Service		E	
Analysis Period (min)	15				

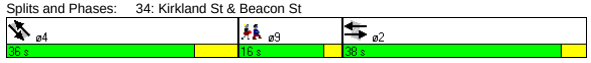
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	310	40	40	275	70	40	360	60	30	460	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	490	0	0	437	0	0	495	0	0	577	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	16.0
Total Split (%)	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	18%
Maximum Green (s)	34.0	34.0		34.0	34.0		29.0	29.0		29.0	29.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.84			0.59			0.82			0.85		
Control Delay		36.1			20.8			35.4			36.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		36.1			20.8			35.4			36.6		
Queue Length 50th (ft)		183			135			189			225		
Queue Length 95th (ft)		#480			298			#472			#544		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		580			742			603			677		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.84			0.59			0.82			0.85		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1819			1807			1822			1826	
Flt Permitted		0.77			0.93			0.89			0.96	
Satd. Flow (perm)		1410			1683			1630			1753	
Volume (vph)	110	310	40	40	275	70	40	360	60	30	460	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	330	43	45	312	80	43	387	65	31	474	72
RTOR Reduction (vph)	0	3	0	0	8	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	487	0	0	429	0	0	489	0	0	571	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		34.2			34.2			29.2			29.2	
Effective Green, g (s)		34.2			34.2			30.2			30.2	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		606			723			618			665	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.25			0.30			c0.33	
v/c Ratio		0.80			0.59			0.79			0.86	
Uniform Delay, d1		19.8			17.4			21.9			22.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.8			3.6			10.0			13.6	
Delay (s)		30.6			20.9			31.9			36.3	
Level of Service		C			C			C			D	
Approach Delay (s)		30.6			20.9			31.9			36.3	
Approach LOS		C			C			C			D	

Intersection Summary

HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

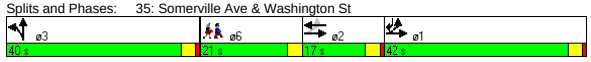
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	385	390	0	0	445	40	520	810	100	0	0	905	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	891	0	0	592	0	487	1018	0	0	0	953	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	42.0	59.0	0.0	0.0	17.0	0.0	40.0	40.0	0.0	0.0	0.0	42.0	21.0
Total Split (%)	35.0%	49.2%	0.0%	0.0%	14.2%	0.0%	33.3%	33.3%	0.0%	0.0%	0.0%	35.0%	18%
Maximum Green (s)	38.0				13.0		36.0	36.0				38.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.61			0.87		1.11	1.11				1.20	
Control Delay		6.9			59.9		115.8	104.7				138.9	
Queue Delay		0.0			0.0		4.1	4.7				0.0	
Total Delay		6.9			59.9		119.9	109.4				138.9	
Queue Length 50th (ft)		142			210		~473	~495				~509	
Queue Length 95th (ft)		m138			#417		#704	#636				#651	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1451			683		439	915				794	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		4	9				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.61			0.87		1.12	1.12				1.20	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3108			3177		1464	3025				2508
Flt Permitted		0.58			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1833			3177		1464	3025				2508
Volume (vph)	385	390	0	0	445	40	520	810	100	0	0	905
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	448	0	0	543	49	547	853	105	0	0	953
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	587	0	487	1011	0	0	0	953
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		61.8			25.6		36.0	36.0				36.2
Effective Green, g (s)		61.8			25.6		36.0	36.0				36.2
Actuated g/C Ratio		0.52			0.21		0.30	0.30				0.30
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1329			678		439	908				757
v/s Ratio Prot		0.20			c0.18		0.33	c0.33				c0.38
v/s Ratio Perm		0.14										
v/c Ratio		0.67			0.87		1.11	1.11				1.26
Uniform Delay, d1		21.6			45.5		42.0	42.0				41.9
Progression Factor		0.27			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.5			14.0		76.1	66.1				127.1
Delay (s)		7.3			59.5		118.1	108.1				169.0
Level of Service		A			E		F	F				F
Approach Delay (s)		7.3			59.5			111.3			169.0	
Approach LOS		A			E			F			F	

Intersection Summary			
HCM Average Control Delay	94.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

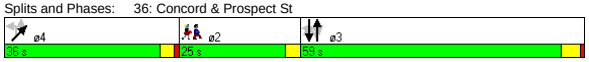
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	695	155	310	260	10	15	640	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	876	0	170	638	0	0	0	701	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	0.0	36.0	36.0	0.0	25.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	0.0%	30.0%	30.0%	0.0%	21%
Maximum Green (s)	54.0	54.0		54.0	54.0			32.0	32.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											10
v/c Ratio		2.13		0.63	0.62				1.08		
Control Delay		535.2		31.3	20.3				94.0		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		535.2		31.3	20.3				94.0		
Queue Length 50th (ft)		~589		62	230				~460		
Queue Length 95th (ft)		#1117		#237	552				#941		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		411		268	1026				647		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		2.13		0.63	0.62				1.08		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.88		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1848				2000	
Flt Permitted		0.56		0.28	1.00				1.00	
Satd. Flow (perm)		989		554	1848				2000	
Volume (vph)	120	0	695	155	310	260	10	15	640	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	747	170	341	286	11	16	674	11
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	841	0	170	638	0	0	0	700	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		54.5		54.5	54.5				32.3	
Effective Green, g (s)		55.5		55.5	55.5				32.3	
Actuated g/C Ratio		0.54		0.54	0.54				0.32	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		536		300	1001				630	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.85		0.31					0.35	
v/c Ratio		1.57		0.57	0.64				1.11	
Uniform Delay, d1		23.5		15.5	16.4				35.1	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		265.1		1.5	1.0				70.5	
Delay (s)		288.6		17.0	17.4				105.6	
Level of Service		F		B	B				F	
Approach Delay (s)		288.6			17.3				105.6	
Approach LOS		F			B				F	

Intersection Summary

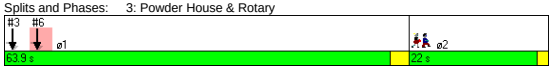
HCM Average Control Delay	142.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	475	0	0	1110	440	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	559	0	0	1168	463	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.35			0.66	0.29	
Control Delay		0.6			4.7	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			4.7	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			644	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		11			13	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.35			0.66	0.29	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	475	0	0	1110	440
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	559	0	0	1168	463
RTOR Reduction (vph)	0	46	0	0	0	0
Lane Group Flow (vph)	0	513	0	0	1168	463
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.63	
v/s Ratio Perm		0.31				c0.29
v/c Ratio		0.34			0.68	0.29
Uniform Delay, d1		0.6			1.1	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			2.2	0.5
Delay (s)		1.2			3.3	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.5	
Approach LOS	A			A	A	

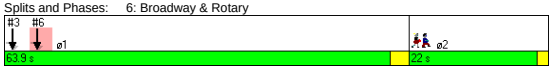
Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	420	0	0	1140	445	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	0	1200	468	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.30			0.67	0.30	
Control Delay		0.5			2.9	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			2.9	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			130	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.30			0.67	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	420	0	0	1140	445
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	462	0	0	1200	468
RTOR Reduction (vph)	0	38	0	0	0	0
Lane Group Flow (vph)	0	424	0	0	1200	468
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.64	
v/s Ratio Perm		0.27				c0.30
v/c Ratio		0.29			0.70	0.30
Uniform Delay, d1		0.6			1.2	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.5			2.0	0.4
Delay (s)		1.1			2.5	0.4
Level of Service		A			A	A
Approach Delay (s)	1.1			0.0	1.9	
Approach LOS	A			A	A	

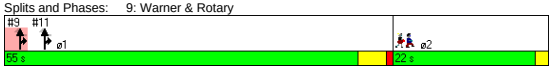
Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	117.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	485	1075	535	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	533	1208	601	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.35	0.71	0.41			
Control Delay		0.6	4.9	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.6	4.9	0.8			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	798	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1466			
Starvation Cap Reductn		0	0	98			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.35	0.71	0.44			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



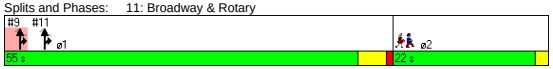
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	485	1075	535	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	533	1208	601	0	0
RTOR Reduction (vph)	0	44	0	49	0	0
Lane Group Flow (vph)	0	489	1208	552	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.68	0.37		
v/s Ratio Perm		0.31				
v/c Ratio		0.34	0.74	0.40		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.69	0.02		
Incremental Delay, d2		0.6	2.6	0.7		
Delay (s)		1.2	3.5	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.2		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	775	835	725	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	901	938	815	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.57	0.54	0.54			
Control Delay		1.5	3.2	1.6			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.5	3.2	1.6			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	376	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1499			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		39	6	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.58	0.55	0.54			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	775	835	725	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	901	938	815	0	0
RTOR Reduction (vph)	0	74	0	67	0	0
Lane Group Flow (vph)	0	827	938	748	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.52	0.49		
v/s Ratio Perm		0.51				
v/c Ratio		0.56	0.57	0.53		
Uniform Delay, d1		0.8	0.9	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.5	1.4	1.5		
Delay (s)		2.4	2.3	2.3		
Level of Service		A	A	A		
Approach Delay (s)	2.4		2.3			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

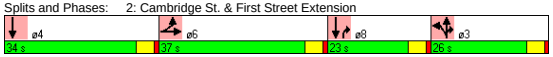
Lanes, Volumes, Timings
2: Cambridge St. & First Street Extension 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	215	50	0	0	0	100	250	500	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	295	0	0	0	0	0	389	556	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.62	0.78						1.17	0.58		0.52			
Control Delay	50.0	57.1						147.9	4.8		10.4			
Queue Delay	18.2	0.0						71.5	0.0		0.9			
Total Delay	68.2	57.1						219.3	4.8		11.3			
Queue Length 50th (ft)	143	186						~316	0		124			
Queue Length 95th (ft)	199	252						#488	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						332	956		1732			
Starvation Cap Reductn	0	0						0	0		521			
Spillback Cap Reductn	243	0						41	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.93	0.59						1.34	0.58		0.74			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Cambridge St. & First Street Extension



HCM Signalized Intersection Capacity Analysis
2: Cambridge St. & First Street Extension 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1792						1811	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1792						1811	1459		3222	
Volume (vph)	205	215	50	0	0	0	100	250	500	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	239	56	0	0	0	111	278	556	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	310	0	198	0
Lane Group Flow (vph)	228	287	0	0	0	0	0	389	246	0	701	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.8	23.8						21.0	52.2		55.2	
Effective Green, g (s)	24.8	24.8						22.0	53.2		57.2	
Actuated g/C Ratio	0.21	0.21						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	366	370						332	647		1536	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.62	0.78						1.17	0.38		0.46	
Uniform Delay, d1	43.3	45.0						49.0	22.4		21.0	
Progression Factor	1.00	1.00						1.00	1.00		1.49	
Incremental Delay, d2	3.3	9.8						104.6	0.4		0.7	
Delay (s)	46.6	54.8						153.6	22.7		32.0	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.2			0.0			76.6			32.0	
Approach LOS		D			A			E			C	

Intersection Summary

HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

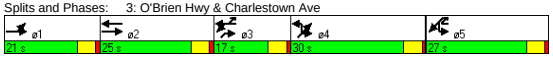
c Critical Lane Group

Lanes, Volumes, Timings
3: O'Brien Hwy & Charlestown Ave 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	980	330	385	690	425	430	1225	585	300	525	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1077	363	389	697	429	453	1289	616	319	820	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.64	0.23	2.30	0.71	0.64	1.29	1.71	1.07	1.09	1.31		
Control Delay	744.8	34.8	0.3	620.5	30.1	19.2	189.3	357.6	93.0	124.0	185.8		
Queue Delay	0.0	0.0	0.0	0.0	161.7	1.4	0.0	0.0	175.3	0.0	0.0		
Total Delay	744.8	34.8	0.3	620.5	191.7	20.6	189.3	357.6	268.3	124.0	185.8		
Queue Length 50th (ft)	~678	223	0	~442	250	114	~394	~681	~441	~269	~380		
Queue Length 95th (ft)	#874	268	0	m#608	m305	m202	#575	#802	#643	#445	#499		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	574	293	628		
Starvation Cap Reductn	0	0	0	0	473	99	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	157	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.64	0.23	2.30	1.35	0.75	1.29	1.71	1.48	1.09	1.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



HCM Signalized Intersection Capacity Analysis
3: O'Brien Hwy & Charlestown Ave 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Volume (vph)	540	980	330	385	690	425	430	1225	585	300	525	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1077	363	389	697	429	453	1289	616	319	559	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	36	0	41	0
Lane Group Flow (vph)	593	1077	363	389	697	178	453	1289	580	319	779	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.22	0.13	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.64	0.23	2.30	0.71	0.42	1.29	1.71	1.08	1.09	1.33	
Uniform Delay, d1	51.5	32.6	0.0	53.5	36.1	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.54	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	597.3	1.4	0.4	150.6	327.0	61.6	78.3	158.6	
Delay (s)	774.3	33.4	0.3	642.3	28.6	153.5	197.6	374.0	100.1	126.8	207.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		243.6			221.5			268.5			184.6	
Approach LOS		F			F			F			F	

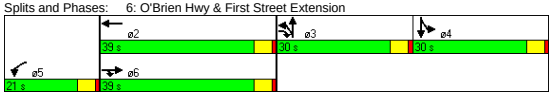
Intersection Summary					
HCM Average Control Delay	237.7	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.65				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	116.9%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lanes, Volumes, Timings
6: O'Brien Hwy & First Street Extension 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	955	120	350	870	55	225	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1061	133	389	1028	0	250	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.71	0.16	0.82	0.99		0.76	0.75			0.76	
Control Delay		23.8	1.0	64.9	68.3		64.7	64.1			49.0	
Queue Delay		0.0	0.0	2.1	0.0		326.6	354.8			38.2	
Total Delay		23.8	1.0	67.0	68.3		391.3	418.9			87.1	
Queue Length 50th (ft)		151	7	134	~368		183	191			218	
Queue Length 95th (ft)		181	0	#195	#502		m203	m211			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1037		384	404			857	
Starvation Cap Reductn		0	0	0	0		238	257			0	
Spillback Cap Reductn		0	7	31	0		0	0			247	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.71	0.15	0.85	0.99		1.71	1.78			1.07	

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



HCM Signalized Intersection Capacity Analysis
6: O'Brien Hwy & First Street Extension 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3508		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3508		1770	1863			3459	
Volume (vph)	0	955	120	350	870	55	225	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1061	133	389	967	61	250	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1061	103	389	1024	0	250	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.29		c0.14	0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.71	0.13	0.82	0.99		0.76	0.75			0.76	
Uniform Delay, d1		37.7	15.1	50.2	42.1		46.3	46.3			41.8	
Progression Factor		0.55	0.09	1.00	1.00		1.27	1.27			1.00	
Incremental Delay, d2		2.8	0.1	10.6	25.6		3.9	3.7			6.2	
Delay (s)		23.6	1.4	60.8	67.8		62.8	62.4			48.0	
Level of Service		C	A	E	E		E	E			D	
Approach Delay (s)		21.1			65.8			62.6			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	48.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

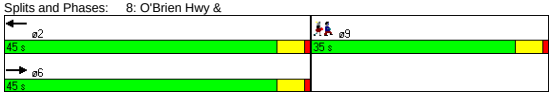
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1850	0	0	1315	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2011	0	0	1429	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.43			
Control Delay	3.0			3.3			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.3			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	280			307			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.43			

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 120
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: O'Brien Hwy &



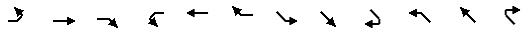
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1850	0	0	1315	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2011	0	0	1429	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2011	0	0	1429	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.40			c0.40		
v/s Ratio Perm						
v/c Ratio	0.45			0.46		
Uniform Delay, d1	1.5			1.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.0		
Level of Service	A			A		
Approach Delay (s)	1.8			2.0	0.0	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings
11: Cambridge St. & O'Brien Hwy 10/28/2008

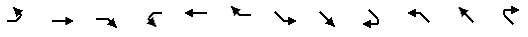


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	710	0	0	5	0	1140	0	0	1285	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	789	0	0	6	0	1267	0	0	1385	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

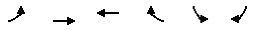
HCM Unsignalized Intersection Capacity Analysis
11: Cambridge St. & O'Brien Hwy 10/28/2008



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	710	0	0	5	0	1140	0	0	1285	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	789	0	0	6	0	1267	0	0	1353	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.82	0.86	0.86	0.91	0.91			0.82		
vC, conflicting volume	1949	2651	422	2580	2635	692	1384			1267		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1425	2240	0	2157	2222	567	1325			881		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	11	100	100	99	100			100		
cM capacity (veh/h)	81	35	885	2	36	419	386			570		

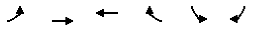
Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	789	6	422	422	422	902	482
Volume Left	0	0	0	0	0	0	0
Volume Right	789	6	0	0	0	0	32
cSH	885	419	1700	1700	1700	1700	1700
Volume to Capacity	0.89	0.01	0.25	0.25	0.25	0.53	0.28
Queue Length 95th (ft)	269	1	0	0	0	0	0
Control Delay (s)	31.9	13.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	31.9	13.7	0.0			0.0	
Approach LOS	D	B					

Intersection Summary					
Average Delay	7.3				
Intersection Capacity Utilization	72.7%	ICU Level of Service		C	
Analysis Period (min)	15				



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1850	1295	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2056	1517	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1850	1295	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2056	1439	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.82				0.86	0.82
vC, conflicting volume	1517				2163	758
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1407				1801	478
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	392				61	435

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	685	685	685	959	557	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	435
Volume to Capacity	0.40	0.40	0.40	0.56	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.7
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.7
Approach LOS						B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

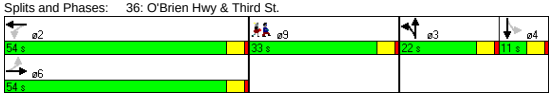
Lanes, Volumes, Timings
36: O'Brien Hwy & Third St. 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1280	375	1	1390	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1840	0	0	1546	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.93		2.17	1.95			0.04		
Control Delay		30.9			49.8		566.2	471.0			48.3		
Queue Delay		0.2			1.0		0.0	28.6			0.0		
Total Delay		31.1			50.8		566.2	499.6			48.3		
Queue Length 50th (ft)		362			484		~586	~555			1		
Queue Length 95th (ft)		#549			#738		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			27		0	0			0		
Spillback Cap Reductn		40			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.87			0.95		2.17	2.02			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



HCM Signalized Intersection Capacity Analysis
36: O'Brien Hwy & Third St. 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4912			3539		1569	1674			1750	
Flt Permitted		0.92			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4497			3376		1569	1674			1779	
Volume (vph)	1	1280	375	1	1390	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1422	417	1	1544	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1799	0	0	1546	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2054			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.40			c0.46						c0.00	
v/c Ratio		0.88			1.00		2.17	1.97			0.06	
Uniform Delay, d1		29.5			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.40		1.00	1.00			1.00	
Incremental Delay, d2		5.6			21.6		540.4	448.8			0.8	
Delay (s)		35.1			67.1		591.4	499.8			58.7	
Level of Service		D			E		F	F			E	
Approach Delay (s)		35.1			67.1			546.3			58.7	
Approach LOS		D			E			F			E	

Intersection Summary

HCM Average Control Delay	163.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	980	15	0	1165	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1070	0	0	1239	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	980	15	0	1165	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1054	16	0	1239	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1070		1682	359
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			901		1158	128
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			678		145	829

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	422	422	227	620	620	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	829
Volume to Capacity	0.25	0.25	0.13	0.36	0.36	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

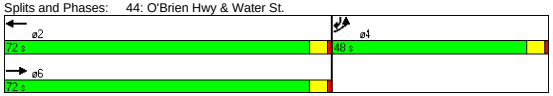
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	995	0	0	1085	80	0	0	0	0	0	305
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1070	0	0	1239	0	0	0	0	0	0	339
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.31			0.52							0.77
Control Delay	72.8	0.6			6.2							44.9
Queue Delay	1.0	0.3			0.4							674.1
Total Delay	73.8	0.8			6.6							719.0
Queue Length 50th (ft)	240	6			79							174
Queue Length 95th (ft)	m276	m11			m93							242
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3446			2378							642
Starvation Cap Reductn	117	1508			208							0
Spillback Cap Reductn	0	0			550							605
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.55			0.68							9.16

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3403							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3403							1627
Volume (vph)	310	995	0	0	1085	80	0	0	0	0	0	305
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1070	0	0	1154	85	0	0	0	0	0	339
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	55
Lane Group Flow (vph)	333	1070	0	0	1236	0	0	0	0	0	0	284
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.22			c0.36							0.17
v/s Ratio Perm												
v/c Ratio	0.82	0.31			0.52							0.74
Uniform Delay, d1	43.5	7.0			8.6							42.4
Progression Factor	1.51	0.06			0.62							1.00
Incremental Delay, d2	6.2	0.1			0.3							7.3
Delay (s)	71.9	0.5			5.6							49.7
Level of Service	E	A			A							D
Approach Delay (s)		17.5			5.6			0.0			49.7	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

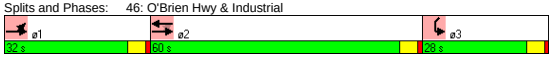
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1785	1365	225	370	135
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2032	1674	0	561	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.77	0.75		0.90	
Control Delay		11.9	28.0		62.3	
Queue Delay		1.6	6.8		2.9	
Total Delay		13.5	34.8		65.1	
Queue Length 50th (ft)		179	332		180	
Queue Length 95th (ft)		m185	387		#264	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2648	2227		639	
Starvation Cap Reductn		411	0		0	
Spillback Cap Reductn		0	512		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	0.98		0.92	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4630		3034	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3265	4630		3034	
Volume (vph)	85	1785	1365	225	370	135
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1940	1437	237	411	150
RTOR Reduction (vph)	0	0	18	0	32	0
Lane Group Flow (vph)	0	2032	1656	0	529	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.6	56.2		22.4	
Effective Green, g (s)		84.6	57.2		23.4	
Actuated g/C Ratio		0.70	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2627	2207		592	
v/s Ratio Prot		c0.18	0.36		c0.17	
v/s Ratio Perm		c0.37				
v/c Ratio		0.77	0.75		0.89	
Uniform Delay, d1		11.5	25.6		47.1	
Progression Factor		1.37	1.00		1.00	
Incremental Delay, d2		0.8	2.4		15.8	
Delay (s)		16.5	28.0		62.9	
Level of Service		B	C		E	
Approach Delay (s)		16.5	28.0		62.9	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

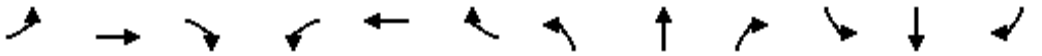
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	15	695	150	65	405	10	5	10	1	105	15	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	915	0	0	516	0	0	35	0	0	158	197
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	695	150	65	405	10	5	10	1	105	15	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	16	739	160	70	435	11	11	22	2	138	20	197
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	446			899			1639	1511	441	1445	1437	819
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446			899			1639	1511	441	1445	1437	819
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			91			63	80	100	0	83	47
cM capacity (veh/h)	1109			756			30	108	621	83	117	369

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	915	516	36	158	197
Volume Left	16	70	11	138	0
Volume Right	160	11	2	0	197
cSH	1109	756	62	86	369
Volume to Capacity	0.01	0.09	0.58	1.83	0.53
Queue Length 95th (ft)	1	8	59	335	75
Control Delay (s)	0.4	2.5	123.2	497.2	25.4
Lane LOS	A	A	F	F	D
Approach Delay (s)	0.4	2.5	123.2	235.1	
Approach LOS			F	F	

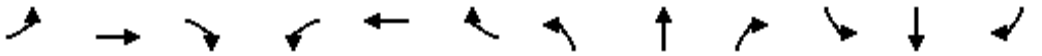
Intersection Summary				
Average Delay	49.2			
Intersection Capacity Utilization	79.7%	ICU Level of Service	D	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	175	45	100	290	1085	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	354	0	315	1142	0	0	1033	212
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

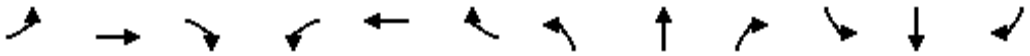
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	175	45	100	290	1085	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	194	49	111	315	1142	0	0	1033	212
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.09	0.09	0.09	0.09	0.09		0.09					
vC, conflicting volume	2941	2805	1033	2805	3017	1142	1245			1142		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23053	21513	1371	21513	23921	1142	3779			1142		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	55	0			100		
cM capacity (veh/h)	0	0	16	0	0	245	5			612		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	354	315	1142	1033	212
Volume Left	194	315	0	0	0
Volume Right	111	0	0	0	212
cSH	0	5	1700	1700	1700
Volume to Capacity	Err	64.64	0.67	0.61	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	2162.8		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	151.9%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	205	0	0	0	0	1130	500	80	1045	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	739	0	0	0	0	0	1256	556	84	1100	0
Sign Control		Stop			Stop			Free			Free	

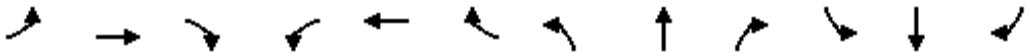
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	205	0	0	0	0	1130	500	80	1045	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	228	0	0	0	0	1256	556	84	1100	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2524	3080	1100	2871	2524	1256	1100			1811		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2524	3080	1100	2871	2524	1256	1100			1811		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	12	0	100	100	100			75		
cM capacity (veh/h)	15	9	259	0	21	209	635			337		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	347	1256	556	84	1100
Volume Left	272	0	0	0	84	0
Volume Right	0	228	0	556	0	0
cSH	13	25	1700	1700	337	1700
Volume to Capacity	30.99	14.00	0.74	0.33	0.25	0.65
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	19.2	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

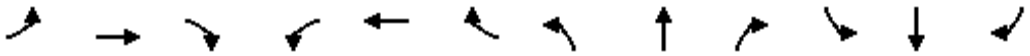
Intersection Summary				
Average Delay	1978.9			
Intersection Capacity Utilization	151.9%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	460	5	10	0	1	10	85	1160	1	5	370	875
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	540	0	0	25	0	0	1369	0	0	383	893
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	460	5	10	0	1	10	85	1160	1	5	370	875
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	523	6	11	0	2	23	93	1275	1	5	378	893
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1874	1850	378	1864	1850	1275	378			1276		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1874	1850	378	1864	1850	1275	378			1276		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	89	92			99		
cM capacity (veh/h)	44	68	669	46	65	198	1186			544		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	540	25	1369	383	893
Volume Left	523	0	93	5	0
Volume Right	11	23	1	0	893
cSH	45	167	1186	544	1700
Volume to Capacity	11.95	0.15	0.08	0.01	0.53
Queue Length 95th (ft)	Err	13	6	1	0
Control Delay (s)	Err	30.3	3.0	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	30.3	3.0	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1683.2		
Intersection Capacity Utilization	133.3%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	40	425	415	100	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	469	566	0	155	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



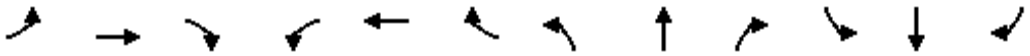
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	40	425	415	100	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	40	429	456	110	69	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	566				1021	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				1023	464
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				70	84
cM capacity (veh/h)	951				229	548

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	470	566	155
Volume Left	40	0	69
Volume Right	0	110	86
cSH	951	1700	338
Volume to Capacity	0.04	0.33	0.46
Queue Length 95th (ft)	3	0	58
Control Delay (s)	1.2	0.0	24.3
Lane LOS	A		C
Approach Delay (s)	1.2	0.0	24.3
Approach LOS			C

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		70.2%	ICU Level of Service C
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	15	185	115	245	300	10	85	25	160	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	389	0	0	591	0	0	317	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

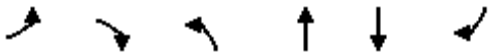
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	185	115	245	300	10	85	25	160	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	19	228	142	261	319	11	100	29	188	0	7	0

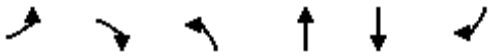
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	389	590	318	7
Volume Left (vph)	19	261	100	0
Volume Right (vph)	142	11	188	0
Hadj (s)	-0.19	0.11	-0.26	0.00
Departure Headway (s)	5.8	5.8	6.3	7.7
Degree Utilization, x	0.63	0.95	0.56	0.02
Capacity (veh/h)	597	611	548	392
Control Delay (s)	18.3	48.8	17.0	10.9
Approach Delay (s)	18.3	48.8	17.0	10.9
Approach LOS	C	E	C	B

Intersection Summary			
Delay	31.7		
HCM Level of Service	D		
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	250	100	185	575	460	380
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	368	0	0	826	904	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	250	100	185	575	460	380
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	263	105	201	625	495	409
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1726	699	903			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1726	699	903			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	76	73			
cM capacity (veh/h)	71	440	753			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	368	826	903
Volume Left	263	201	0
Volume Right	105	0	409
cSH	94	753	1700
Volume to Capacity	3.92	0.27	0.53
Queue Length 95th (ft)	Err	27	0
Control Delay (s)	Err	6.5	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1758.7		
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		896			521			1014		242		
Travel Time (s)		20.4			11.8			23.0		5.5		
Volume (vph)	25	0	375	195	250	35	40	460	10	40	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	522	0	0	554	0	81	0	0
Sign Control		Stop			Free			Free		Stop		

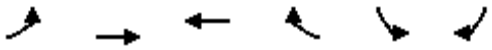
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	195	250	35	40	460	10	40	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	212	272	38	43	500	11	43	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					521			1014				
pX, platoon unblocked	0.93	0.93	0.87	0.87			0.87			0.93	0.93	0.87
vC, conflicting volume	1345	1326	505	511			310			1715	1312	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1169	1148	435	441			206			1565	1134	184
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	78	100	25	78			96			0	100	95
cM capacity (veh/h)	122	140	544	984			1187			17	143	746

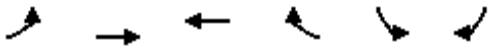
Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	522	554	82
Volume Left	27	212	43	43
Volume Right	408	38	11	38
cSH	447	984	1187	31
Volume to Capacity	0.97	0.22	0.04	2.59
Queue Length 95th (ft)	301	20	3	237
Control Delay (s)	66.5	5.4	1.0	990.3
Lane LOS	F	A	A	F
Approach Delay (s)	66.5	5.4	1.0	990.3
Approach LOS	F			F

Intersection Summary			
Average Delay	71.0		
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	16	11	11
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		664	1286		737	
Travel Time (s)		15.1	29.2		16.8	
Volume (vph)	60	785	830	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	918	962	0	120	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	60	785	830	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	853	902	60	60	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		664	1286			
pX, platoon unblocked	0.70				0.83	0.70
vC, conflicting volume	962				1916	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946				1635	903
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				25	75
cM capacity (veh/h)	507				80	235

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	918	962	120
Volume Left	65	0	60
Volume Right	0	60	60
cSH	507	1700	120
Volume to Capacity	0.13	0.57	1.00
Queue Length 95th (ft)	11	0	167
Control Delay (s)	4.1	0.0	151.6
Lane LOS	A		F
Approach Delay (s)	4.1	0.0	151.6
Approach LOS			F

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 2b PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	457	0.0	0.618	14.4	LOS B	183	0.85	0.94	22.6
8T	T	935	0.0	1.265	137.0	LOS F	2121	1.00	3.47	7.0
Approach		**1392**	**0.0**	**1.265**	**96.7**	**LOS F**	**2121**	**0.95**	**2.64**	**9.2**
Mystic Valley Parkway										
4T	T	813	0.0	0.932	23.2	LOS C	618	1.00	1.45	19.3
4R	R	581	0.0	0.764	14.5	LOS B	300	0.98	1.13	22.2
Approach		**1394**	**0.0**	**0.932**	**19.6**	**LOS B**	**618**	**0.99**	**1.32**	**20.4**
Mystic Valley Parkway										
5L	L	377	0.0	0.726	24.4	LOS C	254	1.00	1.23	19.3
2R	R	321	0.0	0.692	20.0	LOS C	219	1.00	1.20	20.3
Approach		**698**	**0.0**	**0.726**	**22.4**	**LOS C**	**254**	**1.00**	**1.22**	**19.7**
All Vehicles		**3484**	**0.0**	**1.265**	**51.0**	**LOS D**	**2121**	**0.98**	**1.83**	**13.6**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\Alt 2b\Mystic&Alewife - Alt2b.aap
Processed Oct 06, 2008 02:51:34PM

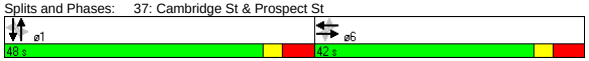
2030 Build Alternative 3 Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	60	300	10	80	350	15	30	280	80	35	350	50
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	468	0	0	476	0	0	495	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	27.0	27.0		27.0	27.0		30.0	30.0		30.0	30.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.69			0.85			0.63			0.62	
Control Delay		31.1			42.0			15.4			23.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.1			42.0			15.4			23.6	
Queue Length 50th (ft)		185			239			88			210	
Queue Length 95th (ft)		293			#416			m140			305	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		572			553			761			792	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.69			0.85			0.63			0.63	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1830			1789			1831			1909	
Flt Permitted		0.82			0.81			0.93			0.93	
Satd. Flow (perm)		1515			1463			1714			1784	
Volume (vph)	60	300	10	80	350	15	30	280	80	35	350	50
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	64	319	11	84	368	16	37	341	98	40	398	57
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	468	0	0	476	0	0	495	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		572			553			762			793	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.32			c0.28			0.28	
v/c Ratio		0.69			0.85			0.62			0.62	
Uniform Delay, d1		23.6			25.6			19.2			19.2	
Progression Factor		1.00			1.00			0.61			1.00	
Incremental Delay, d2		6.6			14.8			3.2			3.7	
Delay (s)		30.2			40.4			15.0			22.9	
Level of Service		C			D			B			C	
Approach Delay (s)		30.2			40.4			15.0			22.9	
Approach LOS		C			D			B			C	

Intersection Summary

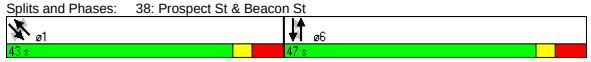
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	345	30	25	405	10	20	505	90	40	280	25
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	559	0	0	483	0	0	654	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	33.0	33.0		33.0	33.0		26.0	26.0		26.0	26.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.55			0.64			0.95			0.70	
Control Delay		21.5			11.1			52.0			30.8	
Queue Delay		0.0			0.1			0.0			0.0	
Total Delay		21.5			11.2			52.0			30.8	
Queue Length 50th (ft)		121			68			353			185	
Queue Length 95th (ft)		158			m88			#578			278	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1016			753			690			571	
Starvation Cap Reductn		0			13			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.55			0.65			0.95			0.70	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3356			1831			1810			1793	
Flt Permitted		0.69			0.95			0.98			0.81	
Satd. Flow (perm)		2342			1737			1773			1467	
Volume (vph)	100	345	30	25	405	10	20	505	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	406	35	27	445	11	21	537	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	559	0	0	483	0	0	654	0	0	397	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		39.0			39.0			35.0			35.0	
Effective Green, g (s)		39.0			39.0			35.0			35.0	
Actuated g/C Ratio		0.43			0.43			0.39			0.39	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1015			753			690			571	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.28			c0.37			0.27	
v/c Ratio		0.55			0.64			0.95			0.70	
Uniform Delay, d1		19.0			20.0			26.6			23.0	
Progression Factor		1.00			0.38			1.00			1.00	
Incremental Delay, d2		2.2			3.1			23.6			6.9	
Delay (s)		21.1			10.8			50.2			29.9	
Level of Service		C			B			D			C	
Approach Delay (s)		21.1			10.8			50.2			29.9	
Approach LOS		C			B			D			C	

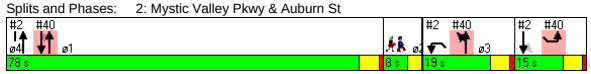
Intersection Summary					
HCM Average Control Delay	29.5	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.79				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	95.3%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	820	20	107	1200	130	77		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	943	0	0	1452	253	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	78.0	0.0	93.0	93.0	19.0	0.0	8.0	15.0
Total Split (%)	65.0%	0.0%	77.5%	77.5%	15.8%	0.0%	7%	13%
Maximum Green (s)	73.0				14.0		5.0	10.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.42			0.80	0.73			
Control Delay	6.1			2.7	56.7			
Queue Delay	0.1			0.0	1.4			
Total Delay	6.2			2.7	58.0			
Queue Length 50th (ft)	153			27	170			
Queue Length 95th (ft)	m161			m32	#311			
Internal Link Dist (ft)	793			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2221			1821	347			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	246			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.48			0.80	0.78			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3597			3322	1848	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3597			2455	1848	
Volume (vph)	820	20	107	1200	130	77
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	921	22	119	1333	159	94
RTOR Reduction (vph)	2	0	0	0	16	0
Lane Group Flow (vph)	941	0	0	1452	237	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	70.6			85.6	20.4	
Effective Green, g (s)	71.6			86.6	21.4	
Actuated g/C Ratio	0.60			0.72	0.18	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2146			1772	330	
v/s Ratio Prot	0.26				c0.13	
v/s Ratio Perm				c0.59		
v/c Ratio	0.44			0.82	0.72	
Uniform Delay, d1	13.2			11.4	46.4	
Progression Factor	0.49			0.11	1.00	
Incremental Delay, d2	0.2			1.3	7.7	
Delay (s)	6.7			2.6	54.2	
Level of Service	A			A	D	
Approach Delay (s)	6.7			2.6	54.2	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	9.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

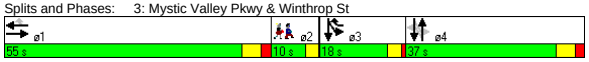
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	970	20	0	1050	200	30	405	365	565	875	120	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1053	0	0	1117	213	0	1025	0	0	1678	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	55.0	0.0	0.0	55.0	18.0	37.0	37.0	0.0	18.0	55.0	0.0	10.0
Total Split (%)	0.0%	45.8%	0.0%	0.0%	45.8%	15.0%	30.8%	30.8%	0.0%	15.0%	45.8%	0.0%	8%
Maximum Green (s)		49.0			49.0	14.0	31.0	31.0		14.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.25			1.42	0.20		1.63			1.60dl		
Control Delay		142.6			228.3	3.9		318.6			231.4		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		142.6			228.3	3.9		318.6			231.4		
Queue Length 50th (ft)		~1043			~1169	21		~561			~670		
Queue Length 95th (ft)		#1263			#1425	50		#561			#1179		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		843			784	1049		628			1160		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.25			1.42	0.20		1.63			1.45		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3323			3470	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1953			2060	
Volume (vph)	0	970	20	0	1050	200	30	405	365	565	875	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1032	21	0	1117	213	38	519	468	608	941	129
RTOR Reduction (vph)	0	1	0	0	0	57	0	107	0	0	4	0
Lane Group Flow (vph)	0	1052	0	0	1117	156	0	918	0	0	1674	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		46.6			46.6	68.6		31.0			53.0	
Effective Green, g (s)		47.6			47.6	68.6		32.0			53.0	
Actuated g/C Ratio		0.40			0.40	0.57		0.27			0.44	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		802			746	914		521			1157	
v/s Ratio Prot		0.52			c0.59	0.03					c0.25	
v/s Ratio Perm						0.07		c0.47			0.39	
v/c Ratio		1.31			1.50	0.17		1.76			1.60dl	
Uniform Delay, d1		36.2			36.2	12.2		44.0			33.5	
Progression Factor		0.55			1.00	1.00		1.00			1.00	
Incremental Delay, d2		148.3			230.8	0.0		350.7			205.8	
Delay (s)		168.0			267.0	12.2		394.7			239.3	
Level of Service		F			F	B		F			F	
Approach Delay (s)		168.0			226.2			394.7			239.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	252.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	136.0%	ICU Level of Service	H
Analysis Period (min)	15		

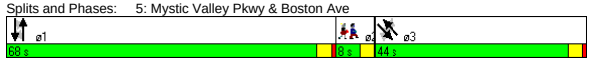
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	40	785	175	50	1200	80	45	420	80	75	270	10	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1177	0	0	1494	0	0	674	0	0	422	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	68.0	68.0	0.0	68.0	68.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	8.0
Total Split (%)	56.7%	56.7%	0.0%	56.7%	56.7%	0.0%	36.7%	36.7%	0.0%	36.7%	36.7%	0.0%	7%
Maximum Green (s)	64.0	64.0		64.0	64.0		40.0	40.0		40.0	40.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.92			1.05			1.00			1.09		
Control Delay		37.3			70.0			71.3			107.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		37.3			70.0			71.3			107.4		
Queue Length 50th (ft)		413			~657			499			~357		
Queue Length 95th (ft)		478			#781			#715			#557		
Internal Link Dist (ft)		495			793			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1284			1422			675			388		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.92			1.05			1.00			1.09		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3508			3535			1921			1893	
Flt Permitted		0.66			0.74			0.92			0.60	
Satd. Flow (perm)		2322			2610			1771			1151	
Volume (vph)	40	785	175	50	1200	80	45	420	80	75	270	10
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	47	924	206	56	1348	90	56	519	99	89	321	12
RTOR Reduction (vph)	0	16	0	0	4	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	1161	0	0	1490	0	0	669	0	0	421	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		61.6			61.6			46.4			46.4	
Effective Green, g (s)		61.6			61.6			46.4			46.4	
Actuated g/C Ratio		0.51			0.51			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1192			1340			685			445	
v/s Ratio Prot												
v/s Ratio Perm		0.50			c0.57			c0.38			0.37	
v/c Ratio		0.97			1.11			0.98			0.95	
Uniform Delay, d1		28.4			29.2			36.3			35.6	
Progression Factor		1.00			1.36			1.00			1.00	
Incremental Delay, d2		20.6			57.3			28.4			29.6	
Delay (s)		49.0			97.0			64.7			65.2	
Level of Service		D			F			E			E	
Approach Delay (s)		49.0			97.0			64.7			65.2	
Approach LOS		D			F			E			E	

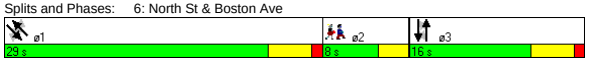
Intersection Summary					
HCM Average Control Delay	72.7	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.05				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	111.9%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	25	15	10	70	55	50	5	565	55	15	280	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	76	0	0	206	0	0	672	0	0	343	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.21			0.58			0.66			0.35		
Control Delay		16.4			23.9			13.6			7.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		16.4			23.9			13.6			7.9		
Queue Length 50th (ft)		15			45			105			42		
Queue Length 95th (ft)		34			#108			#342			117		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		370			368			1012			982		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.21			0.56			0.66			0.35		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 49.1	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1804			1756			1778			1788	
Flt Permitted		0.82			0.84			1.00			0.96	
Satd. Flow (perm)		1508			1499			1775			1727	
Volume (vph)	25	15	10	70	55	50	5	565	55	15	280	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	38	23	15	82	65	59	5	608	59	17	315	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	76	0	0	206	0	0	672	0	0	343	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		10.5			10.5			27.0			27.0	
Effective Green, g (s)		11.5			11.5			28.0			28.0	
Actuated g/C Ratio		0.22			0.22			0.54			0.54	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		337			335			967			941	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.14			c0.38			0.20	
v/c Ratio		0.23			0.61			0.69			0.36	
Uniform Delay, d1		16.3			18.0			8.6			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			3.8			4.1			1.1	
Delay (s)		16.8			21.8			12.7			7.7	
Level of Service		B			C			B			A	
Approach Delay (s)		16.8			21.8			12.7			7.7	
Approach LOS		B			C			B			A	

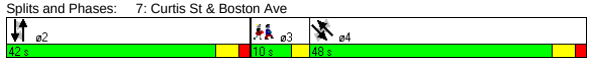
Intersection Summary					
HCM Average Control Delay	13.1	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	10	350	70	135	130	95	200	420	25	35	190	90	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	524	0	0	409	0	0	687	0	0	339	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	10.0
Total Split (%)	42.0%	42.0%	0.0%	42.0%	42.0%	0.0%	48.0%	48.0%	0.0%	48.0%	48.0%	0.0%	10%
Maximum Green (s)	35.9	35.9		35.9	35.9		42.0	42.0		42.0	42.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.13			1.12			0.47		
Control Delay		30.8			118.0			101.4			20.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		30.8			118.0			101.4			20.1		
Queue Length 50th (ft)		241			~269			~448			124		
Queue Length 95th (ft)		370			#494			#760			239		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		725			361			612			720		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.72			1.13			1.12			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 92	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Curtis St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1820			1881			1807			1730	
Flt Permitted		0.99			0.50			0.73			0.89	
Satd. Flow (perm)		1800			953			1334			1551	
Volume (vph)	10	350	70	135	130	95	200	420	25	35	190	90
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	12	427	85	153	148	108	213	447	27	38	204	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	524	0	0	409	0	0	687	0	0	339	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.0			36.0			42.1			42.1	
Effective Green, g (s)		37.1			37.1			43.1			43.1	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		707			374			608			707	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.43			c0.51			0.22	
v/c Ratio		0.74			1.09			1.13			0.48	
Uniform Delay, d1		24.6			28.7			25.7			17.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.7			74.1			77.8			2.3	
Delay (s)		28.3			102.8			103.5			20.2	
Level of Service		C			F			F			C	
Approach Delay (s)		28.3			102.8			103.5			20.2	
Approach LOS		C			F			F			C	

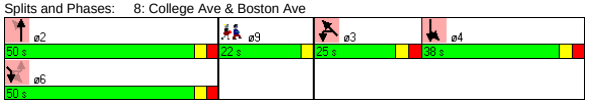
Intersection Summary					
HCM Average Control Delay	68.8	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.11				
Actuated Cycle Length (s)	94.5	Sum of lost time (s)		14.3	
Intersection Capacity Utilization	119.7%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	130	5	60	325	85	65	350	215	10	185	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	150	0	0	528	0	0	477	247	0	311	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	50.0	50.0	0.0	38.0	38.0	0.0	50.0	50.0	50.0	25.0	25.0	0.0	22.0
Total Split (%)	37.0%	37.0%	0.0%	28.1%	28.1%	0.0%	37.0%	37.0%	37.0%	18.5%	18.5%	0.0%	16%
Maximum Green (s)	44.0	44.0		32.0	32.0		44.0	44.0	44.0	19.0	19.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.22			1.02			1.01	0.40		1.00		
Control Delay	29.0	29.6			89.8			83.3	19.3		102.9		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.0	29.6			89.8			83.3	19.3		102.9		
Queue Length 50th (ft)	38	70			373			330	67		222		
Queue Length 95th (ft)	92	153			#749			#665	163		#364		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	684	675			516			473	620		310		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.22			1.02			1.01	0.40		1.00		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	0.99			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1852			1926			1833	1516		1939	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1852			1926			1299	1516		1939	
Volume (vph)	75	130	5	60	325	85	65	350	215	10	185	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	144	6	67	365	96	75	402	247	14	250	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	69	0	5	0
Lane Group Flow (vph)	83	149	0	0	522	0	0	477	178	0	306	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	44.3	44.3			32.2			44.3	44.3		19.1	
Effective Green, g (s)	44.3	44.3			32.2			44.3	44.3		19.1	
Actuated g/C Ratio	0.36	0.36			0.26			0.36	0.36		0.15	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	675	664			502			466	544		300	
v/s Ratio Prot		0.08			c0.27				0.12		c0.16	
v/s Ratio Perm	0.04							c0.37				
v/c Ratio	0.12	0.22			1.04			1.02	0.33		1.02	
Uniform Delay, d1	26.6	27.6			45.6			39.6	28.8		52.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			50.9			47.8	0.4		57.1	
Delay (s)	26.6	27.8			96.6			87.4	29.1		109.3	
Level of Service	C	C			F			F	C		F	
Approach Delay (s)		27.4			96.6			67.5			109.3	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	78.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	27.9
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

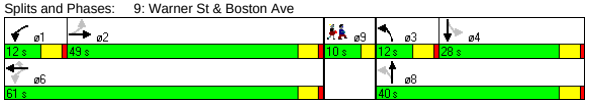
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1444			1738		
Travel Time (s)		12.0			40.8			32.8			39.5		
Volume (vph)	5	365	45	65	640	170	25	40	60	50	310	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	451	0	0	774	187	0	140	0	0	418	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	49.0	49.0	0.0	12.0	61.0	61.0	12.0	40.0	0.0	28.0	28.0	0.0	10.0
Total Split (%)	44.1%	44.1%	0.0%	10.8%	55.0%	55.0%	10.8%	36.0%	0.0%	25.2%	25.2%	0.0%	9%
Maximum Green (s)	44.0	44.0		7.0	56.0	56.0	7.0	35.0		23.0	23.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.41			0.86	0.23		0.29			0.72		
Control Delay		10.8			26.4	2.4		20.0			36.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		10.8			26.4	2.4		20.0			36.5		
Queue Length 50th (ft)		104			272	2		36			187		
Queue Length 95th (ft)		212			#643	31		103			#409		
Internal Link Dist (ft)		447			1715			1364			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1158			998	882		611			579		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.39			0.78	0.21		0.23			0.72		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 79.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.94			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1877			1973	
Flt Permitted		0.99			0.92	1.00		0.86			0.94	
Satd. Flow (perm)		1945			1678	1301		1636			1863	
Volume (vph)	5	365	45	65	640	170	25	40	60	50	310	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	397	49	71	703	187	28	45	67	58	360	0
RTOR Reduction (vph)	0	3	0	0	0	80	0	31	0	0	0	0
Lane Group Flow (vph)	0	448	0	0	774	107	0	109	0	0	418	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		43.5			43.5	43.5		23.7			23.7	
Effective Green, g (s)		44.5			44.5	44.5		24.7			24.7	
Actuated g/C Ratio		0.55			0.55	0.55		0.30			0.30	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1065			918	712		497			566	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46	0.08		0.07			c0.22	
v/c Ratio		0.42			0.84	0.15		0.22			0.74	
Uniform Delay, d1		10.8			15.5	9.1		21.1			25.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			6.8	0.0		0.1			4.3	
Delay (s)		10.9			22.3	9.1		21.2			29.7	
Level of Service		B			C	A		C			C	
Approach Delay (s)		10.9			19.7			21.2			29.7	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	81.3	Sum of lost time (s)	12.1
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	370	295	1365	605	80	80	40	435	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	398	317	1534	770	0	100	0	505	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Detector Phases	4	4	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	32.0	32.0	58.0	90.0	0.0	30.0	30.0	30.0	0.0
Total Split (%)	26.7%	26.7%	48.3%	75.0%	0.0%	25.0%	25.0%	25.0%	0.0%
Maximum Green (s)	27.0	27.0	53.0			26.0	26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.16	1.08	1.03	0.60		0.11		1.19	
Control Delay	141.5	115.2	65.3	11.2		0.4		148.3	
Queue Delay	0.0	4.1	163.1	0.0		0.0		0.0	
Total Delay	141.5	119.3	228.4	11.2		0.4		148.3	
Queue Length 50th (ft)	~365	~255	~656	266		0		~473	
Queue Length 95th (ft)	#562	#439	#777	364		0		#688	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	343	294	1487	1275		952		424	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	397	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.16	1.09	1.41	0.60		0.11		1.19	

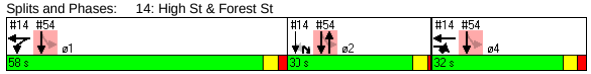
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	370	295	1365	605	80	80	40	435	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	398	317	1534	680	90	100	41	444	20
RTOR Reduction (vph)	0	23	0	4	0	78	0	2	0
Lane Group Flow (vph)	398	294	1534	766	0	22	0	503	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	27.0	27.0	53.0	85.0		26.0		26.0	
Effective Green, g (s)	27.0	27.0	53.0	85.0		26.0		26.0	
Actuated g/C Ratio	0.22	0.22	0.44	0.71		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	343	271	1487	1271		358		422	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.16	1.08	1.03	0.60		0.06		1.19	
Uniform Delay, d1	46.5	46.5	33.5	8.9		37.3		47.0	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	99.7	78.9	31.9	0.8		0.1		108.0	
Delay (s)	146.2	125.4	65.4	9.7		37.4		155.0	
Level of Service	F	F	E	A		D		F	
Approach Delay (s)				46.8				155.0	
Approach LOS				D				F	

Intersection Summary

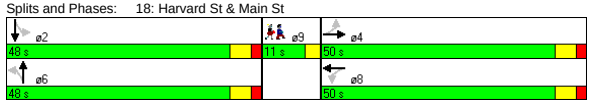
HCM Average Control Delay	79.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	455	50	105	505	15	45	315	100	35	595	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	632	0	0	695	0	0	597	0	0	818	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.08			1.37			1.19			1.26		
Control Delay		90.1			207.2			133.6			158.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		90.1			207.2			133.6			158.4		
Queue Length 50th (ft)		~436			~571			~446			~637		
Queue Length 95th (ft)		#751			#902			#596			#963		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		584			506			501			648		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.08			1.37			1.19			1.26		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1573			1613	
Flt Permitted		0.80			0.71			0.77			0.94	
Satd. Flow (perm)		1331			1167			1224			1525	
Volume (vph)	70	455	50	105	505	15	45	315	100	35	595	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	500	55	117	561	17	58	409	130	40	676	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	632	0	0	695	0	0	597	0	0	818	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		584			512			514			640	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.60			0.49			c0.54	
v/c Ratio		1.08			1.36			1.16			1.28	
Uniform Delay, d1		28.8			28.8			29.8			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		61.4			173.2			92.5			137.0	
Delay (s)		90.2			202.0			122.3			166.8	
Level of Service		F			F			F			F	
Approach Delay (s)		90.2			202.0			122.3			166.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	148.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		

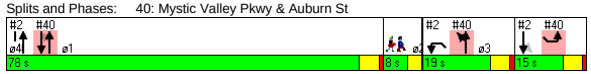
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	52	845	1175	25	15	132	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	56	909	1225	0	177	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	19.0	97.0	78.0	0.0	15.0	0.0	8.0
Total Split (%)	15.8%	80.8%	65.0%	0.0%	12.5%	0.0%	7%
Maximum Green (s)	14.0		73.0		10.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.15	0.58	0.99		0.82		
Control Delay	19.3	8.1	21.7		63.3		
Queue Delay	0.0	0.0	9.2		5.6		
Total Delay	19.3	8.1	30.8		68.9		
Queue Length 50th (ft)	8	393	1000		90		
Queue Length 95th (ft)	m43	475	m66		#179		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	385	1561	1235		217		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	41		16		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.15	0.58	1.03		0.88		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2001		1772	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	106	1900	2001		1772	
Volume (vph)	52	845	1175	25	15	132
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	56	909	1199	26	18	159
RTOR Reduction (vph)	0	0	1	0	55	0
Lane Group Flow (vph)	56	909	1224	0	123	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	91.0	91.0	70.6		10.0	
Effective Green, g (s)	93.0	93.0	71.6		11.0	
Actuated g/C Ratio	0.78	0.78	0.60		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	385	1473	1194		162	
v/s Ratio Prot	0.03	c0.48	c0.61		c0.07	
v/s Ratio Perm	0.09					
v/c Ratio	0.15	0.62	1.03		0.76	
Uniform Delay, d1	41.8	5.8	24.2		53.2	
Progression Factor	1.93	1.88	0.62		1.00	
Incremental Delay, d2	0.2	0.8	15.4		19.1	
Delay (s)	80.9	11.8	30.3		72.3	
Level of Service	F	B	C		E	
Approach Delay (s)		15.8	30.3		72.3	
Approach LOS		B	C		E	

Intersection Summary

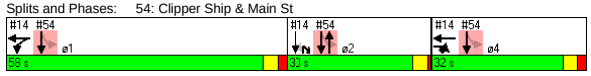
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	435	50	2045		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	468	0	2160		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	30.0	0.0	120.0	120.0	58.0	32.0
Total Split (%)	0.0%	0.0%	25.0%	0.0%	100.0%	100.0%	48%	27%
Maximum Green (s)			26.0				53.0	27.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.31		0.85		
Control Delay			40.6	0.5		8.9		
Queue Delay			0.0	0.0		0.0		
Total Delay			40.6	0.5		8.9		
Queue Length 50th (ft)			55	0		318		
Queue Length 95th (ft)			102	0		m138		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			385	1509		2528		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			6	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.23	0.31		0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.81
Satd. Flow (perm)			1776	1509		2529
Volume (vph)	0	0	80	435	50	2045
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	468	52	2108
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	468	0	2160
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			26.0	120.0		120.0
Effective Green, g (s)			26.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			385	1509		2529
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.31		c0.85
v/c Ratio			0.22	0.31		0.85
Uniform Delay, d1			38.7	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			0.3	0.5		0.3
Delay (s)			39.0	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		6.5			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1263						1176			419		
Travel Time (s)			28.7						26.7			9.5		
Volume (vph)	5	15	665	510	20	1	5	20	485	55	235	160	35	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	728	564	0	0	0	0	615	0	0	452	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	33.0	33.0	33.0	26.0	0.0	33.0	33.0	33.0	33.0	0.0	26.0	26.0	0.0	22.0
Total Split (%)	27.5%	27.5%	27.5%	21.7%	0.0%	27.5%	27.5%	27.5%	27.5%	0.0%	21.7%	21.7%	0.0%	18.3%
Maximum Green (s)	27.0	27.0	27.0	20.0		27.0	27.0	27.0	27.0		20.0	20.0		16.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.94	0.70					1.01			1.19		
Control Delay			59.6	25.8					77.8			146.0		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			59.6	25.8					77.8			146.0		
Queue Length 50th (ft)			236	246					204			~341		
Queue Length 95th (ft)			#459	#534					#416			#675		
Internal Link Dist (ft)			1183						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			771	809					609			380		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.94	0.70					1.01			1.19		

Intersection Summary

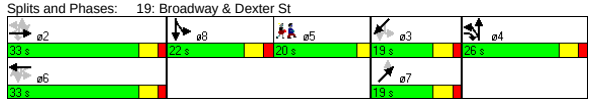
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 Build Condition Alt 3 - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	295	20	20	0	95	20	85	15	40	5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	412	0	0	110	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	22.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	20.0
Total Split (%)	18.3%	0.0%	0.0%	15.8%	0.0%	15.8%	15.8%	15.8%	0.0%	0.0%	17%
Maximum Green (s)	16.0			13.0		13.0	13.0	13.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.28			0.50				1.23			
Control Delay	186.0			51.7				183.3			
Queue Delay	0.0			0.0				0.0			
Total Delay	186.0			51.7				183.3			
Queue Length 50th (ft)	~330			66				~151			
Queue Length 95th (ft)	#607			136				#332			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	321			222				159			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.28			0.50				1.23			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 3\optimize\coordination\2030 Build Alt 3- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3264			1862		
Flt Permitted			0.88	1.00					0.76			0.97		
Satd. Flow (perm)			3078	1549					2485			1862		
Volume (vph)	5	15	665	510	20	1	5	20	485	55	235	160	35	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	707	543	21	1	5	22	527	60	247	168	37	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	728	563	0	0	0	0	615	0	0	450	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			27.1	47.2					27.1			20.1		
Effective Green, g (s)			28.1	49.2					28.1			21.1		
Actuated g/C Ratio			0.26	0.46					0.26			0.20		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			814	790					657			370		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.24	0.22					c0.25					
v/c Ratio			0.89	0.71					0.94			1.22		
Uniform Delay, d1			37.7	22.9					38.2			42.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			12.5	4.4					20.9			119.1		
Delay (s)			50.2	27.3					59.2			161.7		
Level of Service			D	C					E			F		
Approach Delay (s)			40.2						59.2			161.7		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	92.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	111.9%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 Build Condition Alt 3 - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1942			1644				1765		
Flt Permitted	1.00			1.00				0.69		
Satd. Flow (perm)	1942			1644				1256		
Volume (vph)	295	20	20	0	95	20	85	15	40	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	343	23	23	0	110	24	100	18	47	6
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	410	0	0	110	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	16.1			13.1				13.1		
Effective Green, g (s)	17.1			14.1				14.1		
Actuated g/C Ratio	0.16			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	312			218				167		
v/s Ratio Prot	c0.21			0.07						
v/s Ratio Perm								c0.15		
v/c Ratio	1.32			0.50				1.16		
Uniform Delay, d1	44.6			42.9				46.1		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	162.8			0.7				120.1		
Delay (s)	207.4			43.5				166.2		
Level of Service	F			D				F		
Approach Delay (s)	207.4			43.5				166.2		
Approach LOS	F			D				F		

Intersection Summary

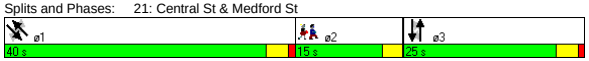
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 3\optimize\coordination\2030 Build Alt 3- AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	85	20	170	10	15	635	115	85	260	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	409	0	0	236	0	0	840	0	0	390	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	25.0	25.0	0.0	25.0	25.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	15.0
Total Split (%)	31.3%	31.3%	0.0%	31.3%	31.3%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	19%
Maximum Green (s)	21.0	21.0		21.0	21.0		36.0	36.0		36.0	36.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.82			0.46			0.86			0.66		
Control Delay		38.0			23.7			26.8			20.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		38.0			23.7			26.8			20.3		
Queue Length 50th (ft)		137			73			251			96		
Queue Length 95th (ft)		#313			160			#673			#318		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		506			520			973			590		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.81			0.45			0.86			0.66		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 67.4	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1784			1823			1823			1799	
Flt Permitted		0.91			0.94			0.99			0.70	
Satd. Flow (perm)		1637			1723			1809			1266	
Volume (vph)	55	195	85	20	170	10	15	635	115	85	260	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	104	24	200	12	16	698	126	93	286	11
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	394	0	0	236	0	0	840	0	0	389	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		20.6			20.6			36.3			36.3	
Effective Green, g (s)		20.6			20.6			36.3			36.3	
Actuated g/C Ratio		0.29			0.29			0.52			0.52	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		482			508			939			657	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.46			0.31	
v/c Ratio		0.82			0.46			0.89			0.59	
Uniform Delay, d1		22.9			20.1			15.1			11.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.9			0.9			12.8			3.9	
Delay (s)		33.8			21.1			27.9			15.6	
Level of Service		C			C			C			B	
Approach Delay (s)		33.8			21.1			27.9			15.6	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	13.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

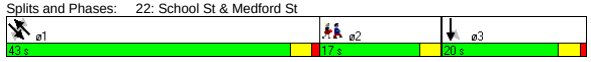
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			456		
Travel Time (s)		21.7			21.8			35.4			10.4		
Volume (vph)	0	0	0	150	305	20	10	760	95	160	290	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	517	0	0	901	0	0	597	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	25.0%	25.0%	0.0%	53.8%	53.8%	0.0%	53.8%	53.8%	0.0%	21%
Maximum Green (s)				16.0	16.0		39.0	39.0		39.0	39.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.07			0.78			1.17		
Control Delay					89.0			18.4			113.1		
Queue Delay					0.0			0.0			0.0		
Total Delay					89.0			18.4			113.1		
Queue Length 50th (ft)					~206			208			~270		
Queue Length 95th (ft)					#527			#670			#587		
Internal Link Dist (ft)		873			879			1476			376		
Turn Bay Length (ft)													
Base Capacity (vph)					484			1155			512		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.07			0.78			1.17		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 66.4	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.99			0.98	
Flt Protected					0.98			1.00			0.98	
Satd. Flow (prot)					1984			1952			1878	
Flt Permitted					0.98			0.99			0.55	
Satd. Flow (perm)					1984			1941			1052	
Volume (vph)	0	0	0	150	305	20	10	760	95	160	290	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	163	332	22	10	792	99	182	330	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	0	0	0	515	0	0	896	0	0	591	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			39.4			39.4	
Effective Green, g (s)					16.1			39.4			39.4	
Actuated g/C Ratio					0.23			0.57			0.57	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					464			1112			602	
v/s Ratio Prot												
v/s Ratio Perm					0.26			0.46			c0.56	
v/c Ratio					1.11			0.81			0.98	
Uniform Delay, d1					26.3			11.7			14.3	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					75.6			6.3			32.3	
Delay (s)					101.9			17.9			46.7	
Level of Service					F			B			D	
Approach Delay (s)		0.0			101.9			17.9			46.7	
Approach LOS		A			F			B			D	

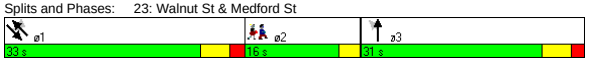
Intersection Summary					
HCM Average Control Delay	48.0	HCM Level of Service		D	
HCM Volume to Capacity ratio	1.02				
Actuated Cycle Length (s)	68.8	Sum of lost time (s)		13.3	
Intersection Capacity Utilization	110.6%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1079			533		
Travel Time (s)		17.7			19.2			24.5			12.1		
Volume (vph)	80	200	10	0	0	0	5	625	0	0	190	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	656	0	0	239	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.42						0.83			0.31		
Control Delay		18.4						30.5			15.2		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.4						30.5			15.2		
Queue Length 50th (ft)		81						210			55		
Queue Length 95th (ft)		197						#546			141		
Internal Link Dist (ft)		699			764			999			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						788			769		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.42						0.83			0.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 67.2	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1821	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		1847						1877			1821	
Volume (vph)	80	200	10	0	0	0	5	625	0	0	190	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	5	651	0	0	216	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	305	0	0	0	0	0	656	0	0	235	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						761			738	
v/s Ratio Prot											0.13	
v/s Ratio Perm		0.17						c0.35				
v/c Ratio		0.44						0.86			0.32	
Uniform Delay, d1		16.2						18.9			14.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						10.2			0.3	
Delay (s)		16.8						29.1			14.5	
Level of Service		B						C			B	
Approach Delay (s)		16.8			0.0			29.1			14.5	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

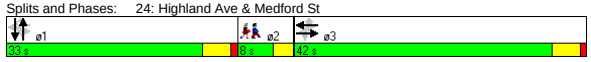
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	205	5	0	5	595	35	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	236	0	18	0	0	668	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	75.0	33.0	33.0	0.0	33.0	33.0	0.0	8.0
Total Split (%)	50.6%	50.6%	0.0%	50.6%	50.6%	90.4%	39.8%	39.8%	0.0%	39.8%	39.8%	0.0%	10%
Maximum Green (s)	37.0	37.0		37.0	37.0		28.0	28.0		28.0	28.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.72			0.77	0.15		0.03			1.30		
Control Delay		21.5			26.6	0.3		12.0			174.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		21.5			26.6	0.3		12.0			174.8		
Queue Length 50th (ft)		222			179	0		3			~405		
Queue Length 95th (ft)		#429			#387	5		9			#687		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		913			662	1592		562			513		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.72			0.77	0.15		0.03			1.30		

Intersection Summary

Area Type: Other
Cycle Length: 83
Actuated Cycle Length: 76.6
Natural Cycle: 100
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)		1834			1913	1632		1646			1778	
Flt Permitted		1.00			0.76	1.00		0.85			0.73	
Satd. Flow (perm)		1834			1463	1632		1429			1352	
Volume (vph)	0	590	25	35	410	205	5	0	5	595	35	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	236	9	0	9	626	37	5
RTOR Reduction (vph)	0	2	0	0	0	24	0	6	0	0	1	0
Lane Group Flow (vph)	0	659	0	0	511	212	0	12	0	0	667	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		37.1			37.1	70.1		28.0			28.0	
Effective Green, g (s)		38.1			38.1	71.1		29.0			29.0	
Actuated g/C Ratio		0.48			0.48	0.90		0.37			0.37	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		884			706	1469		525			496	
v/s Ratio Prot		c0.36										
v/s Ratio Perm					0.35	0.13		0.01			c0.49	
v/c Ratio		0.75			0.72	0.14		0.02			1.35	
Uniform Delay, d1		16.5			16.3	0.5		16.0			25.0	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		5.7			6.4	0.0		0.0			168.5	
Delay (s)		22.2			22.6	0.5		16.0			193.5	
Level of Service		C			C	A		B			F	
Approach Delay (s)		22.2			15.6			16.0			193.5	
Approach LOS		C			B			B			F	

Intersection Summary

HCM Average Control Delay	74.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

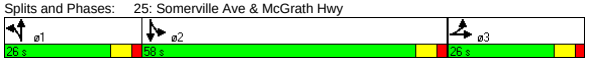
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	360	115	0	0	0	45	200	25	200	1260	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	619	0	0	0	0	0	266	27	213	1489	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	58.0	58.0	0.0
Total Split (%)	23.6%	23.6%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	52.7%	52.7%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		52.0	52.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.95						0.40	0.02	0.25	0.95	
Control Delay		67.9						41.1	0.0	17.9	41.1	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		67.9						41.1	0.0	17.9	41.1	
Queue Length 50th (ft)		221						87	0	86	508	
Queue Length 95th (ft)		#336						128	0	136	#682	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		651						663	1672	836	1568	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.95						0.40	0.02	0.25	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3306						3473	1672	1736	3239	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3306						3473	1672	1736	3239	
Volume (vph)	100	360	115	0	0	0	45	200	25	200	1260	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	387	124	0	0	0	49	217	27	213	1340	149
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	599	0	0	0	0	0	266	27	213	1481	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	110.0	52.0	52.0	
Effective Green, g (s)		21.0						21.0	110.0	53.0	53.0	
Actuated g/C Ratio		0.19						0.19	1.00	0.48	0.48	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		631						663	1672	836	1561	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.46	
v/s Ratio Perm									0.02			
v/c Ratio		0.95						0.40	0.02	0.25	0.95	
Uniform Delay, d1		44.0						39.0	0.0	16.8	27.2	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		25.3						1.8	0.0	0.7	13.5	
Delay (s)		69.2						40.8	0.0	17.6	40.7	
Level of Service		E						D	A	B	D	
Approach Delay (s)		69.2			0.0			37.0			37.8	
Approach LOS		E			A			D			D	

Intersection Summary

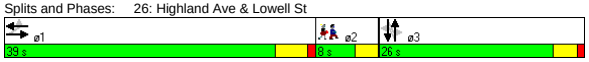
HCM Average Control Delay	45.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	385	0	0	455	30	25	70	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	483	0	0	638	0	0	190	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	39.0	39.0	0.0	0.0	39.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0	8.0
Total Split (%)	53.4%	53.4%	0.0%	0.0%	53.4%	0.0%	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	11%
Maximum Green (s)	34.0	34.0			34.0		22.0	22.0		22.0	22.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.58			0.65			0.38			0.85		
Control Delay		14.7			15.5			20.4			38.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		14.7			15.5			20.4			38.9		
Queue Length 50th (ft)		118			165			55			102		
Queue Length 95th (ft)		242			258			91			#277		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		830			987			538			439		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.58			0.65			0.35			0.80		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 64.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



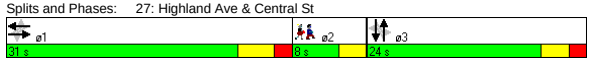
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1812			1772			1693	
Flt Permitted		0.94			1.00			0.91			0.70	
Satd. Flow (perm)		1709			1812			1629			1222	
Volume (vph)	30	385	0	0	455	30	25	70	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	448	0	0	599	39	35	99	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	41	0
Lane Group Flow (vph)	0	483	0	0	638	0	0	190	0	0	310	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		34.2			34.2			20.0			20.0	
Effective Green, g (s)		35.2			35.2			20.0			20.0	
Actuated g/C Ratio		0.52			0.52			0.30			0.30	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		897			951			486			364	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.28						0.12			c0.25	
v/c Ratio		0.54			0.67			0.39			0.85	
Uniform Delay, d1		10.6			11.7			18.7			22.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.3			3.8			0.7			17.6	
Delay (s)		12.9			15.5			19.4			39.8	
Level of Service		B			B			B			D	
Approach Delay (s)		12.9			15.5			19.4			39.8	
Approach LOS		B			B			B			D	

Intersection Summary					
HCM Average Control Delay	20.3	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	67.1	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	77.5%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	35	200	45	25	220	45	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	318	0	0	381	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	13%
Maximum Green (s)	25.0	25.0		25.0	25.0		19.0	19.0		19.0	19.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.70			0.65			0.59			0.67		
Control Delay		18.4			16.5			20.2			22.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.4			16.5			20.2			22.9		
Queue Length 50th (ft)		123			105			77			97		
Queue Length 95th (ft)		262			176			170			166		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		860			832			615			650		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.63			0.58			0.52			0.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 49.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1793			1807	
Flt Permitted		0.95			0.93			0.92			0.95	
Satd. Flow (perm)		1736			1690			1659			1733	
Volume (vph)	30	405	35	30	300	25	35	200	45	25	220	45
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	40	227	51	33	289	59
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	10	0
Lane Group Flow (vph)	0	535	0	0	476	0	0	307	0	0	371	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.7			20.7			15.9			15.9	
Effective Green, g (s)		21.7			21.7			15.9			15.9	
Actuated g/C Ratio		0.42			0.42			0.31			0.31	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		733			713			513			536	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.19			c0.21	
v/c Ratio		0.73			0.67			0.60			0.69	
Uniform Delay, d1		12.4			11.9			15.0			15.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.0			2.6			2.2			4.1	
Delay (s)		16.4			14.6			17.2			19.7	
Level of Service		B			B			B			B	
Approach Delay (s)		16.4			14.6			17.2			19.7	
Approach LOS		B			B			B			B	

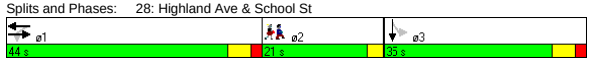
Intersection Summary					
HCM Average Control Delay		16.8	HCM Level of Service		B
HCM Volume to Capacity ratio		0.65			
Actuated Cycle Length (s)		51.4	Sum of lost time (s)		10.0
Intersection Capacity Utilization		61.6%	ICU Level of Service		B
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	490	15	40	375	0	0	0	0	200	255	90	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	587	0	0	477	0	0	0	0	0	586	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	44.0	0.0	44.0	44.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	21.0
Total Split (%)	0.0%	44.0%	0.0%	44.0%	44.0%	0.0%	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%	21%
Maximum Green (s)		38.0		38.0	38.0					29.0	29.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.69			1.02						0.90		
Control Delay		24.3			72.8						44.8		
Queue Delay		0.0			0.0						0.0		
Total Delay		24.3			72.8						44.8		
Queue Length 50th (ft)		206			218						259		
Queue Length 95th (ft)		#463			#548						#631		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		846			467						654		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.69			1.02						0.90		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1797	
Flt Permitted		1.00			0.75						0.98	
Satd. Flow (perm)		1786			1340						1797	
Volume (vph)	0	490	15	40	375	0	0	0	0	200	255	90
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	570	17	46	431	0	0	0	0	215	274	97
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	586	0	0	477	0	0	0	0	0	586	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		38.3			38.3						29.3	
Effective Green, g (s)		39.3			39.3						30.3	
Actuated g/C Ratio		0.46			0.46						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		820			615						636	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.36						0.33	
v/c Ratio		0.71			0.78						0.92	
Uniform Delay, d1		18.6			19.4						26.5	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.0			6.1						19.1	
Delay (s)		21.6			25.5						45.6	
Level of Service		C			C						D	
Approach Delay (s)		21.6			25.5			0.0			45.6	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	395	100	305	985	220	320	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	513	130	328	1059	324	471	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.44	0.15	0.79	0.92	0.80	1.10	
Control Delay	9.5	2.0	29.3	28.5	45.4	97.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.5	2.0	29.3	28.5	45.4	97.5	
Queue Length 50th (ft)	99	0	91	350	139	~210	
Queue Length 95th (ft)	193	15	#330	#876	192	#287	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	887	414	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.44	0.15	0.79	0.92	0.80	1.10	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.39	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	717	1827	1719	1538
Volume (vph)	395	100	305	985	220	320
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	513	130	328	1059	324	471
RTOR Reduction (vph)	0	51	0	0	0	68
Lane Group Flow (vph)	513	79	328	1059	324	403
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	437	1113	393	352
v/s Ratio Prot	0.28			c0.58	0.19	c0.26
v/s Ratio Perm		0.06	0.46			
v/c Ratio	0.45	0.10	0.75	0.95	0.82	1.15
Uniform Delay, d1	8.3	6.4	11.1	14.4	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	6.3	16.5	13.7	93.5
Delay (s)	8.4	6.4	17.5	30.8	42.7	124.0
Level of Service	A	A	B	C	D	F
Approach Delay (s)	8.0			27.7	90.9	
Approach LOS	A			C	F	

Intersection Summary

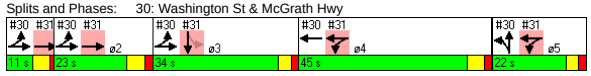
HCM Average Control Delay	41.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	535	380	0	0	1285	105	30	255	555	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	582	427	0	0	1545	0	34	293	638	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	68.0	68.0	0.0	0.0	45.0	0.0	22.0	22.0	0.0	0.0	0.0	0.0	11.0	23.0
Total Split (%)	50.4%	50.4%	0.0%	0.0%	33.3%	0.0%	16.3%	16.3%	0.0%	0.0%	0.0%	0.0%	8%	17%
Maximum Green (s)					39.0		17.0	17.0					6.0	17.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.35	0.19			1.06		0.16	1.34	0.43					
Control Delay	1.5	0.6			85.4		54.9	223.8	0.9					
Queue Delay	0.0	0.0			36.4		0.1	0.0	0.0					
Total Delay	1.5	0.6			121.8		55.0	223.8	0.9					
Queue Length 50th (ft)	9	1			~542		27	~334	0					
Queue Length 95th (ft)	m9	m1			#639		59	#494	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1660	2200			1463		209	219	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			111		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.35	0.19			1.14		0.18	1.34	0.43					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Green Line Extension
30: Washington St & McGrath Hwy
2030 Build Condition Alt 3 - AM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	34.0
Total Split (%)	25%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

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VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4935		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4935		1656	1743	1482			
Volume (vph)	535	380	0	0	1285	105	30	255	555	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	582	427	0	0	1428	117	34	293	638	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	582	427	0	0	1545	0	34	293	638	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	63.0	63.0			39.0		17.0	17.0	135.0			
Effective Green, g (s)	63.0	63.0			40.0		17.0	17.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.30		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1660	2200			1462		209	219	1482			
v/s Ratio Prot	0.16	0.09			c0.31		0.02	c0.17				
v/s Ratio Perm									c0.43			
v/c Ratio	0.35	0.19			1.06		0.16	1.34	0.43			
Uniform Delay, d1	23.0	21.1			47.5		52.6	59.0	0.0			
Progression Factor	0.05	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			40.1		1.7	179.6	0.9			
Delay (s)	1.5	0.6			87.6		54.3	238.6	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		1.1			87.6			75.0			0.0	
Approach LOS		A			F			E			A	

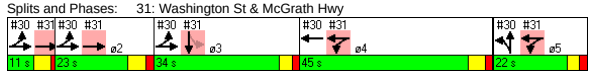
Intersection Summary			
HCM Average Control Delay	59.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	870	35	590	725	0	0	0	0	45	170	540		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	985	0	628	824	0	0	0	0	0	869	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	34.0	0.0	67.0	67.0	0.0	0.0	0.0	0.0	34.0	34.0	0.0	11.0	23.0
Total Split (%)	0.0%	25.2%	0.0%	49.6%	49.6%	0.0%	0.0%	0.0%	0.0%	25.2%	25.2%	0.0%	8%	17%
Maximum Green (s)										29.0	29.0		6.0	17.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.68		0.80	0.53						1.56dr			
Control Delay		51.1		6.8	0.2						154.0			
Queue Delay		0.1		0.0	0.0						35.0			
Total Delay		51.1		6.8	0.2						189.1			
Queue Length 50th (ft)		196		98	0						~463			
Queue Length 95th (ft)		230		m71	m0						#576			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1459		789	1564						709			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		29		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.69		0.80	0.53						1.30			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	45.0	22.0
Total Split (%)	33%	16%
Maximum Green (s)	39.0	17.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6773		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6773		1719	3406						3007	
Volume (vph)	0	870	35	590	725	0	0	0	0	45	170	540
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	946	39	628	824	0	0	0	0	62	193	614
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	64	0
Lane Group Flow (vph)	0	980	0	628	824	0	0	0	0	0	805	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		28.0		62.0	62.0						29.0	
Effective Green, g (s)		29.0		62.0	62.0						29.0	
Actuated g/C Ratio		0.21		0.46	0.46						0.21	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1455		789	1564						646	
v/s Ratio Prot		c0.14		c0.37	0.24							
v/s Ratio Perm											0.27	
v/c Ratio		0.67		0.80	0.53						1.56dr	
Uniform Delay, d1		48.7		31.1	26.0						53.0	
Progression Factor		1.00		0.18	0.00						1.00	
Incremental Delay, d2		2.5		0.8	0.1						123.7	
Delay (s)		51.2		6.5	0.2						176.7	
Level of Service		D		A	A						F	
Approach Delay (s)		51.2			2.9			0.0			176.7	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	63.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

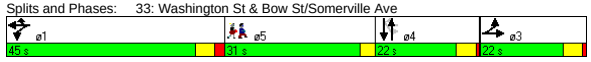
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	345	65	590	505	475	0	0	0	425	360	65	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	479	0	648	555	522	0	0	0	259	645	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	45.0	45.0	45.0	0.0	22.0	0.0	22.0	22.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	37.5%	37.5%	37.5%	0.0%	18.3%	0.0%	18.3%	18.3%	0.0%	26%
Maximum Green (s)	17.0	17.0		39.0	39.0	39.0		17.0		17.0	17.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.16		1.27	1.03	0.48				0.76	0.88		
Control Delay		140.8		147.1	46.5	3.2				56.0	54.8		
Queue Delay		0.0		0.0	0.0	0.6				0.0	0.0		
Total Delay		140.8		147.1	46.5	3.8				56.0	54.8		
Queue Length 50th (ft)		~231		~646	~469	51				167	215		
Queue Length 95th (ft)		#340		m#505	m322	m32				#495	#538		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		413		511	538	1078				342	733		
Starvation Cap Reductn		0		0	0	246				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.16		1.27	1.03	0.63				0.76	0.88		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 35 (29%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2751		1533	1613	1371				1408	2722	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2751		1533	1613	1371				1122	2366	
Volume (vph)	35	345	65	590	505	475	0	0	0	425	360	65
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	371	70	648	555	522	0	0	0	452	383	69
RTOR Reduction (vph)	0	0	0	0	0	201	0	0	0	0	6	0
Lane Group Flow (vph)	0	479	0	648	555	321	0	0	0	259	639	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		37.2	37.2	72.8				35.6	35.6	
Effective Green, g (s)		18.0		38.2	38.2	73.8				36.6	36.6	
Actuated g/C Ratio		0.15		0.32	0.32	0.62				0.30	0.30	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		413		488	513	843				342	722	
v/s Ratio Prot		c0.17		c0.42	0.34	0.12						
v/s Ratio Perm						0.11				0.23	c0.27	
v/c Ratio		1.16		1.33	1.08	0.38				0.76	0.88	
Uniform Delay, d1		51.0		40.9	40.9	11.6				37.7	39.7	
Progression Factor		1.00		0.59	0.58	3.53				1.00	1.00	
Incremental Delay, d2		95.7		148.9	40.6	0.0				9.8	12.8	
Delay (s)		146.7		173.0	64.4	41.0				47.5	52.5	
Level of Service		F		F	E	D				D	D	
Approach Delay (s)		146.7			98.1			0.0			51.0	
Approach LOS		F			F			A			D	

Intersection Summary					
HCM Average Control Delay		91.9	HCM Level of Service		F
HCM Volume to Capacity ratio		1.12			
Actuated Cycle Length (s)		120.0	Sum of lost time (s)		27.2
Intersection Capacity Utilization		81.0%	ICU Level of Service		D
Analysis Period (min)		15			

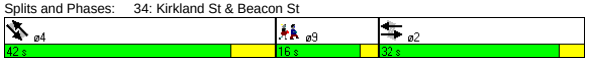
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	215	35	45	330	60	40	495	135	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	386	0	0	484	0	0	744	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	42.0	42.0	0.0	42.0	42.0	0.0	16.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	18%
Maximum Green (s)	28.0	28.0		28.0	28.0		35.0	35.0		35.0	35.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.86			0.88			0.95			0.50		
Control Delay		46.3			46.5			47.3			20.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		46.3			46.5			47.3			20.1		
Queue Length 50th (ft)		151			192			286			101		
Queue Length 95th (ft)		#317			#478			#692			241		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		451			547			780			712		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.86			0.88			0.95			0.50		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 80.4	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1749			1702			1772			1731	
Flt Permitted		0.77			0.92			0.96			0.92	
Satd. Flow (perm)		1366			1578			1702			1605	
Volume (vph)	55	215	35	45	330	60	40	495	135	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	272	44	50	367	67	44	550	150	27	299	33
RTOR Reduction (vph)	0	5	0	0	6	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	381	0	0	478	0	0	735	0	0	355	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		28.3			28.3			35.3			35.3	
Effective Green, g (s)		28.3			28.3			36.3			36.3	
Actuated g/C Ratio		0.34			0.34			0.44			0.44	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		470			543			752			709	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.30			c0.43			0.22	
v/c Ratio		0.81			0.88			0.98			0.50	
Uniform Delay, d1		24.5			25.4			22.5			16.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		14.1			18.2			27.6			2.5	
Delay (s)		38.7			43.6			50.2			19.0	
Level of Service		D			D			D			B	
Approach Delay (s)		38.7			43.6			50.2			19.0	
Approach LOS		D			D			D			B	

Intersection Summary					
HCM Average Control Delay	40.6	HCM Level of Service	D		
HCM Volume to Capacity ratio	0.93				
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	17.6		
Intersection Capacity Utilization	80.9%	ICU Level of Service	D		
Analysis Period (min)	15				

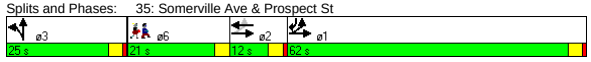
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	270	500	0	0	160	35	145	525	70	0	0	1315	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	828	0	0	219	0	159	654	0	0	0	1478	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	62.0	74.0	0.0	0.0	12.0	0.0	25.0	25.0	0.0	0.0	0.0	62.0	21.0
Total Split (%)	51.7%	61.7%	0.0%	0.0%	10.0%	0.0%	20.8%	20.8%	0.0%	0.0%	0.0%	51.7%	18%
Maximum Green (s)	58.0				8.0		21.0	21.0				58.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.44			0.35		0.65	1.27				1.27	
Control Delay		0.8			41.5		59.8	178.3				156.6	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		0.8			41.5		59.8	178.3				156.6	
Queue Length 50th (ft)		1			67		127	~350				~819	
Queue Length 95th (ft)		m4			#170		#214	#478				#952	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1867			623		244	513				1166	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.44			0.35		0.65	1.27				1.27	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2984			2955		1395	2884				2413
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2209			2955		1395	2884				2413
Volume (vph)	270	500	0	0	160	35	145	525	70	0	0	1315
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	290	538	0	0	180	39	159	577	77	0	0	1478
RTOR Reduction (vph)	0	0	0	0	13	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	828	0	0	206	0	159	646	0	0	0	1478
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		80.4			24.8		21.0	21.0				55.6
Effective Green, g (s)		80.4			24.8		21.0	21.0				55.6
Actuated g/C Ratio		0.67			0.21		0.18	0.18				0.46
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1839			611		244	505				1118
v/s Ratio Prot		0.21			0.07		0.11	c0.22				c0.61
v/s Ratio Perm		c0.09										
v/c Ratio		0.45			0.34		0.65	1.28				1.32
Uniform Delay, d1		9.4			40.6		46.1	49.5				32.2
Progression Factor		0.07			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.2			1.5		6.7	140.1				151.2
Delay (s)		0.9			42.1		52.8	189.6				183.4
Level of Service		A			D		D	F				F
Approach Delay (s)		0.9			42.1			162.8			183.4	
Approach LOS		A			D			F			F	

Intersection Summary

HCM Average Control Delay	123.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

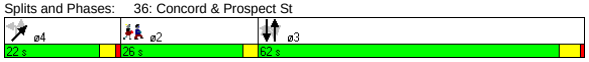
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	210	125	510	375	5	20	365	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	300	0	129	918	0	0	0	461	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		25.0
Total Split (s)	62.0	62.0	0.0	62.0	62.0	0.0	0.0	22.0	22.0	0.0	26.0
Total Split (%)	56.4%	56.4%	0.0%	56.4%	56.4%	0.0%	0.0%	20.0%	20.0%	0.0%	24%
Maximum Green (s)	57.0	57.0		57.0	57.0			18.0	18.0		23.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											12
v/c Ratio		0.90		0.18	0.76				1.13		
Control Delay		45.1		8.6	17.9				119.2		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		45.1		8.6	17.9				119.2		
Queue Length 50th (ft)		79		20	255				~275		
Queue Length 95th (ft)		#381		83	#867				#617		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		332		706	1214				408		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		0.90		0.18	0.76				1.13		

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 89	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1677		1869	1842				1988	
Flt Permitted		0.54		0.58	1.00				1.00	
Satd. Flow (perm)		918		1136	1842				1988	
Volume (vph)	60	0	210	125	510	375	5	20	365	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	233	129	526	387	5	23	415	23
RTOR Reduction (vph)	0	27	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	273	0	129	918	0	0	0	459	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		57.6		57.6	57.6				18.2	
Effective Green, g (s)		58.6		58.6	58.6				18.2	
Actuated g/C Ratio		0.64		0.64	0.64				0.20	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		589		728	1181				396	
v/s Ratio Prot					c0.50					
v/s Ratio Perm		0.30		0.11					0.23	
v/c Ratio		0.46		0.18	0.78				1.16	
Uniform Delay, d1		8.4		6.6	11.7				36.6	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		0.2		0.0	3.0				96.6	
Delay (s)		8.6		6.7	14.7				133.2	
Level of Service		A		A	B				F	
Approach Delay (s)		8.6			13.7				133.2	
Approach LOS		A			B				F	

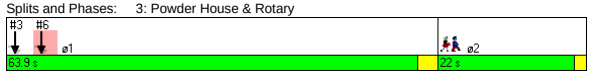
Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	91.4	Sum of lost time (s)	14.6
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	555	0	0	1525	495	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	597	0	0	1572	510	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.38			0.94	0.33	
Control Delay		0.7			22.8	0.6	
Queue Delay		0.0			0.2	0.0	
Total Delay		0.7			23.0	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1645	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		15			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.38			0.94	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	555	0	0	1525	495
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	597	0	0	1572	510
RTOR Reduction (vph)	0	69	0	0	0	0
Lane Group Flow (vph)	0	528	0	0	1572	510
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.86	
v/s Ratio Perm		0.32				c0.33
v/c Ratio		0.37			0.97	0.33
Uniform Delay, d1		1.2			5.8	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			16.8	0.6
Delay (s)		1.9			22.6	0.6
Level of Service		A			C	A
Approach Delay (s)	1.9			0.0	17.2	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	137.6%	ICU Level of Service	H
Analysis Period (min)	15		

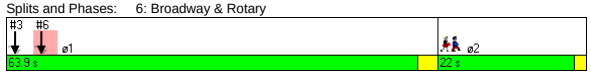
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	575	0	0	1255	825	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	653	0	0	1335	878	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.42			0.79	0.56	
Control Delay		0.9			5.9	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.9			5.9	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m144	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.42			0.79	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	575	0	0	1255	825
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	653	0	0	1335	878
RTOR Reduction (vph)	0	75	0	0	0	0
Lane Group Flow (vph)	0	578	0	0	1335	878
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.72	
v/s Ratio Perm		0.37				c0.56
v/c Ratio		0.41			0.82	0.56
Uniform Delay, d1		1.3			2.9	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.9			2.9	0.9
Delay (s)		2.2			4.0	0.9
Level of Service		A			A	A
Approach Delay (s)	2.2			0.0	2.8	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	650	975	430	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	747	1005	443	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.48	0.58	0.27			
Control Delay		1.1	2.8	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.8	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	445	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.48	0.58	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	650	975	430	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	747	1005	443	0	0
RTOR Reduction (vph)	0	61	0	0	0	0
Lane Group Flow (vph)	0	686	1005	443	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.55			
v/s Ratio Perm		0.43		c0.27		
v/c Ratio		0.47	0.60	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.4	0.4		
Delay (s)		1.8	2.1	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.8		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	755	650	965	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	968	670	995	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.60	0.38	0.65			
Control Delay		1.7	2.0	2.3			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.7	2.0	2.3			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	203	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1538			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.61	0.38	0.65			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



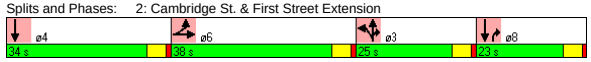
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	755	650	965	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	968	670	995	0	0
RTOR Reduction (vph)	0	80	0	82	0	0
Lane Group Flow (vph)	0	888	670	913	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.58		
v/s Ratio Perm		0.54				
v/c Ratio		0.59	0.40	0.64		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.7	0.7	2.2		
Delay (s)		2.6	1.3	3.2		
Level of Service		A	A	A		
Approach Delay (s)	2.6		2.4			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	230	55	0	0	0	60	130	100	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	297	0	0	0	0	0	211	111	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.38	0.78						0.74	0.25		0.51			
Control Delay	42.5	57.3						64.0	7.7		1.8			
Queue Delay	0.7	0.0						7.9	0.0		0.4			
Total Delay	43.2	57.3						71.9	7.7		2.2			
Queue Length 50th (ft)	84	188						137	0		11			
Queue Length 95th (ft)	125	251						211	39		m7			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						323	575		1931			
Starvation Cap Reductn	0	0						0	0		401			
Spillback Cap Reductn	165	0						76	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.42	0.58						0.85	0.19		0.65			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1792						1806	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1792						1806	1459		3201	
Volume (vph)	135	230	55	0	0	0	60	130	100	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	240	57	0	0	0	67	144	111	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	84	0	219	0
Lane Group Flow (vph)	141	289	0	0	0	0	0	211	27	0	775	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.9	23.9						17.9	28.4		63.2	
Effective Green, g (s)	24.9	24.9						18.9	29.4		64.2	
Actuated g/C Ratio	0.21	0.21						0.16	0.24		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	367	372						284	357		1713	
v/s Ratio Prot	0.08	c0.16						c0.12	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.38	0.78						0.74	0.08		0.45	
Uniform Delay, d1	40.9	44.9						48.2	34.9		17.1	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.8						10.0	0.1		0.1	
Delay (s)	41.6	54.7						58.3	34.9		2.1	
Level of Service	D	D						E	C		A	
Approach Delay (s)		50.5			0.0			50.2			2.1	
Approach LOS		D			A			D			A	

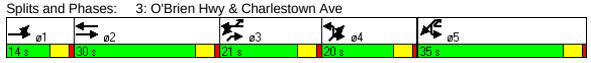
Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	175	1340	445	310	835	295	135	430	275	535	925	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	192	1473	489	341	918	324	142	453	289	562	1177	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.42	0.92	0.30	1.54	0.75	0.43	0.66	0.98	0.60	1.43	1.43		
Control Delay	267.3	48.5	0.5	299.6	54.2	3.0	64.8	88.9	38.4	240.5	234.0		
Queue Delay	0.0	671.6	0.0	32.7	492.0	0.5	0.0	0.0	0.5	0.0	0.8		
Total Delay	267.3	720.1	0.5	332.4	546.2	3.5	64.8	88.9	39.0	240.5	234.8		
Queue Length 50th (ft)	~177	351	0	~338	351	27	93	164	153	~568	~598		
Queue Length 95th (ft)	#309	#432	0	m#417	m402	m28	#165	#261	238	#780	#725		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	753	216	463	479	394	824		
Starvation Cap Reductn	0	0	0	10	783	153	0	0	0	0	0		
Spillback Cap Reductn	0	1025	0	0	0	0	0	0	35	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.42	2.53	0.30	1.62	2.09	0.54	0.66	0.98	0.65	1.43	1.43		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3162	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3162	
Volume (vph)	175	1340	445	310	835	295	135	430	275	535	925	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	192	1473	489	341	918	324	142	453	289	594	1028	117
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	17	0	7	0
Lane Group Flow (vph)	192	1473	489	341	918	130	142	453	272	562	1170	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.29	0.09	0.09	c0.13	0.18	0.37	c0.37	
v/s Ratio Perm			0.30									
v/c Ratio	1.42	0.92	0.30	1.54	0.75	0.23	0.66	0.98	0.59	1.43	1.43	
Uniform Delay, d1	55.0	38.4	0.0	51.5	31.5	23.8	49.4	51.8	35.1	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.63	1.41	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	227.5	8.6	0.5	255.5	1.4	0.1	7.0	35.8	1.9	206.1	201.7	
Delay (s)	282.5	47.0	0.5	328.2	52.6	33.7	56.4	87.6	37.0	250.6	246.2	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		57.4			108.1			66.1			247.6	
Approach LOS		E			F			E			F	

Intersection Summary

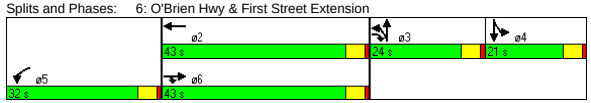
HCM Average Control Delay	123.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1510	165	445	480	75	30	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1678	183	494	616	0	33	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.90	0.20	0.76	0.48		0.11	0.84			0.94	
Control Delay		18.5	3.8	53.5	30.6		20.3	46.3			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	145.6			0.0	
Total Delay		18.5	3.8	53.5	30.6		20.3	191.8			78.1	
Queue Length 50th (ft)		293	28	165	164		13	188			165	
Queue Length 95th (ft)		#521	45	207	228		m27	m#274			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	113			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.90	0.20	0.62	0.48		0.11	1.32			0.94	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: O'Brien Hwy & First Street Extension



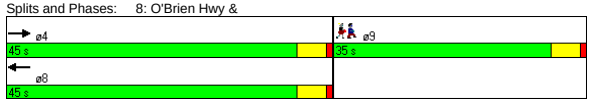
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3468		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3468		1770	1863			3472	
Volume (vph)	0	1510	165	445	480	75	30	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1678	183	494	533	83	33	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1678	157	494	607	0	33	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1277		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.17		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.90	0.17	0.76	0.47		0.11	0.84			0.93	
Uniform Delay, d1		35.7	12.4	46.0	29.0		42.5	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.46	0.51			1.00	
Incremental Delay, d2		5.8	0.3	5.0	1.3		0.6	20.0			27.0	
Delay (s)		16.5	5.0	51.0	30.3		20.0	44.5			78.0	
Level of Service		B	A	D	C		C	D			E	
Approach Delay (s)		15.4			39.5			41.7			78.0	
Approach LOS		B			D			D			E	

Intersection Summary					
HCM Average Control Delay	32.4	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	79.3%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1955	0	0	1075	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2172	0	0	1194	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.47			0.37			
Control Delay	5.0			4.5			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.5			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	341			251			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.37			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1955	0	0	1075	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2172	0	0	1194	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2172	0	0	1194	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.4			30.4		
Effective Green, g (s)	31.4			31.4		
Actuated g/C Ratio	0.72			0.72		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3679			2560		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.59			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	325	0	0	5	0	1630	0	0	990	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	339	0	0	6	0	1680	0	0	1181	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	325	0	0	5	0	1630	0	0	990	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	339	0	0	6	0	1680	0	0	1088	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.77	0.77	0.69	0.77	0.77	0.85	0.85			0.69		
vC, conflicting volume	2230	2862	560	2033	2815	591	1181			1680		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1331	2155	0	1075	2094	350	1042			1099		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	55	100	100	99	100			100		
cM capacity (veh/h)	85	36	751	72	38	544	475			396		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	339	6	560	560	560	725	456
Volume Left	0	0	0	0	0	0	0
Volume Right	339	6	0	0	0	0	93
cSH	751	544	1700	1700	1700	1700	1700
Volume to Capacity	0.45	0.01	0.33	0.33	0.33	0.43	0.27
Queue Length 95th (ft)	52	1	0	0	0	0	0
Control Delay (s)	13.7	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.7	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	58.3%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1955	1035	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2172	1194	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1955	1035	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2172	1150	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.76				0.87	0.76
vC, conflicting volume	1194				1896	597
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	934				847	144
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	551				261	663

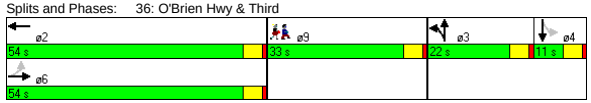
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	724	724	724	767	428	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	663
Volume to Capacity	0.43	0.43	0.43	0.45	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.8
Approach LOS						B

Intersection Summary					
Average Delay		0.1			
Intersection Capacity Utilization		41.1%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2230	650	0	650	15	175	1	45	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	2974	0	0	723	0	120	125	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.29			0.42		0.51	0.48			0.03		
Control Delay		163.7			27.9		55.4	44.2			48.0		
Queue Delay		54.7			0.4		0.0	0.0			0.0		
Total Delay		218.4			28.3		55.4	44.3			48.0		
Queue Length 50th (ft)		~921			204		80	66			1		
Queue Length 95th (ft)		#1108			308		138	125			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2299			1730		235	263			91		
Starvation Cap Reductn		0			508		0	0			0		
Spillback Cap Reductn		198			0		0	2			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.42			0.59		0.51	0.48			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 36: O'Brien Hwy & Third



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.94			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4913			3527		1569	1616			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4613			3527		1569	1616			1779	
Volume (vph)	5	2230	650	0	650	15	175	1	45	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2299	670	0	707	16	194	1	50	1	1	1
RTOR Reduction (vph)	0	41	0	0	1	0	0	20	0	0	1	0
Lane Group Flow (vph)	0	2933	0	0	722	0	120	105	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2107			1611		235	242			33	
v/s Ratio Prot					0.20		c0.08	0.06				
v/s Ratio Perm		c0.64									c0.00	
v/c Ratio		1.39			0.45		0.51	0.43			0.06	
Uniform Delay, d1		32.6			22.3		46.9	46.4			57.9	
Progression Factor		1.00			1.33		1.00	1.00			1.00	
Incremental Delay, d2		179.4			0.9		7.7	5.5			0.8	
Delay (s)		212.0			30.6		54.7	51.9			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		212.0			30.6			53.3			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	168.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1645	165	0	485	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1926	0	0	533	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1645	165	0	485	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1750	176	0	533	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.80	0.74
vC, conflicting volume			1926		2104	671
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1552		1397	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			307		106	807

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	700	700	526	266	266	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	176	0	0	33
cSH	1700	1700	1700	1700	1700	807
Volume to Capacity	0.41	0.41	0.31	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

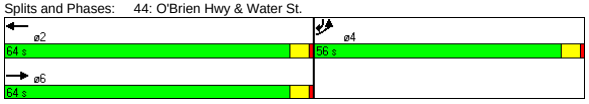
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1815	0	0	420	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1931	0	0	533	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.26							0.36
Control Delay	49.5	2.8			15.2							2.2
Queue Delay	38.0	1.2			0.0							0.0
Total Delay	87.5	4.0			15.2							2.2
Queue Length 50th (ft)	352	32			51							0
Queue Length 95th (ft)	m276	m32			m140							20
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2965			2030							891
Starvation Cap Reductn	282	743			0							0
Spillback Cap Reductn	0	0			112							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.87			0.28							0.31

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3369							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3369							1627
Volume (vph)	460	1815	0	0	420	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1931	0	0	462	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1931	0	0	525	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2021							542
v/s Ratio Prot	c0.28	c0.39			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.26							0.17
Uniform Delay, d1	37.3	15.8			11.4							28.2
Progression Factor	1.31	0.15			1.22							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.2	2.5			14.2							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.2			14.2			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

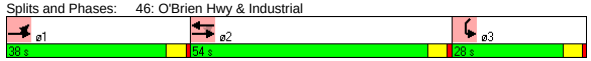
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1975	1300	305	285	140
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2368	1707	0	473	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.88	0.88		0.80	
Control Delay		19.5	37.4		51.4	
Queue Delay		120.0	96.6		160.1	
Total Delay		139.6	133.9		211.4	
Queue Length 50th (ft)		483	375		137	
Queue Length 95th (ft)		m449	437		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1948		656	
Starvation Cap Reductn		814	0		0	
Spillback Cap Reductn		0	542		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.27	1.21		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4596		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3004	4596		3013	
Volume (vph)	180	1975	1300	305	285	140
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2170	1383	324	317	156
RTOR Reduction (vph)	0	0	32	0	54	0
Lane Group Flow (vph)	0	2368	1675	0	419	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1915		535	
v/s Ratio Prot		c0.27	0.36		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.88	0.87		0.78	
Uniform Delay, d1		12.8	32.1		47.1	
Progression Factor		2.24	1.00		1.00	
Incremental Delay, d2		0.4	5.9		7.3	
Delay (s)		28.9	38.1		54.5	
Level of Service		C	D		D	
Approach Delay (s)		28.9	38.1		54.5	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	360	150	235	515	5	5	25	25	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	584	0	0	899	0	0	77	0	0	167	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	360	150	235	515	5	5	25	25	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	404	169	280	613	6	7	35	35	154	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	619			573			1783	1771	616	1740	1690	489
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	619			573			1783	1771	616	1740	1690	489
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			72			80	40	93	0	80	84
cM capacity (veh/h)	937			985			35	59	489	26	65	573

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	584	899	77	167	90
Volume Left	11	280	7	154	0
Volume Right	169	6	35	0	90
cSH	937	985	89	27	573
Volume to Capacity	0.01	0.28	0.87	6.15	0.16
Queue Length 95th (ft)	1	29	118	Err	14
Control Delay (s)	0.3	6.2	146.6	Err	12.4
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.2	146.6	6503.7	
Approach LOS			F	F	

Intersection Summary				
Average Delay	927.3			
Intersection Capacity Utilization	92.9%	ICU Level of Service	F	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	45	85	90	430	0	0	1770	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	308	0	98	512	0	0	1806	299
Sign Control		Stop			Stop			Free			Free	

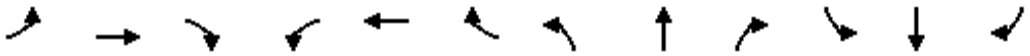
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	45	85	90	430	0	0	1770	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	49	105	98	512	0	0	1806	299
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2643	2514	1806	2514	2813	512	2105			512		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	198490	182938	97892	182938	218866	512	133820			512		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	81	0			100		
cM capacity (veh/h)	0	0	0	0	0	552	0			1043		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	308	98	512	1806	299
Volume Left	154	98	0	0	0
Volume Right	105	0	0	0	299
cSH	0	0	1700	1700	1700
Volume to Capacity	2.857606642776E6	1.704E65	0.30	1.06	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1604.3		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	122.6%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	90	285	350	0	0	0	0	430	485	185	1710	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	806	0	0	0	0	0	457	516	189	1745	0
Sign Control		Stop			Stop			Free			Free	

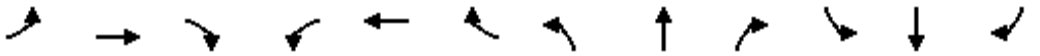
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	285	350	0	0	0	0	430	485	185	1710	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	100	317	389	0	0	0	0	457	516	189	1745	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2580	3096	1745	3127	2580	457	1745			973		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	89889	118918	42910	120677	89889	457	42910			973		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	603	0			700		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	258	547	457	516	189	1745
Volume Left	100	0	0	0	189	0
Volume Right	0	389	0	516	0	0
cSH	0	0	1700	1700	700	1700
Volume to Capacity	Err	Err	0.27	0.30	0.27	1.03
Queue Length 95th (ft)	Err	Err	0	0	27	0
Control Delay (s)	Err	Err	0.0	0.0	12.0	0.0
Lane LOS	F	F			B	
Approach Delay (s)	9999.0		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2170.2			
Intersection Capacity Utilization	122.6%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	445	5	30	0	1	10	40	460	0	5	975	1080
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	522	0	0	22	0	0	562	0	0	1076	1187
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	445	5	30	0	1	10	40	460	0	5	975	1080
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	484	5	33	0	2	20	45	517	0	5	1071	1187
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1710	1689	1071	1724	1689	517	1071			517		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1710	1689	1071	1724	1689	517	1071			517		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	88	100	98	96	93			99		
cM capacity (veh/h)	63	85	266	56	87	562	636			1044		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	522	22	562	1077	1187
Volume Left	484	0	45	5	0
Volume Right	33	20	0	0	1187
cSH	67	376	636	1044	1700
Volume to Capacity	7.84	0.06	0.07	0.01	0.70
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.2	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.2	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1548.8		
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	65	360	890	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	467	1187	0	177	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



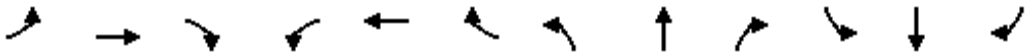
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	65	360	890	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	71	396	978	209	105	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	1187				1621	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1222				1738	1098
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	67
cM capacity (veh/h)	477				69	220

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	467	1187	178
Volume Left	71	0	105
Volume Right	0	209	72
cSH	477	1700	96
Volume to Capacity	0.15	0.70	1.85
Queue Length 95th (ft)	13	0	368
Control Delay (s)	4.4	0.0	492.1
Lane LOS	A		F
Approach Delay (s)	4.4	0.0	492.1
Approach LOS			F

Intersection Summary			
Average Delay	48.9		
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	180	130	370	200	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	335	0	0	605	0	0	195	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

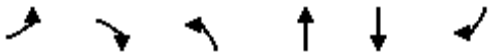
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	130	370	200	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	186	134	389	211	5	53	18	124	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	605	194	29
Volume Left (vph)	15	389	53	7
Volume Right (vph)	134	5	124	7
Hadj (s)	-0.20	0.19	-0.31	-0.10
Departure Headway (s)	5.3	5.3	6.1	6.8
Degree Utilization, x	0.49	0.89	0.33	0.05
Capacity (veh/h)	639	605	561	470
Control Delay (s)	13.4	36.2	12.0	10.2
Approach Delay (s)	13.4	36.2	12.0	10.2
Approach LOS	B	E	B	B

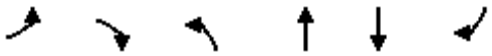
Intersection Summary			
Delay	25.0		
HCM Level of Service	C		
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	165	125	95	420	555	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	306	0	0	696	1077	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	165	125	95	420	555	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	174	132	128	568	572	505
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1649	825	1077			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1649	825	1077			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	65	80			
cM capacity (veh/h)	86	371	632			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	305	696	1077
Volume Left	174	128	0
Volume Right	132	0	505
cSH	129	632	1700
Volume to Capacity	2.37	0.20	0.63
Queue Length 95th (ft)	660	19	0
Control Delay (s)	693.7	5.3	0.0
Lane LOS	F	A	
Approach Delay (s)	693.7	5.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	103.6		
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		833			577			958		151		
Travel Time (s)		18.9			13.1			21.8		3.4		
Volume (vph)	50	5	305	250	600	60	15	200	5	20	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	391	0	0	989	0	0	238	0	87	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	5	305	250	600	60	15	200	5	20	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	5	332	272	652	65	16	217	5	22	0	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					577			958				
pX, platoon unblocked	0.59	0.59					0.59			0.59	0.59	0.59
vC, conflicting volume	1546	1514	220	223			717			1815	1484	685
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1928	1873	220	223			520			2385	1822	464
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	84	59	79			97			0	100	81
cM capacity (veh/h)	20	33	815	1317			616			6	35	352

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	391	989	239	87
Volume Left	54	272	16	22
Volume Right	332	65	5	65
cSH	119	1317	616	23
Volume to Capacity	3.28	0.21	0.03	3.83
Queue Length 95th (ft)	Err	19	2	Err
Control Delay (s)	Err	4.5	1.1	Err
Lane LOS	F	A	A	F
Approach Delay (s)	Err	4.5	1.1	Err
Approach LOS	F			F

Intersection Summary			
Average Delay	2805.0		
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 3 AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	305	1.0	0.406	11.7	LOS B	88	0.71	0.79	23.7
8T	T	661	1.1	0.880	18.5	LOS B	474	1.00	1.25	20.8
Approach		**966**	**1.0**	**0.880**	**16.3**	**LOS B**	**474**	**0.91**	**1.11**	**21.7**
Mystic Valley Parkway										
4T	T	962	0.0	0.906	15.0	LOS B	588	1.00	1.13	22.0
4R	R	511	0.0	0.608	8.8	LOS A	175	0.78	0.80	24.8
Approach		**1473**	**0.0**	**0.906**	**12.9**	**LOS B**	**588**	**0.92**	**1.01**	**22.9**
Mystic Valley Parkway										
5L	L	439	0.0	1.226	147.4	LOS F	1075	1.00	2.59	6.9
2R	R	495	0.0	1.222	140.1	LOS F	1177	1.00	2.70	6.9
Approach		**934**	**0.0**	**1.225**	**143.5**	**LOS F**	**1177**	**1.00**	**2.65**	**6.9**
All Vehicles		**3373**	**0.3**	**1.226**	**50.0**	**LOS D**	**1177**	**0.94**	**1.49**	**13.7**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

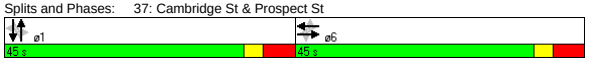
Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 3\Mystic&Alewife - Alt3.aap
Processed Oct 06, 2008 03:08:46PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	340	35	70	505	85	30	285	60
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	457	0	0	725	0	0	412	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.98			0.68			1.02			0.58	
Control Delay		64.5			27.9			55.4			24.6	
Queue Delay		0.0			0.0			11.8			0.0	
Total Delay		64.5			27.9			67.2			24.6	
Queue Length 50th (ft)		277			207			~451			177	
Queue Length 95th (ft)		#454			318			m#644			272	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		513			673			711			708	
Starvation Cap Reductn		0			0			24			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.98			0.68			1.06			0.58	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



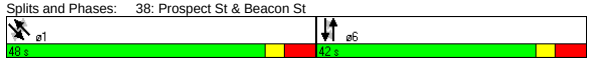
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1793			1811			1937			1919	
Flt Permitted		0.69			0.90			0.89			0.89	
Satd. Flow (perm)		1248			1637			1731			1722	
Volume (vph)	125	285	25	45	340	35	70	505	85	30	285	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	370	38	77	555	93	33	313	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	457	0	0	725	0	0	412	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		513			673			712			708	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.28			c0.42			0.24	
v/c Ratio		0.98			0.68			1.02			0.58	
Uniform Delay, d1		26.2			21.6			26.5			20.5	
Progression Factor		1.00			1.00			0.83			1.00	
Incremental Delay, d2		36.1			5.5			30.7			3.5	
Delay (s)		62.3			27.1			52.6			24.0	
Level of Service		E			C			D			C	
Approach Delay (s)		62.3			27.1			52.6			24.0	
Approach LOS		E			C			D			C	

Intersection Summary					
HCM Average Control Delay	43.8	HCM Level of Service		D	
HCM Volume to Capacity ratio	1.00				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	112.9%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	140	575	40	25	315	15	45	275	70	20	345	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	812	0	0	389	0	0	439	0	0	445	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	28.0	28.0		28.0	28.0		31.0	31.0		31.0	31.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.83			0.61			0.60			0.56	
Control Delay		34.4			40.8			23.1			21.9	
Queue Delay		2.6			0.0			2.6			1.7	
Total Delay		37.0			40.8			25.7			23.6	
Queue Length 50th (ft)		216			223			183			181	
Queue Length 95th (ft)		#306			m306			276			275	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		978			635			735			795	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		83			0			183			198	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.91			0.61			0.80			0.75	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3494			1859			1814			1848	
Flt Permitted		0.73			0.90			0.91			0.96	
Satd. Flow (perm)		2587			1680			1652			1788	
Volume (vph)	140	575	40	25	315	15	45	275	70	20	345	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	151	618	43	27	346	16	51	309	79	22	379	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	812	0	0	389	0	0	439	0	0	445	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		977			635			734			795	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.23			c0.27			0.25	
v/c Ratio		0.83			0.61			0.60			0.56	
Uniform Delay, d1		25.4			22.7			18.9			18.5	
Progression Factor		1.00			1.60			1.00			1.00	
Incremental Delay, d2		8.2			3.4			3.6			2.8	
Delay (s)		33.6			39.6			22.5			21.3	
Level of Service		C			D			C			C	
Approach Delay (s)		33.6			39.6			22.5			21.3	
Approach LOS		C			D			C			C	

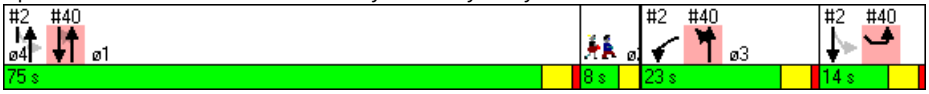
Intersection Summary					
HCM Average Control Delay	29.8	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.70				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	106.6%	ICU Level of Service	G		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	160	95	995	40	70	1125		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	331	0	1150	0	0	1285		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	23.0	0.0	75.0	0.0	89.0	89.0	8.0	14.0
Total Split (%)	19.2%	0.0%	62.5%	0.0%	74.2%	74.2%	7%	12%
Maximum Green (s)	18.0		70.0				5.0	9.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.80		0.54			0.70		
Control Delay	58.2		19.7			1.4		
Queue Delay	0.1		0.2			25.9		
Total Delay	58.3		19.9			27.3		
Queue Length 50th (ft)	227		443			26		
Queue Length 95th (ft)	#349		m353			m23		
Internal Link Dist (ft)	821		788			49		
Turn Bay Length (ft)								
Base Capacity (vph)	412		2135			1803		
Starvation Cap Reductn	0		0			570		
Spillback Cap Reductn	1		248			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.81		0.61			1.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	331	1150	1285
v/c Ratio	0.80	0.54	0.70
Control Delay	58.2	19.7	1.4
Queue Delay	0.1	0.2	25.9
Total Delay	58.3	19.9	27.3
Queue Length 50th (ft)	227	443	26
Queue Length 95th (ft)	#349	m353	m23
Internal Link Dist (ft)	821	788	49
Turn Bay Length (ft)			
Base Capacity (vph)	412	2135	1803
Starvation Cap Reductn	0	0	570
Spillback Cap Reductn	1	248	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.81	0.61	1.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1866		3589			3360
Flt Permitted	0.97		1.00			0.77
Satd. Flow (perm)	1866		3589			2584
Volume (vph)	160	95	995	40	70	1125
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	208	123	1106	44	75	1210
RTOR Reduction (vph)	17	0	3	0	0	0
Lane Group Flow (vph)	314	0	1147	0	0	1285
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	24.4		67.9			81.6
Effective Green, g (s)	25.4		68.9			82.6
Actuated g/C Ratio	0.21		0.57			0.69
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	395		2061			1779
v/s Ratio Prot	c0.17		0.32			
v/s Ratio Perm						c0.50
v/c Ratio	0.80		0.56			0.72
Uniform Delay, d1	44.8		16.0			11.6
Progression Factor	1.00		1.34			0.11
Incremental Delay, d2	11.2		0.1			0.1
Delay (s)	56.0		21.5			1.4
Level of Service	E		C			A
Approach Delay (s)	56.0		21.5			1.4
Approach LOS	E		C			A

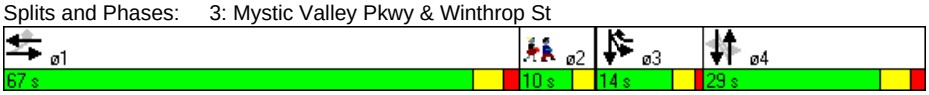
Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1065	5	0	1110	480	25	430	170	420	515	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1180	0	0	1181	511	0	761	0	0	1145	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	67.0	67.0	0.0	0.0	67.0	14.0	29.0	29.0	0.0	14.0	43.0	0.0	10.0
Total Split (%)	55.8%	55.8%	0.0%	0.0%	55.8%	11.7%	24.2%	24.2%	0.0%	11.7%	35.8%	0.0%	8%
Maximum Green (s)	61.0	61.0			61.0	10.0	23.0	23.0		10.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.70			1.20	0.42		1.67			1.52dl		
Control Delay		339.5			129.5	4.1		339.1			144.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		339.5			129.5	4.1		339.1			144.2		
Queue Length 50th (ft)		~1380			~1112	53		~442			~509		
Queue Length 95th (ft)		#1623			#1372	99		#500			#768		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		694			982	1203		457			932		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.70			1.20	0.42		1.67			1.23		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1180	1181	511	761	1145
v/c Ratio	1.70	1.20	0.42	1.67	1.52dl
Control Delay	339.5	129.5	4.1	339.1	144.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	339.5	129.5	4.1	339.1	144.2
Queue Length 50th (ft)	~1380	~1112	53	~442	~509
Queue Length 95th (ft)	#1623	#1372	99	#500	#768
Internal Link Dist (ft)	1176	937		552	745
Turn Bay Length (ft)					
Base Capacity (vph)	694	982	1203	457	932
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.70	1.20	0.42	1.67	1.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3422			3508	
Flt Permitted		0.66			1.00	1.00		0.71			0.60	
Satd. Flow (perm)		1337			1900	1615		2442			2165	
Volume (vph)	5	1065	5	0	1110	480	25	430	170	420	515	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1170	5	0	1181	511	30	524	207	488	599	58
RTOR Reduction (vph)	0	0	0	0	0	101	0	32	0	0	3	0
Lane Group Flow (vph)	0	1180	0	0	1181	410	0	729	0	0	1142	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		58.6			58.6	76.6		23.0			41.0	
Effective Green, g (s)		59.6			59.6	76.6		24.0			41.0	
Actuated g/C Ratio		0.50			0.50	0.64		0.20			0.34	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		664			944	1031		488			930	
v/s Ratio Prot					0.62	0.06					c0.17	
v/s Ratio Perm		c0.88				0.20		c0.30			0.25	
v/c Ratio		1.78			1.25	0.40		1.49			1.52dl	
Uniform Delay, d1		30.2			30.2	10.5		48.0			39.5	
Progression Factor		0.55			1.00	1.00		1.00			1.00	
Incremental Delay, d2		354.0			121.8	0.1		232.9			112.3	
Delay (s)		370.6			152.0	10.6		280.9			151.8	
Level of Service		F			F	B		F			F	
Approach Delay (s)		370.6			109.3			280.9			151.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	211.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	118.9%	ICU Level of Service	H
Analysis Period (min)	15		

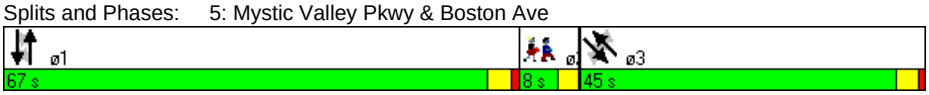
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	85	920	150	50	1150	85	55	250	40	165	345	60	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1241	0	0	1353	0	0	437	0	0	731	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	67.0	67.0	0.0	67.0	67.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	8.0
Total Split (%)	55.8%	55.8%	0.0%	55.8%	55.8%	0.0%	37.5%	37.5%	0.0%	37.5%	37.5%	0.0%	7%
Maximum Green (s)	63.0	63.0		63.0	63.0		41.0	41.0		41.0	41.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.14			0.98			0.74			1.59		
Control Delay		104.0			48.6			40.1			302.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		104.0			48.6			40.1			302.5		
Queue Length 50th (ft)		~590			570			275			~799		
Queue Length 95th (ft)		#729			#706			370			#912		
Internal Link Dist (ft)		593			788			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1085			1376			592			461		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.14			0.98			0.74			1.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	1241	1353	437	731
v/c Ratio	1.14	0.98	0.74	1.59
Control Delay	104.0	48.6	40.1	302.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	104.0	48.6	40.1	302.5
Queue Length 50th (ft)	~590	570	275	~799
Queue Length 95th (ft)	#729	#706	370	#912
Internal Link Dist (ft)	593	788	2598	1265
Turn Bay Length (ft)				
Base Capacity (vph)	1085	1376	592	461
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.14	0.98	0.74	1.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3527			3567			1921			1903	
Flt Permitted		0.57			0.72			0.78			0.64	
Satd. Flow (perm)		2008			2558			1514			1232	
Volume (vph)	85	920	150	50	1150	85	55	250	40	165	345	60
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	91	989	161	53	1211	89	70	316	51	212	442	77
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1231	0	0	1349	0	0	433	0	0	728	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		60.6			60.6			47.4			47.4	
Effective Green, g (s)		60.6			60.6			47.4			47.4	
Actuated g/C Ratio		0.50			0.50			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1014			1292			598			487	
v/s Ratio Prot												
v/s Ratio Perm		c0.61			0.53			0.29			c0.59	
v/c Ratio		1.21			1.04			0.72			1.49	
Uniform Delay, d1		29.7			29.7			30.8			36.3	
Progression Factor		1.00			1.15			1.00			1.00	
Incremental Delay, d2		105.3			33.0			4.6			233.3	
Delay (s)		135.0			67.3			35.4			269.6	
Level of Service		F			E			D			F	
Approach Delay (s)		135.0			67.3			35.4			269.6	
Approach LOS		F			E			D			F	

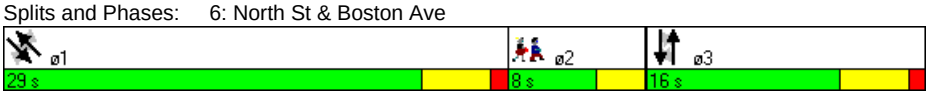
Intersection Summary			
HCM Average Control Delay	125.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	35	10	30	25	35	20	10	370	50	50	455	20	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	112	0	0	101	0	0	506	0	0	542	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.29			0.24			0.53			0.60		
Control Delay		17.3			16.5			10.3			11.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.3			16.5			10.3			11.5		
Queue Length 50th (ft)		23			20			69			78		
Queue Length 95th (ft)		47			51			173			218		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		383			419			950			908		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.29			0.24			0.53			0.60		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.6	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	112	101	506	542
v/c Ratio	0.29	0.24	0.53	0.60
Control Delay	17.3	16.5	10.3	11.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.3	16.5	10.3	11.5
Queue Length 50th (ft)	23	20	69	78
Queue Length 95th (ft)	47	51	173	218
Internal Link Dist (ft)	911	582	1265	1376
Turn Bay Length (ft)				
Base Capacity (vph)	383	419	950	908
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.24	0.53	0.60

Intersection Summary

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1756			1808			1787			1818	
Flt Permitted		0.83			0.88			0.99			0.92	
Satd. Flow (perm)		1486			1623			1765			1688	
Volume (vph)	35	10	30	25	35	20	10	370	50	50	455	20
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	52	15	45	32	44	25	12	435	59	52	469	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	112	0	0	101	0	0	506	0	0	542	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.0			11.0			24.1			24.1	
Effective Green, g (s)		12.0			12.0			25.1			25.1	
Actuated g/C Ratio		0.24			0.24			0.51			0.51	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		364			397			904			865	
v/s Ratio Prot												
v/s Ratio Perm		c0.08			0.06			0.29			c0.32	
v/c Ratio		0.31			0.25			0.56			0.63	
Uniform Delay, d1		15.1			14.9			8.2			8.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.2			1.5			2.5			3.4	
Delay (s)		17.3			16.4			10.7			12.0	
Level of Service		B			B			B			B	
Approach Delay (s)		17.3			16.4			10.7			12.0	
Approach LOS		B			B			B			B	

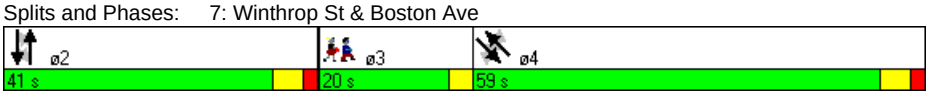
Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	75	105	130	35	410	60	55	370	160	205	355	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	337	0	0	588	0	0	643	0	0	628	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	59.0	59.0	0.0	59.0	59.0	0.0	20.0
Total Split (%)	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	17%
Maximum Green (s)	34.9	34.9		34.9	34.9		53.0	53.0		53.0	53.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.20			0.94			0.80			1.33		
Control Delay		151.8			60.2			33.4			187.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		151.8			60.2			33.4			187.9		
Queue Length 50th (ft)		~248			346			299			~500		
Queue Length 95th (ft)		#526			#666			#685			#899		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		282			627			805			473		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			0.94			0.80			1.33		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	337	588	643	628
v/c Ratio	1.20	0.94	0.80	1.33
Control Delay	151.8	60.2	33.4	187.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	151.8	60.2	33.4	187.9
Queue Length 50th (ft)	~248	346	299	~500
Queue Length 95th (ft)	#526	#666	#685	#899
Internal Link Dist (ft)	1216	2277	1376	2136
Turn Bay Length (ft)				
Base Capacity (vph)	282	627	805	473
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.20	0.94	0.80	1.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1754			1987			1786			1818	
Flt Permitted		0.54			0.95			0.90			0.54	
Satd. Flow (perm)		961			1890			1609			1002	
Volume (vph)	75	105	130	35	410	60	55	370	160	205	355	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	82	114	141	41	477	70	60	407	176	218	378	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	337	0	0	588	0	0	643	0	0	628	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.2			35.2			53.4			53.4	
Effective Green, g (s)		36.3			36.3			54.4			54.4	
Actuated g/C Ratio		0.33			0.33			0.50			0.50	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		318			625			797			496	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.31			0.40			c0.63	
v/c Ratio		1.06			0.94			0.81			1.27	
Uniform Delay, d1		36.8			35.7			23.3			27.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		67.1			22.2			8.6			135.1	
Delay (s)		103.9			58.0			31.9			162.8	
Level of Service		F			E			C			F	
Approach Delay (s)		103.9			58.0			31.9			162.8	
Approach LOS		F			E			C			F	

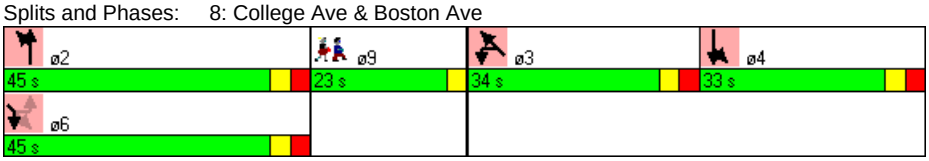
Intersection Summary			
HCM Average Control Delay	87.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	150	230	1	35	220	130	110	200	125	10	315	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	161	251	0	0	423	0	0	349	140	0	438	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	45.0	45.0	0.0	33.0	33.0	0.0	45.0	45.0	45.0	34.0	34.0	0.0	23.0
Total Split (%)	33.3%	33.3%	0.0%	24.4%	24.4%	0.0%	33.3%	33.3%	33.3%	25.2%	25.2%	0.0%	17%
Maximum Green (s)	39.0	39.0		27.0	27.0		39.0	39.0	39.0	28.0	28.0		20.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.28	0.41			0.97			0.96	0.25		0.95		
Control Delay	34.0	36.3			80.5			80.9	11.3		76.7		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	34.0	36.3			80.5			80.9	11.3		76.7		
Queue Length 50th (ft)	82	135			286			237	15		301		
Queue Length 95th (ft)	173	264			#607			#524	71		#615		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	576	606			438			362	571		462		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.28	0.41			0.97			0.96	0.25		0.95		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 120.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Lane Group	NBL	NBT	SBT	SET	SER	NWT
Lane Group Flow (vph)	161	251	423	349	140	438
v/c Ratio	0.28	0.41	0.97	0.96	0.25	0.95
Control Delay	34.0	36.3	80.5	80.9	11.3	76.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	36.3	80.5	80.9	11.3	76.7
Queue Length 50th (ft)	82	135	286	237	15	301
Queue Length 95th (ft)	173	264	#607	#524	71	#615
Internal Link Dist (ft)		950	1718	2136		1658
Turn Bay Length (ft)						
Base Capacity (vph)	576	606	438	362	571	462
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.41	0.97	0.96	0.25	0.95

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.95			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1888			1830	1531		1952	
Flt Permitted	0.95	1.00			1.00			0.62	1.00		1.00	
Satd. Flow (perm)	1770	1862			1888			1152	1531		1952	
Volume (vph)	150	230	1	35	220	130	110	200	125	10	315	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	161	250	1	38	242	143	124	225	140	11	354	73
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	73	0	5	0
Lane Group Flow (vph)	161	251	0	0	410	0	0	349	67	0	433	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	39.3	39.3			27.2			39.3	39.3		28.2	
Effective Green, g (s)	39.3	39.3			27.2			39.3	39.3		28.2	
Actuated g/C Ratio	0.32	0.32			0.22			0.32	0.32		0.23	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	567	597			419			369	491		449	
v/s Ratio Prot	0.09	0.13			c0.22				0.04		c0.22	
v/s Ratio Perm								c0.30				
v/c Ratio	0.28	0.42			0.98			0.95	0.14		0.96	
Uniform Delay, d1	31.1	32.7			47.4			40.6	29.6		46.7	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.5			38.2			32.8	0.1		32.8	
Delay (s)	31.4	33.2			85.6			73.4	29.7		79.5	
Level of Service	C	C			F			E	C		E	
Approach Delay (s)		32.5			85.6			60.9			79.5	
Approach LOS		C			F			E			E	

Intersection Summary			
HCM Average Control Delay	64.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	122.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

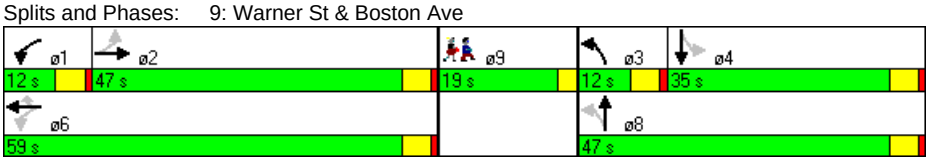
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1425			1738		
Travel Time (s)		11.7			40.8			32.4			39.5		
Volume (vph)	15	485	10	140	405	80	20	330	40	105	175	5	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	579	0	0	649	95	0	443	0	0	331	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	47.0	47.0	0.0	12.0	59.0	59.0	12.0	47.0	0.0	35.0	35.0	0.0	19.0
Total Split (%)	37.6%	37.6%	0.0%	9.6%	47.2%	47.2%	9.6%	37.6%	0.0%	28.0%	28.0%	0.0%	15%
Maximum Green (s)	42.0	42.0		7.0	54.0	54.0	7.0	42.0		30.0	30.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.61			1.52	0.12		0.68			0.79		
Control Delay		20.5			267.0	4.8		32.9			46.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		20.5			267.0	4.8		32.9			46.1		
Queue Length 50th (ft)		200			~530	3		224			178		
Queue Length 95th (ft)		515			#944	32		405			336		
Internal Link Dist (ft)		435			1715			1345			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		956			428	782		767			420		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.61			1.52	0.12		0.58			0.79		

Intersection Summary

Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 100.1
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	579	649	95	443	331
v/c Ratio	0.61	1.52	0.12	0.68	0.79
Control Delay	20.5	267.0	4.8	32.9	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	267.0	4.8	32.9	46.1
Queue Length 50th (ft)	200	~530	3	224	178
Queue Length 95th (ft)	515	#944	32	405	336
Internal Link Dist (ft)	435	1715		1345	1658
Turn Bay Length (ft)					
Base Capacity (vph)	956	428	782	767	420
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	1.52	0.12	0.58	0.79

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↰	↱		↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1994			1985	
Flt Permitted		0.98			0.67	1.00		0.97			0.50	
Satd. Flow (perm)		1936			1249	1340		1946			1005	
Volume (vph)	15	485	10	140	405	80	20	330	40	105	175	5
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	17	551	11	167	482	95	23	375	45	122	203	6
RTOR Reduction (vph)	0	0	0	0	0	38	0	3	0	0	0	0
Lane Group Flow (vph)	0	579	0	0	649	57	0	440	0	0	331	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		54.7			54.7	54.7		32.2			32.2	
Effective Green, g (s)		55.7			55.7	55.7		33.2			33.2	
Actuated g/C Ratio		0.54			0.54	0.54		0.32			0.32	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1052			679	728		630			326	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.52	0.04		0.23			c0.33	
v/c Ratio		0.55			0.96	0.08		0.70			1.02	
Uniform Delay, d1		15.2			22.2	11.2		30.3			34.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.3			23.8	0.0		2.7			53.8	
Delay (s)		15.6			46.0	11.2		33.0			88.4	
Level of Service		B			D	B		C			F	
Approach Delay (s)		15.6			41.6			33.0			88.4	
Approach LOS		B			D			C			F	

Intersection Summary					
HCM Average Control Delay	40.0	HCM Level of Service	D		
HCM Volume to Capacity ratio	0.98				
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	13.6		
Intersection Capacity Utilization	105.6%	ICU Level of Service	G		
Analysis Period (min)	15				

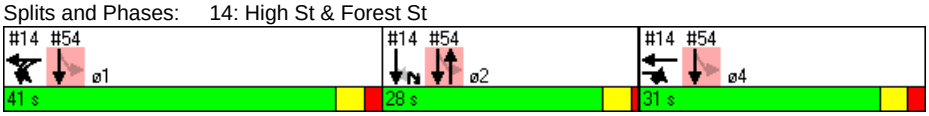
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	360	140	5	875	690	220	210	80	195	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	391	152	0	956	989	0	228	0	337	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Detector Phases	4	4	1	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	31.0	31.0	41.0	41.0	72.0	0.0	28.0	28.0	28.0	0.0
Total Split (%)	31.0%	31.0%	41.0%	41.0%	72.0%	0.0%	28.0%	28.0%	28.0%	0.0%
Maximum Green (s)	26.0	26.0	36.0	36.0			24.0	24.0	24.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.94	0.35		0.77	0.81		0.25		0.74	
Control Delay	69.3	7.4		33.0	18.0		1.2		44.1	
Queue Delay	0.0	0.1		38.7	0.0		0.0		0.0	
Total Delay	69.3	7.4		71.7	18.0		1.2		44.1	
Queue Length 50th (ft)	245	0		274	396		6		195	
Queue Length 95th (ft)	#429	49		352	606		13		294	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	415	439		1247	1225		910		472	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	15		356	0		0		0	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.94	0.36		1.07	0.81		0.25		0.71	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 99.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Lane Group	EBR	EBR2	WBL	WBT	NBR2	SBT
Lane Group Flow (vph)	391	152	956	989	228	337
v/c Ratio	0.94	0.35	0.77	0.81	0.25	0.74
Control Delay	69.3	7.4	33.0	18.0	1.2	44.1
Queue Delay	0.0	0.1	38.7	0.0	0.0	0.0
Total Delay	69.3	7.4	71.7	18.0	1.2	44.1
Queue Length 50th (ft)	245	0	274	396	6	195
Queue Length 95th (ft)	#429	49	352	606	13	294
Internal Link Dist (ft)				649		1362
Turn Bay Length (ft)						
Base Capacity (vph)	415	439	1247	1225	910	472
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	15	356	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.36	1.07	0.81	0.25	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1932	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1932	
Volume (vph)	360	140	5	875	690	220	210	80	195	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	152	5	951	750	239	228	87	212	38
RTOR Reduction (vph)	0	112	0	1	11	0	175	0	5	0
Lane Group Flow (vph)	391	40	0	955	978	0	53	0	332	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	26.0	26.0		36.0	67.0		23.2		23.2	
Effective Green, g (s)	26.0	26.0		36.0	67.0		23.2		23.2	
Actuated g/C Ratio	0.26	0.26		0.36	0.68		0.23		0.23	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0		3.0	
Lane Grp Cap (vph)	415	328		1246	1212		377		452	
v/s Ratio Prot	c0.25	0.03		0.28	c0.54		0.03			
v/s Ratio Perm									0.17	
v/c Ratio	0.94	0.12		0.77	0.81		0.14		0.74	
Uniform Delay, d1	35.9	27.9		27.9	11.5		30.1		35.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	29.8	0.2		2.9	4.0		0.1		6.1	
Delay (s)	65.6	28.1		30.8	15.5		30.3		41.3	
Level of Service	E	C		C	B		C		D	
Approach Delay (s)					23.0				41.3	
Approach LOS					C				D	

Intersection Summary			
HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	99.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

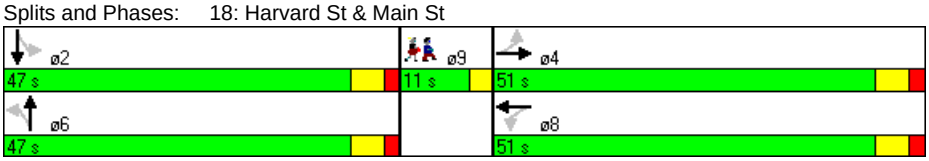
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	105	525	70	85	455	35	45	360	70	70	450	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	745	0	0	625	0	0	500	0	0	727	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	51.0	51.0	0.0	51.0	51.0	0.0	47.0	47.0	0.0	47.0	47.0	0.0	11.0
Total Split (%)	46.8%	46.8%	0.0%	46.8%	46.8%	0.0%	43.1%	43.1%	0.0%	43.1%	43.1%	0.0%	10%
Maximum Green (s)	45.0	45.0		45.0	45.0		41.0	41.0		41.0	41.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.32			1.13			0.89			1.29		
Control Delay		183.7			106.2			47.1			172.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		183.7			106.2			47.1			172.6		
Queue Length 50th (ft)		~598			~447			277			~575		
Queue Length 95th (ft)		#940			#759			#556			#884		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		563			555			564			562		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.32			1.13			0.89			1.29		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	745	625	500	727
v/c Ratio	1.32	1.13	0.89	1.29
Control Delay	183.7	106.2	47.1	172.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	183.7	106.2	47.1	172.6
Queue Length 50th (ft)	~598	~447	277	~575
Queue Length 95th (ft)	#940	#759	#556	#884
Internal Link Dist (ft)	1715	1303	1231	2650
Turn Bay Length (ft)				
Base Capacity (vph)	563	555	564	562
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.32	1.13	0.89	1.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1658			1667			1635			1625	
Flt Permitted		0.76			0.74			0.84			0.84	
Satd. Flow (perm)		1262			1244			1386			1379	
Volume (vph)	105	525	70	85	455	35	45	360	70	70	450	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	112	559	74	92	495	38	47	379	74	80	511	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	745	0	0	625	0	0	500	0	0	727	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		45.1			45.1			41.1			41.1	
Effective Green, g (s)		46.1			46.1			42.1			42.1	
Actuated g/C Ratio		0.45			0.45			0.41			0.41	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		566			558			568			565	
v/s Ratio Prot												
v/s Ratio Perm		c0.59			0.50			0.36			c0.53	
v/c Ratio		1.32			1.12			0.88			1.29	
Uniform Delay, d1		28.3			28.3			28.0			30.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		154.5			75.6			14.4			142.0	
Delay (s)		182.8			103.9			42.4			172.3	
Level of Service		F			F			D			F	
Approach Delay (s)		182.8			103.9			42.4			172.3	
Approach LOS		F			F			D			F	

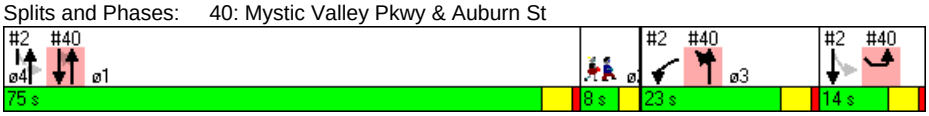
Intersection Summary			
HCM Average Control Delay	133.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	30	1060	1150	35	15	45	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	32	1140	1275	0	84	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	23.0	98.0	75.0	0.0	14.0	0.0	8.0
Total Split (%)	19.2%	81.7%	62.5%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	18.0		70.0		9.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.07	0.72	1.06		0.42		
Control Delay	6.2	13.7	41.3		25.0		
Queue Delay	1.9	2.1	0.0		0.2		
Total Delay	8.1	15.8	41.3		25.3		
Queue Length 50th (ft)	0	376	~1122		15		
Queue Length 95th (ft)	m7	414	m60		42		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	445	1582	1200		205		
Starvation Cap Reductn	335	290	0		0		
Spillback Cap Reductn	0	0	0		9		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.29	0.88	1.06		0.43		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 55 (46%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Lane Group	NBL	NBT	SBT	SEL
Lane Group Flow (vph)	32	1140	1275	84
v/c Ratio	0.07	0.72	1.06	0.42
Control Delay	6.2	13.7	41.3	25.0
Queue Delay	1.9	2.1	0.0	0.2
Total Delay	8.1	15.8	41.3	25.3
Queue Length 50th (ft)	0	376	~1122	15
Queue Length 95th (ft)	m7	414	m60	42
Internal Link Dist (ft)		49	1078	208
Turn Bay Length (ft)				
Base Capacity (vph)	445	1582	1200	205
Starvation Cap Reductn	335	290	0	0
Spillback Cap Reductn	0	0	0	9
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.88	1.06	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2019		1764	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	110	1900	2019		1764	
Volume (vph)	30	1060	1150	35	15	45
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	32	1140	1237	38	21	63
RTOR Reduction (vph)	0	0	1	0	58	0
Lane Group Flow (vph)	32	1140	1274	0	26	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	92.3	92.3	67.9		8.7	
Effective Green, g (s)	94.3	94.3	68.9		9.7	
Actuated g/C Ratio	0.79	0.79	0.57		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	445	1493	1159		143	
v/s Ratio Prot	0.02	c0.60	c0.63		c0.01	
v/s Ratio Perm	0.04					
v/c Ratio	0.07	0.76	1.10		0.18	
Uniform Delay, d1	38.0	6.9	25.5		51.5	
Progression Factor	1.79	2.39	0.30		1.00	
Incremental Delay, d2	0.1	2.1	46.2		0.8	
Delay (s)	68.0	18.6	53.8		52.3	
Level of Service	E	B	D		D	
Approach Delay (s)		19.9	53.8		52.3	
Approach LOS		B	D		D	

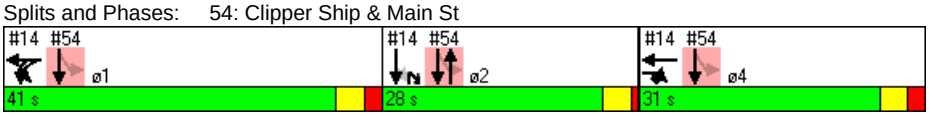
Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	210	950	95	1115		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	241	1092	0	1391		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	28.0	0.0	100.0	100.0	41.0	31.0
Total Split (%)	0.0%	0.0%	28.0%	0.0%	100.0%	100.0%	41%	31%
Maximum Green (s)			24.0				36.0	26.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.55	0.69		0.62		
Control Delay			38.4	2.5		7.7		
Queue Delay			0.2	0.0		0.0		
Total Delay			38.7	2.5		7.7		
Queue Length 50th (ft)			134	0		179		
Queue Length 95th (ft)			205	0		156		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			451	1583		2243		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			23	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.56	0.69		0.62		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 99.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 54: Clipper Ship & Main St



Lane Group	NBT	NBR	SBT
Lane Group Flow (vph)	241	1092	1391
v/c Ratio	0.55	0.69	0.62
Control Delay	38.4	2.5	7.7
Queue Delay	0.2	0.0	0.0
Total Delay	38.7	2.5	7.7
Queue Length 50th (ft)	134	0	179
Queue Length 95th (ft)	205	0	156
Internal Link Dist (ft)	240		1
Turn Bay Length (ft)			
Base Capacity (vph)	451	1583	2243
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	23	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.56	0.69	0.62

Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3186
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2244
Volume (vph)	0	0	210	950	95	1115
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	241	1092	109	1282
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	241	1092	0	1391
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			23.2	99.2		99.2
Effective Green, g (s)			23.2	99.2		99.2
Actuated g/C Ratio			0.23	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			436	1583		2244
v/s Ratio Prot			0.13			
v/s Ratio Perm				c0.69		0.62
v/c Ratio			0.55	0.69		0.62
Uniform Delay, d1			33.4	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.5	2.5		0.4
Delay (s)			35.0	2.5		0.4
Level of Service			C	A		A
Approach Delay (s)	0.0		8.4			0.4
Approach LOS	A		A			A

Intersection Summary				
HCM Average Control Delay	4.3	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	99.2	Sum of lost time (s)	0.0	
Intersection Capacity Utilization	56.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1232						1176			419		
Travel Time (s)			28.0						26.7			9.5		
Volume (vph)	5	25	425	265	10	1	20	20	685	135	275	155	5	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	494	299	0	0	0	0	927	0	0	468	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	41.0	41.0	41.0	29.0	0.0	41.0	41.0	41.0	41.0	0.0	29.0	29.0	0.0	19.0
Total Split (%)	34.2%	34.2%	34.2%	24.2%	0.0%	34.2%	34.2%	34.2%	34.2%	0.0%	24.2%	24.2%	0.0%	15.8%
Maximum Green (s)	35.0	35.0	35.0	23.0		35.0	35.0	35.0	35.0		23.0	23.0		13.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.60	0.30					0.95			1.07		
Control Delay			32.9	11.0					54.0			101.3		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			32.9	11.0					54.0			101.3		
Queue Length 50th (ft)			132	74					294			~322		
Queue Length 95th (ft)			242	188					#562			#657		
Internal Link Dist (ft)			1152						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			819	983					971			439		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.60	0.30					0.95			1.07		

Intersection Summary

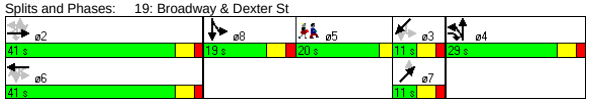
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 Build Condition Alt 3 - PM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	170	5	60	0	50	5	25	5	35	10	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	280	0	0	60	0	0	0	94	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	19.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	15.8%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	13.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.04			0.62				1.04			
Control Delay	110.3			77.9				154.5			
Queue Delay	0.0			0.0				0.0			
Total Delay	110.3			77.9				154.5			
Queue Length 50th (ft)	~177			38				~59			
Queue Length 95th (ft)	#435			#108				#183			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	268			96				90			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.04			0.63				1.04			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 3\optimize\coordination\2030 Build Alt 3- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3528	1564					3266			1891		
Flt Permitted			0.73	1.00					0.90			0.97		
Satd. Flow (perm)			2595	1564					2939			1891		
Volume (vph)	5	25	425	265	10	1	20	20	685	135	275	155	5	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	27	462	288	11	1	22	22	737	145	296	167	5	27
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	494	298	0	0	0	0	927	0	0	468	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			35.2	58.3					35.2			23.1		
Effective Green, g (s)			36.2	60.3					36.2			24.1		
Actuated g/C Ratio			0.34	0.57					0.34			0.23		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			884	961					1001			429		
v/s Ratio Prot				0.07								c0.25		
v/s Ratio Perm			0.19	0.12					c0.32					
v/c Ratio			0.56	0.31					0.93			1.09		
Uniform Delay, d1			28.5	12.1					33.8			41.1		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			0.9	0.5					14.1			70.2		
Delay (s)			29.5	12.6					47.8			111.3		
Level of Service			C	B					D			F		
Approach Delay (s)			23.1						47.8			111.3		
Approach LOS			C						D			F		

Intersection Summary				
HCM Average Control Delay	64.1	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.01			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	108.6%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 Build Condition Alt 3 - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	1.00			1.00				0.98		
Satd. Flow (prot)	1920			1644				1698		
Flt Permitted	1.00			1.00				0.85		
Satd. Flow (perm)	1920			1644				1473		
Volume (vph)	170	5	60	0	50	5	25	5	35	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	183	5	65	0	60	6	29	6	41	12
RTOR Reduction (vph)	9	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	271	0	0	60	0	0	0	89	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	13.1			5.0				5.0		
Effective Green, g (s)	14.1			6.0				6.0		
Actuated g/C Ratio	0.13			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	255			93				83		
v/s Ratio Prot	c0.14			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.06			0.65				1.08		
Uniform Delay, d1	46.1			49.1				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	74.3			10.9				120.9		
Delay (s)	120.4			60.0				171.0		
Level of Service	F			E				F		
Approach Delay (s)	120.4			60.0				171.0		
Approach LOS	F			E				F		

Intersection Summary

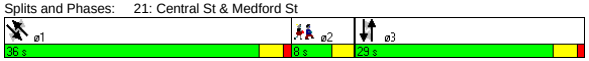
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 3\optimize\coordination\2030 Build Alt 3- PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	290	100	5	75	5	15	375	60	65	475	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	528	0	0	105	0	0	523	0	0	628	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	8.0
Total Split (%)	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	49.3%	49.3%	0.0%	49.3%	49.3%	0.0%	11%
Maximum Green (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.86			0.16			0.59			0.77		
Control Delay		35.4			15.4			16.5			23.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.4			15.4			16.5			23.4		
Queue Length 50th (ft)		175			26			139			189		
Queue Length 95th (ft)		#403			59			265			#445		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		637			691			879			813		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			0.15			0.59			0.77		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 65.3	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1880			1826			1841	
Flt Permitted		0.91			0.97			0.98			0.90	
Satd. Flow (perm)		1665			1836			1787			1674	
Volume (vph)	100	290	100	5	75	5	15	375	60	65	475	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	312	108	6	93	6	17	436	70	72	528	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	516	0	0	105	0	0	523	0	0	626	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.7			23.7			32.2			32.2	
Effective Green, g (s)		23.7			23.7			32.2			32.2	
Actuated g/C Ratio		0.35			0.35			0.47			0.47	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		582			642			849			795	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.06			0.29			c0.37	
v/c Ratio		0.89			0.16			0.62			0.79	
Uniform Delay, d1		20.8			15.2			13.2			14.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		15.4			0.2			3.3			7.8	
Delay (s)		36.2			15.4			16.5			22.7	
Level of Service		D			B			B			C	
Approach Delay (s)		36.2			15.4			16.5			22.7	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

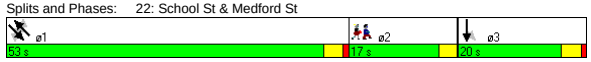
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			552		
Travel Time (s)		21.7			21.8			35.4			12.5		
Volume (vph)	0	0	0	70	255	25	40	410	100	180	550	155	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	398	0	0	611	0	0	913	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%	19%
Maximum Green (s)				16.0	16.0		49.0	49.0		49.0	49.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.95			0.54			1.02		
Control Delay					66.0			10.6			51.5		
Queue Delay					0.0			0.0			0.0		
Total Delay					66.0			10.6			51.5		
Queue Length 50th (ft)					175			113			329		
Queue Length 95th (ft)					#429			336			#870		
Internal Link Dist (ft)		873			879			1476			472		
Turn Bay Length (ft)													
Base Capacity (vph)					419			1127			897		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.95			0.54			1.02		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.4
Natural Cycle: 140
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1968			1908			1916	
Flt Permitted					0.99			0.90			0.76	
Satd. Flow (perm)					1968			1729			1477	
Volume (vph)	0	0	0	70	255	25	40	410	100	180	550	155
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	80	290	28	44	456	111	186	567	160
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	395	0	0	604	0	0	906	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			49.3			49.3	
Effective Green, g (s)					16.1			49.3			49.3	
Actuated g/C Ratio					0.20			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					402			1082			924	
v/s Ratio Prot												
v/s Ratio Perm					0.20			0.35			c0.61	
v/c Ratio					0.98			0.56			0.98	
Uniform Delay, d1					31.2			8.5			14.3	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					40.0			2.1			25.2	
Delay (s)					71.2			10.6			39.5	
Level of Service					E			B			D	
Approach Delay (s)		0.0			71.2			10.6			39.5	
Approach LOS		A			E			B			D	

Intersection Summary

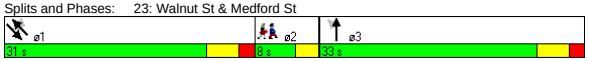
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	13.4
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			983			533		
Travel Time (s)		17.7			19.2			22.3			12.1		
Volume (vph)	115	275	10	0	0	0	5	290	0	0	380	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	533	0	0	0	0	0	373	0	0	449	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.70						0.49			0.59		
Control Delay		22.1						17.8			19.4		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.1						17.8			19.4		
Queue Length 50th (ft)		156						97			122		
Queue Length 95th (ft)		236						176			250		
Internal Link Dist (ft)		699			764			903			453		
Turn Bay Length (ft)													
Base Capacity (vph)		784						756			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.68						0.49			0.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1830						1880			1890	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1830						1867			1890	
Volume (vph)	115	275	10	0	0	0	5	290	0	0	380	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	153	367	13	0	0	0	6	367	0	0	432	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	532	0	0	0	0	0	373	0	0	447	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			738	
v/s Ratio Prot											c0.24	
v/s Ratio Perm		0.29						0.20				
v/c Ratio		0.72						0.51			0.61	
Uniform Delay, d1		16.9						15.5			16.2	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		3.8						0.8			1.6	
Delay (s)		20.7						16.3			17.9	
Level of Service		C						B			B	
Approach Delay (s)		20.7			0.0			16.3			17.9	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	18.6	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.62				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	50.7%	ICU Level of Service		A	
Analysis Period (min)	15				

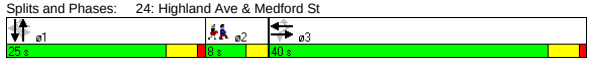
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	460	20	50	555	390	5	0	15	260	25	20	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	558	0	0	665	429	0	27	0	0	351	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	40.0	0.0	40.0	40.0	65.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	0.0%	54.8%	0.0%	54.8%	54.8%	89.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	11%
Maximum Green (s)		35.0		35.0	35.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.55			0.71	0.26		0.06			0.84		
Control Delay		12.9			17.8	0.5		10.2			41.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		12.9			17.8	0.5		10.2			41.8		
Queue Length 50th (ft)		127			175	0		2			123		
Queue Length 95th (ft)		251			#431	8		15			#284		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		1013			932	1639		505			434		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.55			0.71	0.26		0.05			0.81		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 65.6
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.90			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1688			1771	
Flt Permitted		1.00			0.92	1.00		0.91			0.74	
Satd. Flow (perm)		1834			1829	1680		1553			1364	
Volume (vph)	0	460	20	50	555	390	5	0	15	260	25	20
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	535	23	55	610	429	7	0	20	299	29	23
RTOR Reduction (vph)	0	2	0	0	0	50	0	14	0	0	4	0
Lane Group Flow (vph)	0	556	0	0	665	379	0	13	0	0	347	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		35.1			35.1	59.1		19.0			19.0	
Effective Green, g (s)		36.1			36.1	60.1		20.0			20.0	
Actuated g/C Ratio		0.53			0.53	0.88		0.29			0.29	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		974			971	1485		457			401	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.36	0.23		0.01			c0.25	
v/c Ratio		0.57			0.68	0.26		0.03			0.87	
Uniform Delay, d1		10.7			11.8	0.6		17.1			22.7	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.4			3.9	0.1		0.0			17.5	
Delay (s)		13.2			15.7	0.7		17.1			40.2	
Level of Service		B			B	A		B			D	
Approach Delay (s)		13.2			9.8			17.1			40.2	
Approach LOS		B			A			B			D	

Intersection Summary					
HCM Average Control Delay	16.1	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.70				
Actuated Cycle Length (s)	68.0	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	91.0%	ICU Level of Service		E	
Analysis Period (min)	15				

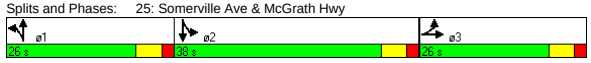
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	185	215	95	0	0	0	100	500	60	205	705	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	562	0	0	0	0	0	638	64	220	1038	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.69						0.77	0.04	0.34	0.85	
Control Delay		34.8						39.6	0.0	22.5	32.6	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		34.8						39.6	0.0	22.5	32.6	
Queue Length 50th (ft)		145						179	0	89	265	
Queue Length 95th (ft)		197						242	0	148	#359	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						827	1706	649	1222	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.69						0.77	0.04	0.34	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3408						3545	1706	1770	3217	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3408						3545	1706	1770	3217	
Volume (vph)	185	215	95	0	0	0	100	500	60	205	705	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	210	244	108	0	0	0	106	532	64	220	758	280
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	638	64	220	996	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1180	
v/s Ratio Prot		c0.16						c0.18		0.12	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.68						0.77	0.04	0.34	0.84	
Uniform Delay, d1		31.4						32.3	0.0	20.6	26.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.6						6.9	0.0	1.4	7.5	
Delay (s)		36.0						39.1	0.0	22.0	33.6	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.0			0.0			35.6			31.6	
Approach LOS		D			A			D			C	

Intersection Summary

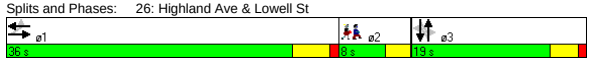
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	505	40	50	100	40	55	0	85	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	562	0	0	227	0	0	166	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	36.0	36.0	0.0	0.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0	8.0
Total Split (%)	57.1%	57.1%	0.0%	0.0%	57.1%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	13%
Maximum Green (s)	31.0	31.0			31.0		15.0	15.0		15.0	15.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.50			0.51			0.61			0.42		
Control Delay		9.7			9.7			26.7			12.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.7			9.7			26.7			12.2		
Queue Length 50th (ft)		76			86			62			16		
Queue Length 95th (ft)		210			231			129			58		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1017			1100			435			438		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.50			0.51			0.52			0.38		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 54.1	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



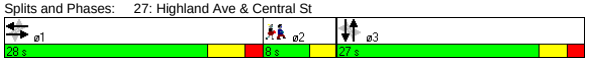
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1844			1804			1702	
Flt Permitted		0.92			1.00			0.89			0.78	
Satd. Flow (perm)		1713			1844			1630			1345	
Volume (vph)	45	420	0	0	505	40	50	100	40	55	0	85
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	521	41	60	119	48	65	0	101
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	79	0
Lane Group Flow (vph)	0	506	0	0	562	0	0	227	0	0	87	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		31.3			31.3			12.4			12.4	
Effective Green, g (s)		32.3			32.3			12.4			12.4	
Actuated g/C Ratio		0.57			0.57			0.22			0.22	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		978			1052			357			295	
v/s Ratio Prot					c0.30							
v/s Ratio Perm		0.30						c0.14			0.06	
v/c Ratio		0.52			0.53			0.64			0.30	
Uniform Delay, d1		7.4			7.5			20.1			18.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			1.9			4.1			0.8	
Delay (s)		9.4			9.4			24.2			19.2	
Level of Service		A			A			C			B	
Approach Delay (s)		9.4			9.4			24.2			19.2	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	12.8	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.52				
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	76.7%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	40	360	25	30	430	40	55	355	100	15	80	40	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	461	0	0	555	0	0	560	0	0	155	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0	8.0
Total Split (%)	44.4%	44.4%	0.0%	44.4%	44.4%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	13%
Maximum Green (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.70			0.79			0.82			0.23		
Control Delay		21.8			25.3			28.6			10.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.8			25.3			28.6			10.9		
Queue Length 50th (ft)		114			144			148			24		
Queue Length 95th (ft)		#289			#360			#374			66		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		697			749			716			711		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.74			0.78			0.22		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 53.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1822			1837			1822			1805	
Flt Permitted		0.91			0.96			0.95			0.94	
Satd. Flow (perm)		1673			1768			1740			1700	
Volume (vph)	40	360	25	30	430	40	55	355	100	15	80	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	43	391	27	33	478	44	60	390	110	17	92	46
RTOR Reduction (vph)	0	4	0	0	5	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	457	0	0	550	0	0	547	0	0	132	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.1			20.1			20.4			20.4	
Effective Green, g (s)		21.1			21.1			20.4			20.4	
Actuated g/C Ratio		0.38			0.38			0.37			0.37	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		638			675			642			627	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.31			c0.31			0.08	
v/c Ratio		0.72			0.81			0.85			0.21	
Uniform Delay, d1		14.6			15.3			16.1			11.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.1			7.9			10.9			0.2	
Delay (s)		18.7			23.2			27.0			12.2	
Level of Service		B			C			C			B	
Approach Delay (s)		18.7			23.2			27.0			12.2	
Approach LOS		B			C			C			B	

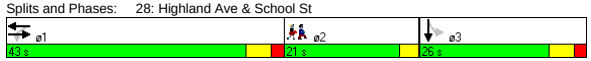
Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	465	15	55	500	0	0	0	0	110	240	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	539	0	0	591	0	0	0	0	0	474	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	43.0	0.0	43.0	43.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	21.0
Total Split (%)	0.0%	47.8%	0.0%	47.8%	47.8%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	23%
Maximum Green (s)		37.0		37.0	37.0					20.0	20.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.57			0.92						0.93		
Control Delay		16.4			39.7						55.0		
Queue Delay		0.0			0.0						0.0		
Total Delay		16.4			39.7						55.0		
Queue Length 50th (ft)		133			198						190		
Queue Length 95th (ft)		361			#598						#510		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		947			645						508		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.57			0.92						0.93		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 110
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			1.00						0.99	
Satd. Flow (prot)		1800			1816						1752	
Flt Permitted		1.00			0.86						0.99	
Satd. Flow (perm)		1800			1577						1752	
Volume (vph)	0	465	15	55	500	0	0	0	0	110	240	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	522	17	59	532	0	0	0	0	111	242	121
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	0	591	0	0	0	0	0	474	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		37.4			37.4						20.2	
Effective Green, g (s)		38.4			38.4						21.2	
Actuated g/C Ratio		0.51			0.51						0.28	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		915			802						492	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.37						0.27	
v/c Ratio		0.59			0.74						0.96	
Uniform Delay, d1		13.0			14.6						26.8	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.0			3.6						31.3	
Delay (s)		14.0			18.1						58.1	
Level of Service		B			B						E	
Approach Delay (s)		14.0			18.1			0.0			58.1	
Approach LOS		B			B			A			E	

Intersection Summary

HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

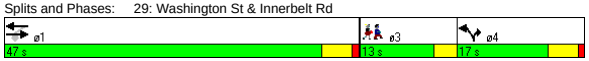
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	670	35	85	730	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	870	45	91	785	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	47.0	47.0	47.0	47.0	17.0	17.0	13.0
Total Split (%)	61.0%	61.0%	61.0%	61.0%	22.1%	22.1%	17%
Maximum Green (s)	42.0	42.0	42.0	42.0	12.0	12.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.76	0.05	0.67	0.70	0.75	0.58	
Control Delay	15.2	2.5	40.0	13.0	40.1	22.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.2	2.5	40.0	13.0	40.1	22.6	
Queue Length 50th (ft)	170	0	16	144	86	42	
Queue Length 95th (ft)	359	10	#119	421	#175	88	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1210	881	142	1186	373	403	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.72	0.05	0.64	0.66	0.75	0.58	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 61
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.16	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	288	1827	1719	1538
Volume (vph)	670	35	85	730	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	870	45	91	785	279	235
RTOR Reduction (vph)	0	18	0	0	0	70
Lane Group Flow (vph)	870	27	91	785	279	165
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	36.5	36.5	36.5	36.5	12.2	12.2
Effective Green, g (s)	37.5	37.5	37.5	37.5	13.2	13.2
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.21	0.21
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1104	790	171	1082	358	321
v/s Ratio Prot	c0.47			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.32			
v/c Ratio	0.79	0.03	0.53	0.73	0.78	0.52
Uniform Delay, d1	9.9	5.4	7.7	9.2	23.7	22.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.0	1.6	2.1	10.9	1.9
Delay (s)	13.4	5.4	9.3	11.3	34.5	24.1
Level of Service	B	A	A	B	C	C
Approach Delay (s)	13.0			11.1	29.7	
Approach LOS	B			B	C	

Intersection Summary

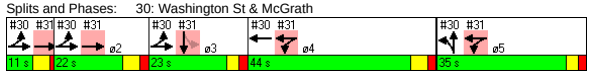
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	12.6
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	810	440	0	0	1065	170	55	560	685	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	853	454	0	0	1419	0	58	589	721	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	56.0	56.0	0.0	0.0	44.0	0.0	35.0	35.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	41.5%	41.5%	0.0%	0.0%	32.6%	0.0%	25.9%	25.9%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					38.0		30.0	30.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.61	0.24			0.98		0.15	1.45	0.46					
Control Delay	4.1	0.6			66.1		43.6	254.0	1.0					
Queue Delay	0.0	0.0			2.3		0.0	69.0	0.0					
Total Delay	4.1	0.6			68.4		43.6	323.0	1.0					
Queue Length 50th (ft)	65	1			452		41	~703	0					
Queue Length 95th (ft)	m76	m1			#524		82	#934	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1397	1884			1453		386	406	1553					
Starvation Cap Reductn	0	0			0		0	39	0					
Spillback Cap Reductn	0	0			19		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.61	0.24			0.99		0.16	1.60	0.46					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath



Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	23.0
Total Split (%)	17%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5033		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5033		1736	1827	1553			
Volume (vph)	810	440	0	0	1065	170	55	560	685	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	853	454	0	0	1224	195	58	589	721	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	853	454	0	0	1419	0	58	589	721	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	51.0	51.0			38.0		30.0	30.0	135.0			
Effective Green, g (s)	51.0	51.0			39.0		30.0	30.0	135.0			
Actuated g/C Ratio	0.38	0.38			0.29		0.22	0.22	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1397	1884			1454		386	406	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.03	c0.32				
v/s Ratio Perm									0.46			
v/c Ratio	0.61	0.24			0.98		0.15	1.45	0.46			
Uniform Delay, d1	34.0	28.8			47.5		42.2	52.5	0.0			
Progression Factor	0.10	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.1			18.5		0.8	216.2	1.0			
Delay (s)	4.1	0.6			66.1		43.1	268.7	1.0			
Level of Service	A	A			E		D	F	A			
Approach Delay (s)		2.9			66.1			118.1			0.0	
Approach LOS		A			E			F			A	

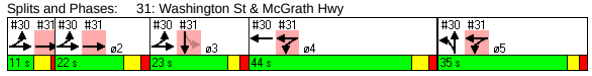
Intersection Summary			
HCM Average Control Delay	63.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1215	40	410	710	0	0	0	0	35	145	370		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1320	0	456	789	0	0	0	0	0	601	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	79.0	79.0	0.0	0.0	0.0	0.0	23.0	23.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	58.5%	58.5%	0.0%	0.0%	0.0%	0.0%	17.0%	17.0%	0.0%	8%	16%
Maximum Green (s)										18.0	18.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.88		0.48	0.41						1.41dr			
Control Delay		59.9		1.3	0.3						156.6			
Queue Delay		3.7		0.0	0.0						57.7			
Total Delay		63.5		1.3	0.3						214.3			
Queue Length 50th (ft)		279		0	0						~306			
Queue Length 95th (ft)		318		m0	m0						#429			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1492		952	1940						494			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		110		0	0						48			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.96		0.48	0.41						1.35			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	44.0	35.0
Total Split (%)	33%	26%
Maximum Green (s)	38.0	30.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3173	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3173	
Volume (vph)	0	1215	40	410	710	0	0	0	0	35	145	370
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1279	41	456	789	0	0	0	0	41	158	402
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1316	0	456	789	0	0	0	0	0	531	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		74.0	74.0						18.0	
Effective Green, g (s)		28.0		74.0	74.0						18.0	
Actuated g/C Ratio		0.21		0.55	0.55						0.13	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1489		952	1940						423	
v/s Ratio Prot		c0.18		c0.26	0.22							
v/s Ratio Perm											0.17	
v/c Ratio		0.88		0.48	0.41						1.41dr	
Uniform Delay, d1		51.9		18.7	17.7						58.5	
Progression Factor		1.00		0.04	0.00						1.00	
Incremental Delay, d2		8.0		0.6	0.2						132.8	
Delay (s)		59.9		1.3	0.3						191.3	
Level of Service		E		A	A						F	
Approach Delay (s)		59.9			0.6			0.0			191.3	
Approach LOS		E			A			A			F	

Intersection Summary				
HCM Average Control Delay	61.5	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	102.4%	ICU Level of Service	G	
Analysis Period (min)	15			

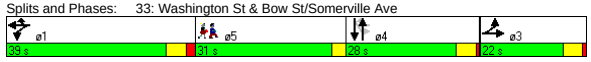
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	330	30	425	390	905	0	0	0	445	260	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	452	415	963	0	0	0	250	587	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	39.0	39.0	39.0	0.0	28.0	0.0	28.0	28.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	32.5%	32.5%	32.5%	0.0%	23.3%	0.0%	23.3%	23.3%	0.0%	26%
Maximum Green (s)	17.0	17.0		33.0	33.0	33.0		23.0		23.0	23.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.03		1.00	0.87	0.77				0.62	0.70		
Control Delay		99.6		49.9	36.8	8.7				44.4	41.4		
Queue Delay		0.0		0.0	0.0	1.7				0.0	0.0		
Total Delay		99.6		49.9	36.8	10.4				44.4	41.4		
Queue Length 50th (ft)		188		~331	278	6				148	179		
Queue Length 95th (ft)		#313		m307	m259	m185				#413	#423		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		449		451	475	1247				406	838		
Starvation Cap Reductn		0		0	0	140				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.03		1.00	0.87	0.87				0.62	0.70		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 15 (13%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2798	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2355	
Volume (vph)	60	330	30	425	390	905	0	0	0	445	260	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	363	33	452	415	963	0	0	0	500	292	45
RTOR Reduction (vph)	0	0	0	0	0	355	0	0	0	0	4	0
Lane Group Flow (vph)	0	462	0	452	415	608	0	0	0	250	583	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.4		31.2	31.2	72.4				41.2	41.2	
Effective Green, g (s)		18.4		32.2	32.2	73.4				42.2	42.2	
Actuated g/C Ratio		0.15		0.27	0.27	0.61				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		450		427	450	872				406	828	
v/s Ratio Prot		c0.16		c0.28	0.25	0.19						
v/s Ratio Perm						0.24				0.22	c0.25	
v/c Ratio		1.03		1.06	0.92	0.70				0.62	0.70	
Uniform Delay, d1		50.8		43.9	42.7	15.8				32.2	33.5	
Progression Factor		1.00		0.82	0.82	5.68				1.00	1.00	
Incremental Delay, d2		49.4		32.0	3.8	0.2				3.2	2.9	
Delay (s)		100.2		68.1	38.7	89.8				35.4	36.5	
Level of Service		F		E	D	F				D	D	
Approach Delay (s)		100.2			72.9			0.0			36.1	
Approach LOS		F			E			A			D	

Intersection Summary					
HCM Average Control Delay	67.1	HCM Level of Service		E	
HCM Volume to Capacity ratio	0.89				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.2	
Intersection Capacity Utilization	83.6%	ICU Level of Service		E	
Analysis Period (min)	15				

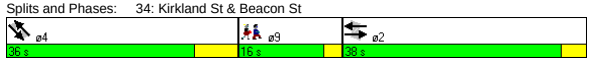
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	315	40	40	275	70	40	360	60	25	475	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	495	0	0	437	0	0	495	0	0	588	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	16.0
Total Split (%)	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	18%
Maximum Green (s)	34.0	34.0		34.0	34.0		29.0	29.0		29.0	29.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.85			0.59			0.83			0.85		
Control Delay		36.6			20.9			36.1			36.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		36.6			20.9			36.1			36.5		
Queue Length 50th (ft)		186			135			190			230		
Queue Length 95th (ft)		#486			298			#475			#553		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		582			741			598			690		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.85			0.59			0.83			0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 77.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1819			1807			1822			1828	
Flt Permitted		0.77			0.93			0.89			0.97	
Satd. Flow (perm)		1413			1682			1622			1772	
Volume (vph)	110	315	40	40	275	70	40	360	60	25	475	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	335	43	45	312	80	43	387	65	26	490	72
RTOR Reduction (vph)	0	3	0	0	8	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	492	0	0	429	0	0	489	0	0	583	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		34.2			34.2			29.2			29.2	
Effective Green, g (s)		34.2			34.2			30.2			30.2	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		607			723			615			672	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.26			0.30			c0.33	
v/c Ratio		0.81			0.59			0.80			0.87	
Uniform Delay, d1		19.9			17.4			22.0			22.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		11.2			3.6			10.3			14.2	
Delay (s)		31.0			20.9			32.2			37.0	
Level of Service		C			C			C			D	
Approach Delay (s)		31.0			20.9			32.2			37.0	
Approach LOS		C			C			C			D	

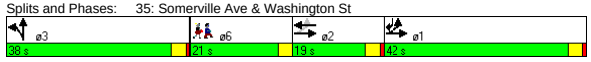
Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	385	390	0	0	445	40	515	800	100	0	0	885	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	891	0	0	592	0	483	1006	0	0	0	932	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	42.0	61.0	0.0	0.0	19.0	0.0	38.0	38.0	0.0	0.0	0.0	42.0	21.0
Total Split (%)	35.0%	50.8%	0.0%	0.0%	15.8%	0.0%	31.7%	31.7%	0.0%	0.0%	0.0%	35.0%	18%
Maximum Green (s)	38.0				15.0		34.0	34.0				38.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.60			0.80		1.16	1.16				1.17	
Control Delay		7.6			53.7		136.3	125.2				128.7	
Queue Delay		0.0			0.0		3.6	3.5				0.0	
Total Delay		7.6			53.7		139.9	128.8				128.7	
Queue Length 50th (ft)		157			205		~487	~507				~489	
Queue Length 95th (ft)		m125			#394		#718	#648				#630	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1477			736		415	864				794	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		3	6				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.60			0.80		1.17	1.17				1.17	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3108			3177		1464	3024				2508
Flt Permitted		0.56			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1799			3177		1464	3024				2508
Volume (vph)	385	390	0	0	445	40	515	800	100	0	0	885
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	448	0	0	543	49	542	842	105	0	0	932
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	587	0	483	999	0	0	0	932
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		63.8			27.6		34.0	34.0				36.2
Effective Green, g (s)		63.8			27.6		34.0	34.0				36.2
Actuated g/C Ratio		0.53			0.23		0.28	0.28				0.30
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1351			731		415	857				757
v/s Ratio Prot		0.20			c0.18		0.33	c0.33				c0.37
v/s Ratio Perm		0.15										
v/c Ratio		0.66			0.80		1.16	1.17				1.23
Uniform Delay, d1		20.3			43.6		43.0	43.0				41.9
Progression Factor		0.31			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.5			9.1		97.1	87.1				115.4
Delay (s)		7.9			52.8		140.1	130.1				157.3
Level of Service		A			D		F	F				F
Approach Delay (s)		7.9			52.8			133.4			157.3	
Approach LOS		A			D			F			F	

Intersection Summary

HCM Average Control Delay	98.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

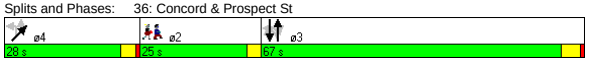
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	685	150	300	255	10	15	625	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	866	0	165	621	0	0	0	685	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		25.0
Total Split (s)	67.0	67.0	0.0	67.0	67.0	0.0	0.0	28.0	28.0	0.0	25.0
Total Split (%)	55.8%	55.8%	0.0%	55.8%	55.8%	0.0%	0.0%	23.3%	23.3%	0.0%	21%
Maximum Green (s)	62.0	62.0		62.0	62.0			24.0	24.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											10
v/c Ratio		1.40		0.48	0.53				1.41		
Control Delay		208.3		17.9	13.7				228.7		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		208.3		17.9	13.7				228.7		
Queue Length 50th (ft)		~677		43	169				~551		
Queue Length 95th (ft)		#1201		168	458				#1024		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		620		346	1175				485		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.40		0.48	0.53				1.41		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1847				2000	
Flt Permitted		0.68		0.31	1.00				1.00	
Satd. Flow (perm)		1200		608	1847				2000	
Volume (vph)	120	0	685	150	300	255	10	15	625	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	737	165	330	280	11	16	658	11
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	837	0	165	621	0	0	0	684	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		62.5		62.5	62.5				24.2	
Effective Green, g (s)		63.5		63.5	63.5				24.2	
Actuated g/C Ratio		0.62		0.62	0.62				0.24	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		744		377	1145				473	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.70		0.27					0.34	
v/c Ratio		1.13		0.44	0.54				1.45	
Uniform Delay, d1		19.5		10.1	11.1				39.1	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		73.1		0.3	0.3				212.6	
Delay (s)		92.5		10.4	11.4				251.7	
Level of Service		F		B	B				F	
Approach Delay (s)		92.5			11.2				251.7	
Approach LOS		F			B				F	

Intersection Summary

HCM Average Control Delay	111.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	102.4	Sum of lost time (s)	14.7
Intersection Capacity Utilization	125.2%	ICU Level of Service	H
Analysis Period (min)	15		

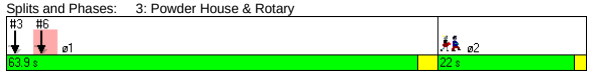
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	465	0	0	1045	490	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	547	0	0	1100	516	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.34			0.62	0.33	
Control Delay		0.6			4.0	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			4.0	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			541	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		10			11	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.34			0.62	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	465	0	0	1045	490
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	547	0	0	1100	516
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	502	0	0	1100	516
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.31				c0.33
v/c Ratio		0.33			0.64	0.33
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			1.9	0.5
Delay (s)		1.2			2.9	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.1	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	112.3%	ICU Level of Service	H
Analysis Period (min)	15		

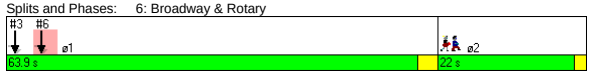
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	440	0	0	1070	440	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	484	0	0	1126	463	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.31			0.63	0.29	
Control Delay		0.5			2.4	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			2.4	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			123	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.31			0.63	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	440	0	0	1070	440
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	484	0	0	1126	463
RTOR Reduction (vph)	0	40	0	0	0	0
Lane Group Flow (vph)	0	444	0	0	1126	463
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.60	
v/s Ratio Perm		0.28				c0.29
v/c Ratio		0.31			0.66	0.29
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			0.37	1.00
Incremental Delay, d2		0.5			1.7	0.4
Delay (s)		1.1			2.1	0.4
Level of Service		A			A	A
Approach Delay (s)	1.1			0.0	1.6	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	445	1060	510	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	489	1191	573	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.32	0.70	0.39			
Control Delay		0.5	4.6	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.5	4.6	0.7			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	760	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	103			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.32	0.70	0.42			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	445	1060	510	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	489	1191	573	0	0
RTOR Reduction (vph)	0	40	0	47	0	0
Lane Group Flow (vph)	0	449	1191	526	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.67	0.35		
v/s Ratio Perm		0.29				
v/c Ratio		0.31	0.73	0.38		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.68	0.02		
Incremental Delay, d2		0.6	2.5	0.7		
Delay (s)		1.1	3.4	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.1		2.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	735	835	675	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	855	938	758	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.54	0.54	0.51			
Control Delay		1.3	3.2	1.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.3	3.2	1.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	376	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1497			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		42	9	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.55	0.55	0.51			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



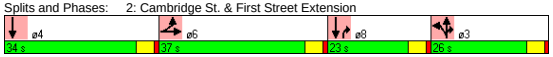
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	735	835	675	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	855	938	758	0	0
RTOR Reduction (vph)	0	70	0	62	0	0
Lane Group Flow (vph)	0	785	938	696	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.52	0.45		
v/s Ratio Perm		0.49				
v/c Ratio		0.53	0.57	0.50		
Uniform Delay, d1		0.8	0.9	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.4	1.4	1.3		
Delay (s)		2.2	2.3	2.0		
Level of Service		A	A	A		
Approach Delay (s)	2.2		2.2			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	210	50	0	0	0	100	240	500	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	289	0	0	0	0	0	378	556	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.63	0.77						1.14	0.58		0.52			
Control Delay	50.6	56.8						136.7	4.8		10.4			
Queue Delay	18.2	0.0						64.6	0.0		0.9			
Total Delay	68.7	56.8						201.4	4.8		11.3			
Queue Length 50th (ft)	144	182						~301	0		124			
Queue Length 95th (ft)	199	247						#471	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						332	958		1739			
Starvation Cap Reductn	0	0						0	0		528			
Spillback Cap Reductn	243	0						39	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.93	0.58						1.29	0.58		0.74			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 2: Cambridge St. & First Street Extension



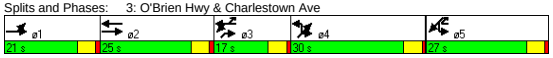
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1810	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1810	1459		3222	
Volume (vph)	205	210	50	0	0	0	100	240	500	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	233	56	0	0	0	111	267	556	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	309	0	197	0
Lane Group Flow (vph)	228	281	0	0	0	0	0	378	247	0	702	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.6	23.6						21.0	52.4		55.4	
Effective Green, g (s)	24.6	24.6						22.0	53.4		57.4	
Actuated g/C Ratio	0.20	0.20						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	363	367						332	649		1541	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.63	0.77						1.14	0.38		0.46	
Uniform Delay, d1	43.5	45.0						49.0	22.3		20.9	
Progression Factor	1.00	1.00						1.00	1.00		1.50	
Incremental Delay, d2	3.4	9.2						92.4	0.4		0.7	
Delay (s)	46.9	54.2						141.4	22.6		32.1	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.0			0.0			70.7			32.1	
Approach LOS		D			A			E			C	

Intersection Summary			
HCM Average Control Delay	51.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	975	330	385	710	425	430	1220	585	300	525	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1071	363	389	717	429	453	1284	616	319	820	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.63	0.23	2.30	0.73	0.64	1.29	1.71	1.07	1.09	1.31		
Control Delay	744.8	34.7	0.3	620.3	30.5	19.4	189.3	354.7	93.0	124.0	185.8		
Queue Delay	0.0	0.0	0.0	0.0	177.5	1.4	0.0	0.0	169.0	0.0	0.0		
Total Delay	744.8	34.7	0.3	620.3	208.0	20.8	189.3	354.7	262.0	124.0	185.8		
Queue Length 50th (ft)	~678	221	0	~441	259	117	~394	~677	~441	~269	~380		
Queue Length 95th (ft)	#874	265	0	m#609	m315	m205	#575	#798	#643	#445	#499		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	574	293	628		
Starvation Cap Reductn	0	0	0	0	472	100	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	153	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.63	0.23	2.30	1.39	0.75	1.29	1.71	1.46	1.09	1.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Volume (vph)	540	975	330	385	710	425	430	1220	585	300	525	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1071	363	389	717	429	453	1284	616	319	559	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	36	0	41	0
Lane Group Flow (vph)	593	1071	363	389	717	178	453	1284	580	319	779	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.23	0.13	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.63	0.23	2.30	0.73	0.42	1.29	1.71	1.08	1.09	1.33	
Uniform Delay, d1	51.5	32.6	0.0	53.5	36.4	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.59	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	597.1	1.6	0.4	150.6	324.0	61.6	78.3	158.6	
Delay (s)	774.3	33.4	0.3	642.0	28.9	155.1	197.6	371.0	100.1	126.8	207.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		244.2			219.5			266.7			184.6	
Approach LOS		F			F			F			F	

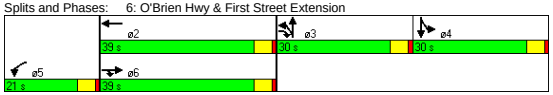
Intersection Summary					
HCM Average Control Delay	236.7	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.65				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	117.3%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	945	120	350	885	55	210	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1050	133	389	1044	0	233	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.70	0.16	0.82	1.01		0.71	0.75			0.76	
Control Delay		23.6	1.1	64.9	71.9		62.5	64.0			49.0	
Queue Delay		0.0	0.0	2.1	0.0		270.7	349.4			37.5	
Total Delay		23.6	1.1	67.0	71.9		333.3	413.4			86.5	
Queue Length 50th (ft)		149	7	134	~395		171	191			218	
Queue Length 95th (ft)		178	0	#195	#515		m193	m215			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1037		384	404			858	
Starvation Cap Reductn		0	0	0	0		237	256			0	
Spillback Cap Reductn		0	7	31	0		0	0			247	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.70	0.15	0.85	1.01		1.59	1.76			1.06	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3508		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3508		1770	1863			3459	
Volume (vph)	0	945	120	350	885	55	210	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1050	133	389	983	61	233	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1050	103	389	1040	0	233	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.30		0.13	c0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.70	0.13	0.82	1.01		0.71	0.75			0.76	
Uniform Delay, d1		37.6	15.1	50.2	42.3		45.8	46.3			41.8	
Progression Factor		0.55	0.09	1.00	1.00		1.26	1.26			1.00	
Incremental Delay, d2		2.7	0.1	10.6	29.3		2.9	3.8			6.2	
Delay (s)		23.4	1.4	60.8	71.6		60.7	62.2			48.0	
Level of Service		C	A	E	E		E	E			D	
Approach Delay (s)		20.9			68.6			61.5			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	49.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

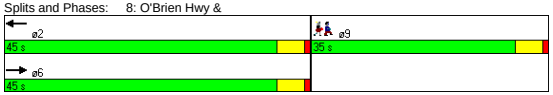
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1840	0	0	1335	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2000	0	0	1451	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.44			
Control Delay	3.0			3.3			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.3			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	278			315			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.44			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

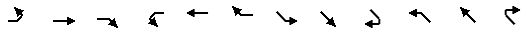
Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1840	0	0	1335	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2000	0	0	1451	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2000	0	0	1451	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.39			c0.41		
v/s Ratio Perm						
v/c Ratio	0.45			0.47		
Uniform Delay, d1	1.5			1.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.0		
Level of Service	A			A		
Approach Delay (s)	1.8			2.0	0.0	
Approach LOS	A			A	A	

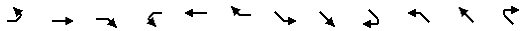
Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	715	0	0	5	0	1125	0	0	1305	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	794	0	0	6	0	1250	0	0	1406	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	715	0	0	5	0	1125	0	0	1305	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	794	0	0	6	0	1250	0	0	1374	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.87	0.87	0.82	0.87	0.87	0.91	0.91			0.82		
vC, conflicting volume	1942	2655	417	2601	2639	703	1405			1250		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1415	2238	0	2175	2220	574	1346			868		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	10	100	100	99	100			100		
cM capacity (veh/h)	83	36	887	2	36	413	377			579		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	794	6	417	417	417	916	489
Volume Left	0	0	0	0	0	0	0
Volume Right	794	6	0	0	0	0	32
cSH	887	413	1700	1700	1700	1700	1700
Volume to Capacity	0.90	0.01	0.25	0.25	0.25	0.54	0.29
Queue Length 95th (ft)	273	1	0	0	0	0	0
Control Delay (s)	32.3	13.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	32.3	13.8	0.0			0.0	
Approach LOS	D	B					

Intersection Summary				
Average Delay	7.5			
Intersection Capacity Utilization	72.7%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1840	1315	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2044	1539	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1840	1315	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2044	1461	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.81				0.85	0.81
vC, conflicting volume	1539				2181	769
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1429				1825	477
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	381				58	432

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	681	681	681	974	565	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	432
Volume to Capacity	0.40	0.40	0.40	0.57	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.8
Approach LOS						B

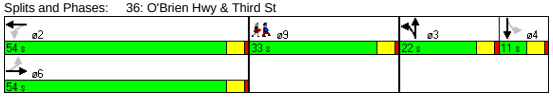
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		48.6%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1270	375	1	1395	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1829	0	0	1552	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.94		2.17	1.95			0.04		
Control Delay		30.7			50.6		566.2	471.0			48.3		
Queue Delay		0.2			1.0		0.0	36.0			0.0		
Total Delay		30.9			51.7		566.2	507.0			48.3		
Queue Length 50th (ft)		358			484		~586	~555			1		
Queue Length 95th (ft)		#544			#743		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			25		0	0			0		
Spillback Cap Reductn		40			0		0	10			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.86			0.95		2.17	2.03			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4911			3539		1569	1674			1750	
Flt Permitted		0.91			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4485			3376		1569	1674			1779	
Volume (vph)	1	1270	375	1	1395	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1411	417	1	1550	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1788	0	0	1552	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2048			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.40			c0.46						c0.00	
v/c Ratio		0.87			1.01		2.17	1.97			0.06	
Uniform Delay, d1		29.5			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.41		1.00	1.00			1.00	
Incremental Delay, d2		5.5			22.6		540.4	448.8			0.8	
Delay (s)		35.0			68.6		591.4	499.8			58.7	
Level of Service		C			E		F	F			E	
Approach Delay (s)		35.0			68.6			546.3			58.7	
Approach LOS		C			E			F			E	

Intersection Summary

HCM Average Control Delay	164.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	970	15	0	1165	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1059	0	0	1239	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	970	15	0	1165	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1043	16	0	1239	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1059		1671	356
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			892		1146	128
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			684		147	830

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	417	417	225	620	620	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	830
Volume to Capacity	0.25	0.25	0.13	0.36	0.36	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

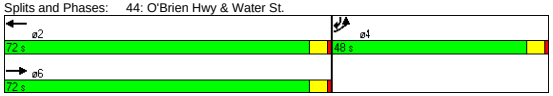
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	985	0	0	1085	80	0	0	0	0	0	305
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1059	0	0	1239	0	0	0	0	0	0	339
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.31			0.52							0.77
Control Delay	72.9	0.6			5.9							44.9
Queue Delay	1.0	0.3			0.5							674.1
Total Delay	73.9	0.8			6.4							719.0
Queue Length 50th (ft)	240	6			72							174
Queue Length 95th (ft)	m278	m11			m84							242
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3445			2377							642
Starvation Cap Reductn	117	1511			207							0
Spillback Cap Reductn	0	0			636							607
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.55			0.71							9.69

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3403							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3403							1627
Volume (vph)	310	985	0	0	1085	80	0	0	0	0	0	305
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1059	0	0	1154	85	0	0	0	0	0	339
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	55
Lane Group Flow (vph)	333	1059	0	0	1236	0	0	0	0	0	0	284
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.21			c0.36							0.17
v/s Ratio Perm												
v/c Ratio	0.82	0.31			0.52							0.74
Uniform Delay, d1	43.5	7.0			8.6							42.4
Progression Factor	1.51	0.06			0.59							1.00
Incremental Delay, d2	6.3	0.1			0.3							7.3
Delay (s)	72.1	0.5			5.3							49.7
Level of Service	E	A			A							D
Approach Delay (s)		17.7			5.3			0.0			49.7	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

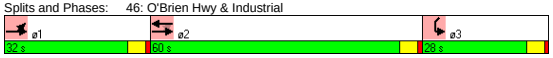
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1780	1390	225	370	130
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2027	1700	0	555	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.77	0.76		0.89	
Control Delay		11.8	28.3		61.9	
Queue Delay		1.6	9.8		2.6	
Total Delay		13.3	38.0		64.5	
Queue Length 50th (ft)		178	340		178	
Queue Length 95th (ft)		m184	397		#260	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2646	2231		637	
Starvation Cap Reductn		409	0		0	
Spillback Cap Reductn		0	520		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	0.99		0.91	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4631		3036	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3254	4631		3036	
Volume (vph)	85	1780	1390	225	370	130
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1935	1463	237	411	144
RTOR Reduction (vph)	0	0	18	0	31	0
Lane Group Flow (vph)	0	2027	1682	0	524	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.7	56.4		22.3	
Effective Green, g (s)		84.7	57.4		23.3	
Actuated g/C Ratio		0.71	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2623	2215		589	
v/s Ratio Prot		c0.18	0.36		c0.17	
v/s Ratio Perm		c0.37				
v/c Ratio		0.77	0.76		0.89	
Uniform Delay, d1		11.4	25.6		47.1	
Progression Factor		1.37	1.00		1.00	
Incremental Delay, d2		0.8	2.5		15.5	
Delay (s)		16.4	28.1		62.6	
Level of Service		B	C		E	
Approach Delay (s)		16.4	28.1		62.6	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

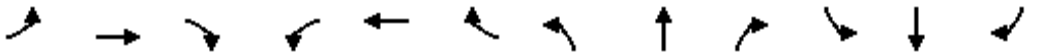
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	15	700	155	70	425	10	5	10	5	100	15	145
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	926	0	0	543	0	0	44	0	0	152	191
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	700	155	70	425	10	5	10	5	100	15	145
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	16	745	165	75	457	11	11	22	11	132	20	191
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	468			910			1673	1554	462	1494	1477	827
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	468			910			1673	1554	462	1494	1477	827
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			90			62	78	98	0	82	48
cM capacity (veh/h)	1089			749			29	101	604	74	109	365

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	926	543	44	151	191
Volume Left	16	75	11	132	0
Volume Right	165	11	11	0	191
cSH	1089	749	72	77	365
Volume to Capacity	0.01	0.10	0.62	1.96	0.52
Queue Length 95th (ft)	1	8	68	336	72
Control Delay (s)	0.4	2.7	116.2	561.5	25.1
Lane LOS	A	A	F	F	D
Approach Delay (s)	0.4	2.7	116.2	262.4	
Approach LOS			F	F	

Intersection Summary				
Average Delay	52.2			
Intersection Capacity Utilization	83.6%	ICU Level of Service		E
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	170	45	100	290	1060	0	0	925	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	349	0	315	1116	0	0	1005	207
Sign Control		Stop			Stop			Free			Free	

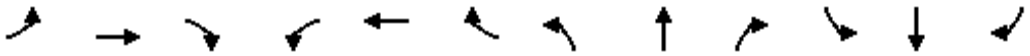
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	170	45	100	290	1060	0	0	925	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	189	49	111	315	1116	0	0	1005	207
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.15	0.15	0.15	0.15	0.15		0.15					
vC, conflicting volume	2887	2752	1005	2752	2958	1116	1212			1116		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	13913	12985	1037	12985	14398	1116	2450			1116		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	56	0			100		
cM capacity (veh/h)	0	0	41	0	0	254	28			626		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	349	315	1116	1005	207
Volume Left	189	315	0	0	0
Volume Right	111	0	0	0	207
cSH	0	28	1700	1700	1700
Volume to Capacity	Err	11.32	0.66	0.59	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	4917.4	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1083.2		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	149.0%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	205	0	0	0	0	1105	500	80	1015	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	739	0	0	0	0	0	1228	556	84	1068	0
Sign Control		Stop			Stop			Free			Free	

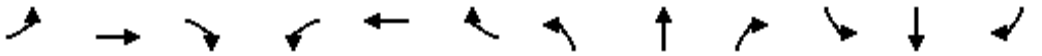
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	205	0	0	0	0	1105	500	80	1015	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	228	0	0	0	0	1228	556	84	1068	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2465	3020	1068	2812	2465	1228	1068			1783		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2465	3020	1068	2812	2465	1228	1068			1783		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	16	0	100	100	100			76		
cM capacity (veh/h)	17	10	270	0	23	217	652			345		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	347	1228	556	84	1068
Volume Left	272	0	0	0	84	0
Volume Right	0	228	0	556	0	0
cSH	14	27	1700	1700	345	1700
Volume to Capacity	27.98	12.73	0.72	0.33	0.24	0.63
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	18.8	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	2010.9			
Intersection Capacity Utilization	149.0%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	440	5	10	0	1	10	85	1155	1	5	365	850
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	517	0	0	25	0	0	1363	0	0	377	867
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	440	5	10	0	1	10	85	1155	1	5	365	850
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	500	6	11	0	2	23	93	1269	1	5	372	867
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1863	1840	372	1853	1839	1270	372			1270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1863	1840	372	1853	1839	1270	372			1270		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	89	92			99		
cM capacity (veh/h)	45	69	674	47	67	199	1192			547		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	517	25	1364	378	867
Volume Left	500	0	93	5	0
Volume Right	11	23	1	0	867
cSH	46	169	1192	547	1700
Volume to Capacity	11.22	0.15	0.08	0.01	0.51
Queue Length 95th (ft)	Err	13	6	1	0
Control Delay (s)	Err	30.0	3.0	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	30.0	3.0	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1642.5		
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	35	425	415	100	55	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	464	566	0	149	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

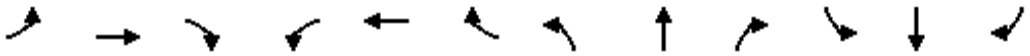
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	35	425	415	100	55	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	35	429	456	110	63	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	566				1011	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	520				1012	459
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				73	84
cM capacity (veh/h)	945				231	546

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	465	566	149
Volume Left	35	0	63
Volume Right	0	110	86
cSH	945	1700	347
Volume to Capacity	0.04	0.33	0.43
Queue Length 95th (ft)	3	0	52
Control Delay (s)	1.1	0.0	23.0
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	23.0
Approach LOS			C

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization		65.6%	ICU Level of Service C
Analysis Period (min)		15	



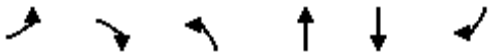
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	15	180	115	245	305	10	75	20	125	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	383	0	0	596	0	0	259	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	115	245	305	10	75	20	125	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	19	222	142	261	324	11	88	24	147	0	7	0

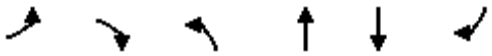
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	383	596	259	7
Volume Left (vph)	19	261	88	0
Volume Right (vph)	142	11	147	0
Hadj (s)	-0.20	0.11	-0.24	0.00
Departure Headway (s)	5.5	5.5	6.2	7.3
Degree Utilization, x	0.59	0.91	0.45	0.01
Capacity (veh/h)	620	596	556	424
Control Delay (s)	16.1	40.2	14.2	10.5
Approach Delay (s)	16.1	40.2	14.2	10.5
Approach LOS	C	E	B	B

Intersection Summary			
Delay	27.2		
HCM Level of Service	D		
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	210	95	185	575	450	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	321	0	0	826	887	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	210	95	185	575	450	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	221	100	201	625	484	403
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1713	685	887			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1713	685	887			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	78	74			
cM capacity (veh/h)	73	448	763			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	321	826	887
Volume Left	221	201	0
Volume Right	100	0	403
cSH	99	763	1700
Volume to Capacity	3.24	0.26	0.52
Queue Length 95th (ft)	Err	26	0
Control Delay (s)	Err	6.4	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.4	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1580.7		
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		817			552			983		218		
Travel Time (s)		18.6			12.5			22.3		5.0		
Volume (vph)	25	0	375	195	250	35	35	475	10	35	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	522	0	0	565	0	76	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	195	250	35	35	475	10	35	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	212	272	38	38	516	11	38	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					552			983				
pX, platoon unblocked	0.92	0.92	0.85	0.85			0.88			0.92	0.92	0.88
vC, conflicting volume	1351	1332	522	527			310			1720	1318	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1180	1159	440	447			212			1583	1144	190
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	77	100	23	78			97			0	100	95
cM capacity (veh/h)	118	135	527	956			1190			15	138	746

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	522	565	76
Volume Left	27	212	38	38
Volume Right	408	38	11	38
cSH	433	956	1190	29
Volume to Capacity	1.00	0.22	0.03	2.62
Queue Length 95th (ft)	322	21	2	226
Control Delay (s)	75.5	5.6	0.9	1023.8
Lane LOS	F	A	A	F
Approach Delay (s)	75.5	5.6	0.9	1023.8
Approach LOS	F			F

Intersection Summary			
Average Delay	71.4		
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 3 PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	452	0.0	0.612	14.3	LOS B	179	0.85	0.93	22.7
8T	T	914	0.0	1.238	125.2	LOS F	1964	1.00	3.30	7.5
Approach		**1366**	**0.0**	**1.238**	**88.5**	**LOS F**	**1964**	**0.95**	**2.51**	**9.7**
Mystic Valley Parkway										
4T	T	803	0.0	0.916	20.9	LOS C	572	1.00	1.38	20.0
4R	R	566	0.0	0.743	13.7	LOS B	278	0.96	1.09	22.6
Approach		**1369**	**0.0**	**0.915**	**17.9**	**LOS B**	**572**	**0.98**	**1.26**	**21.0**
Mystic Valley Parkway										
5L	L	377	0.0	0.714	23.5	LOS C	247	1.00	1.22	19.6
2R	R	309	0.0	0.660	18.5	LOS B	201	1.00	1.17	20.8
Approach		**686**	**0.0**	**0.714**	**21.3**	**LOS C**	**247**	**1.00**	**1.20**	**20.1**
All Vehicles		**3421**	**0.0**	**1.238**	**46.8**	**LOS D**	**1964**	**0.97**	**1.75**	**14.2**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\Alt 3\Mystic&Alewife - Alt3.aap
Processed Oct 06, 2008 03:08:47PM

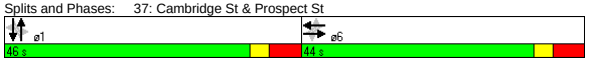
2030 Build Alternative 4 Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	55	305	10	80	350	15	35	280	80	30	345	45
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	468	0	0	482	0	0	477	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	44.0	44.0		44.0	44.0		46.0	46.0		46.0	46.0	
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Total Split (%)	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	29.0	29.0		29.0	29.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.63			0.79			0.67			0.63	
Control Delay		27.0			35.0			19.2			24.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		27.0			35.0			19.2			24.9	
Queue Length 50th (ft)		175			228			91			207	
Queue Length 95th (ft)		275			#390			m170			302	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		630			595			717			763	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.63			0.79			0.67			0.63	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1832			1790			1829			1913	
Flt Permitted		0.85			0.82			0.92			0.94	
Satd. Flow (perm)		1574			1487			1698			1807	
Volume (vph)	55	305	10	80	350	15	35	280	80	30	345	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	59	324	11	84	368	16	43	341	98	34	392	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	468	0	0	482	0	0	477	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		36.0			36.0			38.0			38.0	
Effective Green, g (s)		36.0			36.0			38.0			38.0	
Actuated g/C Ratio		0.40			0.40			0.42			0.42	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		630			595			717			763	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.31			c0.28			0.26	
v/c Ratio		0.63			0.79			0.67			0.63	
Uniform Delay, d1		21.6			23.6			21.0			20.4	
Progression Factor		1.00			1.00			0.69			1.00	
Incremental Delay, d2		4.6			10.1			4.1			3.8	
Delay (s)		26.2			33.7			18.7			24.3	
Level of Service		C			C			B			C	
Approach Delay (s)		26.2			33.7			18.7			24.3	
Approach LOS		C			C			B			C	

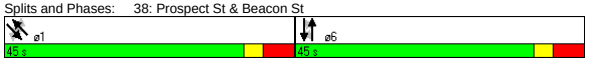
Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	345	30	25	400	10	20	505	90	40	280	25
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	559	0	0	478	0	0	654	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.59			0.67			0.90			0.64	
Control Delay		23.6			12.4			42.2			27.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.6			12.5			42.2			27.0	
Queue Length 50th (ft)		126			68			338			176	
Queue Length 95th (ft)		166			m90			#554			263	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		955			713			729			620	
Starvation Cap Reductn		0			5			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.59			0.68			0.90			0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3356			1831			1811			1793	
Flt Permitted		0.68			0.94			0.98			0.84	
Satd. Flow (perm)		2322			1735			1774			1509	
Volume (vph)	100	345	30	25	400	10	20	505	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	406	35	27	440	11	21	537	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	559	0	0	478	0	0	654	0	0	397	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		955			713			729			620	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.28			c0.37			0.26	
v/c Ratio		0.59			0.67			0.90			0.64	
Uniform Delay, d1		20.6			21.5			24.7			21.2	
Progression Factor		1.00			0.39			1.00			1.00	
Incremental Delay, d2		2.6			3.8			16.0			5.0	
Delay (s)		23.2			12.2			40.7			26.2	
Level of Service		C			B			D			C	
Approach Delay (s)		23.2			12.2			40.7			26.2	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	402			104	899			
Travel Time (s)	9.1			2.4	20.4			
Volume (vph)	840	20	105	1270	110	65		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	966	0	0	1528	213	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		15.0	13.0
Total Split (s)	76.0	0.0	89.0	89.0	16.0	0.0	15.0	13.0
Total Split (%)	63.3%	0.0%	74.2%	74.2%	13.3%	0.0%	13%	11%
Maximum Green (s)	71.0				11.0		12.0	8.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.45			0.85	0.60			
Control Delay	9.6			4.1	49.1			
Queue Delay	0.1			0.0	0.5			
Total Delay	9.7			4.1	49.6			
Queue Length 50th (ft)	205			35	134			
Queue Length 95th (ft)	m206			m35	#278			
Internal Link Dist (ft)	322			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2161			1788	357			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	247			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.50			0.85	0.63			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Lane Group	NBT	SBT	NWL
Lane Group Flow (vph)	966	1528	213
v/c Ratio	0.45	0.85	0.60
Control Delay	9.6	4.1	49.1
Queue Delay	0.1	0.0	0.5
Total Delay	9.7	4.1	49.6
Queue Length 50th (ft)	205	35	134
Queue Length 95th (ft)	m206	m35	#278
Internal Link Dist (ft)	322	24	819
Turn Bay Length (ft)			
Base Capacity (vph)	2161	1788	357
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	247	0	21
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.50	0.85	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

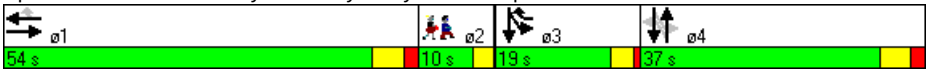
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3598			3323	1848	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3598			2467	1848	
Volume (vph)	840	20	105	1270	110	65
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	944	22	117	1411	134	79
RTOR Reduction (vph)	1	0	0	0	16	0
Lane Group Flow (vph)	965	0	0	1528	197	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	68.6			83.5	21.1	
Effective Green, g (s)	69.6			84.5	22.1	
Actuated g/C Ratio	0.58			0.70	0.18	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2087			1737	340	
v/s Ratio Prot	0.27				c0.11	
v/s Ratio Perm				c0.62		
v/c Ratio	0.46			0.88	0.58	
Uniform Delay, d1	14.5			13.8	44.7	
Progression Factor	0.71			0.17	1.00	
Incremental Delay, d2	0.2			1.6	2.8	
Delay (s)	10.5			3.9	47.5	
Level of Service	B			A	D	
Approach Delay (s)	10.5			3.9	47.5	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	975	20	0	1100	200	30	405	370	560	870	125	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1058	0	0	1170	213	0	1031	0	0	1671	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	54.0	0.0	0.0	54.0	19.0	37.0	37.0	0.0	19.0	56.0	0.0	10.0
Total Split (%)	0.0%	45.0%	0.0%	0.0%	45.0%	15.8%	30.8%	30.8%	0.0%	15.8%	46.7%	0.0%	8%
Maximum Green (s)		48.0			48.0	15.0	31.0	31.0		15.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.28			1.52	0.20		1.64			1.52dl		
Control Delay		161.5			271.0	4.1		322.7			213.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		161.5			271.0	4.1		322.7			213.5		
Queue Length 50th (ft)		~1068			~1267	23		~567			~652		
Queue Length 95th (ft)		#1333			#1525	52		#566			#1160		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		826			768	1046		628			1188		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.28			1.52	0.20		1.64			1.41		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 1 (1%), Referenced to phase 1:EBWB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
dl	Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1058	1170	213	1031	1671
v/c Ratio	1.28	1.52	0.20	1.64	1.52dl
Control Delay	161.5	271.0	4.1	322.7	213.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	161.5	271.0	4.1	322.7	213.5
Queue Length 50th (ft)	~1068	~1267	23	~567	~652
Queue Length 95th (ft)	#1333	#1525	52	#566	#1160
Internal Link Dist (ft)	1193	1177		552	745
Turn Bay Length (ft)					
Base Capacity (vph)	826	768	1046	628	1188
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.28	1.52	0.20	1.64	1.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3322			3469	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1953			2057	
Volume (vph)	0	975	20	0	1100	200	30	405	370	560	870	125
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1037	21	0	1170	213	38	519	474	602	935	134
RTOR Reduction (vph)	0	1	0	0	0	54	0	107	0	0	5	0
Lane Group Flow (vph)	0	1057	0	0	1170	159	0	924	0	0	1666	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		45.6			45.6	68.6		31.0			54.0	
Effective Green, g (s)		46.6			46.6	68.6		32.0			54.0	
Actuated g/C Ratio		0.39			0.39	0.57		0.27			0.45	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		785			730	914		521			1185	
v/s Ratio Prot		0.52			c0.62	0.03					c0.26	
v/s Ratio Perm						0.07		c0.47			0.38	
v/c Ratio		1.35			1.60	0.17		1.77			1.52dl	
Uniform Delay, d1		36.7			36.7	12.2		44.0			33.0	
Progression Factor		0.78			1.00	1.00		1.00			1.00	
Incremental Delay, d2		163.4			277.6	0.0		355.8			187.8	
Delay (s)		192.1			314.3	12.3		399.8			220.8	
Level of Service		F			F	B		F			F	
Approach Delay (s)		192.1			267.8			399.8			220.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	263.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	138.6%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2678			692			567			470		
Travel Time (s)		60.9			15.7			12.9			10.7		
Volume (vph)	65	435	85	75	285	10	40	810	180	55	1220	85	
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.85	0.85	0.85	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	0%	0%	0%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	722	0	0	440	0	0	1212	0	0	1529	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	65.0	65.0	0.0	65.0	65.0	0.0	15.0
Total Split (%)	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%	54.2%	54.2%	0.0%	54.2%	54.2%	0.0%	13%
Maximum Green (s)	36.0	36.0		36.0	36.0		61.0	61.0		61.0	61.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.14			1.19			1.04			1.21		
Control Delay		115.8			142.5			64.9			133.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		115.8			142.5			64.9			133.5		
Queue Length 50th (ft)		~621			~393			~525			~780		
Queue Length 95th (ft)		#880			#633			#598			#880		
Internal Link Dist (ft)		2598			612			487			390		
Turn Bay Length (ft)													
Base Capacity (vph)		632			370			1171			1266		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.14			1.19			1.04			1.21		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NESW, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Boston Ave & Mystic Valley Pkwy



Lane Group	SET	NWT	NET	SWT
Lane Group Flow (vph)	722	440	1212	1529
v/c Ratio	1.14	1.19	1.04	1.21
Control Delay	115.8	142.5	64.9	133.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	115.8	142.5	64.9	133.5
Queue Length 50th (ft)	~621	~393	~525	~780
Queue Length 95th (ft)	#880	#633	#598	#880
Internal Link Dist (ft)	2598	612	487	390
Turn Bay Length (ft)				
Base Capacity (vph)	632	370	1171	1266
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.14	1.19	1.04	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1918			1894			3508			3533	
Flt Permitted		0.87			0.62			0.63			0.69	
Satd. Flow (perm)		1675			1191			2207			2428	
Volume (vph)	65	435	85	75	285	10	40	810	180	55	1220	85
Peak-hour factor, PHF	0.81	0.81	0.81	0.84	0.84	0.84	0.85	0.85	0.85	0.89	0.89	0.89
Adj. Flow (vph)	80	537	105	89	339	12	47	953	212	62	1371	96
RTOR Reduction (vph)	0	4	0	0	1	0	0	15	0	0	4	0
Lane Group Flow (vph)	0	718	0	0	439	0	0	1197	0	0	1525	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		48.0			48.0			58.6			58.6	
Effective Green, g (s)		48.0			48.0			58.6			58.6	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		670			476			1078			1186	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.37			0.54			c0.63	
v/c Ratio		1.07			0.92			1.11			1.29	
Uniform Delay, d1		36.0			34.2			30.7			30.7	
Progression Factor		1.00			1.00			1.00			1.34	
Incremental Delay, d2		55.5			23.9			62.8			132.5	
Delay (s)		91.5			58.1			93.5			173.5	
Level of Service		F			E			F			F	
Approach Delay (s)		91.5			58.1			93.5			173.5	
Approach LOS		F			E			F			F	

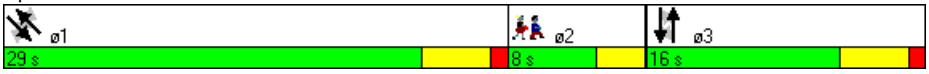
Intersection Summary			
HCM Average Control Delay	120.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			653			1456		
Travel Time (s)		22.5			15.0			14.8			33.1		
Volume (vph)	30	20	15	75	60	50	5	555	55	15	300	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	98	0	0	218	0	0	661	0	0	365	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.28			0.59			0.66			0.38		
Control Delay		17.0			23.3			13.5			8.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.0			23.3			13.5			8.2		
Queue Length 50th (ft)		20			48			103			45		
Queue Length 95th (ft)		42			#115			#334			125		
Internal Link Dist (ft)		911			582			573			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		369			383			996			971		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.27			0.57			0.66			0.38		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 48	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	98	218	661	365
v/c Ratio	0.28	0.59	0.66	0.38
Control Delay	17.0	23.3	13.5	8.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.0	23.3	13.5	8.2
Queue Length 50th (ft)	20	48	103	45
Queue Length 95th (ft)	42	#115	#334	125
Internal Link Dist (ft)	911	582	573	1376
Turn Bay Length (ft)				
Base Capacity (vph)	369	383	996	971
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.57	0.66	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

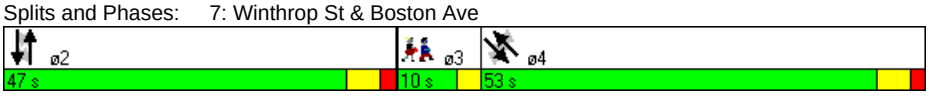
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1799			1759			1778			1789	
Flt Permitted		0.81			0.86			1.00			0.97	
Satd. Flow (perm)		1487			1535			1774			1732	
Volume (vph)	30	20	15	75	60	50	5	555	55	15	300	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	45	30	23	88	71	59	5	597	59	17	337	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	98	0	0	218	0	0	661	0	0	365	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		10.5			10.5			26.0			26.0	
Effective Green, g (s)		11.5			11.5			27.0			27.0	
Actuated g/C Ratio		0.23			0.23			0.54			0.54	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		339			350			950			928	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.14			c0.37			0.21	
v/c Ratio		0.29			0.62			0.70			0.39	
Uniform Delay, d1		16.1			17.5			8.7			6.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			3.9			4.2			1.3	
Delay (s)		16.7			21.4			12.9			8.1	
Level of Service		B			C			B			A	
Approach Delay (s)		16.7			21.4			12.9			8.1	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	50.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	10	345	70	140	130	95	200	410	25	35	190	90	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	518	0	0	415	0	0	676	0	0	339	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		10.0
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	10.0
Total Split (%)	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	48.2%	48.2%	0.0%	48.2%	48.2%	0.0%	9%
Maximum Green (s)	40.9	40.9		40.9	40.9		47.0	47.0		47.0	47.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.71			1.13			1.13			0.48		
Control Delay		33.3			119.4			106.5			22.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.3			119.4			106.5			22.9		
Queue Length 50th (ft)		263			~300			~488			139		
Queue Length 95th (ft)		388			#532			#805			256		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		728			366			599			712		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.71			1.13			1.13			0.48		

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 104	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	
~	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	518	415	676	339
v/c Ratio	0.71	1.13	1.13	0.48
Control Delay	33.3	119.4	106.5	22.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.3	119.4	106.5	22.9
Queue Length 50th (ft)	263	~300	~488	139
Queue Length 95th (ft)	388	#532	#805	256
Internal Link Dist (ft)	1216	2277	1376	2154
Turn Bay Length (ft)				
Base Capacity (vph)	728	366	599	712
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	1.13	1.13	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

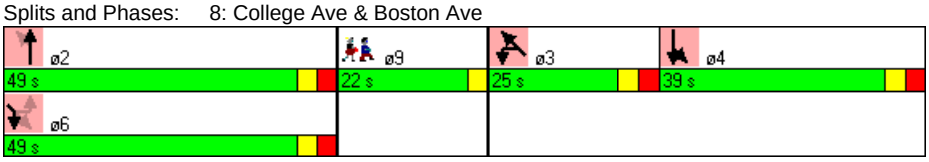
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1819			1881			1806			1730	
Flt Permitted		0.99			0.49			0.72			0.89	
Satd. Flow (perm)		1799			944			1313			1547	
Volume (vph)	10	345	70	140	130	95	200	410	25	35	190	90
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	12	421	85	159	148	108	213	436	27	38	204	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	415	0	0	676	0	0	339	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		41.0			41.0			47.1			47.1	
Effective Green, g (s)		42.1			42.1			48.1			48.1	
Actuated g/C Ratio		0.40			0.40			0.45			0.45	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		716			376			597			703	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.44			c0.51			0.22	
v/c Ratio		0.72			1.10			1.13			0.48	
Uniform Delay, d1		26.9			31.8			28.8			20.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.1			77.4			79.0			2.4	
Delay (s)		30.0			109.2			107.8			22.5	
Level of Service		C			F			F			C	
Approach Delay (s)		30.0			109.2			107.8			22.5	
Approach LOS		C			F			F			C	

Intersection Summary			
HCM Average Control Delay	72.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	105.8	Sum of lost time (s)	15.6
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	130	2	60	335	85	70	345	215	10	185	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	146	0	0	539	0	0	477	247	0	311	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	49.0	49.0	0.0	39.0	39.0	0.0	49.0	49.0	49.0	25.0	25.0	0.0	22.0
Total Split (%)	36.3%	36.3%	0.0%	28.9%	28.9%	0.0%	36.3%	36.3%	36.3%	18.5%	18.5%	0.0%	16%
Maximum Green (s)	43.0	43.0		33.0	33.0		43.0	43.0	43.0	19.0	19.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.22			1.01			1.03	0.41		1.00		
Control Delay	29.7	30.5			86.1			90.0	19.8		102.9		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.7	30.5			86.1			90.0	19.8		102.9		
Queue Length 50th (ft)	39	70			378			335	69		222		
Queue Length 95th (ft)	93	151			#757			#674	165		#364		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	669	662			532			462	609		310		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.22			1.01			1.03	0.41		1.00		

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 121.8	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: College Ave & Boston Ave



Lane Group	NBL	NBT	SBT	SET	SER	NWT
Lane Group Flow (vph)	83	146	539	477	247	311
v/c Ratio	0.12	0.22	1.01	1.03	0.41	1.00
Control Delay	29.7	30.5	86.1	90.0	19.8	102.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	30.5	86.1	90.0	19.8	102.9
Queue Length 50th (ft)	39	70	378	335	69	222
Queue Length 95th (ft)	93	151	#757	#674	165	#364
Internal Link Dist (ft)		984	1733	2154		1658
Turn Bay Length (ft)						
Base Capacity (vph)	669	662	532	462	609	310
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.22	1.01	1.03	0.41	1.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1859			1927			1832	1516		1939	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1859			1927			1299	1516		1939	
Volume (vph)	75	130	2	60	335	85	70	345	215	10	185	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	144	2	67	376	96	80	397	247	14	250	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	70	0	5	0
Lane Group Flow (vph)	83	145	0	0	533	0	0	477	177	0	306	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	43.3	43.3			33.3			43.3	43.3		19.1	
Effective Green, g (s)	43.3	43.3			33.3			43.3	43.3		19.1	
Actuated g/C Ratio	0.35	0.35			0.27			0.35	0.35		0.15	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	659	651			519			455	531		300	
v/s Ratio Prot		0.08			c0.28				0.12		c0.16	
v/s Ratio Perm	0.04							c0.37				
v/c Ratio	0.13	0.22			1.03			1.05	0.33		1.02	
Uniform Delay, d1	27.3	28.3			45.1			40.2	29.5		52.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			46.6			55.4	0.4		57.1	
Delay (s)	27.4	28.5			91.8			95.6	29.9		109.4	
Level of Service	C	C			F			F	C		F	
Approach Delay (s)		28.1			91.8			73.2			109.4	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	79.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

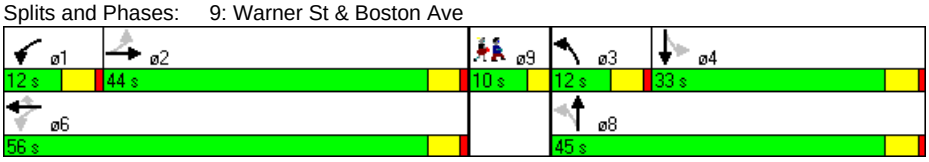
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1432			1738		
Travel Time (s)		12.0			40.8			32.5			39.5		
Volume (vph)	5	380	45	65	630	165	25	40	60	50	300	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	467	0	0	763	181	0	140	0	0	407	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	44.0	44.0	0.0	12.0	56.0	56.0	12.0	45.0	0.0	33.0	33.0	0.0	10.0
Total Split (%)	39.6%	39.6%	0.0%	10.8%	50.5%	50.5%	10.8%	40.5%	0.0%	29.7%	29.7%	0.0%	9%
Maximum Green (s)	39.0	39.0		7.0	51.0	51.0	7.0	40.0		28.0	28.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.41			0.83	0.21		0.30			0.80		
Control Delay		11.4			25.5	3.1		17.4			36.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		11.4			25.5	3.1		17.4			36.0		
Queue Length 50th (ft)		114			288	4		37			195		
Queue Length 95th (ft)		257			#711	39		92			323		
Internal Link Dist (ft)		447			1715			1352			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1148			919	857		663			592		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.41			0.83	0.21		0.21			0.69		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 85.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	467	763	181	140	407
v/c Ratio	0.41	0.83	0.21	0.30	0.80
Control Delay	11.4	25.5	3.1	17.4	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	25.5	3.1	17.4	36.0
Queue Length 50th (ft)	114	288	4	37	195
Queue Length 95th (ft)	257	#711	39	92	323
Internal Link Dist (ft)	447	1715		1352	1658
Turn Bay Length (ft)					
Base Capacity (vph)	1148	919	857	663	592
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.83	0.21	0.21	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↰	↱		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.94			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1958			1809	1301		1877			1973	
Flt Permitted		0.99			0.92	1.00		0.82			0.94	
Satd. Flow (perm)		1947			1672	1301		1549			1870	
Volume (vph)	5	380	45	65	630	165	25	40	60	50	300	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	413	49	71	692	181	28	45	67	58	349	0
RTOR Reduction (vph)	0	2	0	0	0	64	0	34	0	0	0	0
Lane Group Flow (vph)	0	465	0	0	763	117	0	106	0	0	407	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		51.4			51.4	51.4		22.5			22.5	
Effective Green, g (s)		52.4			52.4	52.4		23.5			23.5	
Actuated g/C Ratio		0.59			0.59	0.59		0.27			0.27	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1158			994	774		413			499	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.46	0.09		0.07			c0.22	
v/c Ratio		0.40			0.77	0.15		0.26			0.82	
Uniform Delay, d1		9.5			13.3	7.9		25.4			30.3	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			3.2	0.0		0.1			9.4	
Delay (s)		9.6			16.6	8.0		25.5			39.7	
Level of Service		A			B	A		C			D	
Approach Delay (s)		9.6			14.9			25.5			39.7	
Approach LOS		A			B			C			D	

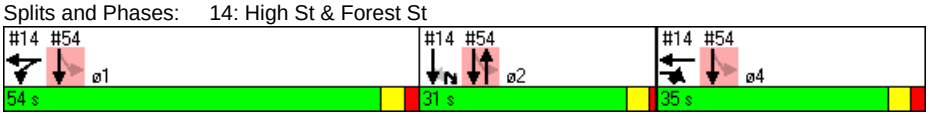
Intersection Summary					
HCM Average Control Delay	19.6	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	88.1	Sum of lost time (s)	12.2		
Intersection Capacity Utilization	92.4%	ICU Level of Service	F		
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	370	290	1375	605	80	80	40	425	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	398	312	1545	770	0	100	0	495	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	35.0	35.0	54.0	89.0	0.0	31.0	31.0	31.0	0.0
Total Split (%)	29.2%	29.2%	45.0%	74.2%	0.0%	25.8%	25.8%	25.8%	0.0%
Maximum Green (s)	30.0	30.0	49.0			27.0	27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.04	0.96	1.12	0.61		0.11		1.12	
Control Delay	102.3	80.3	99.7	11.8		0.4		124.2	
Queue Delay	0.0	2.2	228.2	0.0		0.0		0.0	
Total Delay	102.3	82.5	327.9	11.8		0.4		124.2	
Queue Length 50th (ft)	~335	217	~712	276		0		~443	
Queue Length 95th (ft)	#531	#402	#832	377		0		#658	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	381	326	1375	1260		936		440	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	4	430	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.04	0.97	1.63	0.61		0.11		1.13	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	
~	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Lane Group	EBR	EBR2	WBL	WBT	NBR2	SBT
Lane Group Flow (vph)	398	312	1545	770	100	495
v/c Ratio	1.04	0.96	1.12	0.61	0.11	1.12
Control Delay	102.3	80.3	99.7	11.8	0.4	124.2
Queue Delay	0.0	2.2	228.2	0.0	0.0	0.0
Total Delay	102.3	82.5	327.9	11.8	0.4	124.2
Queue Length 50th (ft)	~335	217	~712	276	0	~443
Queue Length 95th (ft)	#531	#402	#832	377	0	#658
Internal Link Dist (ft)				643		1362
Turn Bay Length (ft)						
Base Capacity (vph)	381	326	1375	1260	936	440
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	4	430	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.97	1.63	0.61	0.11	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	370	290	1375	605	80	80	40	425	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	398	312	1545	680	90	100	41	434	20
RTOR Reduction (vph)	0	26	0	4	0	78	0	2	0
Lane Group Flow (vph)	398	287	1545	766	0	23	0	493	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	30.0	30.0	49.0	84.0		27.0		27.0	
Effective Green, g (s)	30.0	30.0	49.0	84.0		27.0		27.0	
Actuated g/C Ratio	0.25	0.25	0.41	0.70		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	381	301	1375	1257		372		439	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.25	
v/c Ratio	1.04	0.95	1.12	0.61		0.06		1.12	
Uniform Delay, d1	45.0	44.3	35.5	9.4		36.5		46.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	58.2	40.9	65.7	2.2		0.3		81.3	
Delay (s)	103.2	85.2	101.2	11.6		36.8		127.8	
Level of Service	F	F	F	B		D		F	
Approach Delay (s)				71.4				127.8	
Approach LOS				E				F	

Intersection Summary			
HCM Average Control Delay	82.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		

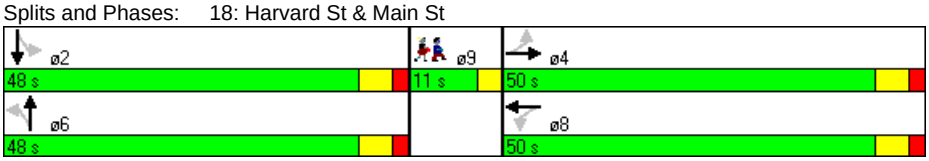
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	450	50	100	490	15	45	320	100	35	605	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	627	0	0	672	0	0	604	0	0	830	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.07			1.31			1.21			1.28		
Control Delay		85.5			178.5			141.1			166.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		85.5			178.5			141.1			166.7		
Queue Length 50th (ft)		~428			~535			~457			~653		
Queue Length 95th (ft)		#742			#859			#606			#982		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		587			514			499			647		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.07			1.31			1.21			1.28		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	627	672	604	830
v/c Ratio	1.07	1.31	1.21	1.28
Control Delay	85.5	178.5	141.1	166.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	85.5	178.5	141.1	166.7
Queue Length 50th (ft)	~428	~535	~457	~653
Queue Length 95th (ft)	#742	#859	#606	#982
Internal Link Dist (ft)	1715	1303	1231	2647
Turn Bay Length (ft)				
Base Capacity (vph)	587	514	499	647
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.07	1.31	1.21	1.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1613	
Flt Permitted		0.81			0.72			0.77			0.94	
Satd. Flow (perm)		1339			1186			1220			1525	
Volume (vph)	70	450	50	100	490	15	45	320	100	35	605	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	495	55	111	544	17	58	416	130	40	688	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	627	0	0	672	0	0	604	0	0	830	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		588			521			512			640	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.57			0.50			c0.54	
v/c Ratio		1.07			1.29			1.18			1.30	
Uniform Delay, d1		28.8			28.8			29.8			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		56.1			144.3			99.6			144.9	
Delay (s)		84.9			173.1			129.4			174.7	
Level of Service		F			F			F			F	
Approach Delay (s)		84.9			173.1			129.4			174.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	143.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		

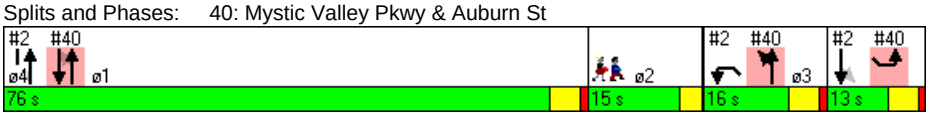
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	50	855	1235	30	15	140	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	54	919	1291	0	187	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	16.0	92.0	76.0	0.0	13.0	0.0	15.0
Total Split (%)	13.3%	76.7%	63.3%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	11.0		71.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.14	0.60	1.07		0.87		
Control Delay	20.0	9.8	51.2		71.9		
Queue Delay	0.0	0.0	27.2		9.7		
Total Delay	20.0	9.8	78.3		81.6		
Queue Length 50th (ft)	9	390	~378		98		
Queue Length 95th (ft)	m47	357	m68		#218		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	396	1540	1201		216		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	68		17		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.14	0.60	1.14		0.94		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Lane Group	NBL	NBT	SBT	SEL
Lane Group Flow (vph)	54	919	1291	187
v/c Ratio	0.14	0.60	1.07	0.87
Control Delay	20.0	9.8	51.2	71.9
Queue Delay	0.0	0.0	27.2	9.7
Total Delay	20.0	9.8	78.3	81.6
Queue Length 50th (ft)	9	390	~378	98
Queue Length 95th (ft)	m47	357	m68	#218
Internal Link Dist (ft)		24	1020	205
Turn Bay Length (ft)				
Base Capacity (vph)	396	1540	1201	216
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	68	17
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.60	1.14	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1805	1900	2000		1771	
Flt Permitted	0.06	1.00	1.00		1.00	
Satd. Flow (perm)	109	1900	2000		1771	
Volume (vph)	50	855	1235	30	15	140
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	54	919	1260	31	18	169
RTOR Reduction (vph)	0	0	1	0	55	0
Lane Group Flow (vph)	54	919	1290	0	132	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	89.7	89.7	68.6		9.9	
Effective Green, g (s)	91.7	91.7	69.6		10.9	
Actuated g/C Ratio	0.76	0.76	0.58		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	396	1452	1160		161	
v/s Ratio Prot	0.03	c0.48	c0.65		c0.07	
v/s Ratio Perm	0.08					
v/c Ratio	0.14	0.63	1.11		0.82	
Uniform Delay, d1	41.2	6.5	25.2		53.6	
Progression Factor	2.31	1.73	0.52		1.00	
Incremental Delay, d2	0.2	0.9	51.8		28.6	
Delay (s)	95.2	12.1	65.1		82.2	
Level of Service	F	B	E		F	
Approach Delay (s)		16.7	65.1		82.2	
Approach LOS		B	E		F	

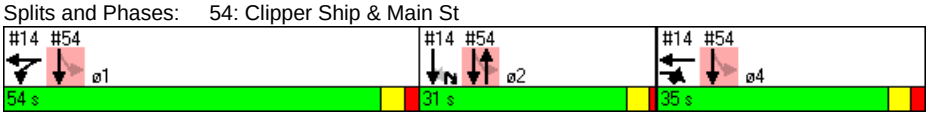
Intersection Summary			
HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	440	50	2040		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	473	0	2155		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	31.0	0.0	120.0	120.0	54.0	35.0
Total Split (%)	0.0%	0.0%	25.8%	0.0%	100.0%	100.0%	45%	29%
Maximum Green (s)			27.0				49.0	30.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.31		0.83		
Control Delay			39.6	0.5		9.9		
Queue Delay			0.0	0.0		0.0		
Total Delay			39.6	0.5		9.9		
Queue Length 50th (ft)			55	0		363		
Queue Length 95th (ft)			101	0		m163		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			400	1509		2581		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			5	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.22	0.31		0.83		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 140
Control Type: Pretimed
m Volume for 95th percentile queue is metered by upstream signal.

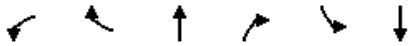
Splits and Phases: 54: Clipper Ship & Main St



Lane Group	NBT	NBR	SBT
Lane Group Flow (vph)	86	473	2155
v/c Ratio	0.22	0.31	0.83
Control Delay	39.6	0.5	9.9
Queue Delay	0.0	0.0	0.0
Total Delay	39.6	0.5	9.9
Queue Length 50th (ft)	55	0	363
Queue Length 95th (ft)	101	0	m163
Internal Link Dist (ft)	240		1
Turn Bay Length (ft)			
Base Capacity (vph)	400	1509	2581
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	5	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.22	0.31	0.83

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.82
Satd. Flow (perm)			1776	1509		2581
Volume (vph)	0	0	80	440	50	2040
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	473	52	2103
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	473	0	2155
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			27.0	120.0		120.0
Effective Green, g (s)			27.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			400	1509		2581
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.31		c0.84
v/c Ratio			0.22	0.31		0.83
Uniform Delay, d1			37.9	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.2	0.5		0.3
Delay (s)			39.1	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		6.5			0.3
Approach LOS	A		A			A

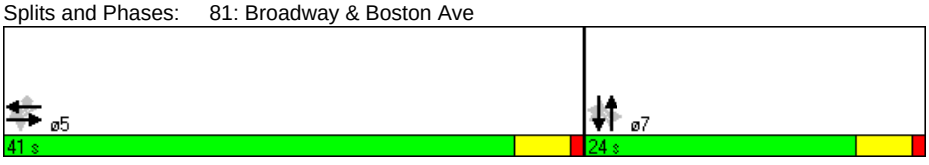
Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				Yes				Yes				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		743					160				768			1432
Travel Time (s)		16.9					3.6				17.5			32.5
Volume (vph)	10	875	30	20	10	5	530	130	5	15	50	70	315	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1017	0	0	0	0	592	141	0	0	75	76	0	380
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Detector Phases	5	5			5	5	5	5	7	7	7		7	7
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0	24.0	21.0	21.0	21.0		21.0	21.0
Total Split (s)	41.0	41.0	0.0	0.0	41.0	41.0	41.0	41.0	24.0	24.0	24.0	0.0	24.0	24.0
Total Split (%)	63.1%	63.1%	0.0%	0.0%	63.1%	63.1%	63.1%	63.1%	36.9%	36.9%	36.9%	0.0%	36.9%	36.9%
Maximum Green (s)	36.0	36.0			36.0	36.0	36.0	36.0	19.0	19.0	19.0		19.0	19.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max	Max	None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0	8.0						
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0	11.0						
Pedestrian Calls (#/hr)	0	0			0	0	0	0						
v/c Ratio		0.97					0.58	0.15			0.15	0.05		0.96
Control Delay		37.7					11.8	1.8			17.4	0.1		62.3
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		37.7					11.8	1.8			17.4	0.1		62.3
Queue Length 50th (ft)		347					135	0			21	0		146
Queue Length 95th (ft)		#635					220	19			49	0		#304
Internal Link Dist (ft)		663					80				688			1352
Turn Bay Length (ft)														
Base Capacity (vph)		1048					1026	962			492	1583		396
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.97					0.58	0.15			0.15	0.05		0.96

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 81: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1900
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	10	20
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	22
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Detector Phases		
Minimum Initial (s)		
Minimum Split (s)		
Total Split (s)	0.0	0.0
Total Split (%)	0.0%	0.0%
Maximum Green (s)		
Yellow Time (s)		
All-Red Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		
Recall Mode		
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.01
Control Delay		0.0
Queue Delay		0.0
Total Delay		0.0
Queue Length 50th (ft)		0
Queue Length 95th (ft)		0
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		1583
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.01

Intersection Summary



Lane Group	EBT	WBT	WBR	NBT	NBR	SBT	SBR2
Lane Group Flow (vph)	1017	592	141	75	76	380	22
v/c Ratio	0.97	0.58	0.15	0.15	0.05	0.96	0.01
Control Delay	37.7	11.8	1.8	17.4	0.1	62.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	11.8	1.8	17.4	0.1	62.3	0.0
Queue Length 50th (ft)	347	135	0	21	0	146	0
Queue Length 95th (ft)	#635	220	19	49	0	#304	0
Internal Link Dist (ft)	663	80		688		1352	
Turn Bay Length (ft)							
Base Capacity (vph)	1048	1026	962	492	1583	396	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.58	0.15	0.15	0.05	0.96	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		1.00
Frt		0.99					1.00	0.85			1.00	0.85		1.00
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.96
Satd. Flow (prot)		1848					1860	1583			1837	1583		1775
Flt Permitted		0.99					0.97	1.00			0.86	1.00		0.69
Satd. Flow (perm)		1837					1804	1583			1599	1583		1287
Volume (vph)	10	875	30	20	10	5	530	130	5	15	50	70	315	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	951	33	22	11	5	576	141	5	16	54	76	342	27
RTOR Reduction (vph)	0	1	0	0	0	0	0	61	0	0	0	0	0	0
Lane Group Flow (vph)	0	1016	0	0	0	0	592	80	0	0	75	76	0	380
Turn Type	Perm				Perm	Perm		Perm	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		5	7	7		Free	7	
Actuated Green, G (s)		36.0					36.0	36.0			19.0	65.0		19.0
Effective Green, g (s)		37.0					37.0	37.0			20.0	65.0		20.0
Actuated g/C Ratio		0.57					0.57	0.57			0.31	1.00		0.31
Clearance Time (s)		5.0					5.0	5.0			5.0			5.0
Vehicle Extension (s)		3.0					3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		1046					1027	901			492	1583		396
v/s Ratio Prot														
v/s Ratio Perm		c0.55					0.33	0.05			0.05	0.05		c0.30
v/c Ratio		0.97					0.58	0.09			0.15	0.05		0.96
Uniform Delay, d1		13.5					9.0	6.4			16.3	0.0		22.1
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		21.7					2.4	0.2			0.1	0.1		34.4
Delay (s)		35.2					11.3	6.5			16.5	0.1		56.5
Level of Service		D					B	A			B	A		E
Approach Delay (s)		35.2					10.4				8.2			53.4
Approach LOS		D					B				A			D

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1583
Flt Permitted		1.00
Satd. Flow (perm)		1583
Volume (vph)	10	20
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	11	22
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	22
Turn Type		Free
Protected Phases		
Permitted Phases		Free
Actuated Green, G (s)		65.0
Effective Green, g (s)		65.0
Actuated g/C Ratio		1.00
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		1583
v/s Ratio Prot		
v/s Ratio Perm		0.01
v/c Ratio		0.01
Uniform Delay, d1		0.0
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		0.0
Level of Service		A
Approach Delay (s)		
Approach LOS		

Intersection Summary

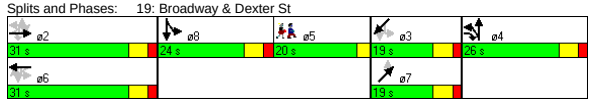
Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1501						1176			419		
Travel Time (s)			34.1						26.7			9.5		
Volume (vph)	5	15	650	495	20	1	5	20	485	55	240	160	35	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	712	548	0	0	0	0	615	0	0	458	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	31.0	31.0	31.0	26.0	0.0	31.0	31.0	31.0	31.0	0.0	26.0	26.0	0.0	24.0
Total Split (%)	25.8%	25.8%	25.8%	21.7%	0.0%	25.8%	25.8%	25.8%	25.8%	0.0%	21.7%	21.7%	0.0%	20.0%
Maximum Green (s)	25.0	25.0	25.0	20.0		25.0	25.0	25.0	25.0		20.0	20.0		18.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			1.04	0.70					1.13			1.21		
Control Delay			83.4	27.3					117.4			151.8		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			83.4	27.3					117.4			151.8		
Queue Length 50th (ft)			~240	246					~234			~349		
Queue Length 95th (ft)			#476	#541					#441			#685		
Internal Link Dist (ft)			1421						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			686	779					543			380		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			1.04	0.70					1.13			1.21		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extention
19: Broadway & Dexter St
2030 Build Condition Alt 4 - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	300	20	25	0	90	20	85	15	40	10	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	424	0	0	105	0	0	0	201	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	24.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	20.0
Total Split (%)	20.0%	0.0%	0.0%	15.8%	0.0%	15.8%	15.8%	15.8%	0.0%	0.0%	17%
Maximum Green (s)	18.0			13.0		13.0	13.0	13.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.18			0.47				1.22			
Control Delay	145.3			50.9				179.1			
Queue Delay	0.0			0.0				0.0			
Total Delay	145.3			50.9				179.1			
Queue Length 50th (ft)	~318			62				~154			
Queue Length 95th (ft)	#601			131				#338			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	359			222				165			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.18			0.47				1.22			

Intersection Summary

\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 4\optimize\coordination\2030 Build Alt 4- AM.sy7
VHB:: VL
VHB, Inc.
10/29/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3264			1862		
Flt Permitted			0.85	1.00					0.74			0.97		
Satd. Flow (perm)			2970	1549					2407			1862		
Volume (vph)	5	15	650	495	20	1	5	20	485	55	240	160	35	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	691	527	21	1	5	22	527	60	253	168	37	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	712	547	0	0	0	0	615	0	0	456	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			25.1	45.2					25.1			20.1		
Effective Green, g (s)			26.1	47.2					26.1			21.1		
Actuated g/C Ratio			0.25	0.44					0.25			0.20		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			729	761					591			370		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.24	0.21					c0.26					
v/c Ratio			0.98	0.72					1.04			1.23		
Uniform Delay, d1			39.8	24.1					40.1			42.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			27.4	4.7					48.0			125.6		
Delay (s)			67.2	28.8					88.1			168.2		
Level of Service			E	C					F			F		
Approach Delay (s)			50.5						88.1			168.2		
Approach LOS			D						F			F		

Intersection Summary				
HCM Average Control Delay	98.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.15			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	113.0%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St

2030 Build Condition Alt 4 - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1939			1644				1761		
Flt Permitted	1.00			1.00				0.71		
Satd. Flow (perm)	1939			1644				1294		
Volume (vph)	300	20	25	0	90	20	85	15	40	10
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	349	23	29	0	105	24	100	18	47	12
RTOR Reduction (vph)	2	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	422	0	0	105	0	0	0	199	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	18.1			13.1				13.1		
Effective Green, g (s)	19.1			14.1				14.1		
Actuated g/C Ratio	0.18			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	348			218				172		
v/s Ratio Prot	c0.22			0.06						
v/s Ratio Perm								c0.15		
v/c Ratio	1.21			0.48				1.16		
Uniform Delay, d1	43.6			42.7				46.1		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	118.8			0.6				117.7		
Delay (s)	162.4			43.3				163.8		
Level of Service	F			D				F		
Approach Delay (s)	162.4			43.3				163.8		
Approach LOS	F			D				F		

Intersection Summary

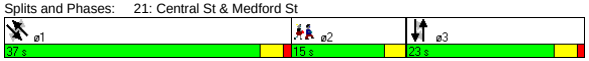
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 4\optimize\coordination\2030 Build Alt 4- AM.sy7
VHB:: VL
VHB, Inc.
10/29/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	85	25	170	10	10	630	115	85	260	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	409	0	0	241	0	0	829	0	0	390	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	23.0	23.0	0.0	23.0	23.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	15.0
Total Split (%)	30.7%	30.7%	0.0%	30.7%	30.7%	0.0%	49.3%	49.3%	0.0%	49.3%	49.3%	0.0%	20%
Maximum Green (s)	19.0	19.0		19.0	19.0		33.0	33.0		33.0	33.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.83			0.49			0.87			0.67		
Control Delay		37.7			23.4			26.7			20.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		37.7			23.4			26.7			20.4		
Queue Length 50th (ft)		126			69			223			88		
Queue Length 95th (ft)		#307			158			#634			#309		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		493			490			957			580		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			0.49			0.87			0.67		

Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 63	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1784			1821			1823			1799	
Flt Permitted		0.91			0.92			0.99			0.70	
Satd. Flow (perm)		1639			1690			1815			1275	
Volume (vph)	55	195	85	25	170	10	10	630	115	85	260	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	104	29	200	12	11	692	126	93	286	11
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	393	0	0	241	0	0	829	0	0	389	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		19.2			19.2			33.3			33.3	
Effective Green, g (s)		19.2			19.2			33.3			33.3	
Actuated g/C Ratio		0.29			0.29			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		480			495			923			648	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.46			0.31	
v/c Ratio		0.82			0.49			0.90			0.60	
Uniform Delay, d1		21.5			19.1			14.6			11.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		11.0			1.0			13.3			4.1	
Delay (s)		32.6			20.1			27.9			15.5	
Level of Service		C			C			C			B	
Approach Delay (s)		32.6			20.1			27.9			15.5	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	65.5	Sum of lost time (s)	13.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

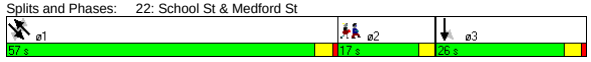
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			778		
Travel Time (s)		21.7			21.8			35.4			17.7		
Volume (vph)	0	0	0	145	300	20	10	770	95	165	285	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	506	0	0	911	0	0	597	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	26.0	26.0	0.0	57.0	57.0	0.0	57.0	57.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	26.0%	26.0%	0.0%	57.0%	57.0%	0.0%	57.0%	57.0%	0.0%	17%
Maximum Green (s)				22.0	22.0		53.0	53.0		53.0	53.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.03			0.79			1.16		
Control Delay					84.2			22.1			114.5		
Queue Delay					0.0			0.0			0.0		
Total Delay					84.2			22.1			114.5		
Queue Length 50th (ft)					259			283			~352		
Queue Length 95th (ft)					#587			#762			#681		
Internal Link Dist (ft)		873			879			1476			698		
Turn Bay Length (ft)													
Base Capacity (vph)					491			1157			514		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.03			0.79			1.16		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89.8
Natural Cycle: 150
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.99			0.98	
Flt Protected					0.98			1.00			0.98	
Satd. Flow (prot)					1984			1952			1877	
Flt Permitted					0.98			0.99			0.50	
Satd. Flow (perm)					1984			1941			960	
Volume (vph)	0	0	0	145	300	20	10	770	95	165	285	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	158	326	22	10	802	99	188	324	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	4	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	504	0	0	907	0	0	592	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					22.2			53.4			53.4	
Effective Green, g (s)					22.2			53.4			53.4	
Actuated g/C Ratio					0.24			0.58			0.58	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					481			1132			560	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.47			c0.62	
v/c Ratio					1.05			0.80			1.06	
Uniform Delay, d1					34.7			15.0			19.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					54.4			6.0			53.8	
Delay (s)					89.1			21.0			72.9	
Level of Service					F			C			E	
Approach Delay (s)		0.0			89.1			21.0			72.9	
Approach LOS		A			F			C			E	

Intersection Summary

HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		

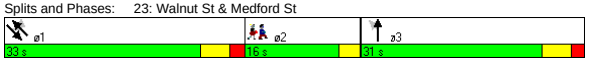
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			757			533		
Travel Time (s)		17.7			19.2			17.2			12.1		
Volume (vph)	80	200	10	0	0	0	10	615	0	0	185	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	651	0	0	233	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.42						0.83			0.30		
Control Delay		18.4						30.2			15.1		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.4						30.2			15.1		
Queue Length 50th (ft)		81						208			54		
Queue Length 95th (ft)		197						#542			136		
Internal Link Dist (ft)		699			764			677			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						785			769		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.42						0.83			0.30		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1820	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1847						1871			1820	
Volume (vph)	80	200	10	0	0	0	10	615	0	0	185	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	10	641	0	0	210	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	305	0	0	0	0	0	651	0	0	228	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						758			737	
v/s Ratio Prot											0.13	
v/s Ratio Perm		0.17						c0.35				
v/c Ratio		0.44						0.86			0.31	
Uniform Delay, d1		16.2						18.9			14.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						9.9			0.3	
Delay (s)		16.8						28.8			14.4	
Level of Service		B						C			B	
Approach Delay (s)		16.8			0.0			28.8			14.4	
Approach LOS		B			A			C			B	

Intersection Summary

HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

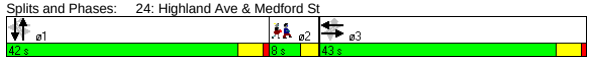
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	200	5	0	5	590	30	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	230	0	18	0	0	658	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	43.0	43.0	0.0	43.0	43.0	85.0	42.0	42.0	0.0	42.0	42.0	0.0	8.0
Total Split (%)	46.2%	46.2%	0.0%	46.2%	46.2%	91.4%	45.2%	45.2%	0.0%	45.2%	45.2%	0.0%	9%
Maximum Green (s)	38.0	38.0		38.0	38.0		37.0	37.0		37.0	37.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.80			1.04	0.14		0.03			1.11		
Control Delay		29.9			78.4	0.3		10.9			96.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		29.9			78.4	0.3		10.9			96.5		
Queue Length 50th (ft)		286			~280	0		3			~402		
Queue Length 95th (ft)		#553			#517	5		9			#691		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		829			490	1596		605			594		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.80			1.04	0.14		0.03			1.11		

Intersection Summary

Area Type: Other
Cycle Length: 93
Actuated Cycle Length: 86.6
Natural Cycle: 100
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.98			0.95	
Satd. Flow (prot)		1834			1913	1632		1646			1777	
Flt Permitted		1.00			0.63	1.00		0.81			0.72	
Satd. Flow (perm)		1834			1211	1632		1373			1349	
Volume (vph)	0	590	25	35	410	200	5	0	5	590	30	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	230	9	0	9	621	32	5
RTOR Reduction (vph)	0	2	0	0	0	20	0	5	0	0	1	0
Lane Group Flow (vph)	0	659	0	0	511	210	0	13	0	0	657	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		38.0			38.0	80.0		37.0			37.0	
Effective Green, g (s)		39.0			39.0	81.0		38.0			38.0	
Actuated g/C Ratio		0.44			0.44	0.91		0.43			0.43	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		805			531	1487		587			577	
v/s Ratio Prot		0.36										
v/s Ratio Perm					c0.42	0.13		0.01			c0.49	
v/c Ratio		0.82			0.96	0.14		0.02			1.14	
Uniform Delay, d1		21.9			24.2	0.4		14.7			25.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		9.1			30.8	0.2		0.1			82.2	
Delay (s)		31.0			55.0	0.6		14.8			107.6	
Level of Service		C			E	A		B			F	
Approach Delay (s)		31.0			38.1			14.8			107.6	
Approach LOS		C			D			B			F	

Intersection Summary

HCM Average Control Delay	57.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

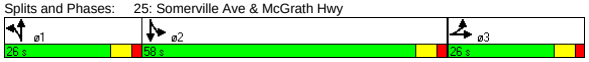
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	365	120	0	0	0	45	195	30	200	1260	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	629	0	0	0	0	0	261	33	213	1489	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	58.0	58.0	0.0
Total Split (%)	23.6%	23.6%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	52.7%	52.7%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		52.0	52.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.97						0.39	0.02	0.25	0.95	
Control Delay		70.8						41.0	0.0	17.9	41.1	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		70.8						41.0	0.0	17.9	41.1	
Queue Length 50th (ft)		225						85	0	86	508	
Queue Length 95th (ft)		#344						126	0	136	#682	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		651						663	1672	836	1568	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.97						0.39	0.02	0.25	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3304						3472	1672	1736	3239	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3304						3472	1672	1736	3239	
Volume (vph)	100	365	120	0	0	0	45	195	30	200	1260	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	392	129	0	0	0	49	212	33	213	1340	149
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	608	0	0	0	0	0	261	33	213	1481	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	110.0	52.0	52.0	
Effective Green, g (s)		21.0						21.0	110.0	53.0	53.0	
Actuated g/C Ratio		0.19						0.19	1.00	0.48	0.48	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		631						663	1672	836	1561	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.46	
v/s Ratio Perm									0.02			
v/c Ratio		0.96						0.39	0.02	0.25	0.95	
Uniform Delay, d1		44.1						38.9	0.0	16.8	27.2	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		27.9						1.8	0.0	0.7	13.5	
Delay (s)		72.0						40.7	0.0	17.6	40.7	
Level of Service		E						D	A	B	D	
Approach Delay (s)		72.0			0.0			36.1			37.8	
Approach LOS		E			A			D			D	

Intersection Summary

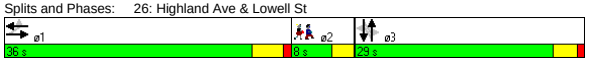
HCM Average Control Delay	45.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	35	385	0	0	455	30	25	70	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	489	0	0	638	0	0	190	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	36.0	36.0	0.0	0.0	36.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	49.3%	49.3%	0.0%	0.0%	49.3%	0.0%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	11%
Maximum Green (s)	31.0	31.0			31.0		25.0	25.0		25.0	25.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.73			0.67			0.37			0.81		
Control Delay		22.7			17.7			18.4			31.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		22.7			17.7			18.4			31.6		
Queue Length 50th (ft)		135			168			51			92		
Queue Length 95th (ft)		#346			282			85			#247		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		671			955			613			503		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.73			0.67			0.31			0.70		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 61.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



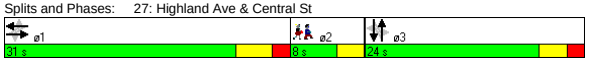
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1819			1812			1772			1693	
Flt Permitted		0.88			1.00			0.91			0.71	
Satd. Flow (perm)		1600			1812			1632			1239	
Volume (vph)	35	385	0	0	455	30	25	70	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	41	448	0	0	599	39	35	99	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	44	0
Lane Group Flow (vph)	0	489	0	0	638	0	0	190	0	0	307	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		31.5			31.5			19.7			19.7	
Effective Green, g (s)		32.5			32.5			19.7			19.7	
Actuated g/C Ratio		0.51			0.51			0.31			0.31	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		813			920			502			381	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.31						0.12			c0.25	
v/c Ratio		0.60			0.69			0.38			0.81	
Uniform Delay, d1		11.2			12.0			17.4			20.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.3			4.3			0.7			12.4	
Delay (s)		14.4			16.3			18.0			32.8	
Level of Service		B			B			B			C	
Approach Delay (s)		14.4			16.3			18.0			32.8	
Approach LOS		B			B			B			C	

Intersection Summary					
HCM Average Control Delay	19.4	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	81.8%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	410	35	30	300	25	40	195	45	25	205	45	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	545	0	0	480	0	0	318	0	0	362	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	13%
Maximum Green (s)	25.0	25.0		25.0	25.0		19.0	19.0		19.0	19.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.70			0.64			0.61			0.65		
Control Delay		18.3			16.3			20.9			21.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.3			16.3			20.9			21.9		
Queue Length 50th (ft)		121			103			78			90		
Queue Length 95th (ft)		#266			176			170			156		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		867			838			608			648		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.63			0.57			0.52			0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 49.1	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1821			1802			1792			1804	
Flt Permitted		0.95			0.93			0.91			0.95	
Satd. Flow (perm)		1737			1689			1637			1727	
Volume (vph)	30	410	35	30	300	25	40	195	45	25	205	45
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	471	40	41	405	34	45	222	51	33	270	59
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	11	0
Lane Group Flow (vph)	0	540	0	0	476	0	0	307	0	0	351	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.7			20.7			15.4			15.4	
Effective Green, g (s)		21.7			21.7			15.4			15.4	
Actuated g/C Ratio		0.43			0.43			0.30			0.30	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		741			720			495			523	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.19			c0.20	
v/c Ratio		0.73			0.66			0.62			0.67	
Uniform Delay, d1		12.2			11.7			15.2			15.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.9			2.5			2.7			3.7	
Delay (s)		16.0			14.2			17.9			19.2	
Level of Service		B			B			B			B	
Approach Delay (s)		16.0			14.2			17.9			19.2	
Approach LOS		B			B			B			B	

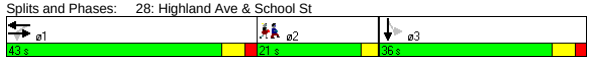
Intersection Summary					
HCM Average Control Delay	16.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.64				
Actuated Cycle Length (s)	50.9	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	62.7%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	495	15	40	380	0	0	0	0	205	260	95	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	593	0	0	483	0	0	0	0	0	602	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	43.0	0.0	43.0	43.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0	21.0
Total Split (%)	0.0%	43.0%	0.0%	43.0%	43.0%	0.0%	0.0%	0.0%	0.0%	36.0%	36.0%	0.0%	21%
Maximum Green (s)		37.0		37.0	37.0					30.0	30.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.14						0.89		
Control Delay		26.0			114.4						43.3		
Queue Delay		0.0			0.0						0.0		
Total Delay		26.0			114.4						43.3		
Queue Length 50th (ft)		215			~274						264		
Queue Length 95th (ft)		#502			#580						#643		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		824			422						675		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.72			1.14						0.89		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1796	
Flt Permitted		1.00			0.72						0.98	
Satd. Flow (perm)		1786			1282						1796	
Volume (vph)	0	495	15	40	380	0	0	0	0	205	260	95
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	576	17	46	437	0	0	0	0	220	280	102
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	592	0	0	483	0	0	0	0	0	602	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		37.3			37.3						30.3	
Effective Green, g (s)		38.3			38.3						31.3	
Actuated g/C Ratio		0.45			0.45						0.37	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		799			574						657	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.38						0.34	
v/c Ratio		0.74			0.84						0.92	
Uniform Delay, d1		19.5			21.0						25.9	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.7			10.8						17.8	
Delay (s)		23.3			31.7						43.7	
Level of Service		C			C						D	
Approach Delay (s)		23.3			31.7			0.0			43.7	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	420	100	305	995	220	320	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	545	130	328	1070	324	471	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.47	0.15	0.85	0.93	0.80	1.10	
Control Delay	9.9	2.0	36.4	29.8	45.4	97.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.9	2.0	36.4	29.8	45.4	97.5	
Queue Length 50th (ft)	107	0	98	360	139	~210	
Queue Length 95th (ft)	208	15	#345	#888	192	#287	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	887	386	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.15	0.85	0.93	0.80	1.10	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	677	1827	1719	1538
Volume (vph)	420	100	305	995	220	320
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	545	130	328	1070	324	471
RTOR Reduction (vph)	0	51	0	0	0	68
Lane Group Flow (vph)	545	79	328	1070	324	403
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	413	1113	393	352
v/s Ratio Prot	0.29			c0.59	0.19	c0.26
v/s Ratio Perm		0.06	0.48			
v/c Ratio	0.48	0.10	0.79	0.96	0.82	1.15
Uniform Delay, d1	8.5	6.4	11.7	14.6	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	9.5	18.2	13.7	93.5
Delay (s)	8.6	6.4	21.2	32.8	42.7	124.0
Level of Service	A	A	C	C	D	F
Approach Delay (s)	8.2			30.1	90.9	
Approach LOS	A			C	F	

Intersection Summary

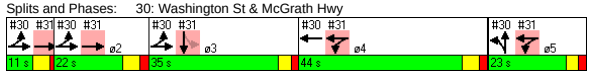
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	550	380	0	0	1285	105	25	230	540	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	598	427	0	0	1545	0	29	264	621	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	68.0	68.0	0.0	0.0	44.0	0.0	23.0	23.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	50.4%	50.4%	0.0%	0.0%	32.6%	0.0%	17.0%	17.0%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					38.0		18.0	18.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.36	0.19			1.08		0.13	1.14	0.42					
Control Delay	1.6	0.6			94.9		53.4	152.6	0.9					
Queue Delay	0.0	0.0			40.2		0.1	0.0	0.0					
Total Delay	1.6	0.6			135.1		53.5	152.6	0.9					
Queue Length 50th (ft)	11	1			~554		23	~269	0					
Queue Length 95th (ft)	m13	m1			#652		52	#426	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1660	2200			1426		221	232	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			113		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.36	0.19			1.18		0.14	1.14	0.42					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	35.0
Total Split (%)	26%
Maximum Green (s)	30.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4935		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4935		1656	1743	1482			
Volume (vph)	550	380	0	0	1285	105	25	230	540	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	598	427	0	0	1428	117	29	264	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	598	427	0	0	1545	0	29	264	621	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	63.0	63.0			38.0		18.0	18.0	135.0			
Effective Green, g (s)	63.0	63.0			39.0		18.0	18.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.29		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1660	2200			1426		221	232	1482			
v/s Ratio Prot	0.17	0.09			c0.31		0.02	c0.15				
v/s Ratio Perm									c0.42			
v/c Ratio	0.36	0.19			1.08		0.13	1.14	0.42			
Uniform Delay, d1	23.1	21.1			48.0		51.6	58.5	0.0			
Progression Factor	0.05	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			49.9		1.2	101.3	0.9			
Delay (s)	1.6	0.6			97.9		52.8	159.8	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		1.2			97.9			48.4			0.0	
Approach LOS		A			F			D			A	

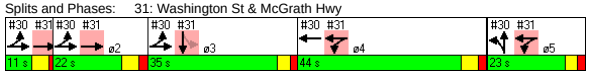
Intersection Summary			
HCM Average Control Delay	56.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	885	35	580	730	0	0	0	0	45	160	515		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	1001	0	617	830	0	0	0	0	0	829	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	67.0	67.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	49.6%	49.6%	0.0%	0.0%	0.0%	0.0%	25.9%	25.9%	0.0%	8%	16%
Maximum Green (s)										30.0	30.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.71		0.78	0.53						1.44dr			
Control Delay		52.7		6.6	0.3						119.2			
Queue Delay		0.1		0.0	0.0						30.6			
Total Delay		52.8		6.6	0.3						149.8			
Queue Length 50th (ft)		202		103	0						~414			
Queue Length 95th (ft)		237		m60	m0						#527			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1409		789	1564						731			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		34		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.73		0.78	0.53						1.20			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	44.0	23.0
Total Split (%)	33%	17%
Maximum Green (s)	38.0	18.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6773		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6773		1719	3406						3007	
Volume (vph)	0	885	35	580	730	0	0	0	0	45	160	515
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	962	39	617	830	0	0	0	0	62	182	585
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	63	0
Lane Group Flow (vph)	0	996	0	617	830	0	0	0	0	0	766	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		62.0	62.0						30.0	
Effective Green, g (s)		28.0		62.0	62.0						30.0	
Actuated g/C Ratio		0.21		0.46	0.46						0.22	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1405		789	1564						668	
v/s Ratio Prot		c0.15		c0.36	0.24							
v/s Ratio Perm											0.25	
v/c Ratio		0.71		0.78	0.53						1.44dr	
Uniform Delay, d1		49.7		30.8	26.1						52.5	
Progression Factor		1.00		0.18	0.01						1.00	
Incremental Delay, d2		3.1		0.7	0.1						82.8	
Delay (s)		52.8		6.4	0.3						135.3	
Level of Service		D		A	A						F	
Approach Delay (s)		52.8			2.9			0.0			135.3	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	51.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

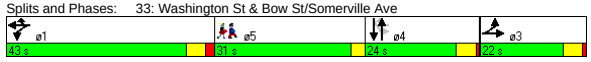
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	350	65	575	505	475	0	0	0	420	360	70	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	484	0	632	555	522	0	0	0	259	645	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	43.0	43.0	43.0	0.0	24.0	0.0	24.0	24.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	35.8%	35.8%	35.8%	0.0%	20.0%	0.0%	20.0%	20.0%	0.0%	26%
Maximum Green (s)	17.0	17.0		37.0	37.0	37.0		19.0		19.0	19.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.17		1.30	1.09	0.48				0.72	0.83		
Control Delay		145.0		162.5	67.9	3.4				51.8	49.5		
Queue Delay		0.0		0.0	0.0	0.6				0.0	0.0		
Total Delay		145.0		162.5	67.9	4.0				51.8	49.5		
Queue Length 50th (ft)		~235		~633	~485	53				161	209		
Queue Length 95th (ft)		#345		m#498	m333	m33				#479	#519		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		413		485	511	1078				361	773		
Starvation Cap Reductn		0		0	0	242				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.17		1.30	1.09	0.62				0.72	0.83		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 35 (29%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2752		1533	1613	1371				1408	2720	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2752		1533	1613	1371				1122	2368	
Volume (vph)	35	350	65	575	505	475	0	0	0	420	360	70
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	376	70	632	555	522	0	0	0	447	383	74
RTOR Reduction (vph)	0	0	0	0	0	201	0	0	0	0	7	0
Lane Group Flow (vph)	0	484	0	632	555	321	0	0	0	259	638	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		35.2	35.2	72.8				37.6	37.6	
Effective Green, g (s)		18.0		36.2	36.2	73.8				38.6	38.6	
Actuated g/C Ratio		0.15		0.30	0.30	0.62				0.32	0.32	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		413		462	487	843				361	762	
v/s Ratio Prot		c0.18		c0.41	0.34	0.11						
v/s Ratio Perm						0.12				0.23	c0.27	
v/c Ratio		1.17		1.37	1.14	0.38				0.72	0.84	
Uniform Delay, d1		51.0		41.9	41.9	11.6				35.9	37.8	
Progression Factor		1.00		0.57	0.57	3.77				1.00	1.00	
Incremental Delay, d2		100.3		166.9	65.4	0.0				7.1	8.3	
Delay (s)		151.3		190.9	89.2	43.8				43.0	46.1	
Level of Service		F		F	F	D				D	D	
Approach Delay (s)		151.3			112.9			0.0			45.2	
Approach LOS		F			F			A			D	

Intersection Summary					
HCM Average Control Delay		99.2	HCM Level of Service		F
HCM Volume to Capacity ratio		1.11			
Actuated Cycle Length (s)		120.0	Sum of lost time (s)		27.2
Intersection Capacity Utilization		80.3%	ICU Level of Service		D
Analysis Period (min)		15			

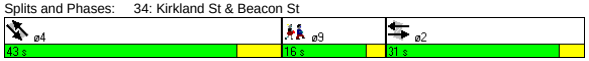
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	210	40	45	320	55	40	510	140	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	387	0	0	467	0	0	767	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0	16.0
Total Split (%)	34.4%	34.4%	0.0%	34.4%	34.4%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%	18%
Maximum Green (s)	27.0	27.0		27.0	27.0		36.0	36.0		36.0	36.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.89			0.89			0.96			0.49		
Control Delay		52.1			49.1			46.9			19.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		52.1			49.1			46.9			19.1		
Queue Length 50th (ft)		155			188			293			98		
Queue Length 95th (ft)		#328			#468			#711			236		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		434			522			802			733		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.89			0.89			0.96			0.49		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 80.4	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1745			1703			1772			1731	
Flt Permitted		0.77			0.91			0.96			0.92	
Satd. Flow (perm)		1357			1565			1705			1604	
Volume (vph)	55	210	40	45	320	55	40	510	140	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	266	51	50	356	61	44	567	156	27	299	33
RTOR Reduction (vph)	0	6	0	0	6	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	381	0	0	461	0	0	758	0	0	355	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		27.2			27.2			36.3			36.3	
Effective Green, g (s)		27.2			27.2			37.3			37.3	
Actuated g/C Ratio		0.33			0.33			0.45			0.45	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		450			518			775			729	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.29			c0.44			0.22	
v/c Ratio		0.85			0.89			0.98			0.49	
Uniform Delay, d1		25.5			26.0			22.0			15.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		17.6			20.0			27.3			2.3	
Delay (s)		43.1			46.0			49.3			18.0	
Level of Service		D			D			D			B	
Approach Delay (s)		43.1			46.0			49.3			18.0	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	17.6
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

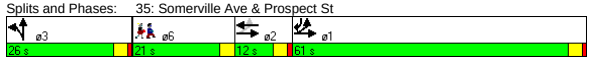
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	270	510	0	0	160	40	150	535	70	0	0	1295	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	838	0	0	225	0	165	665	0	0	0	1455	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	61.0	73.0	0.0	0.0	12.0	0.0	26.0	26.0	0.0	0.0	0.0	61.0	21.0
Total Split (%)	50.8%	60.8%	0.0%	0.0%	10.0%	0.0%	21.7%	21.7%	0.0%	0.0%	0.0%	50.8%	18%
Maximum Green (s)	57.0				8.0		22.0	22.0				57.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.36		0.64	1.24				1.27	
Control Delay		0.7			41.0		58.2	163.2				157.9	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		0.7			41.0		58.2	163.2				157.9	
Queue Length 50th (ft)		1			68		131	~349				~807	
Queue Length 95th (ft)		m3			#173		217	#476				#941	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1842			625		256	537				1146	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.36		0.64	1.24				1.27	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2945		1395	2885				2413
Flt Permitted		0.72			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2199			2945		1395	2885				2413
Volume (vph)	270	510	0	0	160	40	150	535	70	0	0	1295
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	290	548	0	0	180	45	165	588	77	0	0	1455
RTOR Reduction (vph)	0	0	0	0	16	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	838	0	0	209	0	165	657	0	0	0	1455
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		79.4			24.8		22.0	22.0				54.6
Effective Green, g (s)		79.4			24.8		22.0	22.0				54.6
Actuated g/C Ratio		0.66			0.21		0.18	0.18				0.46
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1813			609		256	529				1098
v/s Ratio Prot		0.21			0.07		0.12	c0.23				c0.60
v/s Ratio Perm		c0.10										
v/c Ratio		0.46			0.34		0.64	1.24				1.33
Uniform Delay, d1		9.9			40.6		45.4	49.0				32.7
Progression Factor		0.04			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.3			1.5		6.1	124.1				152.7
Delay (s)		0.7			42.2		51.5	173.1				185.4
Level of Service		A			D		D	F				F
Approach Delay (s)		0.7			42.2			148.9			185.4	
Approach LOS		A			D			F			F	

Intersection Summary

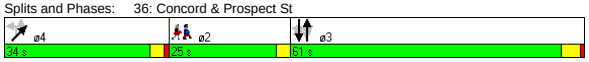
HCM Average Control Delay	120.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	205	120	500	370	5	20	360	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	295	0	124	901	0	0	0	455	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	61.0	61.0	0.0	61.0	61.0	0.0	0.0	34.0	34.0	0.0	25.0
Total Split (%)	50.8%	50.8%	0.0%	50.8%	50.8%	0.0%	0.0%	28.3%	28.3%	0.0%	21%
Maximum Green (s)	56.0	56.0		56.0	56.0			30.0	30.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											12
v/c Ratio		1.51		0.21	0.85				0.75		
Control Delay		275.4		13.3	28.8				42.0		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		275.4		13.3	28.8				42.0		
Queue Length 50th (ft)		~126		31	392				241		
Queue Length 95th (ft)		#382		99	#994				#516		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		195		601	1059				603		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.51		0.21	0.85				0.75		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 100	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1677		1869	1841				1988	
Flt Permitted		0.39		0.56	1.00				1.00	
Satd. Flow (perm)		654		1102	1841				1988	
Volume (vph)	60	0	205	120	500	370	5	20	360	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	228	124	515	381	5	23	409	23
RTOR Reduction (vph)	0	33	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	262	0	124	901	0	0	0	454	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		56.5		56.5	56.5				30.3	
Effective Green, g (s)		57.5		57.5	57.5				30.3	
Actuated g/C Ratio		0.56		0.56	0.56				0.30	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		367		618	1033				588	
v/s Ratio Prot					c0.49					
v/s Ratio Perm		0.40		0.11					0.23	
v/c Ratio		0.71		0.20	0.87				0.77	
Uniform Delay, d1		16.5		11.1	19.3				32.9	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		5.4		0.1	8.0				5.7	
Delay (s)		21.8		11.2	27.3				38.6	
Level of Service		C		B	C				D	
Approach Delay (s)		21.8			25.4				38.6	
Approach LOS		C			C				D	

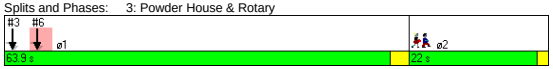
Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	550	0	0	1510	505	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	591	0	0	1557	521	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.37			0.93	0.34	
Control Delay		0.7			21.7	0.6	
Queue Delay		0.0			0.2	0.0	
Total Delay		0.7			21.8	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1622	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		15			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.38			0.94	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	550	0	0	1510	505
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	591	0	0	1557	521
RTOR Reduction (vph)	0	68	0	0	0	0
Lane Group Flow (vph)	0	523	0	0	1557	521
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.85	
v/s Ratio Perm		0.32				c0.34
v/c Ratio		0.36			0.96	0.34
Uniform Delay, d1		1.2			5.5	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			15.2	0.6
Delay (s)		1.9			20.7	0.6
Level of Service		A			C	A
Approach Delay (s)	1.9			0.0	15.7	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	136.8%	ICU Level of Service	H
Analysis Period (min)	15		

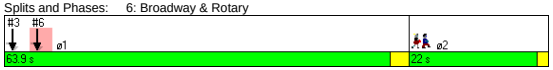
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	570	0	0	1255	805	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	648	0	0	1335	856	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.42			0.79	0.55	
Control Delay		0.8			5.9	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			5.9	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m#150	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.42			0.79	0.55	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	570	0	0	1255	805
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	648	0	0	1335	856
RTOR Reduction (vph)	0	75	0	0	0	0
Lane Group Flow (vph)	0	573	0	0	1335	856
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.72	
v/s Ratio Perm		0.36				c0.55
v/c Ratio		0.41			0.82	0.55
Uniform Delay, d1		1.3			2.9	0.0
Progression Factor		1.00			0.37	1.00
Incremental Delay, d2		0.9			3.0	0.9
Delay (s)		2.2			4.1	0.9
Level of Service		A			A	A
Approach Delay (s)	2.2			0.0	2.8	
Approach LOS	A			A	A	

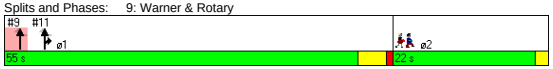
Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	640	970	430	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	736	1000	443	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.47	0.57	0.27			
Control Delay		1.0	2.7	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.0	2.7	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	440	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.47	0.57	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



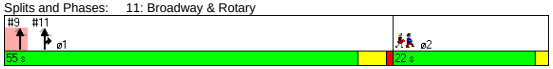
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	640	970	430	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	736	1000	443	0	0
RTOR Reduction (vph)	0	61	0	0	0	0
Lane Group Flow (vph)	0	675	1000	443	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.55			
v/s Ratio Perm		0.43		c0.27		
v/c Ratio		0.47	0.60	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.4	0.4		
Delay (s)		1.8	2.0	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.8		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	760	640	980	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	974	660	1010	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.60	0.38	0.66			
Control Delay		1.7	1.9	2.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.8	1.9	2.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	198	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1539			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.61	0.38	0.66			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



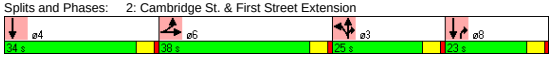
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	760	640	980	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	974	660	1010	0	0
RTOR Reduction (vph)	0	80	0	83	0	0
Lane Group Flow (vph)	0	894	660	927	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.59		
v/s Ratio Perm		0.54				
v/c Ratio		0.59	0.39	0.65		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.7	0.7	2.3		
Delay (s)		2.6	1.3	3.3		
Level of Service		A	A	A		
Approach Delay (s)	2.6		2.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	225	55	0	0	0	60	135	95	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	291	0	0	0	0	0	217	106	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.39	0.78						0.74	0.24		0.52			
Control Delay	43.0	57.5						63.4	7.7		1.8			
Queue Delay	0.6	0.0						9.6	0.0		0.4			
Total Delay	43.6	57.5						73.0	7.7		2.2			
Queue Length 50th (ft)	84	184						141	0		11			
Queue Length 95th (ft)	126	248						216	38		m7			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						326	575		1929			
Starvation Cap Reductn	0	0						0	0		400			
Spillback Cap Reductn	154	0						79	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.41	0.57						0.88	0.18		0.65			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Cambridge St. & First Street Extension



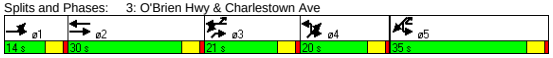
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1790						1807	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1790						1807	1459		3201	
Volume (vph)	135	225	55	0	0	0	60	135	95	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	234	57	0	0	0	67	150	106	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	80	0	220	0
Lane Group Flow (vph)	141	283	0	0	0	0	0	217	26	0	774	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.5	23.5						18.4	28.9		63.1	
Effective Green, g (s)	24.5	24.5						19.4	29.9		64.1	
Actuated g/C Ratio	0.20	0.20						0.16	0.25		0.53	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	361	365						292	364		1710	
v/s Ratio Prot	0.08	c0.16						c0.12	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.39	0.78						0.74	0.07		0.45	
Uniform Delay, d1	41.3	45.1						47.9	34.4		17.2	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.9						9.8	0.1		0.1	
Delay (s)	42.0	55.0						57.7	34.5		2.1	
Level of Service	D	E						E	C		A	
Approach Delay (s)		50.8			0.0			50.1			2.1	
Approach LOS		D			A			D			A	

Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	170	1340	445	310	825	295	140	435	285	530	910	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	187	1473	489	341	907	324	147	458	300	555	1162	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.39	0.92	0.30	1.54	0.74	0.43	0.68	0.99	0.62	1.41	1.41		
Control Delay	253.2	48.5	0.5	299.9	53.9	3.0	66.4	91.4	39.2	233.2	226.3		
Queue Delay	0.0	671.6	0.0	32.7	480.8	0.5	0.0	0.0	0.6	0.0	0.8		
Total Delay	253.2	720.1	0.5	332.6	534.8	3.5	66.4	91.4	39.8	233.2	227.1		
Queue Length 50th (ft)	~170	351	0	~339	346	27	97	166	161	~557	~586		
Queue Length 95th (ft)	#300	#432	0	m#419	m401	m28	#173	#264	248	#768	#713		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	753	216	463	480	394	824		
Starvation Cap Reductn	0	0	0	10	783	151	0	0	0	0	0		
Spillback Cap Reductn	0	1025	0	0	0	0	0	0	32	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.39	2.53	0.30	1.62	2.07	0.54	0.68	0.99	0.67	1.41	1.41		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
~	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	170	1340	445	310	825	295	140	435	285	530	910	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	187	1473	489	341	907	324	147	458	300	589	1011	117
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	17	0	7	0
Lane Group Flow (vph)	187	1473	489	341	907	130	147	458	283	555	1155	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.29	0.09	0.09	c0.13	0.19	0.36	c0.37	
v/s Ratio Perm			0.30									
v/c Ratio	1.39	0.92	0.30	1.54	0.74	0.23	0.68	0.99	0.61	1.41	1.41	
Uniform Delay, d1	55.0	38.4	0.0	51.5	31.3	23.8	49.6	51.9	35.4	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.63	1.41	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	212.5	8.6	0.5	255.9	1.3	0.1	8.5	38.6	2.4	198.5	193.6	
Delay (s)	267.5	47.0	0.5	328.5	52.3	33.7	58.1	90.5	37.7	243.0	238.1	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		55.6			108.4			67.7			239.7	
Approach LOS		E			F			E			F	

Intersection Summary					
HCM Average Control Delay	120.2	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.21				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	97.7%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1520	165	445	470	75	35	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1689	183	494	605	0	39	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.90	0.20	0.76	0.47		0.13	0.84			0.94	
Control Delay		18.9	3.7	53.5	30.3		20.3	45.9			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	145.6			0.0	
Total Delay		18.9	3.7	53.5	30.3		20.3	191.5			78.1	
Queue Length 50th (ft)		297	27	165	160		15	188			165	
Queue Length 95th (ft)		#526	45	207	223		m30	m#274			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1285		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	113			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.90	0.20	0.62	0.47		0.13	1.32			0.94	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3466		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3466		1770	1863			3472	
Volume (vph)	0	1520	165	445	470	75	35	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1689	183	494	522	83	39	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	10	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1689	157	494	595	0	39	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1277		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.17		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.90	0.17	0.76	0.47		0.13	0.84			0.93	
Uniform Delay, d1		35.8	12.4	46.0	28.9		42.6	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.45	0.50			1.00	
Incremental Delay, d2		6.1	0.3	5.0	1.2		0.8	19.9			27.0	
Delay (s)		16.8	4.9	51.0	30.1		20.0	44.1			78.0	
Level of Service		B	A	D	C		C	D			E	
Approach Delay (s)		15.7			39.5			41.0			78.0	
Approach LOS		B			D			D			E	

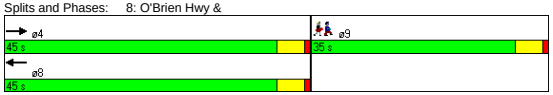
Intersection Summary					
HCM Average Control Delay	32.4	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	79.5%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1955	0	0	1070	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2172	0	0	1189	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.47			0.37			
Control Delay	5.0			4.5			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.5			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	341			250			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.37			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

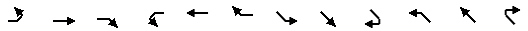
Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1955	0	0	1070	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2172	0	0	1189	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2172	0	0	1189	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.4			30.4		
Effective Green, g (s)	31.4			31.4		
Actuated g/C Ratio	0.72			0.72		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3679			2560		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.59			0.46		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

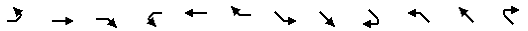
Intersection Summary

HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	320	0	0	5	0	1635	0	0	985	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	333	0	0	6	0	1686	0	0	1175	0
Sign Control		Yield			Stop			Free			Free	

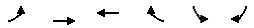
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	320	0	0	5	0	1635	0	0	985	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	333	0	0	6	0	1686	0	0	1082	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.76	0.76	0.69	0.76	0.76	0.86	0.86			0.69		
vC, conflicting volume	2232	2861	562	2024	2815	588	1176			1686		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1333	2156	0	1060	2095	349	1037			1099		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	55	100	100	99	100			100		
cM capacity (veh/h)	84	36	747	74	38	546	478			394		

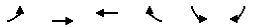
Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	333	6	562	562	562	722	454
Volume Left	0	0	0	0	0	0	0
Volume Right	333	6	0	0	0	0	93
cSH	747	546	1700	1700	1700	1700	1700
Volume to Capacity	0.45	0.01	0.33	0.33	0.33	0.42	0.27
Queue Length 95th (ft)	51	1	0	0	0	0	0
Control Delay (s)	13.6	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.6	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	58.1%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1955	1030	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2172	1188	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1955	1030	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2172	1144	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.76				0.87	0.76
vC, conflicting volume	1189				1891	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	933				847	151
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	554				262	660

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	724	724	724	763	426	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	660
Volume to Capacity	0.43	0.43	0.43	0.45	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.8
Approach LOS						B

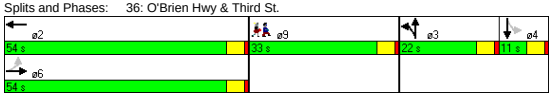
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2240	645	0	650	15	175	1	40	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	2979	0	0	723	0	118	121	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.29			0.42		0.50	0.47			0.03		
Control Delay		164.2			27.6		55.1	45.2			48.0		
Queue Delay		55.0			0.4		0.0	0.0			0.0		
Total Delay		219.2			28.1		55.1	45.3			48.0		
Queue Length 50th (ft)		~923			203		78	66			1		
Queue Length 95th (ft)		#1110			308		136	124			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2301			1730		235	260			91		
Starvation Cap Reductn		0			508		0	0			0		
Spillback Cap Reductn		199			0		0	2			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.42			0.59		0.50	0.47			0.03		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.95			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4915			3527		1569	1622			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4615			3527		1569	1622			1779	
Volume (vph)	5	2240	645	0	650	15	175	1	40	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2309	665	0	707	16	194	1	44	1	1	1
RTOR Reduction (vph)	0	40	0	0	1	0	0	17	0	0	1	0
Lane Group Flow (vph)	0	2939	0	0	722	0	118	104	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2108			1611		235	243			33	
v/s Ratio Prot					0.20		c0.08	0.06				
v/s Ratio Perm		c0.64									c0.00	
v/c Ratio		1.39			0.45		0.50	0.43			0.06	
Uniform Delay, d1		32.6			22.3		46.9	46.3			57.9	
Progression Factor		1.00			1.32		1.00	1.00			1.00	
Incremental Delay, d2		180.3			0.9		7.5	5.4			0.8	
Delay (s)		212.9			30.3		54.4	51.8			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		212.9			30.3			53.0			58.7	
Approach LOS		F			C			D			E	

Intersection Summary

HCM Average Control Delay	169.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1655	165	0	485	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1937	0	0	533	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1655	165	0	485	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1761	176	0	533	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.79	0.74
vC, conflicting volume			1936		2115	675
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1564		1416	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			303		103	806

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	704	704	528	266	266	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	176	0	0	33
cSH	1700	1700	1700	1700	1700	806
Volume to Capacity	0.41	0.41	0.31	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

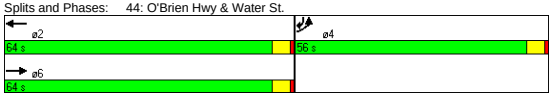
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1820	0	0	420	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1936	0	0	533	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.26							0.36
Control Delay	49.6	2.8			15.0							2.2
Queue Delay	38.8	1.2			0.0							0.0
Total Delay	88.4	4.1			15.0							2.2
Queue Length 50th (ft)	352	31			53							0
Queue Length 95th (ft)	m276	m31			m140							20
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2965			2030							891
Starvation Cap Reductn	283	739			0							0
Spillback Cap Reductn	0	0			113							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.87			0.28							0.31

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3369							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3369							1627
Volume (vph)	460	1820	0	0	420	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1936	0	0	462	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1936	0	0	525	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2021							542
v/s Ratio Prot	c0.28	c0.39			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.26							0.17
Uniform Delay, d1	37.3	15.8			11.4							28.2
Progression Factor	1.32	0.16			1.21							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.3	2.6			14.0							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.2			14.0			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1975	1285	305	285	140
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2368	1691	0	473	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.88	0.87		0.80	
Control Delay		20.1	36.8		51.4	
Queue Delay		120.0	91.3		160.1	
Total Delay		140.2	128.1		211.4	
Queue Length 50th (ft)		482	369		137	
Queue Length 95th (ft)		m450	431		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1946		656	
Starvation Cap Reductn		814	0		0	
Spillback Cap Reductn		0	539		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.27	1.20		1.35	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4594		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3003	4594		3013	
Volume (vph)	180	1975	1285	305	285	140
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2170	1367	324	317	156
RTOR Reduction (vph)	0	0	33	0	54	0
Lane Group Flow (vph)	0	2368	1658	0	419	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1914		535	
v/s Ratio Prot		c0.27	0.36		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.88	0.87		0.78	
Uniform Delay, d1		12.8	32.0		47.1	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.9	5.6		7.3	
Delay (s)		29.3	37.5		54.5	
Level of Service		C	D		D	
Approach Delay (s)		29.3	37.5		54.5	
Approach LOS		C	D		D	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	360	155	240	520	6	5	25	30	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	589	0	0	912	0	0	84	0	0	167	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	360	155	240	520	6	5	25	30	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	404	174	286	619	7	7	35	42	154	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	626			579			1804	1795	623	1768	1712	492
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	626			579			1804	1795	623	1768	1712	492
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			71			79	37	91	0	79	84
cM capacity (veh/h)	932			980			34	56	484	23	62	571

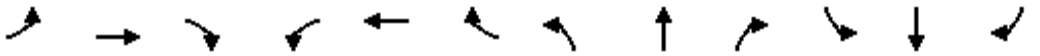
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	590	912	85	167	90
Volume Left	11	286	7	154	0
Volume Right	174	7	42	0	90
cSH	932	980	91	24	571
Volume to Capacity	0.01	0.29	0.93	6.88	0.16
Queue Length 95th (ft)	1	30	131	Err	14
Control Delay (s)	0.3	6.4	157.3	Err	12.5
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.4	157.3	6503.7	
Approach LOS			F	F	

Intersection Summary				
Average Delay	915.5			
Intersection Capacity Utilization	93.8%	ICU Level of Service		F
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	50	85	90	435	0	0	1765	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	313	0	98	518	0	0	1801	299
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

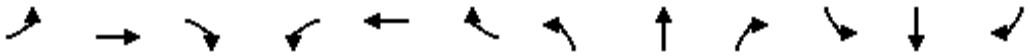
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	50	85	90	435	0	0	1765	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	54	105	98	518	0	0	1801	299
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2647	2515	1801	2515	2813	518	2100			518		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	197013181287		963521812872168		69	518131934				518		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	81	0			100		
cM capacity (veh/h)	0	0	0	0	0	548	0			1038		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	314	98	518	1801	299
Volume Left	154	98	0	0	0
Volume Right	105	0	0	0	299
cSH	0	0	1700	1700	1700
Volume to Capacity	3.21386450334527296E64		0.30	1.06	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1588.7		0.0	
Approach LOS	F				

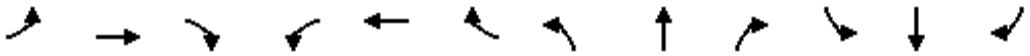
Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	122.6%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	90	290	320	0	0	0	0	435	490	185	1705	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	778	0	0	0	0	0	463	521	189	1740	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	290	320	0	0	0	0	435	490	185	1705	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	100	322	356	0	0	0	0	463	521	189	1740	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2580	3101	1740	3097	2580	463	1740			984		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	88938117948		42172117692	88938	463	42172				984		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	599	0			694		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	261	517	463	521	189	1740
Volume Left	100	0	0	0	189	0
Volume Right	0	356	0	521	0	0
cSH	0	0	1700	1700	694	1700
Volume to Capacity	Err	Err	0.27	0.31	0.27	1.02
Queue Length 95th (ft)	Err	Err	0	0	28	0
Control Delay (s)	Err	Err	0.0	0.0	12.1	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2108.0			
Intersection Capacity Utilization	122.6%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	450	5	30	0	1	10	40	465	0	5	960	1060
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	527	0	0	22	0	0	567	0	0	1060	1165
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	450	5	30	0	1	10	40	465	0	5	960	1060
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	489	5	33	0	2	20	45	522	0	5	1055	1165
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1699	1678	1055	1714	1678	522	1055			522		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1699	1678	1055	1714	1678	522	1055			522		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	88	100	98	96	93			99		
cM capacity (veh/h)	64	87	272	57	89	558	645			1039		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	527	22	567	1060	1165
Volume Left	489	0	45	5	0
Volume Right	33	20	0	0	1165
cSH	68	377	645	1039	1700
Volume to Capacity	7.79	0.06	0.07	0.01	0.69
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.1	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.1	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1577.8		
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	65	360	885	185	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	467	1176	0	177	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

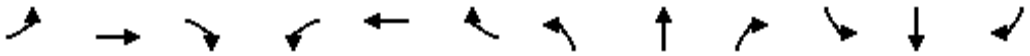
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	65	360	885	185	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	71	396	973	203	105	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1176				1613	1074
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1214				1744	1090
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	67
cM capacity (veh/h)	470				67	217

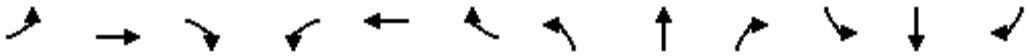
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	467	1176	178
Volume Left	71	0	105
Volume Right	0	203	72
cSH	470	1700	93
Volume to Capacity	0.15	0.69	1.90
Queue Length 95th (ft)	13	0	375
Control Delay (s)	4.5	0.0	519.9
Lane LOS	A		F
Approach Delay (s)	4.5	0.0	519.9
Approach LOS			F

Intersection Summary			
Average Delay	51.9		
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	175	130	380	200	10	45	20	110	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	329	0	0	622	0	0	206	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

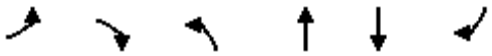
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	175	130	380	200	10	45	20	110	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	180	134	400	211	11	53	24	129	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	330	621	206	29
Volume Left (vph)	15	400	53	7
Volume Right (vph)	134	11	129	7
Hadj (s)	-0.20	0.19	-0.31	-0.10
Departure Headway (s)	5.4	5.4	6.1	6.9
Degree Utilization, x	0.50	0.93	0.35	0.05
Capacity (veh/h)	638	657	562	467
Control Delay (s)	13.6	41.8	12.4	10.3
Approach Delay (s)	13.6	41.8	12.4	10.3
Approach LOS	B	E	B	B

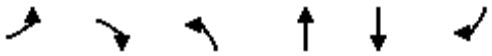
Intersection Summary			
Delay	28.1		
HCM Level of Service	D		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	160	130	95	420	560	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	305	0	0	696	1082	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	160	130	95	420	560	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	168	137	128	568	577	505
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1654	830	1082			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1654	830	1082			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	63	80			
cM capacity (veh/h)	86	369	630			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	305	696	1082
Volume Left	168	128	0
Volume Right	137	0	505
cSH	130	630	1700
Volume to Capacity	2.34	0.20	0.64
Queue Length 95th (ft)	656	19	0
Control Delay (s)	680.8	5.3	0.0
Lane LOS	F	A	
Approach Delay (s)	680.8	5.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	101.5		
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		790			625			910		303		
Travel Time (s)		18.0			14.2			20.7		6.9		
Volume (vph)	50	5	305	255	600	60	15	200	5	20	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	391	0	0	994	0	0	238	0	87	0	0
Sign Control		Stop			Free			Free		Stop		

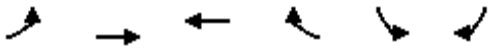
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	5	305	255	600	60	15	200	5	20	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	5	332	277	652	65	16	217	5	22	0	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					625			910				
pX, platoon unblocked	0.60	0.60					0.60			0.60	0.60	0.60
vC, conflicting volume	1557	1524	220	223			717			1826	1495	685
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1936	1881	220	223			525			2388	1831	470
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	83	59	79			97			0	100	82
cM capacity (veh/h)	20	33	815	1317			620			6	35	353

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	391	995	239	87
Volume Left	54	277	16	22
Volume Right	332	65	5	65
cSH	119	1317	620	23
Volume to Capacity	3.29	0.21	0.03	3.81
Queue Length 95th (ft)	Err	20	2	Err
Control Delay (s)	Err	4.6	1.1	Err
Lane LOS	F	A	A	F
Approach Delay (s)	Err	4.6	1.1	Err
Approach LOS	F			F

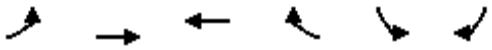
Intersection Summary			
Average Delay	2796.2		
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		317	1501		529	
Travel Time (s)		7.2	34.1		12.0	
Volume (vph)	35	1225	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1370	695	0	202	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	1225	600	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	1332	652	43	120	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		477				
pX, platoon unblocked					0.47	
vC, conflicting volume	696				2082	674
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	696				3313	674
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				0	82
cM capacity (veh/h)	900				4	455

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1370	696	201
Volume Left	38	0	120
Volume Right	0	43	82
cSH	900	1700	7
Volume to Capacity	0.04	0.41	28.68
Queue Length 95th (ft)	3	0	Err
Control Delay (s)	2.0	0.0	Err
Lane LOS	A		F
Approach Delay (s)	2.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	888.4		
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 4 AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	305	1.0	0.402	11.6	LOS B	88	0.70	0.79	23.8
8T	T	678	1.0	0.894	19.5	LOS B	507	1.00	1.28	20.5
Approach		**983**	**1.0**	**0.894**	**17.0**	**LOS B**	**507**	**0.91**	**1.12**	**21.4**
Mystic Valley Parkway										
4T	T	978	0.0	0.920	16.3	LOS B	631	1.00	1.17	21.6
4R	R	522	0.0	0.620	8.9	LOS A	182	0.78	0.81	24.7
Approach		**1500**	**0.0**	**0.920**	**13.7**	**LOS B**	**631**	**0.92**	**1.04**	**22.6**
Mystic Valley Parkway										
5L	L	454	0.0	1.297	177.4	LOS F	1249	1.00	2.81	6.0
2R	R	495	0.0	1.256	155.4	LOS F	1258	1.00	2.80	6.3
Approach		**949**	**0.0**	**1.298**	**165.9**	**LOS F**	**1258**	**1.00**	**2.80**	**6.2**
All Vehicles		**3432**	**0.3**	**1.297**	**56.8**	**LOS E**	**1258**	**0.94**	**1.55**	**12.8**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 4\Mystic&Alewife -Alt4.aap
Processed Oct 06, 2008 02:54:14PM

M0114, VHB, Large Office
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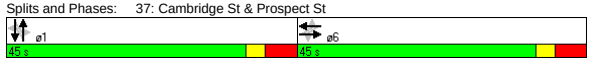
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	345	30	70	500	85	30	285	60
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	457	0	0	719	0	0	412	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.98			0.68			1.01			0.58	
Control Delay		64.5			27.8			59.2			24.6	
Queue Delay		0.0			0.0			11.1			0.0	
Total Delay		64.5			27.8			70.2			24.6	
Queue Length 50th (ft)		277			207			~437			177	
Queue Length 95th (ft)		#454			318			#670			271	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		513			675			711			708	
Starvation Cap Reductn		0			0			24			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.98			0.68			1.05			0.58	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



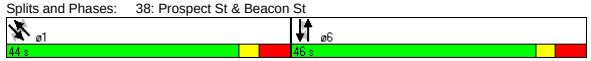
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1793			1816			1937			1919	
Flt Permitted		0.69			0.90			0.89			0.90	
Satd. Flow (perm)		1248			1641			1729			1725	
Volume (vph)	125	285	25	45	345	30	70	500	85	30	285	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	375	33	77	549	93	33	313	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	457	0	0	719	0	0	412	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		513			675			711			709	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.28			c0.42			0.24	
v/c Ratio		0.98			0.68			1.01			0.58	
Uniform Delay, d1		26.2			21.6			26.5			20.5	
Progression Factor		1.00			1.00			0.97			1.00	
Incremental Delay, d2		36.1			5.4			31.7			3.5	
Delay (s)		62.3			27.0			57.3			24.0	
Level of Service		E			C			E			C	
Approach Delay (s)		62.3			27.0			57.3			24.0	
Approach LOS		E			C			E			C	

Intersection Summary			
HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	140	570	40	25	245	15	45	280	70	20	350	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	807	0	0	312	0	0	445	0	0	451	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	46.0	46.0		46.0	46.0		44.0	44.0		44.0	44.0	
Total Split (s)	46.0	46.0	0.0	46.0	46.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%
Maximum Green (s)	38.0	38.0		38.0	38.0		36.0	36.0		36.0	36.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	32.0	32.0		32.0	32.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.69			0.45			0.68			0.63	
Control Delay		24.9			33.4			28.7			26.5	
Queue Delay		0.7			0.0			7.7			3.9	
Total Delay		25.7			33.4			36.4			30.4	
Queue Length 50th (ft)		191			167			204			201	
Queue Length 95th (ft)		260			m241			309			305	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1173			698			653			715	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		131			0			166			182	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.77			0.45			0.91			0.85	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3494			1854			1814			1849	
Flt Permitted		0.79			0.89			0.89			0.96	
Satd. Flow (perm)		2779			1652			1633			1786	
Volume (vph)	140	570	40	25	245	15	45	280	70	20	350	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	151	613	43	27	269	16	51	315	79	22	385	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	807	0	0	312	0	0	445	0	0	451	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		38.0			38.0			36.0			36.0	
Effective Green, g (s)		38.0			38.0			36.0			36.0	
Actuated g/C Ratio		0.42			0.42			0.40			0.40	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1173			698			653			714	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.27			0.25	
v/c Ratio		0.69			0.45			0.68			0.63	
Uniform Delay, d1		21.2			18.5			22.3			21.7	
Progression Factor		1.00			1.67			1.00			1.00	
Incremental Delay, d2		3.3			1.6			5.7			4.2	
Delay (s)		24.5			32.6			27.9			25.9	
Level of Service		C			C			C			C	
Approach Delay (s)		24.5			32.6			27.9			25.9	
Approach LOS		C			C			C			C	

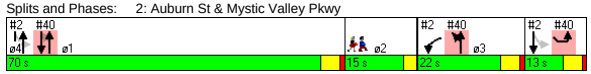
Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		394			129		
Travel Time (s)	20.5		9.0			2.9		
Volume (vph)	205	115	1055	40	65	1120		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	415	0	1216	0	0	1274		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				15.0	13.0
Total Split (s)	22.0	0.0	70.0	0.0	83.0	83.0	15.0	13.0
Total Split (%)	18.3%	0.0%	58.3%	0.0%	69.2%	69.2%	13%	11%
Maximum Green (s)	17.0		65.0				12.0	8.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.86		0.61			0.75		
Control Delay	59.6		16.4			2.9		
Queue Delay	0.8		0.3			44.5		
Total Delay	60.4		16.7			47.3		
Queue Length 50th (ft)	285		407			30		
Queue Length 95th (ft)	#494		m308			m24		
Internal Link Dist (ft)	821		314			49		
Turn Bay Length (ft)								
Base Capacity (vph)	483		1978			1704		
Starvation Cap Reductn	0		0			535		
Spillback Cap Reductn	8		270			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.87		0.71			1.09		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1869		3590			3360
Flt Permitted	0.97		1.00			0.77
Satd. Flow (perm)	1869		3590			2585
Volume (vph)	205	115	1055	40	65	1120
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	266	149	1172	44	70	1204
RTOR Reduction (vph)	15	0	2	0	0	0
Lane Group Flow (vph)	400	0	1214	0	0	1274
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	29.0		62.6			75.6
Effective Green, g (s)	30.0		63.6			76.6
Actuated g/C Ratio	0.25		0.53			0.64
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	467		1903			1650
v/s Ratio Prot	c0.21		0.34			
v/s Ratio Perm						c0.49
v/c Ratio	0.86		0.64			0.77
Uniform Delay, d1	42.9		20.0			15.5
Progression Factor	1.00		0.88			0.18
Incremental Delay, d2	14.8		0.1			0.2
Delay (s)	57.7		17.7			3.0
Level of Service	E		B			A
Approach Delay (s)	57.7		17.7			3.0
Approach LOS	E		B			A

Intersection Summary

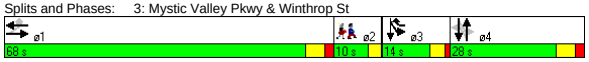
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1140	5	0	1110	435	20	425	170	425	520	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1263	0	0	1181	463	0	749	0	0	1157	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	68.0	68.0	0.0	0.0	68.0	14.0	28.0	28.0	0.0	14.0	42.0	0.0	10.0
Total Split (%)	56.7%	56.7%	0.0%	0.0%	56.7%	11.7%	23.3%	23.3%	0.0%	11.7%	35.0%	0.0%	8%
Maximum Green (s)	62.0	62.0			62.0	10.0	22.0	22.0		10.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.79			1.18	0.38		1.62			1.53dl		
Control Delay		379.2			121.1	3.2		320.4			156.7		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		379.2			121.1	3.2		320.4			156.7		
Queue Length 50th (ft)		~1497			~1100	38		~429			~383		
Queue Length 95th (ft)		#1755			#1359	72		#487			#783		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		707			998	1216		462			920		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.79			1.18	0.38		1.62			1.26		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 4 (3%), Referenced to phase 1:EBWB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3421			3508	
Flt Permitted		0.66			1.00	1.00		0.72			0.61	
Satd. Flow (perm)		1341			1900	1615		2464			2192	
Volume (vph)	5	1140	5	0	1110	435	20	425	170	425	520	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1253	5	0	1181	463	24	518	207	494	605	58
RTOR Reduction (vph)	0	0	0	0	0	101	0	33	0	0	3	0
Lane Group Flow (vph)	0	1263	0	0	1181	362	0	716	0	0	1154	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		59.6			59.6	77.6		22.0			40.0	
Effective Green, g (s)		60.6			60.6	77.6		23.0			40.0	
Actuated g/C Ratio		0.50			0.50	0.65		0.19			0.33	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		677			960	1044		472			917	
v/s Ratio Prot					0.62	0.05					c0.18	
v/s Ratio Perm		c0.94				0.18		c0.29			0.24	
v/c Ratio		1.87			1.23	0.35		1.52			1.53dl	
Uniform Delay, d1		29.7			29.7	9.7		48.5			40.0	
Progression Factor		0.78			1.00	1.00		1.00			1.00	
Incremental Delay, d2		393.0			112.8	0.1		243.2			125.3	
Delay (s)		416.1			142.5	9.7		291.7			165.3	
Level of Service		F			F	A		F			F	
Approach Delay (s)		416.1			105.1			291.7			165.3	
Approach LOS		F			F			F			F	

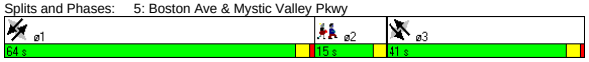
Intersection Summary					
HCM Average Control Delay	230.2	HCM Level of Service	F		
HCM Volume to Capacity ratio	1.68				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4		
Intersection Capacity Utilization	122.9%	ICU Level of Service	H		
Analysis Period (min)	15				
dl Defacto Left Lane. Recode with 1 though lane as a left lane.					
c Critical Lane Group					

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2678			642			666			477		
Travel Time (s)		60.9			14.6			15.1			10.8		
Volume (vph)	60	245	45	145	350	60	80	940	150	55	1210	80	
Peak Hour Factor	0.79	0.79	0.79	0.78	0.78	0.78	0.93	0.93	0.93	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	443	0	0	712	0	0	1258	0	0	1416	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	64.0	64.0	0.0	64.0	64.0	0.0	15.0
Total Split (%)	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%	13%
Maximum Green (s)	37.0	37.0		37.0	37.0		60.0	60.0		60.0	60.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.78			1.50			1.25			1.14		
Control Delay		42.1			265.3			151.1			106.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		42.1			265.3			151.1			106.4		
Queue Length 50th (ft)		276			~746			~641			~695		
Queue Length 95th (ft)		#455			#916			#781			#814		
Internal Link Dist (ft)		2598			562			586			397		
Turn Bay Length (ft)													
Base Capacity (vph)		571			474			1003			1238		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.78			1.50			1.25			1.14		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NESW, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Boston Ave & Mystic Valley Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1917			1905			3529			3571	
Flt Permitted		0.76			0.67			0.55			0.67	
Satd. Flow (perm)		1470			1292			1941			2409	
Volume (vph)	60	245	45	145	350	60	80	940	150	55	1210	80
Peak-hour factor, PHF	0.79	0.79	0.79	0.78	0.78	0.78	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	76	310	57	186	449	77	86	1011	161	58	1274	84
RTOR Reduction (vph)	0	4	0	0	3	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	439	0	0	709	0	0	1248	0	0	1412	0
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	6	6	6	0	0	0	0	0	0
Turn Type	Perm			Perm		Perm			Perm			
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		49.0			49.0			57.6			57.6	
Effective Green, g (s)		49.0			49.0			57.6			57.6	
Actuated g/C Ratio		0.41			0.41			0.48			0.48	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		600			528			932			1156	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.55			c0.64			0.59	
v/c Ratio		0.73			1.34			1.34			1.22	
Uniform Delay, d1		30.0			35.5			31.2			31.2	
Progression Factor		1.00			1.00			1.00			1.25	
Incremental Delay, d2		4.9			166.7			159.9			104.9	
Delay (s)		34.9			202.2			191.1			143.8	
Level of Service		C			F			F			F	
Approach Delay (s)		34.9			202.2			191.1			143.8	
Approach LOS		C			F			F			F	

Intersection Summary

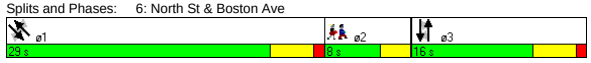
HCM Average Control Delay	157.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	128.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			703			1456		
Travel Time (s)		22.5			15.0			16.0			33.1		
Volume (vph)	20	5	20	30	50	20	10	395	55	50	450	15	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	67	0	0	126	0	0	542	0	0	531	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.22			0.37			0.48			0.49		
Control Delay		16.6			18.5			8.7			9.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		16.6			18.5			8.7			9.0		
Queue Length 50th (ft)		13			26			68			68		
Queue Length 95th (ft)		31			62			190			211		
Internal Link Dist (ft)		911			582			623			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		334			369			1129			1077		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.20			0.34			0.48			0.49		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 60.7	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.97			0.98			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1746			1822			1787			1820	
Flt Permitted		0.87			0.89			0.99			0.92	
Satd. Flow (perm)		1557			1646			1768			1682	
Volume (vph)	20	5	20	30	50	20	10	395	55	50	450	15
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	30	7	30	38	63	25	12	465	65	52	464	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	67	0	0	126	0	0	542	0	0	531	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		10.5			10.5			37.2			37.2	
Effective Green, g (s)		11.5			11.5			38.2			38.2	
Actuated g/C Ratio		0.19			0.19			0.62			0.62	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		290			306			1093			1040	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.08			0.31			c0.32	
v/c Ratio		0.23			0.41			0.50			0.51	
Uniform Delay, d1		21.4			22.2			6.5			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			1.2			1.6			1.8	
Delay (s)		21.9			23.4			8.1			8.4	
Level of Service		C			C			A			A	
Approach Delay (s)		21.9			23.4			8.1			8.4	
Approach LOS		C			C			A			A	

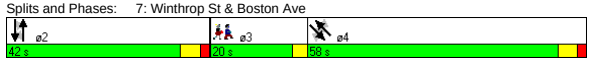
Intersection Summary					
HCM Average Control Delay	10.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.49				
Actuated Cycle Length (s)	61.8	Sum of lost time (s)		12.1	
Intersection Capacity Utilization	64.2%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	80	110	135	35	405	55	55	365	155	200	350	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	354	0	0	576	0	0	631	0	0	617	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	36.1	36.1		36.1	36.1		44.0	44.0		44.0	44.0		20.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0	20.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	48.3%	48.3%	0.0%	48.3%	48.3%	0.0%	17%
Maximum Green (s)	35.9	35.9		35.9	35.9		52.0	52.0		52.0	52.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.18			0.90			0.80			1.32		
Control Delay		145.7			53.2			34.1			187.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		145.7			53.2			34.1			187.1		
Queue Length 50th (ft)		~259			330			297			~490		
Queue Length 95th (ft)		#546			#635			#675			#885		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		299			643			790			466		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.18			0.90			0.80			1.32		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1754			1989			1787			1818	
Flt Permitted		0.55			0.95			0.90			0.54	
Satd. Flow (perm)		985			1888			1608			1006	
Volume (vph)	80	110	135	35	405	55	55	365	155	200	350	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	87	120	147	41	471	64	60	401	170	213	372	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	354	0	0	576	0	0	631	0	0	617	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.2			36.2			52.4			52.4	
Effective Green, g (s)		37.3			37.3			53.4			53.4	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		335			641			782			489	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.31			0.39			c0.61	
v/c Ratio		1.06			0.90			0.81			1.26	
Uniform Delay, d1		36.2			34.5			23.8			28.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		64.9			15.0			8.7			133.5	
Delay (s)		101.1			49.5			32.6			161.7	
Level of Service		F			D			C			F	
Approach Delay (s)		101.1			49.5			32.6			161.7	
Approach LOS		F			D			C			F	

Intersection Summary					
HCM Average Control Delay	84.8	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.18				
Actuated Cycle Length (s)	109.8	Sum of lost time (s)		19.1	
Intersection Capacity Utilization	116.9%	ICU Level of Service		H	
Analysis Period (min)	15				

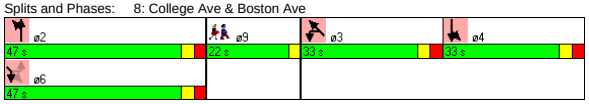
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	150	230	1	35	225	130	115	205	130	10	310	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%	2%	
Lane Group Flow (vph)	161	251	0	0	428	0	0	359	146	0	432	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	47.0	47.0	0.0	33.0	33.0	0.0	47.0	47.0	47.0	33.0	33.0	0.0	22.0
Total Split (%)	34.8%	34.8%	0.0%	24.4%	24.4%	0.0%	34.8%	34.8%	34.8%	24.4%	24.4%	0.0%	16%
Maximum Green (s)	41.0	41.0		27.0	27.0		41.0	41.0	41.0	27.0	27.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.27	0.40			0.98			0.94	0.25		0.98		
Control Delay	32.9	35.0			84.9			74.7	11.5		84.8		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	32.9	35.0			84.9			74.7	11.5		84.8		
Queue Length 50th (ft)	81	133			294			242	18		303		
Queue Length 95th (ft)	171	261			#625			#532	76		#625		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	600	631			436			381	590		442		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.27	0.40			0.98			0.94	0.25		0.98		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.95			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1889			1830	1531		1952	
Flt Permitted	0.95	1.00			1.00			0.62	1.00		1.00	
Satd. Flow (perm)	1770	1862			1889			1159	1531		1952	
Volume (vph)	150	230	1	35	225	130	115	205	130	10	310	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	161	250	1	38	247	143	129	230	146	11	348	73
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	72	0	5	0
Lane Group Flow (vph)	161	251	0	0	415	0	0	359	74	0	427	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Effective Green, g (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Actuated g/C Ratio	0.33	0.33			0.22			0.33	0.33		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	591	622			416			387	512		430	
v/s Ratio Prot	0.09	0.13			c0.22				0.05		c0.22	
v/s Ratio Perm								c0.31				
v/c Ratio	0.27	0.40			1.00			0.93	0.14		0.99	
Uniform Delay, d1	30.1	31.7			48.2			39.7	28.8		48.1	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.4			43.2			28.0	0.1		41.1	
Delay (s)	30.4	32.1			91.3			67.7	28.9		89.2	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		31.4			91.3			56.5			89.2	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	67.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

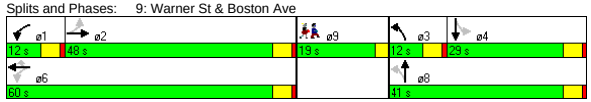
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1453			1738		
Travel Time (s)		11.7			40.8			33.0			39.5		
Volume (vph)	15	475	10	135	405	80	25	270	30	100	170	10	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	568	0	0	643	95	0	369	0	0	326	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	48.0	48.0	0.0	12.0	60.0	60.0	12.0	41.0	0.0	29.0	29.0	0.0	19.0
Total Split (%)	40.0%	40.0%	0.0%	10.0%	50.0%	50.0%	10.0%	34.2%	0.0%	24.2%	24.2%	0.0%	16%
Maximum Green (s)	43.0	43.0		7.0	55.0	55.0	7.0	36.0		24.0	24.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.49			1.23	0.11		0.68			0.82		
Control Delay		15.0			141.0	3.7		37.6			49.7		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		15.0			141.0	3.7		37.6			49.7		
Queue Length 50th (ft)		151			~433	1		183			171		
Queue Length 95th (ft)		429			#847	27		338			323		
Internal Link Dist (ft)		435			1715			1373			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1151			523	836		672			400		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.49			1.23	0.11		0.55			0.82		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 95.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1849	1340		1994			1981	
Flt Permitted		0.98			0.71	1.00		0.95			0.52	
Satd. Flow (perm)		1936			1331	1340		1910			1052	
Volume (vph)	15	475	10	135	405	80	25	270	30	100	170	10
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	17	540	11	161	482	95	28	307	34	116	198	12
RTOR Reduction (vph)	0	0	0	0	0	38	0	3	0	0	0	0
Lane Group Flow (vph)	0	568	0	0	643	57	0	366	0	0	326	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		55.8			55.8	55.8		26.3			26.3	
Effective Green, g (s)		56.8			56.8	56.8		27.3			27.3	
Actuated g/C Ratio		0.58			0.58	0.58		0.28			0.28	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1127			775	780		534			294	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.48	0.04		0.19			c0.31	
v/c Ratio		0.50			0.83	0.07		0.69			1.11	
Uniform Delay, d1		12.1			16.5	8.9		31.3			35.2	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			7.0	0.0		2.9			84.9	
Delay (s)		12.2			23.5	8.9		34.2			120.1	
Level of Service		B			C	A		C			F	
Approach Delay (s)		12.2			21.6			34.2			120.1	
Approach LOS		B			C			C			F	

Intersection Summary

HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	97.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

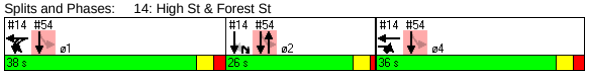
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	350	150	2	895	690	220	235	80	200	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	380	163	0	975	989	0	255	0	342	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	26.0	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	36.0	36.0	38.0	38.0	74.0	0.0	26.0	26.0	26.0	0.0
Total Split (%)	36.0%	36.0%	38.0%	38.0%	74.0%	0.0%	26.0%	26.0%	26.0%	0.0%
Maximum Green (s)	31.0	31.0	33.0	33.0			22.0	22.0	22.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.77	0.34		0.86	0.79		0.29		0.80	
Control Delay	43.7	9.2		40.6	16.1		1.4		51.3	
Queue Delay	0.0	0.0		139.9	0.0		0.0		0.1	
Total Delay	43.7	9.3		180.5	16.1		1.4		51.4	
Queue Length 50th (ft)	219	13		297	365		8		204	
Queue Length 95th (ft)	#360	63		#391	560		16		#342	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	491	479		1133	1251		873		430	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	15		389	0		0		1	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.77	0.35		1.31	0.79		0.29		0.80	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1933	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1933	
Volume (vph)	350	150	2	895	690	220	235	80	200	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	163	2	973	750	239	255	87	217	38
RTOR Reduction (vph)	0	92	0	0	11	0	199	0	5	0
Lane Group Flow (vph)	380	71	0	975	978	0	56	0	337	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	31.0	31.0		33.0	69.0		22.0		22.0	
Effective Green, g (s)	31.0	31.0		33.0	69.0		22.0		22.0	
Actuated g/C Ratio	0.31	0.31		0.33	0.69		0.22		0.22	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	491	388		1133	1239		354		425	
v/s Ratio Prot	0.24	0.06		c0.28	c0.54		0.03			
v/s Ratio Perm									0.17	
v/c Ratio	0.77	0.18		0.86	0.79		0.16		0.79	
Uniform Delay, d1	31.3	25.2		31.3	10.5		31.5		36.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	11.3	1.0		8.6	5.2		0.7		14.1	
Delay (s)	42.6	26.3		40.0	15.7		32.2		51.0	
Level of Service	D	C		D	B		C		D	
Approach Delay (s)					27.7				51.0	
Approach LOS					C				D	

Intersection Summary

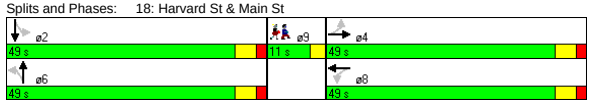
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	95	475	65	90	455	35	50	360	70	70	460	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	675	0	0	631	0	0	506	0	0	739	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.25			1.20			0.87			1.23		
Control Delay		157.1			136.9			44.0			145.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		157.1			136.9			44.0			145.6		
Queue Length 50th (ft)		~523			~475			274			~565		
Queue Length 95th (ft)		#850			#789			#556			#876		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		538			524			580			601		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.25			1.20			0.87			1.23		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1657			1666			1635			1626	
Flt Permitted		0.75			0.73			0.83			0.86	
Satd. Flow (perm)		1260			1233			1360			1401	
Volume (vph)	95	475	65	90	455	35	50	360	70	70	460	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	101	505	69	98	495	38	53	379	74	80	523	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	675	0	0	631	0	0	506	0	0	739	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		541			529			584			602	
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.51			0.37			c0.53	
v/c Ratio		1.25			1.19			0.87			1.23	
Uniform Delay, d1		29.3			29.3			26.6			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		126.3			104.3			12.4			116.6	
Delay (s)		155.6			133.6			39.0			145.9	
Level of Service		F			F			D			F	
Approach Delay (s)		155.6			133.6			39.0			145.9	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	124.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

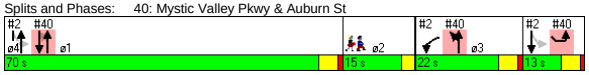
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	25	1145	1145	35	10	40	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	27	1231	1269	0	70	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	22.0	92.0	70.0	0.0	13.0	0.0	15.0
Total Split (%)	18.3%	76.7%	58.3%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	17.0		65.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.05	0.78	1.14		0.38		
Control Delay	2.0	16.0	80.0		24.9		
Queue Delay	1.3	11.4	5.9		0.5		
Total Delay	3.3	27.3	85.9		25.4		
Queue Length 50th (ft)	0	417	~1125		10		
Queue Length 95th (ft)	m1	#1106	m199		35		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	515	1571	1111		183		
Starvation Cap Reductn	396	332	0		0		
Spillback Cap Reductn	0	0	13		15		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.23	0.99	1.16		0.42		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2018		1755	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	119	1900	2018		1755	
Volume (vph)	25	1145	1145	35	10	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	27	1231	1231	38	14	56
RTOR Reduction (vph)	0	0	1	0	52	0
Lane Group Flow (vph)	27	1231	1268	0	18	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	91.6	91.6	62.6		8.0	
Effective Green, g (s)	93.6	93.6	63.6		9.0	
Actuated g/C Ratio	0.78	0.78	0.53		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	514	1482	1070		132	
v/s Ratio Prot	0.01	c0.65	c0.63		c0.01	
v/s Ratio Perm	0.03					
v/c Ratio	0.05	0.83	1.19		0.14	
Uniform Delay, d1	33.8	8.2	28.2		51.9	
Progression Factor	0.66	2.05	0.38		1.00	
Incremental Delay, d2	0.0	3.3	84.3		0.7	
Delay (s)	22.3	20.2	95.0		52.5	
Level of Service	C	C	F		D	
Approach Delay (s)		20.3	95.0		52.5	
Approach LOS		C	F		D	

Intersection Summary

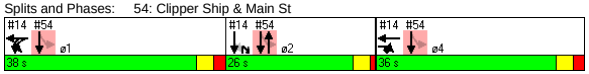
HCM Average Control Delay	57.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	235	950	100	1145		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	270	1092	0	1431		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	26.0	0.0	100.0	100.0	38.0	36.0
Total Split (%)	0.0%	0.0%	26.0%	0.0%	100.0%	100.0%	38%	36%
Maximum Green (s)			22.0				33.0	31.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.66	0.69		0.64		
Control Delay			44.3	2.5		9.0		
Queue Delay			0.8	0.0		0.0		
Total Delay			45.1	2.5		9.0		
Queue Length 50th (ft)			158	0		219		
Queue Length 95th (ft)			236	0		217		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			410	1583		2229		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			28	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.71	0.69		0.64		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3185
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2230
Volume (vph)	0	0	235	950	100	1145
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	270	1092	115	1316
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	270	1092	0	1431
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			22.0	100.0		100.0
Effective Green, g (s)			22.0	100.0		100.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			410	1583		2230
v/s Ratio Prot			0.14			
v/s Ratio Perm				c0.69		0.64
v/c Ratio			0.66	0.69		0.64
Uniform Delay, d1			35.6	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			8.0	2.5		0.9
Delay (s)			43.6	2.5		0.9
Level of Service			D	A		A
Approach Delay (s)	0.0		10.6			0.9
Approach LOS	A		B			A

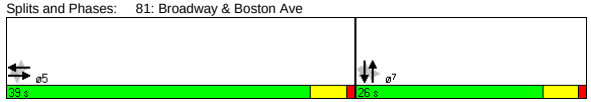
Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15	
Right Turn on Red				Yes				Yes				Yes		
Link Speed (mph)		30					30				30			30
Link Distance (ft)		1164					763				1097			1453
Travel Time (s)		26.5					17.3				24.9			33.0
Volume (vph)	5	610	25	20	20	25	600	215	5	5	30	35	195	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	717	0	0	0	0	701	234	0	0	43	38	0	305
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		Free	7	7		Free	7	
Detector Phases	5	5			5	5	5		7	7	7		7	7
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0		21.0	21.0	21.0		21.0	21.0
Total Split (s)	39.0	39.0	0.0	0.0	39.0	39.0	39.0	0.0	26.0	26.0	26.0	0.0	26.0	26.0
Total Split (%)	60.0%	60.0%	0.0%	0.0%	60.0%	60.0%	60.0%	0.0%	40.0%	40.0%	40.0%	0.0%	40.0%	40.0%
Maximum Green (s)	34.0	34.0			34.0	34.0	34.0		21.0	21.0	21.0		21.0	21.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lead/Lag														
Lead-Lag Optimize?														
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max			Max	Max	Max		None	None	None		None	None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0							
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0							
Pedestrian Calls (#/hr)	0	0			0	0	0							
v/c Ratio		0.68					0.71	0.15			0.09	0.02		0.77
Control Delay		14.2					15.7	0.2			15.4	0.0		33.8
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0
Total Delay		14.2					15.7	0.2			15.4	0.0		33.8
Queue Length 50th (ft)		182					184	0			11	0		107
Queue Length 95th (ft)		320					332	0			31	0		#203
Internal Link Dist (ft)		1084					683				1017			1373
Turn Bay Length (ft)														
Base Capacity (vph)		1062					991	1583			570	1583		447
Starvation Cap Reductn		0					0	0			0	0		0
Spillback Cap Reductn		0					0	0			0	0		0
Storage Cap Reductn		0					0	0			0	0		0
Reduced v/c Ratio		0.68					0.71	0.15			0.08	0.02		0.68

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 62.6
Natural Cycle: 55
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 81: Broadway & Boston Ave



Lane Group	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1900
Total Lost Time (s)	4.0	4.0
Leading Detector (ft)		50
Trailing Detector (ft)		0
Turning Speed (mph)	9	9
Right Turn on Red		Yes
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)	20	15
Peak Hour Factor	0.92	0.92
Lane Group Flow (vph)	0	16
Turn Type		Perm
Protected Phases		
Permitted Phases		7
Detector Phases		7
Minimum Initial (s)		4.0
Minimum Split (s)		21.0
Total Split (s)	0.0	26.0
Total Split (%)	0.0%	40.0%
Maximum Green (s)		21.0
Yellow Time (s)		4.0
All-Red Time (s)		1.0
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)		3.0
Recall Mode		None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
v/c Ratio		0.04
Control Delay		7.8
Queue Delay		0.0
Total Delay		7.8
Queue Length 50th (ft)		0
Queue Length 95th (ft)		11
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		513
Starvation Cap Reductn		0
Spillback Cap Reductn		0
Storage Cap Reductn		0
Reduced v/c Ratio		0.03

Intersection Summary

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		0.95
Frt		0.99					1.00	0.85			1.00	0.85		0.99
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.97
Satd. Flow (prot)		1845					1856	1583			1841	1583		1692
Flt Permitted		1.00					0.92	1.00			0.91	1.00		0.77
Satd. Flow (perm)		1839					1722	1583			1696	1583		1340
Volume (vph)	5	610	25	20	20	25	600	215	5	5	30	35	195	65
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	663	27	22	22	27	652	234	5	5	33	38	212	71
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	715	0	0	0	0	701	234	0	0	43	38	0	305
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm	
Protected Phases		5					5				7			7
Permitted Phases	5				5	5		Free	7	7		Free	7	
Actuated Green, G (s)		35.1					35.1	62.6			17.5	62.6		17.5
Effective Green, g (s)		36.1					36.1	62.6			18.5	62.6		18.5
Actuated g/C Ratio		0.58					0.58	1.00			0.30	1.00		0.30
Clearance Time (s)		5.0					5.0				5.0			5.0
Vehicle Extension (s)		3.0					3.0				3.0			3.0
Lane Grp Cap (vph)		1061					993	1583			501	1583		396
v/s Ratio Prot														
v/s Ratio Perm		0.39					c0.41	0.15			0.03	0.02		c0.23
v/c Ratio		0.67					0.71	0.15			0.09	0.02		0.77
Uniform Delay, d1		9.2					9.5	0.0			15.9	0.0		20.1
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		3.4					4.2	0.2			0.1	0.0		8.9
Delay (s)		12.6					13.7	0.2			16.0	0.0		29.1
Level of Service		B					B	A			B	A		C
Approach Delay (s)		12.6					10.3				8.5			28.4
Approach LOS		B					B				A			C

Intersection Summary				
HCM Average Control Delay	13.9	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	62.6	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	91.2%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
81: Broadway & Boston Ave

2030 Build Condition Alt 4 - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBR	SBR2
Lane Configurations		
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		4.0
Lane Util. Factor		0.95
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1504
Flt Permitted		1.00
Satd. Flow (perm)		1504
Volume (vph)	20	15
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	22	16
RTOR Reduction (vph)	0	11
Lane Group Flow (vph)	0	5
Turn Type		Perm
Protected Phases		
Permitted Phases		7
Actuated Green, G (s)		17.5
Effective Green, g (s)		18.5
Actuated g/C Ratio		0.30
Clearance Time (s)		5.0
Vehicle Extension (s)		3.0
Lane Grp Cap (vph)		444
v/s Ratio Prot		
v/s Ratio Perm		0.00
v/c Ratio		0.01
Uniform Delay, d1		15.6
Progression Factor		1.00
Incremental Delay, d2		0.0
Delay (s)		15.6
Level of Service		B
Approach Delay (s)		
Approach LOS		

Intersection Summary

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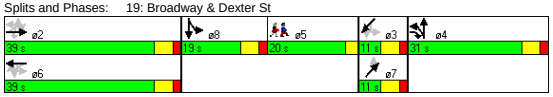
Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14	14	14
Grade (%)			0%						0%			1%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0	0	
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15		9
Right Turn on Red					Yes								Yes			
Link Speed (mph)			30						30			30			30	
Link Distance (ft)			1199						1176			419			1711	
Travel Time (s)			27.3						26.7			9.5			38.9	
Volume (vph)	2	25	420	260	10	1	20	20	680	130	270	150	5	30	160	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0	0	0
Lane Group Flow (vph)	0	0	486	294	0	0	0	0	916	0	0	456	0	0	268	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split		
Protected Phases			2	4					6		4	4		8	8	
Permitted Phases	2	2		2		6	6	6								
Detector Phases	2	2	2	4		6	6	6	6		4	4		8	8	
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0	8.0	
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0	14.0	
Total Split (s)	39.0	39.0	39.0	31.0	0.0	39.0	39.0	39.0	39.0	0.0	31.0	31.0	0.0	19.0	19.0	0.0
Total Split (%)	32.5%	32.5%	32.5%	25.8%	0.0%	32.5%	32.5%	32.5%	32.5%	0.0%	25.8%	25.8%	0.0%	15.8%	15.8%	0.0%
Maximum Green (s)	33.0	33.0	33.0	25.0		33.0	33.0	33.0	33.0		25.0	25.0		13.0	13.0	
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag														Lead	Lead	
Lead-Lag Optimize?														Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0	2.0	
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None	None	
Walk Time (s)																
Flash Dont Walk (s)																
Pedestrian Calls (#/hr)																
v/c Ratio			0.63	0.30					1.01			0.96			1.00	
Control Delay			35.2	10.9					68.8			72.1			98.8	
Queue Delay			0.0	0.0					0.0			0.0			0.0	
Total Delay			35.2	10.9					68.8			72.1			98.8	
Queue Length 50th (ft)			134	72					301			284			166	
Queue Length 95th (ft)			245	183					#576			#610			#412	
Internal Link Dist (ft)			1119						1096			339			1631	
Turn Bay Length (ft)																
Base Capacity (vph)			769	984					905			476			269	
Starvation Cap Reductn			0	0					0			0			0	
Spillback Cap Reductn			0	0					0			0			0	
Storage Cap Reductn			0	0					0			0			0	
Reduced v/c Ratio			0.63	0.30					1.01			0.96			1.00	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 19: Broadway & Dexter St



Green Line Extention
19: Broadway & Dexter St

2030 Build Condition Alt 4 - PM Peak
Lanes, Volumes, Timings

Lane Group	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations									
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	12	12	12	12	12	12	12	
Grade (%)		0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50	50			
Trailing Detector (ft)		0		0	0	0			
Turning Speed (mph)	9		9	15	15		9	9	
Right Turn on Red	Yes							Yes	
Link Speed (mph)		30				30			
Link Distance (ft)		342				975			
Travel Time (s)		7.8				22.2			
Volume (vph)	55	0	50	5	20	5	30	10	
Peak Hour Factor	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	60	0	0	0	83	0	0	
Turn Type				Perm	Perm				
Protected Phases		7				3			5
Permitted Phases				3	3				
Detector Phases		7		3	3	3			
Minimum Initial (s)		4.0		4.0	4.0	4.0			4.0
Minimum Split (s)		10.0		10.0	10.0	10.0			20.0
Total Split (s)	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)		5.0		5.0	5.0	5.0			17.0
Yellow Time (s)		4.0		4.0	4.0	4.0			3.0
All-Red Time (s)		2.0		2.0	2.0	2.0			0.0
Lead/Lag									Lag
Lead-Lag Optimize?									Yes
Vehicle Extension (s)		2.0		2.0	2.0	2.0			3.0
Recall Mode		None		None	None	None			None
Walk Time (s)									5.0
Flash Dont Walk (s)									12.0
Pedestrian Calls (#/hr)									11
v/c Ratio		0.62				0.91			
Control Delay		77.9				120.9			
Queue Delay		0.0				0.0			
Total Delay		77.9				120.9			
Queue Length 50th (ft)		38				50			
Queue Length 95th (ft)		#108				#160			
Internal Link Dist (ft)		262				895			
Turn Bay Length (ft)									
Base Capacity (vph)		96				91			
Starvation Cap Reductn		0				0			
Spillback Cap Reductn		0				0			
Storage Cap Reductn		0				0			
Reduced v/c Ratio		0.63				0.91			

Intersection Summary

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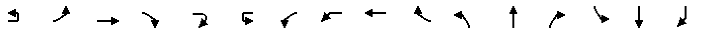
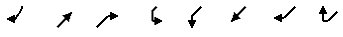


Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14	14	14
Grade (%)			0%						0%			1%			1%	
Total Lost time (s)			5.0	5.0					5.0			5.0			5.0	
Lane Util. Factor			0.95	1.00					0.95			1.00			1.00	
Frt			1.00	0.85					0.98			1.00			0.97	
Flt Protected			1.00	1.00					1.00			0.97			0.99	
Satd. Flow (prot)			3529	1564					3268			1890			1921	
Flt Permitted			0.73	1.00					0.89			0.97			0.99	
Satd. Flow (perm)			2589	1564					2911			1890			1921	
Volume (vph)	2	25	420	260	10	1	20	20	680	130	270	150	5	30	160	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	457	283	11	1	22	22	731	140	290	161	5	32	172	5
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	486	293	0	0	0	0	916	0	0	456	0	0	259	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split		
Protected Phases			2	4					6		4	4		8	8	
Permitted Phases	2	2	2			6	6	6								
Actuated Green, G (s)			33.2	58.3					33.2			25.1			13.1	
Effective Green, g (s)			34.2	60.3					34.2			26.1			14.1	
Actuated g/C Ratio			0.32	0.57					0.32			0.25			0.13	
Clearance Time (s)			6.0	6.0					6.0			6.0			6.0	
Vehicle Extension (s)			4.0	6.0					4.0			6.0			2.0	
Lane Grp Cap (vph)			833	961					937			464			255	
v/s Ratio Prot				0.07								c0.24			c0.14	
v/s Ratio Perm			0.19	0.11					c0.31							
v/c Ratio			0.58	0.30					0.98			0.98			1.02	
Uniform Delay, d1			30.1	12.0					35.7			39.9			46.1	
Progression Factor			1.00	1.00					1.00			1.00			1.00	
Incremental Delay, d2			1.2	0.5					23.9			37.5			60.8	
Delay (s)			31.3	12.5					59.5			77.3			106.9	
Level of Service			C	B					E			E			F	
Approach Delay (s)			24.3						59.5			77.3			106.9	
Approach LOS			C						E			E			F	

Intersection Summary				
HCM Average Control Delay	59.2	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	106.3%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St

2030 Build Condition Alt 4 - PM Peak
HCM Signalized Intersection Capacity Analysis



Movement	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	12	12	12	12	12
Grade (%)		0%				1%		
Total Lost time (s)		5.0				5.0		
Lane Util. Factor		1.00				1.00		
Frt		0.86				0.92		
Flt Protected		1.00				0.98		
Satd. Flow (prot)		1644				1698		
Flt Permitted		1.00				0.86		
Satd. Flow (perm)		1644				1479		
Volume (vph)	55	0	50	5	20	5	30	10
Peak-hour factor, PHF	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	59	0	60	6	24	6	35	12
RTOR Reduction (vph)	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	0	60	0	0	0	78	0	0
Heavy Vehicles (%)	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0
Turn Type				Perm	Perm			
Protected Phases		7				3		
Permitted Phases				3	3			
Actuated Green, G (s)		5.0				5.0		
Effective Green, g (s)		6.0				6.0		
Actuated g/C Ratio		0.06				0.06		
Clearance Time (s)		6.0				6.0		
Vehicle Extension (s)		2.0				2.0		
Lane Grp Cap (vph)		93				83		
v/s Ratio Prot		0.04						
v/s Ratio Perm						c0.05		
v/c Ratio		0.65				0.94		
Uniform Delay, d1		49.1				50.0		
Progression Factor		1.00				1.00		
Incremental Delay, d2		10.9				78.7		
Delay (s)		60.0				128.7		
Level of Service		E				F		
Approach Delay (s)		60.0				128.7		
Approach LOS		E				F		

Intersection Summary

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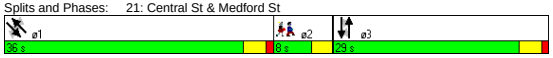
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	290	100	5	75	5	15	400	60	65	470	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	528	0	0	105	0	0	552	0	0	622	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	8.0
Total Split (%)	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	49.3%	49.3%	0.0%	49.3%	49.3%	0.0%	11%
Maximum Green (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.86			0.16			0.63			0.77		
Control Delay		35.4			15.4			17.2			23.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.4			15.4			17.2			23.6		
Queue Length 50th (ft)		175			26			150			187		
Queue Length 95th (ft)		#403			59			285			#444		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		637			691			882			804		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			0.15			0.63			0.77		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 65.3
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1880			1828			1841	
Flt Permitted		0.91			0.97			0.98			0.90	
Satd. Flow (perm)		1665			1836			1791			1663	
Volume (vph)	100	290	100	5	75	5	15	400	60	65	470	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	312	108	6	93	6	17	465	70	72	522	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	516	0	0	105	0	0	552	0	0	620	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.7			23.7			32.2			32.2	
Effective Green, g (s)		23.7			23.7			32.2			32.2	
Actuated g/C Ratio		0.35			0.35			0.47			0.47	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		582			642			851			790	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.06			0.31			c0.37	
v/c Ratio		0.89			0.16			0.65			0.78	
Uniform Delay, d1		20.8			15.2			13.5			14.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		15.4			0.2			3.8			7.7	
Delay (s)		36.2			15.4			17.3			22.6	
Level of Service		D			B			B			C	
Approach Delay (s)		36.2			15.4			17.3			22.6	
Approach LOS		D			B			B			C	

Intersection Summary

HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

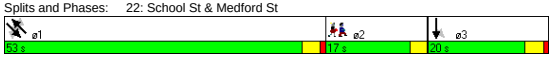
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			771		
Travel Time (s)		21.7			21.8			35.4			17.5		
Volume (vph)	0	0	0	70	250	25	40	435	100	180	545	155	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	392	0	0	638	0	0	908	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%	19%
Maximum Green (s)				16.0	16.0		49.0	49.0		49.0	49.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.94			0.56			1.03		
Control Delay					63.6			11.0			55.3		
Queue Delay					0.0			0.0			0.0		
Total Delay					63.6			11.0			55.3		
Queue Length 50th (ft)					171			121			336		
Queue Length 95th (ft)					#420			359			#873		
Internal Link Dist (ft)		873			879			1476			691		
Turn Bay Length (ft)													
Base Capacity (vph)					418			1133			881		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.94			0.56			1.03		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.4
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1967			1910			1916	
Flt Permitted					0.99			0.91			0.75	
Satd. Flow (perm)					1967			1739			1457	
Volume (vph)	0	0	0	70	250	25	40	435	100	180	545	155
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	80	284	28	44	483	111	186	562	160
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	389	0	0	631	0	0	901	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			49.3			49.3	
Effective Green, g (s)					16.1			49.3			49.3	
Actuated g/C Ratio					0.20			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					402			1088			912	
v/s Ratio Prot												
v/s Ratio Perm					0.20			0.36			c0.62	
v/c Ratio					0.97			0.58			0.99	
Uniform Delay, d1					31.1			8.7			14.5	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					36.1			2.3			27.0	
Delay (s)					67.2			10.9			41.5	
Level of Service					E			B			D	
Approach Delay (s)		0.0			67.2			10.9			41.5	
Approach LOS		A			E			B			D	

Intersection Summary

HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	13.4
Intersection Capacity Utilization	107.8%	ICU Level of Service	G
Analysis Period (min)	15		

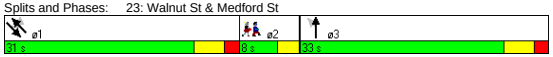
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			764			533		
Travel Time (s)		17.7			19.2			17.4			12.1		
Volume (vph)	125	275	10	0	0	0	5	300	0	0	380	5	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	547	0	0	0	0	0	386	0	0	438	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.72						0.51			0.57		
Control Delay		22.9						18.1			19.2		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.9						18.1			19.2		
Queue Length 50th (ft)		162						101			118		
Queue Length 95th (ft)		243						183			243		
Internal Link Dist (ft)		699			764			684			453		
Turn Bay Length (ft)													
Base Capacity (vph)		783						756			769		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.70						0.51			0.57		

Intersection Summary

Area Type: Other
Cycle Length: 72
Actuated Cycle Length: 64.4
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			1.00	
Flt Protected		0.98						1.00			1.00	
Satd. Flow (prot)		1829						1880			1896	
Flt Permitted		0.98						0.99			1.00	
Satd. Flow (perm)		1829						1867			1896	
Volume (vph)	125	275	10	0	0	0	5	300	0	0	380	5
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	167	367	13	0	0	0	6	380	0	0	432	6
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	546	0	0	0	0	0	386	0	0	437	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			741	
v/s Ratio Prot											c0.23	
v/s Ratio Perm		0.30						0.21				
v/c Ratio		0.74						0.53			0.59	
Uniform Delay, d1		17.1						15.6			16.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		4.4						0.9			1.5	
Delay (s)		21.4						16.5			17.6	
Level of Service		C						B			B	
Approach Delay (s)		21.4			0.0			16.5			17.6	
Approach LOS		C			A			B			B	

Intersection Summary

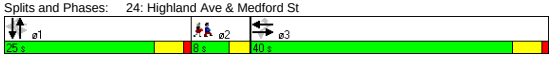
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	460	20	50	560	390	5	0	15	265	25	20	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	558	0	0	670	429	0	27	0	0	357	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	40.0	0.0	40.0	40.0	65.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	0.0%	54.8%	0.0%	54.8%	54.8%	89.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	11%
Maximum Green (s)		35.0		35.0	35.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.56			0.73	0.26		0.05			0.82		
Control Delay		13.3			18.6	0.5		10.2			40.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		13.3			18.6	0.5		10.2			40.1		
Queue Length 50th (ft)		127			177	0		2			126		
Queue Length 95th (ft)		251			#436	8		15			#291		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		996			917	1639		505			433		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.56			0.73	0.26		0.05			0.82		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 66.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.90			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1688			1771	
Flt Permitted		1.00			0.92	1.00		0.91			0.74	
Satd. Flow (perm)		1834			1812	1680		1555			1363	
Volume (vph)	0	460	20	50	560	390	5	0	15	265	25	20
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	535	23	55	615	429	7	0	20	305	29	23
RTOR Reduction (vph)	0	2	0	0	0	49	0	14	0	0	3	0
Lane Group Flow (vph)	0	556	0	0	670	380	0	13	0	0	354	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		35.1			35.1	60.1		20.0			20.0	
Effective Green, g (s)		36.1			36.1	61.1		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.89		0.30			0.30	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		960			948	1488		473			415	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.37	0.23		0.01			c0.26	
v/c Ratio		0.58			0.71	0.26		0.03			0.85	
Uniform Delay, d1		11.3			12.4	0.6		16.8			22.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.5			4.4	0.4		0.1			19.3	
Delay (s)		13.8			16.9	1.0		16.9			41.9	
Level of Service		B			B	A		B			D	
Approach Delay (s)		13.8			10.7			16.9			41.9	
Approach LOS		B			B			B			D	

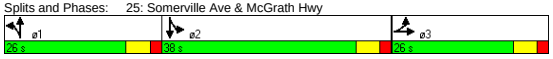
Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	185	215	95	0	0	0	100	480	60	205	700	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	562	0	0	0	0	0	617	64	220	1033	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.69						0.75	0.04	0.34	0.85	
Control Delay		34.8						38.5	0.0	22.5	32.4	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		34.8						38.5	0.0	22.5	32.4	
Queue Length 50th (ft)		145						172	0	89	263	
Queue Length 95th (ft)		197						233	0	148	#353	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						826	1706	649	1221	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.69						0.75	0.04	0.34	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3408						3544	1706	1770	3217	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3408						3544	1706	1770	3217	
Volume (vph)	185	215	95	0	0	0	100	480	60	205	700	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	210	244	108	0	0	0	106	511	64	220	753	280
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	617	64	220	991	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1180	
v/s Ratio Prot		c0.16						c0.17		0.12	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.68						0.75	0.04	0.34	0.84	
Uniform Delay, d1		31.4						32.0	0.0	20.6	26.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.6						6.1	0.0	1.4	7.2	
Delay (s)		36.0						38.1	0.0	22.0	33.3	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.0			0.0			34.5			31.3	
Approach LOS		D			A			C			C	

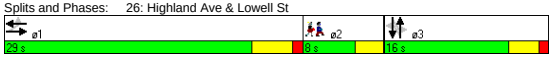
Intersection Summary

HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	510	40	50	100	40	55	0	90	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	172	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	29.0	29.0	0.0	0.0	29.0	0.0	16.0	16.0	0.0	16.0	16.0	0.0	8.0
Total Split (%)	54.7%	54.7%	0.0%	0.0%	54.7%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	15%
Maximum Green (s)	24.0	24.0			24.0		12.0	12.0		12.0	12.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.49			0.49			0.61			0.43		
Control Delay		9.5			9.1			24.3			10.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.5			9.1			24.3			10.9		
Queue Length 50th (ft)		72			80			49			13		
Queue Length 95th (ft)		201			217			113			53		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1039			1165			400			419		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.49			0.49			0.57			0.41		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



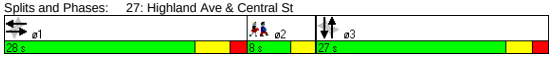
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1845			1804			1700	
Flt Permitted		0.92			1.00			0.87			0.74	
Satd. Flow (perm)		1714			1845			1595			1281	
Volume (vph)	45	420	0	0	510	40	50	100	40	55	0	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	526	41	60	119	48	65	0	107
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	87	0
Lane Group Flow (vph)	0	506	0	0	567	0	0	227	0	0	85	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		27.3			27.3			9.2			9.2	
Effective Green, g (s)		28.3			28.3			9.2			9.2	
Actuated g/C Ratio		0.57			0.57			0.19			0.19	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		982			1057			297			239	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.07	
v/c Ratio		0.52			0.54			0.76			0.36	
Uniform Delay, d1		6.4			6.5			19.1			17.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			2.0			11.7			1.2	
Delay (s)		8.3			8.5			30.8			18.8	
Level of Service		A			A			C			B	
Approach Delay (s)		8.3			8.5			30.8			18.8	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	40	360	25	30	425	40	55	350	100	15	90	45	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	461	0	0	549	0	0	555	0	0	172	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0	8.0
Total Split (%)	44.4%	44.4%	0.0%	44.4%	44.4%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	13%
Maximum Green (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.70			0.78			0.82			0.25		
Control Delay		21.7			24.8			28.2			11.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.7			24.8			28.2			11.2		
Queue Length 50th (ft)		114			141			146			27		
Queue Length 95th (ft)		#288			#354			#370			72		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		700			750			716			715		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.73			0.78			0.24		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 53.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



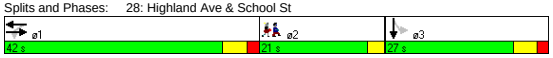
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1822			1837			1821			1804	
Flt Permitted		0.92			0.96			0.95			0.94	
Satd. Flow (perm)		1676			1767			1734			1709	
Volume (vph)	40	360	25	30	425	40	55	350	100	15	90	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	43	391	27	33	472	44	60	385	110	17	103	52
RTOR Reduction (vph)	0	4	0	0	5	0	0	14	0	0	24	0
Lane Group Flow (vph)	0	457	0	0	544	0	0	541	0	0	148	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.1			20.1			20.3			20.3	
Effective Green, g (s)		21.1			21.1			20.3			20.3	
Actuated g/C Ratio		0.38			0.38			0.37			0.37	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		641			675			638			628	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.31			c0.31			0.09	
v/c Ratio		0.71			0.81			0.85			0.24	
Uniform Delay, d1		14.5			15.2			16.0			12.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.0			7.4			10.6			0.3	
Delay (s)		18.5			22.6			26.6			12.3	
Level of Service		B			C			C			B	
Approach Delay (s)		18.5			22.6			26.6			12.3	
Approach LOS		B			C			C			B	

Intersection Summary					
HCM Average Control Delay		21.8	HCM Level of Service		C
HCM Volume to Capacity ratio		0.76			
Actuated Cycle Length (s)		55.2	Sum of lost time (s)		10.0
Intersection Capacity Utilization		78.8%	ICU Level of Service		D
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	465	15	55	490	0	0	0	0	110	240	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	539	0	0	580	0	0	0	0	0	474	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	42.0	0.0	42.0	42.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0	21.0
Total Split (%)	0.0%	46.7%	0.0%	46.7%	46.7%	0.0%	0.0%	0.0%	0.0%	30.0%	30.0%	0.0%	23%
Maximum Green (s)		36.0		36.0	36.0					21.0	21.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.58			0.96						0.89		
Control Delay		17.3			49.4						47.1		
Queue Delay		0.0			0.0						0.0		
Total Delay		17.3			49.4						47.1		
Queue Length 50th (ft)		138			206						185		
Queue Length 95th (ft)		369			#604						#498		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		922			604						533		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.58			0.96						0.89		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 73.2	
Natural Cycle: 110	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1800			1816						1752	
Flt Permitted		1.00			0.84						0.99	
Satd. Flow (perm)		1800			1537						1752	
Volume (vph)	0	465	15	55	490	0	0	0	0	110	240	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	522	17	59	521	0	0	0	0	111	242	121
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	0	580	0	0	0	0	0	474	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		36.4			36.4						21.2	
Effective Green, g (s)		37.4			37.4						22.2	
Actuated g/C Ratio		0.50			0.50						0.29	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		892			761						515	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.27	
v/c Ratio		0.60			0.76						0.92	
Uniform Delay, d1		13.7			15.4						25.8	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.2			4.5						22.2	
Delay (s)		14.9			20.0						48.0	
Level of Service		B			B						D	
Approach Delay (s)		14.9			20.0			0.0			48.0	
Approach LOS		B			B			A			D	

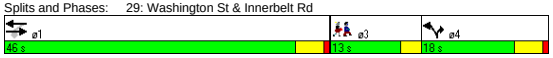
Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	670	35	90	720	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	870	45	97	774	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	46.0	46.0	46.0	46.0	18.0	18.0	13.0
Total Split (%)	59.7%	59.7%	59.7%	59.7%	23.4%	23.4%	17%
Maximum Green (s)	41.0	41.0	41.0	41.0	13.0	13.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.75	0.05	0.80	0.68	0.75	0.59	
Control Delay	15.2	2.6	59.8	12.9	41.1	22.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.2	2.6	59.8	12.9	41.1	22.8	
Queue Length 50th (ft)	182	0	22	149	102	50	
Queue Length 95th (ft)	371	10	#136	425	#158	87	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1186	865	124	1163	376	405	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.05	0.78	0.67	0.74	0.58	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 64.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.16	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	300	1827	1719	1538
Volume (vph)	670	35	90	720	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	870	45	97	774	279	235
RTOR Reduction (vph)	0	18	0	0	0	70
Lane Group Flow (vph)	870	27	97	774	279	165
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	39.4	39.4	39.4	39.4	12.9	12.9
Effective Green, g (s)	40.4	40.4	40.4	40.4	13.9	13.9
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.21	0.21
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1123	804	181	1102	357	319
v/s Ratio Prot	c0.47			0.42	c0.16	0.11
v/s Ratio Perm		0.02	0.32			
v/c Ratio	0.77	0.03	0.54	0.70	0.78	0.52
Uniform Delay, d1	9.9	5.4	7.8	9.2	25.1	23.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.0	1.5	1.7	11.2	1.9
Delay (s)	13.0	5.4	9.3	10.8	36.3	25.5
Level of Service	B	A	A	B	D	C
Approach Delay (s)	12.6			10.7	31.4	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	67.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

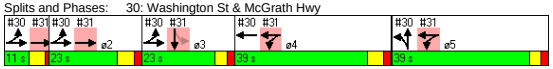
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2	ø3
Lane Configurations															
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900			
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0			
Turning Speed (mph)	15		9	15		9	15		9	15		9			
Right Turn on Red			Yes			No			Yes			Yes			
Link Speed (mph)		30			30			30			30				
Link Distance (ft)		86			812			410			438				
Travel Time (s)		2.0			18.5			9.3			10.0				
Volume (vph)	800	440	0	0	1060	170	60	540	680	0	0	0			
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92			
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%			
Lane Group Flow (vph)	842	454	0	0	1413	0	63	568	716	0	0	0			
Turn Type	Split						Split		Free						
Protected Phases	1 2 3	1 2 3			4		5	5					1	2	3
Permitted Phases									Free						
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0	10.0
Total Split (s)	57.0	57.0	0.0	0.0	39.0	0.0	39.0	39.0	0.0	0.0	0.0	0.0	11.0	23.0	23.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	28.9%	0.0%	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	8%	17%	17%
Maximum Green (s)					33.0		34.0	34.0					6.0	17.0	18.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0	3.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0	2.0
Lead/Lag					Lag								Lead	Lag	Lead
Lead-Lag Optimize?					Yes								Yes	Yes	Yes
Walk Time (s)					5.0									5.0	
Flash Dont Walk (s)					11.0									10.0	
Pedestrian Calls (#/hr)					0									0	
v/c Ratio	0.59	0.24			1.12		0.14	1.23	0.46						
Control Delay	3.9	0.5			109.2		40.4	165.6	1.0						
Queue Delay	0.0	0.0			12.5		0.0	106.7	0.0						
Total Delay	3.9	0.5			121.7		40.4	272.2	1.0						
Queue Length 50th (ft)	63	1			~519		43	~615	0						
Queue Length 95th (ft)	m72	m1			#582		83	#843	0						
Internal Link Dist (ft)		6			732			330			358				
Turn Bay Length (ft)															
Base Capacity (vph)	1424	1921			1267		437	460	1553						
Starvation Cap Reductn	0	0			0		0	75	0						
Spillback Cap Reductn	0	0			32		17	0	0						
Storage Cap Reductn	0	0			0		0	0	0						
Reduced v/c Ratio	0.59	0.24			1.14		0.15	1.48	0.46						

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 140
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Washington St & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5032		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5032		1736	1827	1553			
Volume (vph)	800	440	0	0	1060	170	60	540	680	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	842	454	0	0	1218	195	63	568	716	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	842	454	0	0	1413	0	63	568	716	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			33.0		34.0	34.0	135.0			
Effective Green, g (s)	52.0	52.0			34.0		34.0	34.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.25		0.25	0.25	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1267		437	460	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.04	c0.31				
v/s Ratio Perm									c0.46			
v/c Ratio	0.59	0.24			1.12		0.14	1.23	0.46			
Uniform Delay, d1	33.0	28.1			50.5		39.2	50.5	0.0			
Progression Factor	0.09	0.01			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.1			63.1		0.7	123.3	1.0			
Delay (s)	3.8	0.5			113.6		39.9	173.8	1.0			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.7			113.6			75.7			0.0	
Approach LOS		A			F			E			A	

Intersection Summary

HCM Average Control Delay	65.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

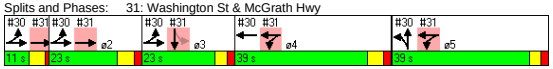
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2	ø4	ø5
Lane Configurations																
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750				
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14				
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0				
Turning Speed (mph)	15		9	15		9	15		9	15		9				
Right Turn on Red			Yes			Yes			Yes			Yes				
Link Speed (mph)		30			30			30			30					
Link Distance (ft)		1125			86			285			1794					
Travel Time (s)		25.6			2.0			6.5			40.8					
Volume (vph)	0	1210	40	410	710	0	0	0	0	30	140	370				
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92				
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%				
Lane Group Flow (vph)	0	1315	0	456	789	0	0	0	0	0	589	0				
Turn Type				Split						Perm						
Protected Phases		1 2		4 5	4 5						3		1	2	4	5
Permitted Phases										3						
Minimum Split (s)										10.0	10.0		11.0	21.0	22.0	10.0
Total Split (s)	0.0	34.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	23.0	23.0	0.0	11.0	23.0	39.0	39.0
Total Split (%)	0.0%	25.2%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	17.0%	17.0%	0.0%	8%	17%	29%	29%
Maximum Green (s)										18.0	18.0		6.0	17.0	33.0	34.0
Yellow Time (s)										3.0	3.0		4.0	4.0	4.0	3.0
All-Red Time (s)										2.0	2.0		1.0	2.0	2.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag	Lag	
Lead-Lag Optimize?										Yes	Yes		Yes	Yes	Yes	
Walk Time (s)														5.0	5.0	
Flash Dont Walk (s)														10.0	11.0	
Pedestrian Calls (#/hr)														0	0	
v/c Ratio		0.85		0.49	0.41						1.41dr					
Control Delay		57.0		1.9	0.3						148.5					
Queue Delay		1.6		0.0	0.0						55.2					
Total Delay		58.6		1.9	0.3						203.7					
Queue Length 50th (ft)		275		0	0						~294					
Queue Length 95th (ft)		313		m0	m0						#418					
Internal Link Dist (ft)		1045			6			205			1714					
Turn Bay Length (ft)																
Base Capacity (vph)		1545		939	1914						493					
Starvation Cap Reductn		0		0	0						0					
Spillback Cap Reductn		103		0	0						47					
Storage Cap Reductn		0		0	0						0					
Reduced v/c Ratio		0.91		0.49	0.41						1.32					

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 140
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 31: Washington St & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7177		1736	3539						3168	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7177		1736	3539						3168	
Volume (vph)	0	1210	40	410	710	0	0	0	0	30	140	370
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1274	41	456	789	0	0	0	0	35	152	402
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1311	0	456	789	0	0	0	0	0	519	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		28.0		73.0	73.0						18.0	
Effective Green, g (s)		29.0		73.0	73.0						18.0	
Actuated g/C Ratio		0.21		0.54	0.54						0.13	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1542		939	1914						422	
v/s Ratio Prot		c0.18		c0.26	0.22							
v/s Ratio Perm											0.16	
v/c Ratio		0.85		0.49	0.41						1.41dr	
Uniform Delay, d1		50.9		19.3	18.3						58.5	
Progression Factor		1.00		0.09	0.01						1.00	
Incremental Delay, d2		6.1		0.2	0.1						122.5	
Delay (s)		57.0		1.9	0.3						181.0	
Level of Service		E		A	A						F	
Approach Delay (s)		57.0			0.9				0.0		181.0	
Approach LOS		E			A				A		F	

Intersection Summary

HCM Average Control Delay	58.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

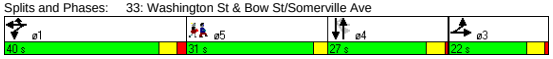
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	325	30	425	390	905	0	0	0	445	255	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	456	0	452	415	963	0	0	0	250	582	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	40.0	40.0	40.0	0.0	27.0	0.0	27.0	27.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	33.3%	33.3%	33.3%	0.0%	22.5%	0.0%	22.5%	22.5%	0.0%	26%
Maximum Green (s)	17.0	17.0		34.0	34.0	34.0		22.0		22.0	22.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.03		0.97	0.85	0.77				0.62	0.71		
Control Delay		101.7		42.8	34.8	8.9				45.2	42.0		
Queue Delay		0.0		0.0	0.0	1.7				0.0	0.0		
Total Delay		101.7		42.8	34.8	10.6				45.2	42.0		
Queue Length 50th (ft)		~197		322	271	3				146	175		
Queue Length 95th (ft)		#307		m298	m252	m314				#421	#428		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		441		465	489	1249				400	823		
Starvation Cap Reductn		0		0	0	144				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.03		0.97	0.85	0.87				0.63	0.71		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 15 (13%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2797	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2353	
Volume (vph)	60	325	30	425	390	905	0	0	0	445	255	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	357	33	452	415	963	0	0	0	500	287	45
RTOR Reduction (vph)	0	0	0	0	0	352	0	0	0	0	4	0
Lane Group Flow (vph)	0	456	0	452	415	611	0	0	0	250	578	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		32.2	32.2	72.8				40.6	40.6	
Effective Green, g (s)		18.0		33.2	33.2	73.8				41.6	41.6	
Actuated g/C Ratio		0.15		0.28	0.28	0.62				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		440		441	464	876				400	816	
v/s Ratio Prot		c0.16		c0.28	0.25	0.19						
v/s Ratio Perm						0.24				0.22	c0.25	
v/c Ratio		1.04		1.02	0.89	0.70				0.62	0.71	
Uniform Delay, d1		51.0		43.4	41.7	15.6				32.7	33.9	
Progression Factor		1.00		0.80	0.80	5.73				1.00	1.00	
Incremental Delay, d2		52.6		19.8	2.8	0.2				3.4	3.0	
Delay (s)		103.6		54.7	36.1	89.4				36.1	37.0	
Level of Service		F		D	D	F				D	D	
Approach Delay (s)		103.6			68.8			0.0			36.7	
Approach LOS		F			E			A			D	

Intersection Summary

HCM Average Control Delay	65.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

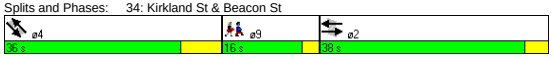
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	305	40	40	280	70	40	360	60	30	475	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	484	0	0	443	0	0	495	0	0	593	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	16.0
Total Split (%)	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%	18%
Maximum Green (s)	34.0	34.0		34.0	34.0		29.0	29.0		29.0	29.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.84			0.59			0.83			0.87		
Control Delay		35.9			21.0			36.1			38.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.9			21.0			36.1			38.8		
Queue Length 50th (ft)		180			137			190			235		
Queue Length 95th (ft)		#476			303			#475			#565		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		575			745			598			678		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.84			0.59			0.83			0.87		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1818			1808			1822			1827	
Flt Permitted		0.76			0.93			0.89			0.96	
Satd. Flow (perm)		1400			1686			1620			1756	
Volume (vph)	110	305	40	40	280	70	40	360	60	30	475	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	324	43	45	318	80	43	387	65	31	490	72
RTOR Reduction (vph)	0	3	0	0	8	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	481	0	0	435	0	0	489	0	0	588	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		34.2			34.2			29.2			29.2	
Effective Green, g (s)		34.2			34.2			30.2			30.2	
Actuated g/C Ratio		0.43			0.43			0.38			0.38	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		602			724			615			666	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.26			0.30			c0.33	
v/c Ratio		0.80			0.60			0.80			0.88	
Uniform Delay, d1		19.7			17.5			22.0			23.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.6			3.7			10.3			15.7	
Delay (s)		30.3			21.1			32.2			38.8	
Level of Service		C			C			C			D	
Approach Delay (s)		30.3			21.1			32.2			38.8	
Approach LOS		C			C			C			D	

Intersection Summary

HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

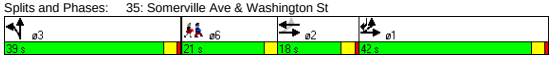
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	380	390	0	0	445	40	515	795	100	0	0	885	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	885	0	0	592	0	481	1003	0	0	0	932	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	42.0	60.0	0.0	0.0	18.0	0.0	39.0	39.0	0.0	0.0	0.0	42.0	21.0
Total Split (%)	35.0%	50.0%	0.0%	0.0%	15.0%	0.0%	32.5%	32.5%	0.0%	0.0%	0.0%	35.0%	18%
Maximum Green (s)	38.0				14.0		35.0	35.0				38.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.60			0.83		1.13	1.13				1.17	
Control Delay		7.8			56.5		122.4	111.1				128.7	
Queue Delay		0.0			0.0		2.2	2.7				0.0	
Total Delay		7.8			56.5		124.6	113.8				128.7	
Queue Length 50th (ft)		157			207		~473	~493				~489	
Queue Length 95th (ft)		m132			#406		#704	#633				#630	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1464			709		427	889				794	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		2	5				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.60			0.83		1.13	1.13				1.17	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3109			3177		1464	3024				2508
Flt Permitted		0.57			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1813			3177		1464	3024				2508
Volume (vph)	380	390	0	0	445	40	515	795	100	0	0	885
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	437	448	0	0	543	49	542	837	105	0	0	932
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	885	0	0	587	0	481	996	0	0	0	932
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		62.8			26.6		35.0	35.0				36.2
Effective Green, g (s)		62.8			26.6		35.0	35.0				36.2
Actuated g/C Ratio		0.52			0.22		0.29	0.29				0.30
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1340			704		427	882				757
v/s Ratio Prot		0.20			c0.18		0.33	c0.33				c0.37
v/s Ratio Perm		0.15										
v/c Ratio		0.66			0.83		1.13	1.13				1.23
Uniform Delay, d1		20.8			44.6		42.5	42.5				41.9
Progression Factor		0.32			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.5			11.2		82.7	72.4				115.4
Delay (s)		8.1			55.8		125.2	114.9				157.3
Level of Service		A			E		F	F				F
Approach Delay (s)		8.1			55.8			118.3			157.3	
Approach LOS		A			E			F			F	

Intersection Summary

HCM Average Control Delay	93.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	680	145	300	255	10	15	625	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	860	0	159	621	0	0	0	685	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		25.0
Total Split (s)	60.0	60.0	0.0	60.0	60.0	0.0	0.0	34.0	34.0	0.0	26.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	0.0%	28.3%	28.3%	0.0%	22%
Maximum Green (s)	55.0	55.0		55.0	55.0			30.0	30.0		23.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											10
v/c Ratio		1.87		0.55	0.59				1.12		
Control Delay		419.1		25.5	18.4				107.2		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		419.1		25.5	18.4				107.2		
Queue Length 50th (ft)		~497		52	208				~458		
Queue Length 95th (ft)		#1018		#204	512				#931		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		460		287	1055				612		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.87		0.55	0.59				1.12		

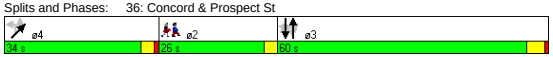
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 99
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1847				2000	
Flt Permitted		0.60		0.29	1.00				1.00	
Satd. Flow (perm)		1060		575	1847				2000	
Volume (vph)	120	0	680	145	300	255	10	15	625	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	731	159	330	280	11	16	658	11
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	826	0	159	621	0	0	0	684	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		55.5		55.5	55.5				30.3	
Effective Green, g (s)		56.5		56.5	56.5				30.3	
Actuated g/C Ratio		0.56		0.56	0.56				0.30	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		590		320	1028				597	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.78		0.28					0.34	
v/c Ratio		1.40		0.50	0.60				1.15	
Uniform Delay, d1		22.5		13.8	15.0				35.6	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		190.3		0.4	0.7				84.3	
Delay (s)		212.8		14.2	15.7				119.9	
Level of Service		F		B	B				F	
Approach Delay (s)		212.8			15.4				119.9	
Approach LOS		F			B				F	

Intersection Summary

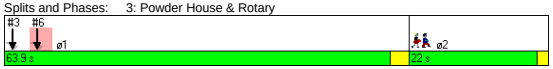
HCM Average Control Delay	119.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	101.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	124.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	455	0	0	1037	500	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	535	0	0	1092	526	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.61	0.33	
Control Delay		0.5			3.9	0.6	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			4.0	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			530	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		9			10	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.33	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	455	0	0	1037	500
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	535	0	0	1092	526
RTOR Reduction (vph)	0	44	0	0	0	0
Lane Group Flow (vph)	0	491	0	0	1092	526
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.33
v/c Ratio		0.33			0.64	0.33
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			1.8	0.6
Delay (s)		1.2			2.8	0.6
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.1	
Approach LOS	A			A	A	

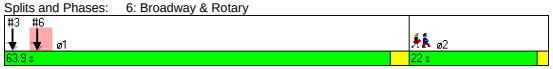
Intersection Summary			
HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	462	0	0	1041	451	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	508	0	0	1096	475	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.62	0.30	
Control Delay		0.6			2.2	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			2.2	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			118	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.62	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	462	0	0	1041	451
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	508	0	0	1096	475
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	0	466	0	0	1096	475
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.59	
v/s Ratio Perm		0.30				c0.30
v/c Ratio		0.32			0.64	0.30
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			0.34	1.00
Incremental Delay, d2		0.6			1.6	0.4
Delay (s)		1.2			2.0	0.4
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	1.5	
Approach LOS	A			A	A	

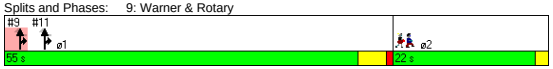
Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	472	1069	523	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	519	1201	588	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.34	0.71	0.40			
Control Delay		0.6	4.8	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.6	4.8	0.8			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	781	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	101			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.34	0.71	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



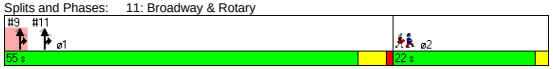
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	472	1069	523	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	519	1201	588	0	0
RTOR Reduction (vph)	0	43	0	48	0	0
Lane Group Flow (vph)	0	476	1201	540	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.68	0.36		
v/s Ratio Perm		0.30				
v/c Ratio		0.33	0.74	0.39		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.70	0.02		
Incremental Delay, d2		0.6	2.6	0.7		
Delay (s)		1.2	3.5	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.2		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	772	820	678	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	898	921	762	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.57	0.53	0.51			
Control Delay		1.5	3.1	1.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.5	3.1	1.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	361	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1497			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		39	6	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.58	0.54	0.51			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



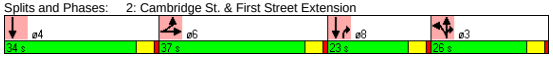
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	772	820	678	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	898	921	762	0	0
RTOR Reduction (vph)	0	74	0	63	0	0
Lane Group Flow (vph)	0	824	921	699	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.51	0.46		
v/s Ratio Perm		0.51				
v/c Ratio		0.56	0.56	0.50		
Uniform Delay, d1		0.8	0.8	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.5	1.4	1.3		
Delay (s)		2.4	2.2	2.0		
Level of Service		A	A	A		
Approach Delay (s)	2.4		2.1			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	215	50	0	0	0	100	250	500	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	295	0	0	0	0	0	389	556	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.62	0.78						1.17	0.58		0.52			
Control Delay	50.0	57.1						147.9	4.8		10.4			
Queue Delay	18.2	0.0						71.5	0.0		0.9			
Total Delay	68.2	57.1						219.3	4.8		11.3			
Queue Length 50th (ft)	143	186						~316	0		124			
Queue Length 95th (ft)	199	252						#488	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						332	956		1732			
Starvation Cap Reductn	0	0						0	0		521			
Spillback Cap Reductn	243	0						41	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.93	0.59						1.34	0.58		0.74			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 2: Cambridge St. & First Street Extension



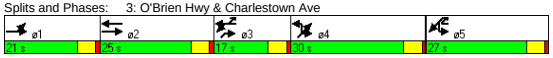
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1792						1811	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1792						1811	1459		3222	
Volume (vph)	205	215	50	0	0	0	100	250	500	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	239	56	0	0	0	111	278	556	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	310	0	198	0
Lane Group Flow (vph)	228	287	0	0	0	0	0	389	246	0	701	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.8	23.8						21.0	52.2		55.2	
Effective Green, g (s)	24.8	24.8						22.0	53.2		57.2	
Actuated g/C Ratio	0.21	0.21						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	366	370						332	647		1536	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.62	0.78						1.17	0.38		0.46	
Uniform Delay, d1	43.3	45.0						49.0	22.4		21.0	
Progression Factor	1.00	1.00						1.00	1.00		1.49	
Incremental Delay, d2	3.3	9.8						104.6	0.4		0.7	
Delay (s)	46.6	54.8						153.6	22.7		32.0	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.2			0.0			76.6			32.0	
Approach LOS		D			A			E			C	

Intersection Summary			
HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	985	330	385	695	425	430	1220	585	305	525	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1082	363	389	702	429	453	1284	616	324	820	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.64	0.23	2.30	0.71	0.64	1.29	1.71	1.08	1.11	1.31		
Control Delay	744.8	34.8	0.3	620.4	30.2	19.3	189.3	354.7	93.8	129.1	185.8		
Queue Delay	0.0	0.0	0.0	0.0	164.7	1.4	0.0	0.0	179.4	0.0	0.0		
Total Delay	744.8	34.8	0.3	620.4	194.9	20.6	189.3	354.7	273.1	129.1	185.8		
Queue Length 50th (ft)	~678	224	0	~442	253	115	~394	~677	~443	~276	~380		
Queue Length 95th (ft)	#874	269	0	m#608	m307	m203	#575	#798	#645	#452	#499		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	573	293	628		
Starvation Cap Reductn	0	0	0	0	472	99	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	159	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.64	0.23	2.30	1.36	0.75	1.29	1.71	1.49	1.11	1.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3061	
Volume (vph)	540	985	330	385	695	425	430	1220	585	305	525	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1082	363	389	702	429	453	1284	616	324	559	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	35	0	41	0
Lane Group Flow (vph)	593	1082	363	389	702	178	453	1284	581	324	779	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.23	0.13	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.64	0.23	2.30	0.71	0.42	1.29	1.71	1.08	1.11	1.33	
Uniform Delay, d1	51.5	32.7	0.0	53.5	36.2	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.55	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	597.2	1.5	0.4	150.6	324.0	62.4	84.0	158.6	
Delay (s)	774.3	33.5	0.3	642.1	28.7	153.9	197.6	371.0	100.9	132.5	207.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		243.2			221.0			266.9			185.9	
Approach LOS		F			F			F			F	

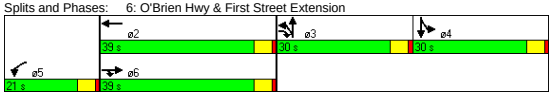
Intersection Summary					
HCM Average Control Delay	237.0	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.65				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	117.0%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	950	120	350	875	55	225	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1056	133	389	1033	0	250	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.70	0.16	0.82	1.00		0.76	0.75			0.76	
Control Delay		23.8	1.0	64.9	69.5		64.7	64.1			49.0	
Queue Delay		0.0	0.0	2.1	0.0		326.6	354.8			38.2	
Total Delay		23.8	1.0	67.0	69.5		391.3	418.9			87.1	
Queue Length 50th (ft)		150	7	134	~374		183	191			218	
Queue Length 95th (ft)		180	0	#195	#506		m203	m211			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1037		384	404			857	
Starvation Cap Reductn		0	0	0	0		238	257			0	
Spillback Cap Reductn		0	7	31	0		0	0			247	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.70	0.15	0.85	1.00		1.71	1.78			1.07	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3508		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3508		1770	1863			3459	
Volume (vph)	0	950	120	350	875	55	225	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1056	133	389	972	61	250	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1056	103	389	1029	0	250	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.29		c0.14	0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.70	0.13	0.82	0.99		0.76	0.75			0.76	
Uniform Delay, d1		37.6	15.1	50.2	42.2		46.3	46.3			41.8	
Progression Factor		0.55	0.09	1.00	1.00		1.27	1.27			1.00	
Incremental Delay, d2		2.7	0.1	10.6	26.7		3.9	3.7			6.2	
Delay (s)		23.5	1.4	60.8	68.9		62.8	62.4			48.0	
Level of Service		C	A	E	E		E	E			D	
Approach Delay (s)		21.1			66.7			62.6			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

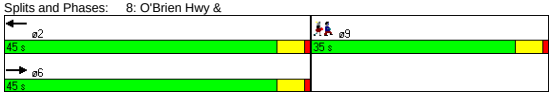
HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1850	0	0	1320	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2011	0	0	1435	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.43			
Control Delay	3.0			3.3			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.3			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	280			309			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.43			

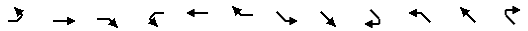
Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



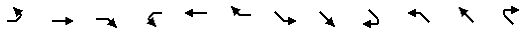
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1850	0	0	1320	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2011	0	0	1435	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2011	0	0	1435	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.40			c0.41		
v/s Ratio Perm						
v/c Ratio	0.45			0.46		
Uniform Delay, d1	1.5			1.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.0		
Level of Service	A			A		
Approach Delay (s)	1.8			2.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	715	0	0	5	0	1135	0	0	1290	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	794	0	0	6	0	1261	0	0	1390	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	715	0	0	5	0	1135	0	0	1290	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	794	0	0	6	0	1261	0	0	1358	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.82	0.86	0.86	0.91	0.91			0.82		
vC, conflicting volume	1946	2651	420	2588	2635	695	1389			1261		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1422	2238	0	2167	2220	569	1331			878		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	10	100	100	99	100			100		
cM capacity (veh/h)	81	36	886	2	36	418	383			573		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	794	6	420	420	420	905	484
Volume Left	0	0	0	0	0	0	0
Volume Right	794	6	0	0	0	0	32
cSH	886	418	1700	1700	1700	1700	1700
Volume to Capacity	0.90	0.01	0.25	0.25	0.25	0.53	0.28
Queue Length 95th (ft)	274	1	0	0	0	0	0
Control Delay (s)	32.5	13.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	32.5	13.7	0.0			0.0	
Approach LOS	D	B					

Intersection Summary				
Average Delay	7.5			
Intersection Capacity Utilization	72.9%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1850	1300	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2056	1522	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1850	1300	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2056	1444	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.81				0.86	0.81
vC, conflicting volume	1522				2169	761
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1413				1807	478
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	389				60	434

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	685	685	685	963	559	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	434
Volume to Capacity	0.40	0.40	0.40	0.57	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.7
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.7
Approach LOS						B

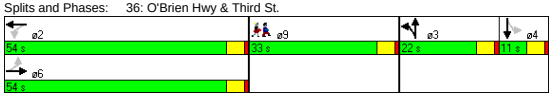
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1275	375	1	1390	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1835	0	0	1546	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.93		2.17	1.95			0.04		
Control Delay		30.8			49.8		566.2	471.0			48.3		
Queue Delay		0.2			1.0		0.0	28.6			0.0		
Total Delay		31.0			50.9		566.2	499.6			48.3		
Queue Length 50th (ft)		360			483		~586	~555			1		
Queue Length 95th (ft)		#547			#738		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			27		0	0			0		
Spillback Cap Reductn		40			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.86			0.95		2.17	2.02			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4912			3539		1569	1674			1750	
Flt Permitted		0.92			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4497			3376		1569	1674			1779	
Volume (vph)	1	1275	375	1	1390	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1417	417	1	1544	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1794	0	0	1546	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2054			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.40			c0.46						c0.00	
v/c Ratio		0.87			1.00		2.17	1.97			0.06	
Uniform Delay, d1		29.5			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.40		1.00	1.00			1.00	
Incremental Delay, d2		5.5			21.6		540.4	448.8			0.8	
Delay (s)		35.0			67.2		591.4	499.8			58.7	
Level of Service		C			E		F	F			E	
Approach Delay (s)		35.0			67.2			546.3			58.7	
Approach LOS		C			E			F			E	

Intersection Summary

HCM Average Control Delay	163.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	975	15	0	1165	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1064	0	0	1239	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	975	15	0	1165	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1048	16	0	1239	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1065		1676	358
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			896		1153	128
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			681		146	829

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	419	419	226	620	620	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	829
Volume to Capacity	0.25	0.25	0.13	0.36	0.36	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

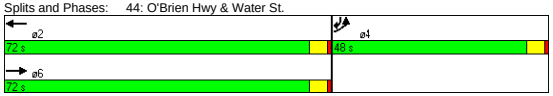
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	990	0	0	1085	80	0	0	0	0	0	305
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1065	0	0	1239	0	0	0	0	0	0	339
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.31			0.52							0.77
Control Delay	72.8	0.6			6.2							44.9
Queue Delay	1.0	0.3			0.4							674.1
Total Delay	73.8	0.8			6.6							719.0
Queue Length 50th (ft)	240	6			78							174
Queue Length 95th (ft)	m277	m11			m92							242
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3445			2377							642
Starvation Cap Reductn	117	1509			211							0
Spillback Cap Reductn	0	0			550							605
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.55			0.68							9.16

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3403							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3403							1627
Volume (vph)	310	990	0	0	1085	80	0	0	0	0	0	305
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1065	0	0	1154	85	0	0	0	0	0	339
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	55
Lane Group Flow (vph)	333	1065	0	0	1236	0	0	0	0	0	0	284
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.22			c0.36							0.17
v/s Ratio Perm												
v/c Ratio	0.82	0.31			0.52							0.74
Uniform Delay, d1	43.5	7.0			8.6							42.4
Progression Factor	1.51	0.06			0.61							1.00
Incremental Delay, d2	6.2	0.1			0.3							7.3
Delay (s)	72.0	0.5			5.6							49.7
Level of Service	E	A			A							D
Approach Delay (s)		17.6			5.6			0.0			49.7	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

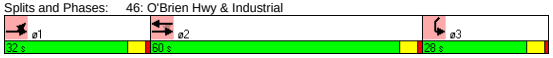
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1790	1370	225	370	135
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2038	1679	0	561	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.78	0.75		0.90	
Control Delay		11.9	28.1		62.3	
Queue Delay		1.7	7.5		2.9	
Total Delay		13.6	35.6		65.1	
Queue Length 50th (ft)		180	334		180	
Queue Length 95th (ft)		m184	389		#264	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2647	2226		639	
Starvation Cap Reductn		412	0		0	
Spillback Cap Reductn		0	514		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	0.98		0.92	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4630		3034	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3263	4630		3034	
Volume (vph)	85	1790	1370	225	370	135
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1946	1442	237	411	150
RTOR Reduction (vph)	0	0	18	0	32	0
Lane Group Flow (vph)	0	2038	1661	0	529	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.6	56.2		22.4	
Effective Green, g (s)		84.6	57.2		23.4	
Actuated g/C Ratio		0.70	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2626	2207		592	
v/s Ratio Prot		c0.18	0.36		c0.17	
v/s Ratio Perm		c0.37				
v/c Ratio		0.78	0.75		0.89	
Uniform Delay, d1		11.5	25.6		47.1	
Progression Factor		1.37	1.00		1.00	
Incremental Delay, d2		0.8	2.4		15.8	
Delay (s)		16.6	28.0		62.9	
Level of Service		B	C		E	
Approach Delay (s)		16.6	28.0		62.9	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

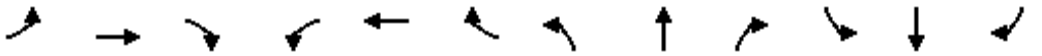
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	15	695	150	70	405	10	5	10	1	105	20	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	915	0	0	521	0	0	35	0	0	164	197
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	695	150	70	405	10	5	10	1	105	20	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	16	739	160	75	435	11	11	22	2	138	26	197
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	446			899			1653	1522	441	1456	1448	819
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446			899			1653	1522	441	1456	1448	819
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			90			60	79	100	0	77	47
cM capacity (veh/h)	1109			756			28	106	621	81	114	369

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	915	522	36	164	197
Volume Left	16	75	11	138	0
Volume Right	160	11	2	0	197
cSH	1109	756	58	85	369
Volume to Capacity	0.01	0.10	0.61	1.94	0.53
Queue Length 95th (ft)	1	8	63	357	75
Control Delay (s)	0.4	2.7	136.7	544.4	25.4
Lane LOS	A	A	F	F	D
Approach Delay (s)	0.4	2.7	136.7	261.3	
Approach LOS			F	F	

Intersection Summary				
Average Delay	55.2			
Intersection Capacity Utilization	83.1%	ICU Level of Service		E
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	175	45	100	290	1085	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	354	0	315	1142	0	0	1033	212
Sign Control		Stop			Stop			Free			Free	

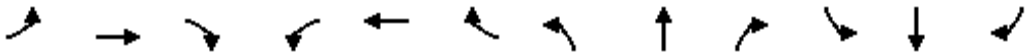
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	175	45	100	290	1085	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	194	49	111	315	1142	0	0	1033	212
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.09	0.09	0.09	0.09	0.09		0.09					
vC, conflicting volume	2941	2805	1033	2805	3017	1142	1245			1142		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23053	21513	1371	21513	23921	1142	3779			1142		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	55	0			100		
cM capacity (veh/h)	0	0	16	0	0	245	5			612		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	354	315	1142	1033	212
Volume Left	194	315	0	0	0
Volume Right	111	0	0	0	212
cSH	0	5	1700	1700	1700
Volume to Capacity	Err	64.64	0.67	0.61	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	2162.8		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	152.0%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	210	0	0	0	0	1130	500	80	1045	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	744	0	0	0	0	0	1256	556	84	1100	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	210	0	0	0	0	1130	500	80	1045	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	233	0	0	0	0	1256	556	84	1100	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2524	3080	1100	2877	2524	1256	1100			1811		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2524	3080	1100	2877	2524	1256	1100			1811		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	10	0	100	100	100			75		
cM capacity (veh/h)	15	9	259	0	21	209	635			337		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	353	1256	556	84	1100
Volume Left	272	0	0	0	84	0
Volume Right	0	233	0	556	0	0
cSH	13	25	1700	1700	337	1700
Volume to Capacity	30.99	14.02	0.74	0.33	0.25	0.65
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	19.2	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	1990.9			
Intersection Capacity Utilization	152.0%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	460	5	10	0	1	10	85	1160	1	5	370	880
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	540	0	0	25	0	0	1369	0	0	383	898
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	460	5	10	0	1	10	85	1160	1	5	370	880
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	523	6	11	0	2	23	93	1275	1	5	378	898
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1874	1850	378	1864	1850	1275	378			1276		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1874	1850	378	1864	1850	1275	378			1276		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	89	92			99		
cM capacity (veh/h)	44	68	669	46	65	198	1186			544		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	540	25	1369	383	898
Volume Left	523	0	93	5	0
Volume Right	11	23	1	0	898
cSH	45	167	1186	544	1700
Volume to Capacity	11.95	0.15	0.08	0.01	0.53
Queue Length 95th (ft)	Err	13	6	1	0
Control Delay (s)	Err	30.3	3.0	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	30.3	3.0	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1680.5		
Intersection Capacity Utilization	133.6%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	40	450	435	95	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	495	582	0	155	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

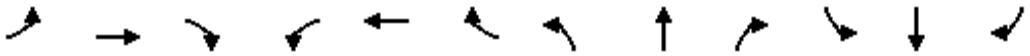
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	40	450	435	95	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	40	455	478	104	69	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	582				1066	530
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	542				1072	485
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				68	84
cM capacity (veh/h)	936				214	533

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	495	582	155
Volume Left	40	0	69
Volume Right	0	104	86
cSH	936	1700	320
Volume to Capacity	0.04	0.34	0.48
Queue Length 95th (ft)	3	0	63
Control Delay (s)	1.2	0.0	26.3
Lane LOS	A		D
Approach Delay (s)	1.2	0.0	26.3
Approach LOS			D

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		



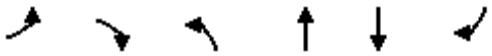
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	10	170	110	240	290	10	90	25	160	1	10	1
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	358	0	0	575	0	0	323	0	0	16	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	170	110	240	290	10	90	25	160	1	10	1
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	12	210	136	255	309	11	106	29	188	1	14	1

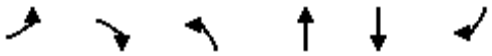
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	358	574	324	17
Volume Left (vph)	12	255	106	1
Volume Right (vph)	136	11	188	1
Hadj (s)	-0.20	0.11	-0.25	-0.03
Departure Headway (s)	5.9	5.8	6.3	7.6
Degree Utilization, x	0.58	0.93	0.56	0.04
Capacity (veh/h)	589	607	549	401
Control Delay (s)	16.7	44.0	17.1	10.8
Approach Delay (s)	16.7	44.0	17.1	10.8
Approach LOS	C	E	C	B

Intersection Summary				
Delay	29.1			
HCM Level of Service	D			
Intersection Capacity Utilization	78.1%	ICU Level of Service	D	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	240	95	180	570	450	370
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	353	0	0	816	882	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	240	95	180	570	450	370
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	253	100	196	620	484	398
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1694	683	882			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1694	683	882			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	78	74			
cM capacity (veh/h)	76	449	767			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	353	815	882
Volume Left	253	196	0
Volume Right	100	0	398
cSH	100	767	1700
Volume to Capacity	3.54	0.26	0.52
Queue Length 95th (ft)	Err	25	0
Control Delay (s)	Err	6.2	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1722.8		
Intersection Capacity Utilization	115.3%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		812			626			908		267		
Travel Time (s)		18.5			14.2			20.6		6.1		
Volume (vph)	25	0	375	200	270	35	40	465	10	40	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	548	0	0	559	0	81	0	0
Sign Control		Stop			Free			Free		Stop		

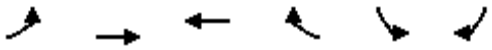
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	200	270	35	40	465	10	40	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	217	293	38	43	505	11	43	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					626			908				
pX, platoon unblocked	0.93	0.93	0.86	0.86			0.87			0.93	0.93	0.87
vC, conflicting volume	1383	1364	511	516			332			1753	1351	312
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1198	1178	430	437			229			1598	1163	207
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	76	100	24	78			96			0	100	95
cM capacity (veh/h)	115	132	537	969			1161			15	134	723

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	549	560	82
Volume Left	27	217	43	43
Volume Right	408	38	11	38
cSH	436	969	1161	28
Volume to Capacity	1.00	0.22	0.04	2.89
Queue Length 95th (ft)	317	21	3	245
Control Delay (s)	73.4	5.5	1.0	1144.3
Lane LOS	F	A	A	F
Approach Delay (s)	73.4	5.5	1.0	1144.3
Approach LOS	F			F

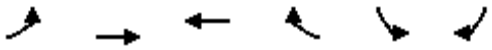
Intersection Summary			
Average Delay	79.3		
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		763	1199		548	
Travel Time (s)		17.3	27.3		12.5	
Volume (vph)	60	780	805	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	913	935	0	120	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	60	780	805	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	848	875	60	60	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		763	1199			
pX, platoon unblocked	0.70				0.85	0.70
vC, conflicting volume	935				1883	905
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	907				1547	865
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				36	76
cM capacity (veh/h)	529				93	249

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	913	935	120
Volume Left	65	0	60
Volume Right	0	60	60
cSH	529	1700	136
Volume to Capacity	0.12	0.55	0.88
Queue Length 95th (ft)	10	0	144
Control Delay (s)	3.8	0.0	110.9
Lane LOS	A		F
Approach Delay (s)	3.8	0.0	110.9
Approach LOS			F

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 4 PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	462	0.0	0.613	14.0	LOS B	180	0.84	0.92	22.8
8T	T	935	0.0	1.240	125.7	LOS F	2017	1.00	3.30	7.5
Approach		**1397**	**0.0**	**1.240**	**88.8**	**LOS F**	**2017**	**0.95**	**2.51**	**9.7**
Mystic Valley Parkway										
4T	T	823	0.0	0.948	25.6	LOS C	665	1.00	1.52	18.6
4R	R	591	0.0	0.780	15.2	LOS B	316	1.00	1.16	22.0
Approach		**1414**	**0.0**	**0.948**	**21.3**	**LOS C**	**665**	**1.00**	**1.37**	**19.9**
Mystic Valley Parkway										
5L	L	362	0.0	0.708	23.9	LOS C	241	1.00	1.22	19.5
2R	R	309	0.0	0.678	19.7	LOS B	210	1.00	1.19	20.4
Approach		**671**	**0.0**	**0.708**	**21.9**	**LOS C**	**241**	**1.00**	**1.20**	**19.9**
All Vehicles		**3482**	**0.0**	**1.240**	**48.5**	**LOS D**	**2017**	**0.98**	**1.80**	**14.0**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
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2030 Build Alternative 5 Analysis

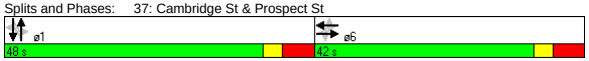
Please Note: Alternative 5 is referred to as Alternative 5b in the Environmental Consequences Chapter

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	55	305	10	80	350	15	35	265	80	30	345	50
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	468	0	0	464	0	0	483	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	27.0	27.0		27.0	27.0		30.0	30.0		30.0	30.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.67			0.85			0.62			0.60	
Control Delay		30.3			42.1			15.3			22.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.3			42.1			15.3			22.9	
Queue Length 50th (ft)		184			239			86			201	
Queue Length 95th (ft)		289			#416			m132			294	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		585			552			752			802	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.67			0.85			0.62			0.60	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1831			1789			1826			1909	
Flt Permitted		0.84			0.81			0.92			0.94	
Satd. Flow (perm)		1550			1460			1691			1804	
Volume (vph)	55	305	10	80	350	15	35	265	80	30	345	50
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	59	324	11	84	368	16	43	323	98	34	392	57
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	468	0	0	464	0	0	483	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		586			552			752			802	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.32			c0.27			0.27	
v/c Ratio		0.67			0.85			0.62			0.60	
Uniform Delay, d1		23.4			25.6			19.1			19.0	
Progression Factor		1.00			1.00			0.61			1.00	
Incremental Delay, d2		6.1			14.9			3.2			3.3	
Delay (s)		29.4			40.5			14.9			22.3	
Level of Service		C			D			B			C	
Approach Delay (s)		29.4			40.5			14.9			22.3	
Approach LOS		C			D			B			C	

Intersection Summary

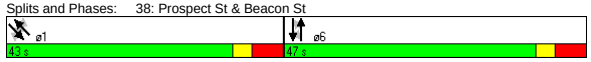
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	335	30	25	395	10	20	505	90	42	278	23
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	547	0	0	472	0	0	654	0	0	394	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.2%	52.2%	0.0%	52.2%	52.2%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	33.0	33.0		33.0	33.0		26.0	26.0		26.0	26.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.54			0.63			0.95			0.70	
Control Delay		21.3			11.1			52.0			31.2	
Queue Delay		0.0			0.1			0.0			0.0	
Total Delay		21.3			11.1			52.0			31.2	
Queue Length 50th (ft)		117			67			353			184	
Queue Length 95th (ft)		154			m87			#578			279	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1018			753			690			562	
Starvation Cap Reductn		0			13			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.54			0.64			0.95			0.70	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3354			1831			1810			1794	
Flt Permitted		0.69			0.95			0.98			0.80	
Satd. Flow (perm)		2350			1737			1773			1446	
Volume (vph)	100	335	30	25	395	10	20	505	90	42	278	23
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	394	35	27	434	11	21	537	96	48	320	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	472	0	0	654	0	0	394	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		39.0			39.0			35.0			35.0	
Effective Green, g (s)		39.0			39.0			35.0			35.0	
Actuated g/C Ratio		0.43			0.43			0.39			0.39	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1018			753			690			562	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			c0.37			0.27	
v/c Ratio		0.54			0.63			0.95			0.70	
Uniform Delay, d1		18.8			19.8			26.6			23.1	
Progression Factor		1.00			0.39			1.00			1.00	
Incremental Delay, d2		2.0			3.0			23.6			7.1	
Delay (s)		20.9			10.8			50.2			30.2	
Level of Service		C			B			D			C	
Approach Delay (s)		20.9			10.8			50.2			30.2	
Approach LOS		C			B			D			C	

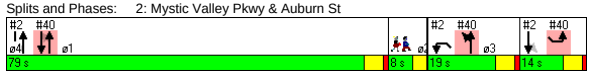
Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	815	20	110	1220	110	75		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	938	0	0	1478	225	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	79.0	0.0	93.0	93.0	19.0	0.0	8.0	14.0
Total Split (%)	65.8%	0.0%	77.5%	77.5%	15.8%	0.0%	7%	12%
Maximum Green (s)	74.0				14.0		5.0	9.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.42			0.80	0.69			
Control Delay	6.2			2.8	54.0			
Queue Delay	0.1			0.0	1.2			
Total Delay	6.2			2.8	55.2			
Queue Length 50th (ft)	157			33	144			
Queue Length 95th (ft)	m165			m33	#258			
Internal Link Dist (ft)	793			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2256			1845	328			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	267			0	22			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.47			0.80	0.74			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3597			3322	1842	
Flt Permitted	1.00			0.73	0.97	
Satd. Flow (perm)	3597			2451	1842	
Volume (vph)	815	20	110	1220	110	75
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	916	22	122	1356	134	91
RTOR Reduction (vph)	2	0	0	0	19	0
Lane Group Flow (vph)	936	0	0	1478	206	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	71.9			86.9	19.1	
Effective Green, g (s)	72.9			87.9	20.1	
Actuated g/C Ratio	0.61			0.73	0.17	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2185			1795	309	
v/s Ratio Prot	0.26				c0.11	
v/s Ratio Perm				c0.60		
v/c Ratio	0.43			0.82	0.67	
Uniform Delay, d1	12.5			10.8	46.8	
Progression Factor	0.52			0.13	1.00	
Incremental Delay, d2	0.3			1.3	5.9	
Delay (s)	6.8			2.7	52.7	
Level of Service	A			A	D	
Approach Delay (s)	6.8			2.7	52.7	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

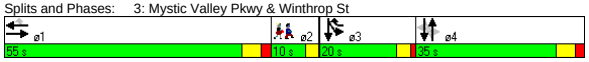
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	960	20	0	1080	205	30	405	365	560	865	120	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1042	0	0	1149	218	0	1025	0	0	1661	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	55.0	0.0	0.0	55.0	20.0	35.0	35.0	0.0	20.0	55.0	0.0	10.0
Total Split (%)	0.0%	45.8%	0.0%	0.0%	45.8%	16.7%	29.2%	29.2%	0.0%	16.7%	45.8%	0.0%	8%
Maximum Green (s)		49.0			49.0	16.0	29.0	29.0		16.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.24			1.47	0.20		1.72			1.47dl		
Control Delay		138.8			245.8	3.5		357.1			211.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		138.8			245.8	3.5		357.1			211.1		
Queue Length 50th (ft)		~1024			~1220	20		~575			~658		
Queue Length 95th (ft)		#1261			#1478	48		#574			#1153		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		843			784	1075		596			1186		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.24			1.47	0.20		1.72			1.40		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 105 (88%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3323			3470	
Flt Permitted		1.00			1.00	1.00		0.58			0.59	
Satd. Flow (perm)		2021			1881	1599		1944			2070	
Volume (vph)	0	960	20	0	1080	205	30	405	365	560	865	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1021	21	0	1149	218	38	519	468	602	930	129
RTOR Reduction (vph)	0	1	0	0	0	56	0	110	0	0	4	0
Lane Group Flow (vph)	0	1041	0	0	1149	162	0	916	0	0	1657	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		46.6			46.6	70.6		29.0			53.0	
Effective Green, g (s)		47.6			47.6	70.6		30.0			53.0	
Actuated g/C Ratio		0.40			0.40	0.59		0.25			0.44	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		802			746	941		486			1183	
v/s Ratio Prot		0.52			c0.61	0.03					c0.27	
v/s Ratio Perm						0.07		c0.47			0.35	
v/c Ratio		1.30			1.54	0.17		1.88			1.47dl	
Uniform Delay, d1		36.2			36.2	11.3		45.0			33.5	
Progression Factor		0.62			1.00	1.00		1.00			1.00	
Incremental Delay, d2		142.4			249.8	0.0		405.4			185.3	
Delay (s)		164.9			286.0	11.3		450.4			218.8	
Level of Service		F			F	B		F			F	
Approach Delay (s)		164.9			242.2			450.4			218.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	260.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	137.1%	ICU Level of Service	H
Analysis Period (min)	15		

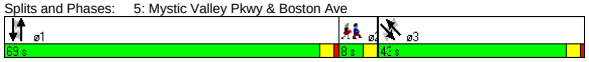
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	40	775	175	50	1200	80	50	425	80	75	275	10	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1165	0	0	1494	0	0	686	0	0	428	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	69.0	69.0	0.0	69.0	69.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0	8.0
Total Split (%)	57.5%	57.5%	0.0%	57.5%	57.5%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%	7%
Maximum Green (s)	65.0	65.0		65.0	65.0		39.0	39.0		39.0	39.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.88			1.02			1.06			1.15		
Control Delay		33.2			60.2			90.1			128.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		33.2			60.2			90.1			128.6		
Queue Length 50th (ft)		392			~640			~565			~380		
Queue Length 95th (ft)		454			#764			#758			#579		
Internal Link Dist (ft)		495			793			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1317			1462			645			373		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.88			1.02			1.06			1.15		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3507			3535			1921			1893	
Flt Permitted		0.67			0.75			0.90			0.59	
Satd. Flow (perm)		2345			2645			1738			1135	
Volume (vph)	40	775	175	50	1200	80	50	425	80	75	275	10
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	47	912	206	56	1348	90	62	525	99	89	327	12
RTOR Reduction (vph)	0	16	0	0	4	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1149	0	0	1490	0	0	682	0	0	427	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		62.6			62.6			45.4			45.4	
Effective Green, g (s)		62.6			62.6			45.4			45.4	
Actuated g/C Ratio		0.52			0.52			0.38			0.38	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1223			1380			658			429	
v/s Ratio Prot												
v/s Ratio Perm		0.49			c0.56			c0.39			0.38	
v/c Ratio		0.94			1.08			1.04			1.00	
Uniform Delay, d1		26.9			28.7			37.3			37.2	
Progression Factor		1.00			1.35			1.00			1.00	
Incremental Delay, d2		14.8			44.3			44.7			42.2	
Delay (s)		41.8			83.2			82.0			79.4	
Level of Service		D			F			F			E	
Approach Delay (s)		41.8			83.2			82.0			79.4	
Approach LOS		D			F			F			E	

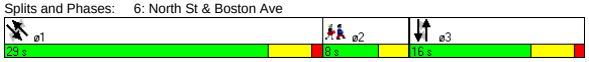
Intersection Summary			
HCM Average Control Delay	69.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	30	20	15	75	60	55	5	565	55	15	280	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	98	0	0	224	0	0	672	0	0	343	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.26			0.56			0.70			0.37		
Control Delay		16.9			23.2			14.8			8.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		16.9			23.2			14.8			8.3		
Queue Length 50th (ft)		20			49			105			42		
Queue Length 95th (ft)		42			#122			#342			117		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		380			398			956			928		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.26			0.56			0.70			0.37		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1799			1755			1778			1788	
Flt Permitted		0.82			0.85			1.00			0.96	
Satd. Flow (perm)		1507			1521			1775			1725	
Volume (vph)	30	20	15	75	60	55	5	565	55	15	280	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	45	30	23	88	71	65	5	608	59	17	315	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	98	0	0	224	0	0	672	0	0	343	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.0			11.0			24.1			24.1	
Effective Green, g (s)		12.0			12.0			25.1			25.1	
Actuated g/C Ratio		0.24			0.24			0.51			0.51	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		369			372			909			884	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.15			c0.38			0.20	
v/c Ratio		0.27			0.60			0.74			0.39	
Uniform Delay, d1		14.9			16.4			9.4			7.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.8			7.0			5.4			1.3	
Delay (s)		16.7			23.4			14.8			8.6	
Level of Service		B			C			B			A	
Approach Delay (s)		16.7			23.4			14.8			8.6	
Approach LOS		B			C			B			A	

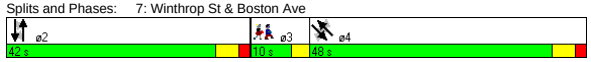
Intersection Summary					
HCM Average Control Delay	14.8	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.63				
Actuated Cycle Length (s)	49.0	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	54.2%	ICU Level of Service		A	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	10	350	65	130	120	90	205	430	25	35	190	90	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	518	0	0	386	0	0	702	0	0	339	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	10.0
Total Split (%)	42.0%	42.0%	0.0%	42.0%	42.0%	0.0%	48.0%	48.0%	0.0%	48.0%	48.0%	0.0%	10%
Maximum Green (s)	35.9	35.9		35.9	35.9		42.0	42.0		42.0	42.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.71			1.07			1.15			0.47		
Control Delay		30.4			97.0			110.5			20.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		30.4			97.0			110.5			20.1		
Queue Length 50th (ft)		237			~242			~466			124		
Queue Length 95th (ft)		364			#460			#783			239		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		726			361			612			718		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.71			1.07			1.15			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 92	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1822			1880			1807			1730	
Flt Permitted		0.99			0.50			0.73			0.89	
Satd. Flow (perm)		1803			951			1334			1547	
Volume (vph)	10	350	65	130	120	90	205	430	25	35	190	90
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	12	427	79	148	136	102	218	457	27	38	204	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	386	0	0	702	0	0	339	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.0			36.0			42.1			42.1	
Effective Green, g (s)		37.1			37.1			43.1			43.1	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		708			373			608			706	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.41			c0.53			0.22	
v/c Ratio		0.73			1.03			1.15			0.48	
Uniform Delay, d1		24.5			28.7			25.7			17.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			55.9			87.2			2.3	
Delay (s)		27.8			84.6			112.9			20.2	
Level of Service		C			F			F			C	
Approach Delay (s)		27.8			84.6			112.9			20.2	
Approach LOS		C			F			F			C	

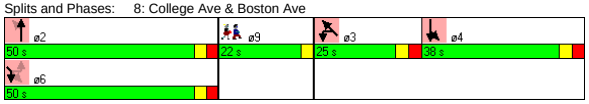
Intersection Summary			
HCM Average Control Delay	68.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	94.5	Sum of lost time (s)	14.3
Intersection Capacity Utilization	119.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	80	135	5	60	325	85	70	355	215	10	190	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	89	156	0	0	528	0	0	488	247	0	318	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	50.0	50.0	0.0	38.0	38.0	0.0	50.0	50.0	50.0	25.0	25.0	0.0	22.0
Total Split (%)	37.0%	37.0%	0.0%	28.1%	28.1%	0.0%	37.0%	37.0%	37.0%	18.5%	18.5%	0.0%	16%
Maximum Green (s)	44.0	44.0		32.0	32.0		44.0	44.0	44.0	19.0	19.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.13	0.23			1.02			1.04	0.40		1.03		
Control Delay	29.1	29.8			89.8			90.6	19.3		108.9		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.1	29.8			89.8			90.6	19.3		108.9		
Queue Length 50th (ft)	41	74			373			343	67		229		
Queue Length 95th (ft)	98	158			#749			#687	163		#377		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	684	675			516			470	620		309		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.13	0.23			1.02			1.04	0.40		1.03		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	0.99			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1853			1926			1833	1516		1940	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1853			1926			1292	1516		1940	
Volume (vph)	80	135	5	60	325	85	70	355	215	10	190	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	89	150	6	67	365	96	80	408	247	14	257	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	69	0	4	0
Lane Group Flow (vph)	89	155	0	0	522	0	0	488	178	0	314	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	44.3	44.3			32.2			44.3	44.3		19.1	
Effective Green, g (s)	44.3	44.3			32.2			44.3	44.3		19.1	
Actuated g/C Ratio	0.36	0.36			0.26			0.36	0.36		0.15	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	675	665			502			463	544		300	
v/s Ratio Prot		0.08			c0.27				0.12		c0.16	
v/s Ratio Perm	0.05							c0.38				
v/c Ratio	0.13	0.23			1.04			1.05	0.33		1.05	
Uniform Delay, d1	26.7	27.7			45.6			39.6	28.8		52.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			50.9			56.8	0.4		64.5	
Delay (s)	26.7	27.9			96.6			96.4	29.1		116.7	
Level of Service	C	C			F			F	C		F	
Approach Delay (s)		27.5			96.6			73.8			116.7	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	81.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	27.9
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

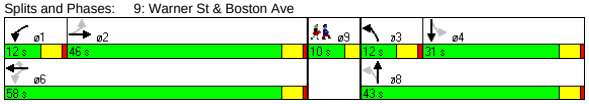
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1417			1738		
Travel Time (s)		12.0			40.8			32.2			39.5		
Volume (vph)	5	365	45	65	635	165	25	40	60	50	310	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	451	0	0	769	181	0	140	0	0	418	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	46.0	46.0	0.0	12.0	58.0	58.0	12.0	43.0	0.0	31.0	31.0	0.0	10.0
Total Split (%)	41.4%	41.4%	0.0%	10.8%	52.3%	52.3%	10.8%	38.7%	0.0%	27.9%	27.9%	0.0%	9%
Maximum Green (s)	41.0	41.0		7.0	53.0	53.0	7.0	38.0		26.0	26.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.39			0.83	0.21		0.30			0.79		
Control Delay		10.9			24.8	2.8		19.5			41.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		10.9			24.8	2.8		19.5			41.5		
Queue Length 50th (ft)		116			308	4		39			210		
Queue Length 95th (ft)		231			#683	36		97			#371		
Internal Link Dist (ft)		447			1715			1337			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1172			955	864		633			579		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.38			0.81	0.21		0.22			0.72		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 84.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.94			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1877			1973	
Flt Permitted		0.99			0.92	1.00		0.83			0.94	
Satd. Flow (perm)		1945			1676	1301		1565			1872	
Volume (vph)	5	365	45	65	635	165	25	40	60	50	310	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	397	49	71	698	181	28	45	67	58	360	0
RTOR Reduction (vph)	0	3	0	0	0	69	0	33	0	0	0	0
Lane Group Flow (vph)	0	448	0	0	769	112	0	107	0	0	418	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		49.6			49.6	49.6		23.1			23.1	
Effective Green, g (s)		50.6			50.6	50.6		24.1			24.1	
Actuated g/C Ratio		0.58			0.58	0.58		0.28			0.28	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1133			976	758		434			519	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46	0.09		0.07			c0.22	
v/c Ratio		0.40			0.79	0.15		0.25			0.81	
Uniform Delay, d1		9.9			14.0	8.3		24.4			29.2	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			3.9	0.0		0.1			8.4	
Delay (s)		9.9			18.0	8.3		24.5			37.6	
Level of Service		A			B	A		C			D	
Approach Delay (s)		9.9			16.1			24.5			37.6	
Approach LOS		A			B			C			D	

Intersection Summary

HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	12.2
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

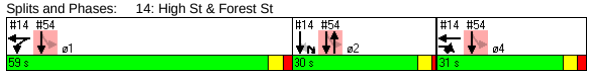
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	365	295	1365	605	80	80	40	430	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	392	317	1534	770	0	100	0	500	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Detector Phases	4	4	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	31.0	31.0	59.0	90.0	0.0	30.0	30.0	30.0	0.0
Total Split (%)	25.8%	25.8%	49.2%	75.0%	0.0%	25.0%	25.0%	25.0%	0.0%
Maximum Green (s)	26.0	26.0	54.0			26.0	26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.19	1.11	1.01	0.60		0.10		1.18	
Control Delay	152.2	126.5	59.4	11.2		0.4		144.0	
Queue Delay	0.0	4.6	150.0	0.0		0.0		0.0	
Total Delay	152.2	131.1	209.5	11.2		0.4		144.0	
Queue Length 50th (ft)	~366	~262	~619	266		0		~465	
Queue Length 95th (ft)	#561	#446	#765	364		0		#680	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	330	285	1515	1275		961		424	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	391	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.19	1.12	1.36	0.60		0.10		1.18	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	365	295	1365	605	80	80	40	430	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	392	317	1534	680	90	100	41	439	20
RTOR Reduction (vph)	0	24	0	4	0	78	0	2	0
Lane Group Flow (vph)	392	293	1534	766	0	22	0	498	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	26.0	26.0	54.0	85.0		26.0		26.0	
Effective Green, g (s)	26.0	26.0	54.0	85.0		26.0		26.0	
Actuated g/C Ratio	0.22	0.22	0.45	0.71		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0	
Lane Grp Cap (vph)	330	261	1515	1271		358		422	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.19	1.12	1.01	0.60		0.06		1.18	
Uniform Delay, d1	47.0	47.0	33.0	8.9		37.3		47.0	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	110.8	92.4	26.3	0.8		0.1		103.4	
Delay (s)	157.8	139.4	59.3	9.7		37.4		150.4	
Level of Service	F	F	E	A		D		F	
Approach Delay (s)				42.7				150.4	
Approach LOS				D				F	

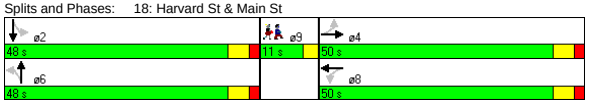
Intersection Summary			
HCM Average Control Delay	78.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	75	470	50	110	490	15	45	315	100	35	595	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	653	0	0	683	0	0	597	0	0	818	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.12			1.40			1.19			1.26		
Control Delay		103.2			218.2			133.6			158.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		103.2			218.2			133.6			158.4		
Queue Length 50th (ft)		~465			~567			~446			~637		
Queue Length 95th (ft)		#786			#894			#596			#963		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		583			488			501			648		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.12			1.40			1.19			1.26		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1624			1573			1613	
Flt Permitted		0.80			0.69			0.77			0.94	
Satd. Flow (perm)		1325			1130			1224			1525	
Volume (vph)	75	470	50	110	490	15	45	315	100	35	595	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	82	516	55	122	544	17	58	409	130	40	676	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	653	0	0	683	0	0	597	0	0	818	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		582			496			514			640	
v/s Ratio Prot												
v/s Ratio Perm		0.49			c0.60			0.49			c0.54	
v/c Ratio		1.12			1.38			1.16			1.28	
Uniform Delay, d1		28.8			28.8			29.8			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		75.6			182.0			92.5			137.0	
Delay (s)		104.4			210.8			122.3			166.8	
Level of Service		F			F			F			F	
Approach Delay (s)		104.4			210.8			122.3			166.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	153.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		

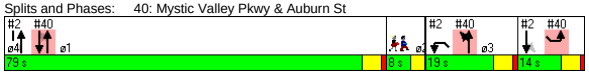
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	55	835	1200	30	15	130	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	59	898	1255	0	175	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	19.0	98.0	79.0	0.0	14.0	0.0	8.0
Total Split (%)	15.8%	81.7%	65.8%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	14.0		74.0		9.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.16	0.58	1.00		0.80		
Control Delay	21.1	7.9	20.4		62.0		
Queue Delay	0.0	0.0	11.1		4.9		
Total Delay	21.1	7.9	31.5		66.9		
Queue Length 50th (ft)	13	366	~1031		90		
Queue Length 95th (ft)	m47	480	m74		#185		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	366	1560	1255		218		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	45		16		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.16	0.58	1.04		0.87		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2000		1772	
Flt Permitted	0.05	1.00	1.00		0.99	
Satd. Flow (perm)	104	1900	2000		1772	
Volume (vph)	55	835	1200	30	15	130
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	59	898	1224	31	18	157
RTOR Reduction (vph)	0	0	1	0	55	0
Lane Group Flow (vph)	59	898	1254	0	121	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	91.0	91.0	71.9		10.0	
Effective Green, g (s)	93.0	93.0	72.9		11.0	
Actuated g/C Ratio	0.78	0.78	0.61		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	366	1473	1215		162	
v/s Ratio Prot	0.03	c0.47	c0.63		c0.07	
v/s Ratio Perm	0.10					
v/c Ratio	0.16	0.61	1.03		0.74	
Uniform Delay, d1	43.0	5.8	23.5		53.1	
Progression Factor	2.01	1.92	0.47		1.00	
Incremental Delay, d2	0.3	0.8	18.0		17.8	
Delay (s)	86.8	11.8	29.1		70.9	
Level of Service	F	B	C		E	
Approach Delay (s)		16.4	29.1		70.9	
Approach LOS		B	C		E	

Intersection Summary

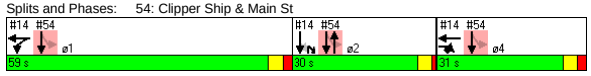
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	420	50	2040		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	452	0	2155		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	30.0	0.0	120.0	120.0	59.0	31.0
Total Split (%)	0.0%	0.0%	25.0%	0.0%	100.0%	100.0%	49%	26%
Maximum Green (s)			26.0				54.0	26.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.30		0.86		
Control Delay			40.6	0.5		8.7		
Queue Delay			0.0	0.0		0.0		
Total Delay			40.6	0.5		8.7		
Queue Length 50th (ft)			55	0		290		
Queue Length 95th (ft)			102	0		m140		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			385	1509		2515		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			6	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.23	0.30		0.86		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.80
Satd. Flow (perm)			1776	1509		2516
Volume (vph)	0	0	80	420	50	2040
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	452	52	2103
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	452	0	2155
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			26.0	120.0		120.0
Effective Green, g (s)			26.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			385	1509		2516
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.30		c0.86
v/c Ratio			0.22	0.30		0.86
Uniform Delay, d1			38.7	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			0.3	0.5		0.3
Delay (s)			39.0	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		6.7			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1187						1176			419		
Travel Time (s)			27.0						26.7			9.5		
Volume (vph)	5	15	660	495	20	1	5	20	485	55	235	155	30	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	723	548	0	0	0	0	615	0	0	442	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	33.0	33.0	33.0	26.0	0.0	33.0	33.0	33.0	33.0	0.0	26.0	26.0	0.0	22.0
Total Split (%)	27.5%	27.5%	27.5%	21.7%	0.0%	27.5%	27.5%	27.5%	27.5%	0.0%	21.7%	21.7%	0.0%	18.3%
Maximum Green (s)	27.0	27.0	27.0	20.0		27.0	27.0	27.0	27.0		20.0	20.0		16.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.94	0.68					1.00			1.16		
Control Delay			58.5	25.0					76.7			135.5		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			58.5	25.0					76.7			135.5		
Queue Length 50th (ft)			233	234					204			~327		
Queue Length 95th (ft)			#455	508					#415			#655		
Internal Link Dist (ft)			1107						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			771	809					612			381		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.94	0.68					1.00			1.16		

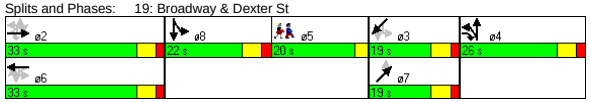
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	275	20	20	0	95	20	85	15	40	5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	389	0	0	110	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	22.0	0.0	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	20.0
Total Split (%)	18.3%	0.0%	0.0%	15.8%	0.0%	15.8%	15.8%	15.8%	0.0%	0.0%	17%
Maximum Green (s)	16.0			13.0		13.0	13.0	13.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.22			0.50				1.23			
Control Delay	160.2			51.7				183.3			
Queue Delay	0.0			0.0				0.0			
Total Delay	160.2			51.7				183.3			
Queue Length 50th (ft)	~298			66				~151			
Queue Length 95th (ft)	#568			136				#332			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	320			222				159			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.22			0.50				1.23			

Intersection Summary

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3264			1863		
Flt Permitted			0.88	1.00					0.76			0.97		
Satd. Flow (perm)			3078	1549					2495			1863		
Volume (vph)	5	15	660	495	20	1	5	20	485	55	235	155	30	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	702	527	21	1	5	22	527	60	247	163	32	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	723	547	0	0	0	0	615	0	0	440	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			27.1	47.2					27.1			20.1		
Effective Green, g (s)			28.1	49.2					28.1			21.1		
Actuated g/C Ratio			0.26	0.46					0.26			0.20		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			814	790					660			370		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.23	0.22					c0.25					
v/c Ratio			0.89	0.69					0.93			1.19		
Uniform Delay, d1			37.6	22.6					38.2			42.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			11.8	3.9					20.3			108.6		
Delay (s)			49.4	26.5					58.4			151.2		
Level of Service			D	C					E			F		
Approach Delay (s)			39.5						58.4			151.2		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	85.8	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.11			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	110.2%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St
2030 Build Alt 5 Condition - AM Peak
Default

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1940			1644				1765		
Flt Permitted	1.00			1.00				0.69		
Satd. Flow (perm)	1940			1644				1256		
Volume (vph)	275	20	20	0	95	20	85	15	40	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	320	23	23	0	110	24	100	18	47	6
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	387	0	0	110	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	16.1			13.1				13.1		
Effective Green, g (s)	17.1			14.1				14.1		
Actuated g/C Ratio	0.16			0.13				0.13		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	312			218				167		
v/s Ratio Prot	c0.20			0.07						
v/s Ratio Perm								c0.15		
v/c Ratio	1.24			0.50				1.16		
Uniform Delay, d1	44.6			42.9				46.1		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	132.9			0.7				120.1		
Delay (s)	177.5			43.5				166.2		
Level of Service	F			D				F		
Approach Delay (s)	177.5			43.5				166.2		
Approach LOS	F			D				F		

Intersection Summary

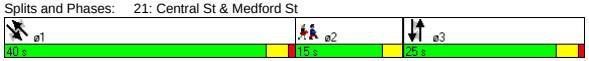
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 5\optimize\coordination\2030 Build Alt 5a - AM.sy7 10/28/2008
VHB, Inc. HCM Signalized Intersection Capacity Analysis

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	85	25	175	15	10	625	115	85	260	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	409	0	0	253	0	0	824	0	0	390	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	25.0	25.0	0.0	25.0	25.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	15.0
Total Split (%)	31.3%	31.3%	0.0%	31.3%	31.3%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	19%
Maximum Green (s)	21.0	21.0		21.0	21.0		36.0	36.0		36.0	36.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.83			0.50			0.85			0.66		
Control Delay		38.4			24.6			25.8			20.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		38.4			24.6			25.8			20.1		
Queue Length 50th (ft)		138			79			241			96		
Queue Length 95th (ft)		#317			173			#654			#315		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		499			505			971			592		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.82			0.50			0.85			0.66		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 67.7	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1784			1817			1823			1799	
Flt Permitted		0.90			0.93			0.99			0.70	
Satd. Flow (perm)		1625			1690			1814			1272	
Volume (vph)	55	195	85	25	175	15	10	625	115	85	260	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	104	29	206	18	11	687	126	93	286	11
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	394	0	0	253	0	0	824	0	0	389	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		20.9			20.9			36.3			36.3	
Effective Green, g (s)		20.9			20.9			36.3			36.3	
Actuated g/C Ratio		0.30			0.30			0.52			0.52	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		484			503			938			658	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.15			c0.45			0.31	
v/c Ratio		0.81			0.50			0.88			0.59	
Uniform Delay, d1		22.9			20.4			15.0			11.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.6			1.1			11.5			3.9	
Delay (s)		33.5			21.4			26.5			15.7	
Level of Service		C			C			C			B	
Approach Delay (s)		33.5			21.4			26.5			15.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	70.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

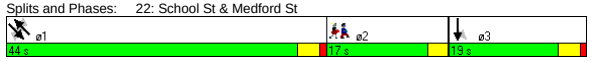
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			463		
Travel Time (s)		21.7			21.8			35.4			10.5		
Volume (vph)	0	0	0	135	295	20	10	760	95	160	290	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	490	0	0	901	0	0	597	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	19.0	19.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	23.8%	23.8%	0.0%	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	21%
Maximum Green (s)				15.0	15.0		40.0	40.0		40.0	40.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.08			0.76			1.10		
Control Delay					93.3			17.0			87.9		
Queue Delay					0.0			0.0			0.0		
Total Delay					93.3			17.0			87.9		
Queue Length 50th (ft)					~198			196			~257		
Queue Length 95th (ft)					#507			#657			#574		
Internal Link Dist (ft)		873			879			1476			383		
Turn Bay Length (ft)													
Base Capacity (vph)					455			1184			542		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.08			0.76			1.10		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 66.4
Natural Cycle: 150
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.99			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1985			1952			1878	
Flt Permitted					0.99			0.99			0.56	
Satd. Flow (perm)					1985			1941			1072	
Volume (vph)	0	0	0	135	295	20	10	760	95	160	290	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	147	321	22	10	792	99	182	330	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	0	0	0	488	0	0	896	0	0	591	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					15.1			40.4			40.4	
Effective Green, g (s)					15.1			40.4			40.4	
Actuated g/C Ratio					0.22			0.59			0.59	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					436			1140			629	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.46			c0.55	
v/c Ratio					1.12			0.79			0.94	
Uniform Delay, d1					26.8			10.9			13.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					79.5			5.5			23.7	
Delay (s)					106.3			16.4			36.8	
Level of Service					F			B			D	
Approach Delay (s)		0.0			106.3			16.4			36.8	
Approach LOS		A			F			B			D	

Intersection Summary

HCM Average Control Delay	44.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	13.3
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

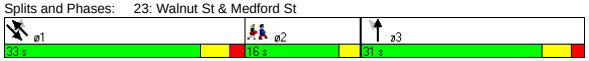
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1072			533		
Travel Time (s)		17.7			19.2			24.4			12.1		
Volume (vph)	80	200	10	0	0	0	10	620	0	0	190	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	656	0	0	239	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	None	None					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.42						0.84			0.31		
Control Delay		18.4						30.7			15.2		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.4						30.7			15.2		
Queue Length 50th (ft)		81						211			55		
Queue Length 95th (ft)		197						#547			141		
Internal Link Dist (ft)		699			764			992			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						785			769		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.42						0.84			0.31		

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1821	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1847						1871			1821	
Volume (vph)	80	200	10	0	0	0	10	620	0	0	190	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	10	646	0	0	216	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	305	0	0	0	0	0	656	0	0	235	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						758			738	
v/s Ratio Prot											0.13	
v/s Ratio Perm		0.17						c0.35				
v/c Ratio		0.44						0.87			0.32	
Uniform Delay, d1		16.2						19.0			14.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						10.5			0.3	
Delay (s)		16.8						29.4			14.5	
Level of Service		B						C			B	
Approach Delay (s)		16.8			0.0			29.4			14.5	
Approach LOS		B			A			C			B	

Intersection Summary

HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

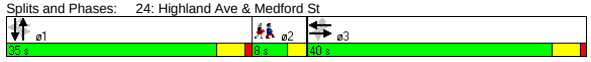
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	205	5	0	5	585	35	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	236	0	18	0	0	658	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	40.0	40.0	0.0	40.0	40.0	75.0	35.0	35.0	0.0	35.0	35.0	0.0	8.0
Total Split (%)	48.2%	48.2%	0.0%	48.2%	48.2%	90.4%	42.2%	42.2%	0.0%	42.2%	42.2%	0.0%	10%
Maximum Green (s)	35.0	35.0		35.0	35.0		30.0	30.0		30.0	30.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.76			0.90	0.15		0.03			1.20		
Control Delay		24.8			41.0	0.3		11.1			130.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		24.8			41.0	0.3		11.1			130.8		
Queue Length 50th (ft)		236			203	0		2			~376		
Queue Length 95th (ft)		#492			#434	5		9			#656		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		865			570	1592		577			549		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.76			0.90	0.15		0.03			1.20		

Intersection Summary

Area Type: Other
Cycle Length: 83
Actuated Cycle Length: 76.6
Natural Cycle: 110
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)		1834			1913	1632		1646			1778	
Flt Permitted		1.00			0.70	1.00		0.82			0.73	
Satd. Flow (perm)		1834			1347	1632		1378			1352	
Volume (vph)	0	590	25	35	410	205	5	0	5	585	35	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	236	9	0	9	616	37	5
RTOR Reduction (vph)	0	2	0	0	0	24	0	5	0	0	1	0
Lane Group Flow (vph)	0	659	0	0	511	212	0	13	0	0	657	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		35.1			35.1	70.1		30.0			30.0	
Effective Green, g (s)		36.1			36.1	71.1		31.0			31.0	
Actuated g/C Ratio		0.46			0.46	0.90		0.39			0.39	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		838			616	1469		541			531	
v/s Ratio Prot		0.36										
v/s Ratio Perm					c0.38	0.13		0.01			c0.49	
v/c Ratio		0.79			0.83	0.14		0.02			1.24	
Uniform Delay, d1		18.2			18.8	0.5		14.7			24.0	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		7.4			12.3	0.0		0.0			122.5	
Delay (s)		25.6			31.0	0.5		14.7			146.5	
Level of Service		C			C	A		B			F	
Approach Delay (s)		25.6			21.4			14.7			146.5	
Approach LOS		C			C			B			F	

Intersection Summary

HCM Average Control Delay	62.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

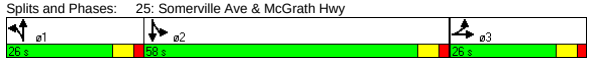
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	365	120	0	0	0	45	200	25	200	1260	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	629	0	0	0	0	0	266	27	213	1489	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	58.0	58.0	0.0
Total Split (%)	23.6%	23.6%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	52.7%	52.7%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		52.0	52.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.97						0.40	0.02	0.25	0.95	
Control Delay		70.8						41.1	0.0	17.9	41.1	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		70.8						41.1	0.0	17.9	41.1	
Queue Length 50th (ft)		225						87	0	86	508	
Queue Length 95th (ft)		#344						128	0	136	#682	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		651						663	1672	836	1568	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.97						0.40	0.02	0.25	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3304						3473	1672	1736	3239	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3304						3473	1672	1736	3239	
Volume (vph)	100	365	120	0	0	0	45	200	25	200	1260	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	392	129	0	0	0	49	217	27	213	1340	149
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	608	0	0	0	0	0	266	27	213	1481	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	110.0	52.0	52.0	
Effective Green, g (s)		21.0						21.0	110.0	53.0	53.0	
Actuated g/C Ratio		0.19						0.19	1.00	0.48	0.48	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		631						663	1672	836	1561	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.46	
v/s Ratio Perm									0.02			
v/c Ratio		0.96						0.40	0.02	0.25	0.95	
Uniform Delay, d1		44.1						39.0	0.0	16.8	27.2	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		27.9						1.8	0.0	0.7	13.5	
Delay (s)		72.0						40.8	0.0	17.6	40.7	
Level of Service		E						D	A	B	D	
Approach Delay (s)		72.0			0.0			37.0			37.8	
Approach LOS		E			A			D			D	

Intersection Summary

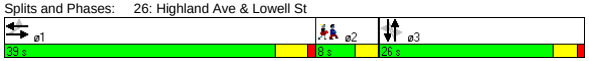
HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	385	0	0	455	30	25	70	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	483	0	0	638	0	0	190	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	39.0	39.0	0.0	0.0	39.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0	8.0
Total Split (%)	53.4%	53.4%	0.0%	0.0%	53.4%	0.0%	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	11%
Maximum Green (s)	34.0	34.0			34.0		22.0	22.0		22.0	22.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.58			0.65			0.38			0.85		
Control Delay		14.7			15.5			20.4			38.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		14.7			15.5			20.4			38.9		
Queue Length 50th (ft)		118			165			55			102		
Queue Length 95th (ft)		242			258			91			#277		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		830			987			538			439		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.58			0.65			0.35			0.80		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 64.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



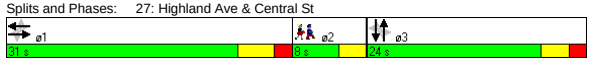
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1812			1772			1693	
Flt Permitted		0.94			1.00			0.91			0.70	
Satd. Flow (perm)		1709			1812			1629			1222	
Volume (vph)	30	385	0	0	455	30	25	70	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	448	0	0	599	39	35	99	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	41	0
Lane Group Flow (vph)	0	483	0	0	638	0	0	190	0	0	310	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		34.2			34.2			20.0			20.0	
Effective Green, g (s)		35.2			35.2			20.0			20.0	
Actuated g/C Ratio		0.52			0.52			0.30			0.30	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		897			951			486			364	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.28						0.12			c0.25	
v/c Ratio		0.54			0.67			0.39			0.85	
Uniform Delay, d1		10.6			11.7			18.7			22.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.3			3.8			0.7			17.6	
Delay (s)		12.9			15.5			19.4			39.8	
Level of Service		B			B			B			D	
Approach Delay (s)		12.9			15.5			19.4			39.8	
Approach LOS		B			B			B			D	

Intersection Summary					
HCM Average Control Delay	20.3	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	67.1	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	77.5%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	35	200	45	25	215	45	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	318	0	0	375	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	13%
Maximum Green (s)	25.0	25.0		25.0	25.0		19.0	19.0		19.0	19.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.70			0.64			0.60			0.67		
Control Delay		18.4			16.5			20.3			22.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.4			16.5			20.3			22.6		
Queue Length 50th (ft)		123			105			77			95		
Queue Length 95th (ft)		262			176			170			163		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		862			834			616			650		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.63			0.58			0.52			0.58		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 49.4	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1793			1806	
Flt Permitted		0.95			0.93			0.92			0.95	
Satd. Flow (perm)		1736			1690			1662			1731	
Volume (vph)	30	405	35	30	300	25	35	200	45	25	215	45
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	40	227	51	33	283	59
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	10	0
Lane Group Flow (vph)	0	535	0	0	476	0	0	307	0	0	365	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.6			20.6			15.8			15.8	
Effective Green, g (s)		21.6			21.6			15.8			15.8	
Actuated g/C Ratio		0.42			0.42			0.31			0.31	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		732			713			513			534	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.21	
v/c Ratio		0.73			0.67			0.60			0.68	
Uniform Delay, d1		12.4			11.9			15.0			15.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.0			2.6			2.2			3.9	
Delay (s)		16.4			14.5			17.2			19.4	
Level of Service		B			B			B			B	
Approach Delay (s)		16.4			14.5			17.2			19.4	
Approach LOS		B			B			B			B	

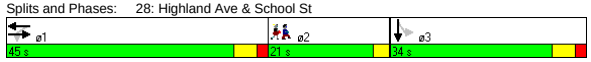
Intersection Summary					
HCM Average Control Delay	16.7	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	51.2	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	61.5%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	490	15	40	375	0	0	0	0	200	255	90	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	587	0	0	477	0	0	0	0	0	586	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	45.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	34.0	34.0	0.0	21.0
Total Split (%)	0.0%	45.0%	0.0%	45.0%	45.0%	0.0%	0.0%	0.0%	0.0%	34.0%	34.0%	0.0%	21%
Maximum Green (s)		39.0		39.0	39.0					28.0	28.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.68			0.95						0.93		
Control Delay		23.1			53.3						50.3		
Queue Delay		0.0			0.0						0.0		
Total Delay		23.1			53.3						50.3		
Queue Length 50th (ft)		200			203						266		
Queue Length 95th (ft)		441			#528						#643		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		867			503						632		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.68			0.95						0.93		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1797	
Flt Permitted		1.00			0.78						0.98	
Satd. Flow (perm)		1786			1382						1797	
Volume (vph)	0	490	15	40	375	0	0	0	0	200	255	90
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	570	17	46	431	0	0	0	0	215	274	97
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	586	0	0	477	0	0	0	0	0	586	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		39.3			39.3						28.3	
Effective Green, g (s)		40.3			40.3						29.3	
Actuated g/C Ratio		0.47			0.47						0.34	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		841			651						615	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.35						0.33	
v/c Ratio		0.70			0.73						0.95	
Uniform Delay, d1		17.8			18.3						27.5	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		2.5			4.3						25.2	
Delay (s)		20.4			22.6						52.6	
Level of Service		C			C						D	
Approach Delay (s)		20.4			22.6			0.0			52.6	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1265			789	1311		
Travel Time (s)	28.8			17.9	29.8		
Volume (vph)	415	100	305	1025	220	320	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	539	130	328	1102	324	471	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	52.0	52.0	52.0	52.0	22.0	22.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	25.3%	25.3%	15%
Maximum Green (s)	47.0	47.0	47.0	47.0	17.0	17.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.46	0.15	0.84	0.96	0.80	1.10	
Control Delay	9.8	2.0	34.6	34.4	45.4	97.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.8	2.0	34.6	34.4	45.4	97.5	
Queue Length 50th (ft)	105	0	97	387	139	~210	
Queue Length 95th (ft)	205	15	#342	#927	192	#287	
Internal Link Dist (ft)	1185			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1172	887	392	1150	406	430	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.15	0.84	0.96	0.80	1.10	

Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 76.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	685	1827	1719	1538
Volume (vph)	415	100	305	1025	220	320
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	539	130	328	1102	324	471
RTOR Reduction (vph)	0	51	0	0	0	68
Lane Group Flow (vph)	539	79	328	1102	324	403
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	47.2	47.2	47.2	47.2	17.1	17.1
Effective Green, g (s)	48.2	48.2	48.2	48.2	18.1	18.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.23	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1135	812	417	1113	393	352
v/s Ratio Prot	0.29			c0.60	0.19	c0.26
v/s Ratio Perm		0.06	0.48			
v/c Ratio	0.47	0.10	0.79	0.99	0.82	1.15
Uniform Delay, d1	8.5	6.4	11.6	15.2	29.0	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	8.7	24.5	13.7	93.5
Delay (s)	8.6	6.4	20.3	39.7	42.7	124.0
Level of Service	A	A	C	D	D	F
Approach Delay (s)	8.2			35.2	90.9	
Approach LOS	A			D	F	

Intersection Summary

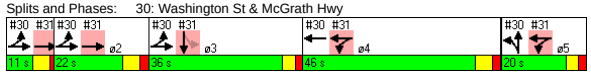
HCM Average Control Delay	44.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	560	375	0	0	1295	110	25	235	540	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	609	421	0	0	1561	0	29	270	621	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	69.0	69.0	0.0	0.0	46.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	51.1%	51.1%	0.0%	0.0%	34.1%	0.0%	14.8%	14.8%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					40.0		15.0	15.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.36	0.19			1.04		0.16	1.39	0.42					
Control Delay	1.7	0.6			80.5		56.7	247.7	0.9					
Queue Delay	0.0	0.0			29.7		0.1	0.0	0.0					
Total Delay	1.7	0.6			110.2		56.8	247.7	0.9					
Queue Length 50th (ft)	14	1			~541		23	~315	0					
Queue Length 95th (ft)	m14	m1			#638		54	#474	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1686	2235			1498		184	194	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			98		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.36	0.19			1.12		0.17	1.39	0.42					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	36.0
Total Split (%)	27%
Maximum Green (s)	31.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Green Line Extension
30: Washington St & McGrath Hwy

2030 Build Alt 5 Condition - AM Peak
Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4933		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4933		1656	1743	1482			
Volume (vph)	560	375	0	0	1295	110	25	235	540	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	609	421	0	0	1439	122	29	270	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	609	421	0	0	1561	0	29	270	621	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	64.0	64.0			40.0		15.0	15.0	135.0			
Effective Green, g (s)	64.0	64.0			41.0		15.0	15.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.30		0.11	0.11	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1686	2235			1498		184	194	1482			
v/s Ratio Prot	0.17	0.09			c0.32		0.02	c0.15				
v/s Ratio Perm									c0.42			
v/c Ratio	0.36	0.19			1.04		0.16	1.39	0.42			
Uniform Delay, d1	22.5	20.5			47.0		54.3	60.0	0.0			
Progression Factor	0.06	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			35.0		1.8	204.7	0.9			
Delay (s)	1.7	0.6			82.0		56.1	264.7	0.9			
Level of Service	A	A			F		E	F	A			
Approach Delay (s)		1.2			82.0			80.0			0.0	
Approach LOS		A			F			F			A	

Intersection Summary			
HCM Average Control Delay	57.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

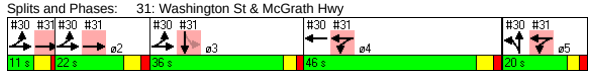
Green Line Extension
31: Washington St & McGrath Hwy

2030 Build Alt 5 Condition - AM Peak
Default

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	885	35	580	740	0	0	0	0	50	175	565		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	1001	0	617	841	0	0	0	0	0	909	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	66.0	66.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	48.9%	48.9%	0.0%	0.0%	0.0%	0.0%	26.7%	26.7%	0.0%	8%	16%
Maximum Green (s)										31.0	31.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.71		0.79	0.55						1.54dr			
Control Delay		52.7		6.1	0.2						145.9			
Queue Delay		0.1		0.0	0.0						32.3			
Total Delay		52.8		6.1	0.2						178.1			
Queue Length 50th (ft)		202		77	0						~481			
Queue Length 95th (ft)		237		m55	m0						#594			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1409		777	1539						753			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		39		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.73		0.79	0.55						1.28			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	46.0	20.0
Total Split (%)	34%	15%
Maximum Green (s)	40.0	15.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6773		1719	3406						3007	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6773		1719	3406						3007	
Volume (vph)	0	885	35	580	740	0	0	0	0	50	175	565
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	962	39	617	841	0	0	0	0	68	199	642
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	62	0
Lane Group Flow (vph)	0	996	0	617	841	0	0	0	0	0	847	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		61.0	61.0						31.0	
Effective Green, g (s)		28.0		61.0	61.0						31.0	
Actuated g/C Ratio		0.21		0.45	0.45						0.23	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1405		777	1539						690	
v/s Ratio Prot		c0.15		c0.36	0.25							
v/s Ratio Perm											0.28	
v/c Ratio		0.71		0.79	0.55						1.54dr	
Uniform Delay, d1		49.7		31.6	26.9						52.0	
Progression Factor		1.00		0.16	0.00						1.00	
Incremental Delay, d2		3.1		0.8	0.1						114.7	
Delay (s)		52.8		5.9	0.2						166.7	
Level of Service		D		A	A						F	
Approach Delay (s)		52.8			2.6			0.0			166.7	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	61.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

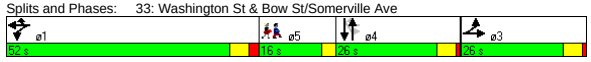
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	345	65	590	505	480	0	0	0	415	360	65	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	479	0	648	555	527	0	0	0	257	636	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		16.0
Total Split (s)	26.0	26.0	0.0	52.0	52.0	52.0	0.0	26.0	0.0	26.0	26.0	0.0	16.0
Total Split (%)	21.7%	21.7%	0.0%	43.3%	43.3%	43.3%	0.0%	21.7%	0.0%	21.7%	21.7%	0.0%	13%
Maximum Green (s)	21.0	21.0		46.0	46.0	46.0		21.0		21.0	21.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.95		1.08	0.88	0.48				0.87	1.00		
Control Delay		78.3		61.1	20.2	1.6				72.1	80.6		
Queue Delay		0.0		0.0	0.0	0.4				0.0	0.0		
Total Delay		78.3		61.1	20.2	2.0				72.1	80.6		
Queue Length 50th (ft)		194		~552	310	26				193	247		
Queue Length 95th (ft)		#302		m382	m258	m19				#457	#493		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		504		600	632	1094				295	634		
Starvation Cap Reductn		0		0	0	199				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		0.95		1.08	0.88	0.59				0.87	1.00		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2751		1533	1613	1371				1408	2723	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2751		1533	1613	1371				1122	2375	
Volume (vph)	35	345	65	590	505	480	0	0	0	415	360	65
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	371	70	648	555	527	0	0	0	441	383	69
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	0	0	7	0
Lane Group Flow (vph)	0	479	0	648	555	333	0	0	0	257	629	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		21.0		44.2	44.2	74.8				30.6	30.6	
Effective Green, g (s)		22.0		45.2	45.2	75.8				31.6	31.6	
Actuated g/C Ratio		0.18		0.38	0.38	0.63				0.26	0.26	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		504		577	608	866				295	625	
v/s Ratio Prot		c0.17		c0.42	0.34	0.14						
v/s Ratio Perm						0.10				0.23	c0.27	
v/c Ratio		0.95		1.12	0.91	0.38				0.87	1.01	
Uniform Delay, d1		48.5		37.4	35.5	10.8				42.3	44.2	
Progression Factor		1.00		0.52	0.50	2.42				1.00	1.00	
Incremental Delay, d2		29.5		57.8	2.6	0.0				23.9	37.7	
Delay (s)		77.9		77.2	20.5	26.0				66.2	81.9	
Level of Service		E		E	C	C				E	F	
Approach Delay (s)		77.9			43.4			0.0			77.4	
Approach LOS		E			D			A			E	

Intersection Summary					
HCM Average Control Delay	58.5	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.05				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.2	
Intersection Capacity Utilization	80.8%	ICU Level of Service		D	
Analysis Period (min)	15				

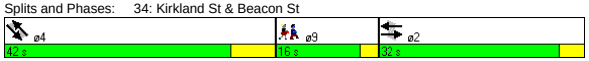
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	215	35	45	330	55	40	495	140	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	386	0	0	478	0	0	750	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	42.0	42.0	0.0	42.0	42.0	0.0	16.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	18%
Maximum Green (s)	28.0	28.0		28.0	28.0		35.0	35.0		35.0	35.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.85			0.87			0.96			0.51		
Control Delay		45.7			45.3			48.5			20.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		45.7			45.3			48.5			20.1		
Queue Length 50th (ft)		150			189			289			101		
Queue Length 95th (ft)		#315			#470			#700			241		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		454			547			781			710		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.85			0.87			0.96			0.51		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 80.4	
Natural Cycle: 100	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1749			1704			1770			1731	
Flt Permitted		0.78			0.92			0.96			0.92	
Satd. Flow (perm)		1373			1578			1702			1604	
Volume (vph)	55	215	35	45	330	55	40	495	140	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	272	44	50	367	61	44	550	156	27	299	33
RTOR Reduction (vph)	0	5	0	0	5	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	381	0	0	473	0	0	740	0	0	355	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		28.3			28.3			35.3			35.3	
Effective Green, g (s)		28.3			28.3			36.3			36.3	
Actuated g/C Ratio		0.34			0.34			0.44			0.44	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		473			543			752			708	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.30			c0.43			0.22	
v/c Ratio		0.81			0.87			0.98			0.50	
Uniform Delay, d1		24.5			25.2			22.7			16.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		13.7			17.2			29.1			2.5	
Delay (s)		38.2			42.5			51.8			19.0	
Level of Service		D			D			D			B	
Approach Delay (s)		38.2			42.5			51.8			19.0	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM Average Control Delay	40.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	17.6
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

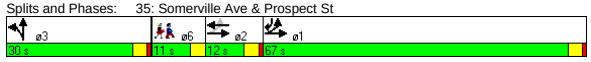
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	265	505	0	0	160	40	145	540	70	0	0	1340	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	828	0	0	225	0	159	670	0	0	0	1506	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	67.0	79.0	0.0	0.0	12.0	0.0	30.0	30.0	0.0	0.0	0.0	67.0	11.0
Total Split (%)	55.8%	65.8%	0.0%	0.0%	10.0%	0.0%	25.0%	25.0%	0.0%	0.0%	0.0%	55.8%	9%
Maximum Green (s)	63.0				8.0		26.0	26.0				63.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.52		0.53	1.06				1.19	
Control Delay		1.7			49.3		48.8	96.8				121.2	
Queue Delay		0.0			0.0		0.0	0.0				22.1	
Total Delay		1.7			49.3		48.8	96.8				143.3	
Queue Length 50th (ft)		2			76		120	~309				~798	
Queue Length 95th (ft)		m4			#173		201	#439				#932	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1854			429		302	633				1267	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				51	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.52		0.53	1.06				1.24	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2945		1395	2885				2413
Flt Permitted		0.70			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2130			2945		1395	2885				2413
Volume (vph)	265	505	0	0	160	40	145	540	70	0	0	1340
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	285	543	0	0	180	45	159	593	77	0	0	1506
RTOR Reduction (vph)	0	0	0	0	17	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	828	0	0	208	0	159	662	0	0	0	1506
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		77.4			16.8		26.0	26.0				60.6
Effective Green, g (s)		77.4			16.8		26.0	26.0				60.6
Actuated g/C Ratio		0.64			0.14		0.22	0.22				0.50
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1806			412		302	625				1219
v/s Ratio Prot		0.23			c0.07		0.11	c0.23				c0.62
v/s Ratio Perm		0.06										
v/c Ratio		0.46			0.50		0.53	1.06				1.24
Uniform Delay, d1		10.7			47.7		41.6	47.0				29.7
Progression Factor		0.14			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.3			4.4		2.2	52.8				113.2
Delay (s)		1.8			52.1		43.7	99.8				142.9
Level of Service		A			D		D	F				F
Approach Delay (s)		1.8			52.1			89.0			142.9	
Approach LOS		A			D			F			F	

Intersection Summary			
HCM Average Control Delay	89.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

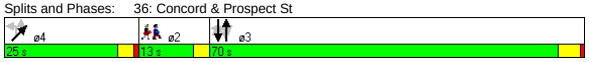
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	195	115	510	375	5	20	340	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	284	0	119	918	0	0	0	432	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		13.0
Total Split (s)	70.0	70.0	0.0	70.0	70.0	0.0	0.0	25.0	25.0	0.0	13.0
Total Split (%)	64.8%	64.8%	0.0%	64.8%	64.8%	0.0%	0.0%	23.1%	23.1%	0.0%	12%
Maximum Green (s)	65.0	65.0		65.0	65.0			21.0	21.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											5.0
Flash Dont Walk (s)											5.0
Pedestrian Calls (#/hr)											12
v/c Ratio		0.61		0.19	0.89				0.72		
Control Delay		14.1		8.7	25.8				35.3		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		14.1		8.7	25.8				35.3		
Queue Length 50th (ft)		48		21	293				146		
Queue Length 95th (ft)		163		61	660				#524		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		544		768	1249				597		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		0.52		0.15	0.73				0.72		

Intersection Summary

Area Type: Other
Cycle Length: 108
Actuated Cycle Length: 73.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1679		1869	1842				1987	
Flt Permitted		0.38		0.58	1.00				1.00	
Satd. Flow (perm)		653		1141	1842				1987	
Volume (vph)	60	0	195	115	510	375	5	20	340	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	217	119	526	387	5	23	386	23
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	249	0	119	918	0	0	0	431	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		40.3		40.3	40.3				22.0	
Effective Green, g (s)		41.3		41.3	41.3				22.0	
Actuated g/C Ratio		0.55		0.55	0.55				0.29	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		356		623	1005				577	
v/s Ratio Prot					c0.50					
v/s Ratio Perm		0.38		0.10					0.22	
v/c Ratio		0.70		0.19	0.91				0.75	
Uniform Delay, d1		12.7		8.7	15.6				24.3	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		5.0		0.1	12.1				4.6	
Delay (s)		17.7		8.8	27.7				28.9	
Level of Service		B		A	C				C	
Approach Delay (s)		17.7			25.5				28.9	
Approach LOS		B			C				C	

Intersection Summary

HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	12.4
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

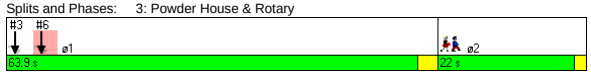
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	585	0	0	1500	520	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	629	0	0	1546	536	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.40			0.93	0.35	
Control Delay		0.8			20.0	0.6	
Queue Delay		0.0			0.1	0.0	
Total Delay		0.8			20.1	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1603	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		27			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.40			0.93	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	585	0	0	1500	520
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	629	0	0	1546	536
RTOR Reduction (vph)	0	73	0	0	0	0
Lane Group Flow (vph)	0	556	0	0	1546	536
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.85	
v/s Ratio Perm		0.34				c0.35
v/c Ratio		0.39			0.96	0.35
Uniform Delay, d1		1.2			5.3	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.8			14.2	0.6
Delay (s)		2.0			19.5	0.6
Level of Service		A			B	A
Approach Delay (s)	2.0			0.0	14.6	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	136.3%	ICU Level of Service	H
Analysis Period (min)	15		

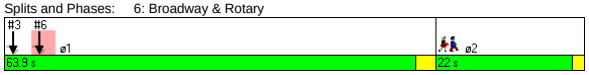
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	560	0	0	1285	800	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	636	0	0	1367	851	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.41			0.81	0.54	
Control Delay		0.8			6.8	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.8			6.8	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m#1235	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.41			0.81	0.54	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	560	0	0	1285	800
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	636	0	0	1367	851
RTOR Reduction (vph)	0	73	0	0	0	0
Lane Group Flow (vph)	0	563	0	0	1367	851
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.74	
v/s Ratio Perm		0.36				c0.54
v/c Ratio		0.40			0.84	0.54
Uniform Delay, d1		1.3			3.1	0.0
Progression Factor		1.00			0.39	1.00
Incremental Delay, d2		0.9			3.4	0.9
Delay (s)		2.1			4.6	0.9
Level of Service		A			A	A
Approach Delay (s)	2.1			0.0	3.2	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	2.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	645	985	435	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	741	1015	448	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.48	0.58	0.28			
Control Delay		1.0	2.8	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.0	2.8	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	456	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.48	0.58	0.28			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	645	985	435	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	741	1015	448	0	0
RTOR Reduction (vph)	0	61	0	0	0	0
Lane Group Flow (vph)	0	680	1015	448	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.56			
v/s Ratio Perm		0.43		c0.28		
v/c Ratio		0.47	0.61	0.28		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.4	0.4		
Delay (s)		1.8	2.1	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.8		1.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	770	650	990	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	987	670	1021	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.61	0.38	0.66			
Control Delay		1.8	2.0	2.5			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.8	2.0	2.5			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	203	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1540			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.62	0.38	0.66			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	770	650	990	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	987	670	1021	0	0
RTOR Reduction (vph)	0	81	0	84	0	0
Lane Group Flow (vph)	0	906	670	937	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.60		
v/s Ratio Perm		0.55				
v/c Ratio		0.60	0.40	0.65		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.8	0.7	2.3		
Delay (s)		2.7	1.3	3.4		
Level of Service		A	A	A		
Approach Delay (s)	2.7		2.6			0.0
Approach LOS	A		A			A

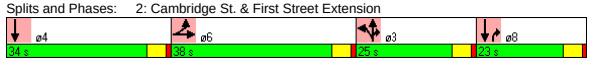
Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	225	55	0	0	0	60	125	100	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	291	0	0	0	0	0	206	111	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.39	0.78						0.73	0.25		0.51			
Control Delay	43.0	57.5						63.2	7.6		1.8			
Queue Delay	0.8	0.0						7.8	0.0		0.4			
Total Delay	43.8	57.5						71.0	7.6		2.2			
Queue Length 50th (ft)	84	184						134	0		11			
Queue Length 95th (ft)	126	248						205	39		m7			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						322	574		1943			
Starvation Cap Reductn	0	0						0	0		412			
Spillback Cap Reductn	171	0						79	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.43	0.57						0.85	0.19		0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1790						1804	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1790						1804	1459		3201	
Volume (vph)	135	225	55	0	0	0	60	125	100	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	234	57	0	0	0	67	139	111	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	84	0	218	0
Lane Group Flow (vph)	141	283	0	0	0	0	0	206	27	0	776	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.5	23.5						17.8	28.3		63.7	
Effective Green, g (s)	24.5	24.5						18.8	29.3		64.7	
Actuated g/C Ratio	0.20	0.20						0.16	0.24		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	361	365						283	356		1726	
v/s Ratio Prot	0.08	c0.16						c0.11	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.39	0.78						0.73	0.08		0.45	
Uniform Delay, d1	41.3	45.1						48.2	34.9		16.8	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.9						9.0	0.1		0.1	
Delay (s)	42.0	55.0						57.2	35.0		2.1	
Level of Service	D	E						E	D		A	
Approach Delay (s)		50.8			0.0			49.4			2.1	
Approach LOS		D			A			D			A	

Intersection Summary

HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

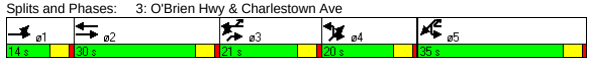
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	175	1340	445	310	840	295	140	435	280	535	915	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	192	1473	489	341	923	324	147	458	295	559	1169	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.42	0.92	0.30	1.54	0.76	0.43	0.68	0.99	0.62	1.42	1.42		
Control Delay	267.3	48.5	0.5	299.6	54.2	3.0	66.4	91.4	38.9	237.4	229.9		
Queue Delay	0.0	671.6	0.0	32.7	497.1	0.5	0.0	0.0	0.5	0.0	0.8		
Total Delay	267.3	720.1	0.5	332.3	551.3	3.5	66.4	91.4	39.5	237.4	230.7		
Queue Length 50th (ft)	~177	351	0	~337	352	27	97	166	158	~563	~591		
Queue Length 95th (ft)	#309	#432	0	m#418	m404	m28	#173	#264	244	#775	#718		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	753	216	463	479	394	824		
Starvation Cap Reductn	0	0	0	10	783	152	0	0	0	0	0		
Spillback Cap Reductn	0	1025	0	0	0	0	0	0	33	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.42	2.53	0.30	1.62	2.10	0.54	0.68	0.99	0.66	1.42	1.42		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	175	1340	445	310	840	295	140	435	280	535	915	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	192	1473	489	341	923	324	147	458	295	594	1017	117
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	17	0	7	0
Lane Group Flow (vph)	192	1473	489	341	923	130	147	458	278	559	1162	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.30	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.30									
v/c Ratio	1.42	0.92	0.30	1.54	0.76	0.23	0.68	0.99	0.60	1.42	1.42	
Uniform Delay, d1	55.0	38.4	0.0	51.5	31.5	23.8	49.6	51.9	35.2	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.62	1.40	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	227.5	8.6	0.5	255.5	1.4	0.1	8.5	38.6	2.2	202.8	197.4	
Delay (s)	282.5	47.0	0.5	328.1	52.6	33.5	58.1	90.5	37.4	247.3	241.9	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		57.4			107.9			67.8			243.6	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	122.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

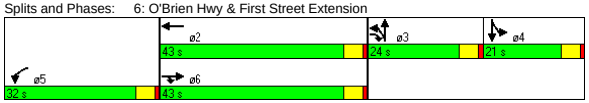
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1515	165	445	485	75	25	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1683	183	494	622	0	28	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.90	0.20	0.76	0.48		0.09	0.84			0.94	
Control Delay		18.6	3.7	53.5	30.7		19.4	46.3			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	157.4			0.0	
Total Delay		18.6	3.7	53.5	30.7		19.4	203.7			78.1	
Queue Length 50th (ft)		294	27	165	166		11	188			165	
Queue Length 95th (ft)		#524	45	207	230		m23	m#278			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	117			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.90	0.20	0.62	0.48		0.09	1.35			0.94	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3468		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3468		1770	1863			3472	
Volume (vph)	0	1515	165	445	485	75	25	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1683	183	494	539	83	28	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1683	157	494	613	0	28	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1277		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.18		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.90	0.17	0.76	0.48		0.09	0.84			0.93	
Uniform Delay, d1		35.8	12.4	46.0	29.1		42.3	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.44	0.50			1.00	
Incremental Delay, d2		5.9	0.3	5.0	1.3		0.5	20.1			27.0	
Delay (s)		16.6	4.9	51.0	30.4		19.2	44.5			78.0	
Level of Service		B	A	D	C		B	D			E	
Approach Delay (s)		15.5			39.5			42.1			78.0	
Approach LOS		B			D			D			E	

Intersection Summary

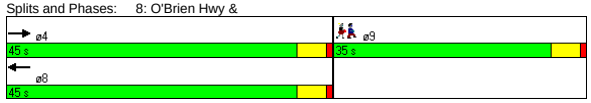
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1960	0	0	1080	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2178	0	0	1200	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.47			0.38			
Control Delay	5.0			4.5			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.5			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	342			253			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.47			0.38			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1960	0	0	1080	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2178	0	0	1200	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2178	0	0	1200	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.4			30.4		
Effective Green, g (s)	31.4			31.4		
Actuated g/C Ratio	0.72			0.72		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3679			2560		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.59			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	330	0	0	5	0	1630	0	0	995	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	344	0	0	6	0	1680	0	0	1186	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	330	0	0	5	0	1630	0	0	995	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	344	0	0	6	0	1680	0	0	1093	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.77	0.77	0.69	0.77	0.77	0.85	0.85			0.69		
vC, conflicting volume	2233	2867	560	2044	2821	593	1187			1680		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1328	2156	0	1082	2095	351	1047			1096		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	54	100	100	99	100			100		
cM capacity (veh/h)	85	36	749	70	38	543	472			396		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	344	6	560	560	560	729	458
Volume Left	0	0	0	0	0	0	0
Volume Right	344	6	0	0	0	0	93
cSH	749	543	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.01	0.33	0.33	0.33	0.43	0.27
Queue Length 95th (ft)	53	1	0	0	0	0	0
Control Delay (s)	13.8	11.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.8	11.7	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	58.6%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1960	1040	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2178	1200	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1960	1040	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2178	1156	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.75				0.87	0.75
vC, conflicting volume	1200				1904	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	939				848	143
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	547				260	662

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	726	726	726	770	430	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	662
Volume to Capacity	0.43	0.43	0.43	0.45	0.25	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.8
Approach LOS						B

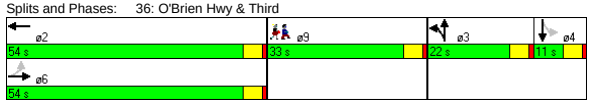
Intersection Summary					
Average Delay		0.1			
Intersection Capacity Utilization		41.2%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2235	635	0	655	15	175	1	45	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	2964	0	0	728	0	119	126	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.29			0.42		0.51	0.48			0.03		
Control Delay		161.5			28.1		55.3	44.8			48.0		
Queue Delay		54.5			0.4		0.0	0.0			0.0		
Total Delay		216.0			28.5		55.3	44.9			48.0		
Queue Length 50th (ft)		~916			205		80	68			1		
Queue Length 95th (ft)		#1103			311		137	127			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2300			1730		235	262			91		
Starvation Cap Reductn		0			504		0	0			0		
Spillback Cap Reductn		198			0		0	2			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.41			0.59		0.51	0.48			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.94			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4916			3528		1569	1616			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4616			3528		1569	1616			1779	
Volume (vph)	5	2235	635	0	655	15	175	1	45	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2304	655	0	712	16	194	1	50	1	1	1
RTOR Reduction (vph)	0	40	0	0	1	0	0	20	0	0	1	0
Lane Group Flow (vph)	0	2924	0	0	727	0	119	106	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2108			1611		235	242			33	
v/s Ratio Prot					0.21		c0.08	0.07				
v/s Ratio Perm		c0.63									c0.00	
v/c Ratio		1.39			0.45		0.51	0.44			0.06	
Uniform Delay, d1		32.6			22.3		46.9	46.4			57.9	
Progression Factor		1.00			1.34		1.00	1.00			1.00	
Incremental Delay, d2		177.3			0.9		7.6	5.7			0.8	
Delay (s)		209.9			30.8		54.5	52.1			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		209.9			30.8			53.3			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	166.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1650	165	0	490	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1931	0	0	538	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1650	165	0	490	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1755	176	0	538	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.80	0.74
vC, conflicting volume			1931		2112	673
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1557		1396	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			305		106	806

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	702	702	527	269	269	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	176	0	0	33
cSH	1700	1700	1700	1700	1700	806
Volume to Capacity	0.41	0.41	0.31	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

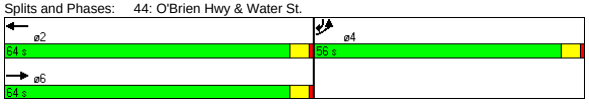
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	45.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1820	0	0	425	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1936	0	0	538	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.26							0.36
Control Delay	49.5	2.8			15.2							2.3
Queue Delay	38.0	1.2			0.0							0.0
Total Delay	87.5	4.0			15.3							2.3
Queue Length 50th (ft)	352	31			50							0
Queue Length 95th (ft)	m277	m32			m141							22
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2966			2031							889
Starvation Cap Reductn	282	736			0							0
Spillback Cap Reductn	0	0			115							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.87			0.28							0.31

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3370							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3370							1627
Volume (vph)	460	1820	0	0	425	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1936	0	0	467	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1936	0	0	530	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2022							542
v/s Ratio Prot	c0.28	c0.39			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.26							0.17
Uniform Delay, d1	37.3	15.8			11.4							28.2
Progression Factor	1.31	0.15			1.23							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.2	2.5			14.3							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.1			14.3			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary					
HCM Average Control Delay	13.9	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	46.0%	ICU Level of Service		A	
Analysis Period (min)	15				

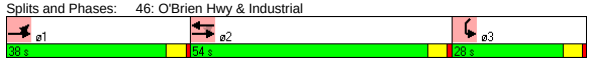
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1980	1300	305	285	145
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2374	1707	0	478	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.88	0.88		0.81	
Control Delay		19.5	37.4		51.2	
Queue Delay		120.8	97.3		161.2	
Total Delay		140.4	134.7		212.3	
Queue Length 50th (ft)		484	375		138	
Queue Length 95th (ft)		m450	437		189	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2683	1948		659	
Starvation Cap Reductn		812	0		0	
Spillback Cap Reductn		0	544		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.27	1.22		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4596		3011	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3004	4596		3011	
Volume (vph)	180	1980	1300	305	285	145
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2176	1383	324	317	161
RTOR Reduction (vph)	0	0	32	0	58	0
Lane Group Flow (vph)	0	2374	1675	0	420	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2683	1915		534	
v/s Ratio Prot		c0.27	0.36		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.88	0.87		0.79	
Uniform Delay, d1		12.8	32.1		47.2	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.4	5.9		7.5	
Delay (s)		28.9	38.1		54.7	
Level of Service		C	D		D	
Approach Delay (s)		28.9	38.1		54.7	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

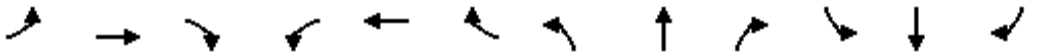
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	365	155	230	515	5	5	25	25	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	595	0	0	893	0	0	77	0	0	167	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	365	155	230	515	5	5	25	25	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	410	174	274	613	6	7	35	35	154	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	619			584			1780	1770	616	1736	1686	497
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	619			584			1780	1770	616	1736	1686	497
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			72			80	40	93	0	80	84
cM capacity (veh/h)	937			976			36	59	489	26	66	567

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	596	893	77	167	90
Volume Left	11	274	7	154	0
Volume Right	174	6	35	0	90
cSH	937	976	89	27	567
Volume to Capacity	0.01	0.28	0.87	6.06	0.16
Queue Length 95th (ft)	1	29	118	Err	14
Control Delay (s)	0.3	6.2	144.8	Err	12.5
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.2	144.8	6503.7	
Approach LOS			F	F	

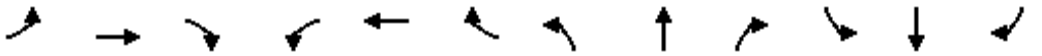
Intersection Summary				
Average Delay	924.5			
Intersection Capacity Utilization	93.2%	ICU Level of Service	F	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	45	85	90	415	0	0	1760	280
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	308	0	98	494	0	0	1796	304
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	45	85	90	415	0	0	1760	280
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	49	105	98	494	0	0	1796	304
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2615	2486	1796	2486	2790	494	2100			494		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192225176904		952411769042	12941		494	131277			494		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	81	0			100		
cM capacity (veh/h)	0	0	0	0	0	565	0			1059		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	308	98	494	1796	304
Volume Left	154	98	0	0	0
Volume Right	105	0	0	0	304
cSH	0	0	1700	1700	1700
Volume to Capacity	1.56171721741888992E64		0.29	1.06	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1652.7		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	90	285	320	0	0	0	0	415	480	185	1700	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	773	0	0	0	0	0	441	511	189	1735	0
Sign Control		Stop			Stop			Free			Free	

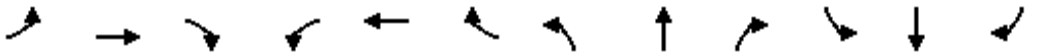
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	285	320	0	0	0	0	415	480	185	1700	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	100	317	356	0	0	0	0	441	511	189	1735	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2554	3064	1735	3068	2554	441	1735			952		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	86889115116		41613115296	86889		441	41613			952		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			74		
cM capacity (veh/h)	0	0	0	0	0	616	0			714		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	258	514	441	511	189	1735
Volume Left	100	0	0	0	189	0
Volume Right	0	356	0	511	0	0
cSH	0	0	1700	1700	714	1700
Volume to Capacity	Err	Err	0.26	0.30	0.26	1.02
Queue Length 95th (ft)	Err	Err	0	0	27	0
Control Delay (s)	Err	Err	0.0	0.0	11.9	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2117.3			
Intersection Capacity Utilization	122.1%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	430	5	25	0	1	10	40	455	0	5	975	1040
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	499	0	0	22	0	0	556	0	0	1076	1143
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	430	5	25	0	1	10	40	455	0	5	975	1040
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	467	5	27	0	2	20	45	511	0	5	1071	1143
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1705	1684	1071	1713	1684	511	1071			511		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1705	1684	1071	1713	1684	511	1071			511		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	90	100	98	96	93			99		
cM capacity (veh/h)	64	86	266	58	88	567	636			1049		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	500	22	556	1077	1143
Volume Left	467	0	45	5	0
Volume Right	27	20	0	0	1143
cSH	67	379	636	1049	1700
Volume to Capacity	7.50	0.06	0.07	0.01	0.67
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.1	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.1	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1516.4		
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	65	365	880	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	472	1176	0	177	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

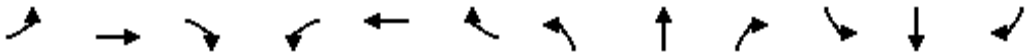
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	65	365	880	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	71	401	967	209	105	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	1176				1615	1071
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1209				1731	1085
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	68
cM capacity (veh/h)	483				70	224

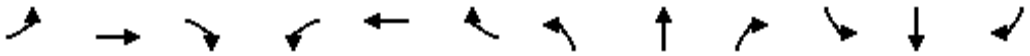
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	473	1176	178
Volume Left	71	0	105
Volume Right	0	209	72
cSH	483	1700	97
Volume to Capacity	0.15	0.69	1.82
Queue Length 95th (ft)	13	0	365
Control Delay (s)	4.3	0.0	481.2
Lane LOS	A		F
Approach Delay (s)	4.3	0.0	481.2
Approach LOS			F

Intersection Summary			
Average Delay	47.9		
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	180	130	370	200	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	335	0	0	605	0	0	195	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

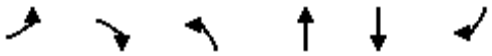
Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	130	370	200	5	45	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	186	134	389	211	5	53	18	124	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	605	194	29
Volume Left (vph)	15	389	53	7
Volume Right (vph)	134	5	124	7
Hadj (s)	-0.20	0.19	-0.31	-0.10
Departure Headway (s)	5.3	5.3	6.1	6.8
Degree Utilization, x	0.49	0.89	0.33	0.05
Capacity (veh/h)	639	605	561	470
Control Delay (s)	13.4	36.2	12.0	10.2
Approach Delay (s)	13.4	36.2	12.0	10.2
Approach LOS	B	E	B	B

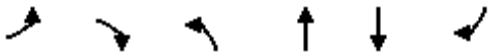
Intersection Summary			
Delay	25.0		
HCM Level of Service	C		
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	165	125	95	420	555	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	306	0	0	696	1077	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	165	125	95	420	555	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	174	132	128	568	572	505
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1649	825	1077			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1649	825	1077			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	65	80			
cM capacity (veh/h)	86	371	632			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	305	696	1077
Volume Left	174	128	0
Volume Right	132	0	505
cSH	129	632	1700
Volume to Capacity	2.37	0.20	0.63
Queue Length 95th (ft)	660	19	0
Control Delay (s)	693.7	5.3	0.0
Lane LOS	F	A	
Approach Delay (s)	693.7	5.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	103.6		
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		832			503			1032		280		
Travel Time (s)		18.9			11.4			23.5		6.4		
Volume (vph)	50	0	305	250	585	60	15	200	5	20	0	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	386	0	0	973	0	0	238	0	82	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	0	305	250	585	60	15	200	5	20	0	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	332	272	636	65	16	217	5	22	0	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					503			1032				
pX, platoon unblocked	0.61	0.61					0.61			0.61	0.61	0.61
vC, conflicting volume	1524	1497	220	223			701			1796	1467	668
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1866	1821	220	223			507			2314	1771	453
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	100	59	79			97			0	100	84
cM capacity (veh/h)	24	37	815	1317			641			8	39	368

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	386	973	239	82
Volume Left	54	272	16	22
Volume Right	332	65	5	60
cSH	142	1317	641	28
Volume to Capacity	2.71	0.21	0.03	2.92
Queue Length 95th (ft)	866	19	2	245
Control Delay (s)	839.7	4.5	1.0	1163.1
Lane LOS	F	A	A	F
Approach Delay (s)	839.7	4.5	1.0	1163.1
Approach LOS	F			F

Intersection Summary			
Average Delay	252.2		
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 5a AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	299	1.0	0.398	11.7	LOS B	86	0.71	0.79	23.7
8T	T	655	1.1	0.874	18.0	LOS B	462	1.00	1.24	21.0
Approach		**955**	**1.0**	**0.874**	**16.0**	**LOS B**	**462**	**0.91**	**1.10**	**21.8**
Mystic Valley Parkway										
4T	T	962	0.0	0.900	14.4	LOS B	572	1.00	1.10	22.3
4R	R	511	0.0	0.604	8.6	LOS A	172	0.77	0.79	24.9
Approach		**1473**	**0.0**	**0.900**	**12.4**	**LOS B**	**572**	**0.92**	**0.99**	**23.1**
Mystic Valley Parkway										
5L	L	434	0.0	1.209	141.1	LOS F	1033	1.00	2.53	7.2
2R	R	485	0.0	1.198	130.5	LOS F	1104	1.00	2.60	7.3
Approach		**919**	**0.0**	**1.209**	**135.5**	**LOS F**	**1104**	**1.00**	**2.57**	**7.2**
All Vehicles		**3347**	**0.3**	**1.209**	**47.2**	**LOS D**	**1104**	**0.94**	**1.46**	**14.2**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

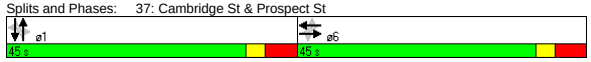
Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 5a\Mystic&Alewife - Alt5a.aap
Processed Oct 06, 2008 03:10:46PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	335	30	70	490	85	30	230	60
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	446	0	0	708	0	0	352	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.97			0.66			0.98			0.51	
Control Delay		61.6			27.3			46.1			22.9	
Queue Delay		0.0			0.0			12.7			0.0	
Total Delay		61.6			27.3			58.7			22.9	
Queue Length 50th (ft)		275			200			421			145	
Queue Length 95th (ft)		#450			308			#647			226	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		519			673			725			695	
Starvation Cap Reductn		0			0			36			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.97			0.66			1.03			0.51	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			0.99			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1793			1814			1935			1904	
Flt Permitted		0.69			0.90			0.91			0.88	
Satd. Flow (perm)		1261			1636			1763			1689	
Volume (vph)	125	285	25	45	335	30	70	490	85	30	230	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	364	33	77	538	93	33	253	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	446	0	0	708	0	0	352	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		518			673			725			694	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.27			c0.40			0.21	
v/c Ratio		0.97			0.66			0.98			0.51	
Uniform Delay, d1		26.0			21.4			26.1			19.7	
Progression Factor		1.00			1.00			0.84			1.00	
Incremental Delay, d2		33.8			5.1			22.0			2.6	
Delay (s)		59.8			26.5			43.9			22.4	
Level of Service		E			C			D			C	
Approach Delay (s)		59.8			26.5			43.9			22.4	
Approach LOS		E			C			D			C	

Intersection Summary

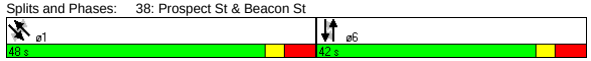
HCM Average Control Delay	40.3	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.98				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	109.7%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	140	565	35	25	255	15	40	275	70	20	345	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	797	0	0	323	0	0	433	0	0	445	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0
Total Split (%)	46.7%	46.7%	0.0%	46.7%	46.7%	0.0%	53.3%	53.3%	0.0%	53.3%	53.3%	0.0%
Maximum Green (s)	34.0	34.0		34.0	34.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	28.0	28.0		28.0	28.0		31.0	31.0		31.0	31.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.78			0.52			0.58			0.56	
Control Delay		30.9			37.4			22.7			21.9	
Queue Delay		1.2			0.0			1.0			0.8	
Total Delay		32.1			37.4			23.8			22.7	
Queue Length 50th (ft)		206			177			179			181	
Queue Length 95th (ft)		281			m250			270			275	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1027			625			742			795	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		82			0			127			136	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.84			0.52			0.70			0.68	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3496			1855			1814			1848	
Flt Permitted		0.77			0.89			0.92			0.97	
Satd. Flow (perm)		2717			1653			1670			1788	
Volume (vph)	140	565	35	25	255	15	40	275	70	20	345	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	151	608	38	27	280	16	45	309	79	22	379	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	797	0	0	323	0	0	433	0	0	445	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		34.0			34.0			40.0			40.0	
Effective Green, g (s)		34.0			34.0			40.0			40.0	
Actuated g/C Ratio		0.38			0.38			0.44			0.44	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1026			624			742			795	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.20			c0.26			0.25	
v/c Ratio		0.78			0.52			0.58			0.56	
Uniform Delay, d1		24.7			21.7			18.8			18.5	
Progression Factor		1.00			1.57			1.00			1.00	
Incremental Delay, d2		5.8			2.5			3.3			2.8	
Delay (s)		30.4			36.4			22.1			21.3	
Level of Service		C			D			C			C	
Approach Delay (s)		30.4			36.4			22.1			21.3	
Approach LOS		C			D			C			C	

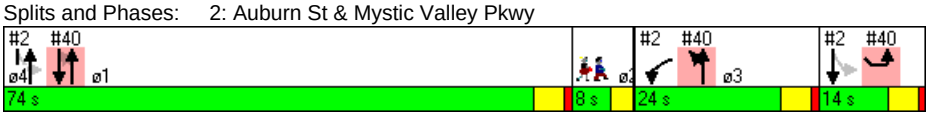
Intersection Summary					
HCM Average Control Delay	27.6	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.67				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	99.1%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	185	110	995	40	70	1100		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	383	0	1150	0	0	1258		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	24.0	0.0	74.0	0.0	88.0	88.0	8.0	14.0
Total Split (%)	20.0%	0.0%	61.7%	0.0%	73.3%	73.3%	7%	12%
Maximum Green (s)	19.0		69.0				5.0	9.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.90		0.55			0.70		
Control Delay	67.7		20.6			1.5		
Queue Delay	0.2		0.2			35.8		
Total Delay	67.9		20.7			37.3		
Queue Length 50th (ft)	271		443			25		
Queue Length 95th (ft)	#416		m348			m22		
Internal Link Dist (ft)	821		788			49		
Turn Bay Length (ft)								
Base Capacity (vph)	427		2105			1777		
Starvation Cap Reductn	0		0			599		
Spillback Cap Reductn	1		249			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.90		0.62			1.07		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	383	1150	1258
v/c Ratio	0.90	0.55	0.70
Control Delay	67.7	20.6	1.5
Queue Delay	0.2	0.2	35.8
Total Delay	67.9	20.7	37.3
Queue Length 50th (ft)	271	443	25
Queue Length 95th (ft)	#416	m348	m22
Internal Link Dist (ft)	821	788	49
Turn Bay Length (ft)			
Base Capacity (vph)	427	2105	1777
Starvation Cap Reductn	0	0	599
Spillback Cap Reductn	1	249	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.90	0.62	1.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1866		3589			3359
Flt Permitted	0.97		1.00			0.76
Satd. Flow (perm)	1866		3589			2576
Volume (vph)	185	110	995	40	70	1100
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	240	143	1106	44	75	1183
RTOR Reduction (vph)	16	0	3	0	0	0
Lane Group Flow (vph)	367	0	1147	0	0	1258
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	25.4		66.9			80.6
Effective Green, g (s)	26.4		67.9			81.6
Actuated g/C Ratio	0.22		0.57			0.68
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	411		2031			1752
v/s Ratio Prot	c0.20		0.32			
v/s Ratio Perm						c0.49
v/c Ratio	0.89		0.56			0.72
Uniform Delay, d1	45.4		16.6			12.0
Progression Factor	1.00		1.34			0.11
Incremental Delay, d2	21.3		0.1			0.1
Delay (s)	66.7		22.4			1.5
Level of Service	E		C			A
Approach Delay (s)	66.7		22.4			1.5
Approach LOS	E		C			A

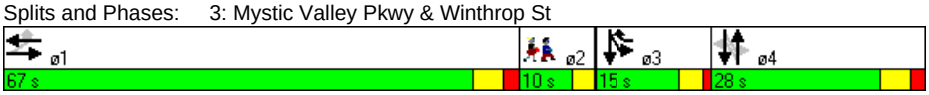
Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1070	5	0	1110	450	20	430	170	430	525	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1186	0	0	1181	479	0	755	0	0	1168	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	67.0	67.0	0.0	0.0	67.0	15.0	28.0	28.0	0.0	15.0	43.0	0.0	10.0
Total Split (%)	55.8%	55.8%	0.0%	0.0%	55.8%	12.5%	23.3%	23.3%	0.0%	12.5%	35.8%	0.0%	8%
Maximum Green (s)	61.0	61.0			61.0	11.0	22.0	22.0		11.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.71			1.20	0.39		1.64			1.48dl		
Control Delay		342.8			129.5	3.4		327.5			143.9		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		342.8			129.5	3.4		327.5			143.9		
Queue Length 50th (ft)		~1350			~1112	42		~435			~378		
Queue Length 95th (ft)		#1614			#1372	79		#493			#778		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		694			982	1216		461			951		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.71			1.20	0.39		1.64			1.23		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1186	1181	479	755	1168
v/c Ratio	1.71	1.20	0.39	1.64	1.48dl
Control Delay	342.8	129.5	3.4	327.5	143.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	342.8	129.5	3.4	327.5	143.9
Queue Length 50th (ft)	~1350	~1112	42	~435	~378
Queue Length 95th (ft)	#1614	#1372	79	#493	#778
Internal Link Dist (ft)	1176	937		552	745
Turn Bay Length (ft)					
Base Capacity (vph)	694	982	1216	461	951
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.71	1.20	0.39	1.64	1.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3422			3508	
Flt Permitted		0.66			1.00	1.00		0.73			0.61	
Satd. Flow (perm)		1337			1900	1615		2517			2201	
Volume (vph)	5	1070	5	0	1110	450	20	430	170	430	525	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1176	5	0	1181	479	24	524	207	500	610	58
RTOR Reduction (vph)	0	0	0	0	0	100	0	32	0	0	3	0
Lane Group Flow (vph)	0	1186	0	0	1181	379	0	723	0	0	1165	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		58.6			58.6	77.6		22.0			41.0	
Effective Green, g (s)		59.6			59.6	77.6		23.0			41.0	
Actuated g/C Ratio		0.50			0.50	0.65		0.19			0.34	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		664			944	1044		482			948	
v/s Ratio Prot					0.62	0.05					c0.18	
v/s Ratio Perm		c0.89				0.18		c0.29			0.24	
v/c Ratio		1.79			1.25	0.36		1.50			1.48dl	
Uniform Delay, d1		30.2			30.2	9.8		48.5			39.5	
Progression Factor		0.51			1.00	1.00		1.00			1.00	
Incremental Delay, d2		357.9			121.8	0.1		235.4			112.5	
Delay (s)		373.2			152.0	9.9		283.9			152.0	
Level of Service		F			F	A		F			F	
Approach Delay (s)		373.2			111.0			283.9			152.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	213.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	85	920	150	45	1165	80	55	255	40	155	355	60	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1241	0	0	1357	0	0	444	0	0	731	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	65.0	65.0	0.0	65.0	65.0	0.0	47.0	47.0	0.0	47.0	47.0	0.0	8.0
Total Split (%)	54.2%	54.2%	0.0%	54.2%	54.2%	0.0%	39.2%	39.2%	0.0%	39.2%	39.2%	0.0%	7%
Maximum Green (s)	61.0	61.0		61.0	61.0		43.0	43.0		43.0	43.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.20			1.00			0.72			1.47		
Control Delay		128.5			53.0			38.0			250.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		128.5			53.0			38.0			250.5		
Queue Length 50th (ft)		~613			~589			273			~767		
Queue Length 95th (ft)		#752			m#732			369			#882		
Internal Link Dist (ft)		593			788			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1033			1357			614			498		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			1.00			0.72			1.47		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	1241	1357	444	731
v/c Ratio	1.20	1.00	0.72	1.47
Control Delay	128.5	53.0	38.0	250.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	128.5	53.0	38.0	250.5
Queue Length 50th (ft)	~613	~589	273	~767
Queue Length 95th (ft)	#752	m#732	369	#882
Internal Link Dist (ft)	593	788	2598	1265
Turn Bay Length (ft)				
Base Capacity (vph)	1033	1357	614	498
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.20	1.00	0.72	1.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3527			3570			1922			1905	
Flt Permitted		0.56			0.73			0.78			0.66	
Satd. Flow (perm)		1970			2601			1514			1268	
Volume (vph)	85	920	150	45	1165	80	55	255	40	155	355	60
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	91	989	161	47	1226	84	70	323	51	199	455	77
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	1231	0	0	1353	0	0	440	0	0	727	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		58.6			58.6			49.4			49.4	
Effective Green, g (s)		58.6			58.6			49.4			49.4	
Actuated g/C Ratio		0.49			0.49			0.41			0.41	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		962			1270			623			522	
v/s Ratio Prot												
v/s Ratio Perm		c0.62			0.52			0.29			c0.57	
v/c Ratio		1.28			1.07			0.71			1.39	
Uniform Delay, d1		30.7			30.7			29.3			35.3	
Progression Factor		1.00			1.13			1.00			1.00	
Incremental Delay, d2		133.8			40.4			3.9			188.6	
Delay (s)		164.5			75.1			33.2			223.9	
Level of Service		F			E			C			F	
Approach Delay (s)		164.5			75.1			33.2			223.9	
Approach LOS		F			E			C			F	

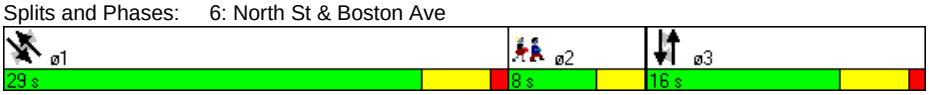
Intersection Summary			
HCM Average Control Delay	128.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	130.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	35	10	35	30	50	25	10	370	50	50	445	20	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	119	0	0	133	0	0	506	0	0	532	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.30			0.32			0.53			0.59		
Control Delay		17.4			17.4			10.3			11.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		17.4			17.4			10.3			11.3		
Queue Length 50th (ft)		24			27			69			76		
Queue Length 95th (ft)		49			64			173			213		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		396			422			950			907		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.30			0.32			0.53			0.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 46.6	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	119	133	506	532
v/c Ratio	0.30	0.32	0.53	0.59
Control Delay	17.4	17.4	10.3	11.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.4	17.4	10.3	11.3
Queue Length 50th (ft)	24	27	69	76
Queue Length 95th (ft)	49	64	173	213
Internal Link Dist (ft)	911	582	1265	1376
Turn Bay Length (ft)				
Base Capacity (vph)	396	422	950	907
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.32	0.53	0.59

Intersection Summary

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.97			0.98			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1750			1812			1787			1817	
Flt Permitted		0.84			0.89			0.99			0.92	
Satd. Flow (perm)		1501			1632			1765			1685	
Volume (vph)	35	10	35	30	50	25	10	370	50	50	445	20
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	52	15	52	38	63	32	12	435	59	52	459	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	119	0	0	133	0	0	506	0	0	532	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		11.0			11.0			24.1			24.1	
Effective Green, g (s)		12.0			12.0			25.1			25.1	
Actuated g/C Ratio		0.24			0.24			0.51			0.51	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		368			400			904			863	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.08			0.29			c0.32	
v/c Ratio		0.32			0.33			0.56			0.62	
Uniform Delay, d1		15.2			15.2			8.2			8.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.3			2.2			2.5			3.3	
Delay (s)		17.5			17.4			10.7			11.8	
Level of Service		B			B			B			B	
Approach Delay (s)		17.5			17.4			10.7			11.8	
Approach LOS		B			B			B			B	

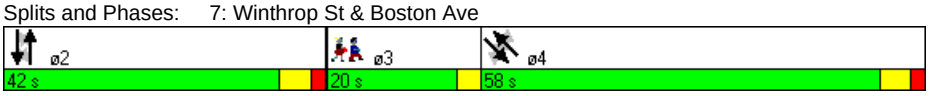
Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	80	110	135	30	405	55	55	385	165	200	345	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	354	0	0	570	0	0	664	0	0	612	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0	20.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	48.3%	48.3%	0.0%	48.3%	48.3%	0.0%	17%
Maximum Green (s)	35.9	35.9		35.9	35.9		52.0	52.0		52.0	52.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.20			0.87			0.84			1.37		
Control Delay		149.6			50.4			36.7			204.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		149.6			50.4			36.7			204.9		
Queue Length 50th (ft)		~261			323			323			~496		
Queue Length 95th (ft)		#548			#618			#728			#890		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		296			653			793			448		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			0.87			0.84			1.37		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Lane Group	NBT	SBT	SET	NWT
Lane Group Flow (vph)	354	570	664	612
v/c Ratio	1.20	0.87	0.84	1.37
Control Delay	149.6	50.4	36.7	204.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	149.6	50.4	36.7	204.9
Queue Length 50th (ft)	~261	323	323	~496
Queue Length 95th (ft)	#548	#618	#728	#890
Internal Link Dist (ft)	1216	2277	1376	2136
Turn Bay Length (ft)				
Base Capacity (vph)	296	653	793	448
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.20	0.87	0.84	1.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

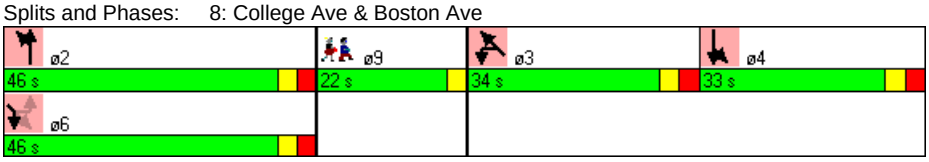
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1754			1990			1786			1818	
Flt Permitted		0.55			0.96			0.90			0.52	
Satd. Flow (perm)		980			1912			1617			970	
Volume (vph)	80	110	135	30	405	55	55	385	165	200	345	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	87	120	147	35	471	64	60	423	181	213	367	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	354	0	0	570	0	0	664	0	0	612	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.2			36.2			52.4			52.4	
Effective Green, g (s)		37.3			37.3			53.4			53.4	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		333			650			786			472	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.30			0.41			c0.63	
v/c Ratio		1.06			0.88			0.84			1.30	
Uniform Delay, d1		36.2			34.1			24.6			28.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		67.0			12.4			10.8			148.5	
Delay (s)		103.2			46.4			35.4			176.7	
Level of Service		F			D			D			F	
Approach Delay (s)		103.2			46.4			35.4			176.7	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM Average Control Delay	88.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	150	225	1	35	220	130	115	200	125	10	320	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	161	246	0	0	423	0	0	354	140	0	444	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	46.0	46.0	0.0	33.0	33.0	0.0	46.0	46.0	46.0	34.0	34.0	0.0	22.0
Total Split (%)	34.1%	34.1%	0.0%	24.4%	24.4%	0.0%	34.1%	34.1%	34.1%	25.2%	25.2%	0.0%	16%
Maximum Green (s)	40.0	40.0		27.0	27.0		40.0	40.0	40.0	28.0	28.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.27	0.40			0.97			0.96	0.24		0.97		
Control Delay	33.7	35.7			82.8			78.6	11.1		81.7		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	33.7	35.7			82.8			78.6	11.1		81.7		
Queue Length 50th (ft)	82	132			290			241	15		310		
Queue Length 95th (ft)	173	258			#615			#530	71		#633		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	586	616			435			370	579		458		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.27	0.40			0.97			0.96	0.24		0.97		

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 121.8	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: College Ave & Boston Ave



Lane Group	NBL	NBT	SBT	SET	SER	NWT
Lane Group Flow (vph)	161	246	423	354	140	444
v/c Ratio	0.27	0.40	0.97	0.96	0.24	0.97
Control Delay	33.7	35.7	82.8	78.6	11.1	81.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	35.7	82.8	78.6	11.1	81.7
Queue Length 50th (ft)	82	132	290	241	15	310
Queue Length 95th (ft)	173	258	#615	#530	71	#633
Internal Link Dist (ft)		950	1718	2136		1658
Turn Bay Length (ft)						
Base Capacity (vph)	586	616	435	370	579	458
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.40	0.97	0.96	0.24	0.97

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.95			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1888			1829	1531		1953	
Flt Permitted	0.95	1.00			1.00			0.62	1.00		1.00	
Satd. Flow (perm)	1770	1862			1888			1154	1531		1953	
Volume (vph)	150	225	1	35	220	130	115	200	125	10	320	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	161	245	1	38	242	143	129	225	140	11	360	73
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	73	0	5	0
Lane Group Flow (vph)	161	246	0	0	410	0	0	354	67	0	439	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	40.3	40.3			27.2			40.3	40.3		28.2	
Effective Green, g (s)	40.3	40.3			27.2			40.3	40.3		28.2	
Actuated g/C Ratio	0.33	0.33			0.22			0.33	0.33		0.23	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	577	607			415			376	499		446	
v/s Ratio Prot	0.09	0.13			c0.22				0.04		c0.22	
v/s Ratio Perm								c0.31				
v/c Ratio	0.28	0.41			0.99			0.94	0.13		0.98	
Uniform Delay, d1	30.9	32.3			48.0			40.5	29.4		47.5	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.4			40.7			31.6	0.1		37.9	
Delay (s)	31.1	32.8			88.7			72.1	29.5		85.4	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		32.1			88.7			60.0			85.4	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	66.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

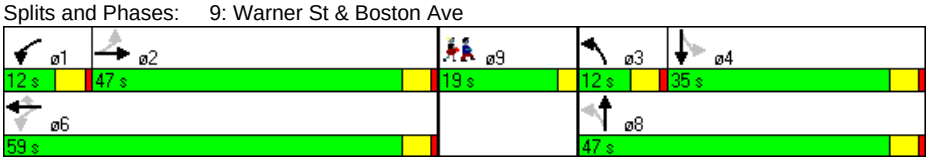
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1451			1738		
Travel Time (s)		11.7			40.8			33.0			39.5		
Volume (vph)	15	465	10	145	425	85	25	345	40	105	175	5	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	556	0	0	679	101	0	465	0	0	331	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	47.0	47.0	0.0	12.0	59.0	59.0	12.0	47.0	0.0	35.0	35.0	0.0	19.0
Total Split (%)	37.6%	37.6%	0.0%	9.6%	47.2%	47.2%	9.6%	37.6%	0.0%	28.0%	28.0%	0.0%	15%
Maximum Green (s)	42.0	42.0		7.0	54.0	54.0	7.0	42.0		30.0	30.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.63			1.52	0.13		0.72			0.82		
Control Delay		21.7			268.3	5.1		33.9			48.7		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		21.7			268.3	5.1		33.9			48.7		
Queue Length 50th (ft)		196			~555	4		240			180		
Queue Length 95th (ft)		518			#988	36		430			#345		
Internal Link Dist (ft)		435			1715			1371			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		882			447	783		759			406		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.63			1.52	0.13		0.61			0.82		

Intersection Summary

Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave

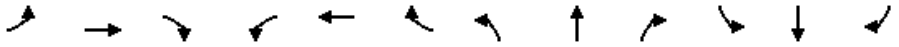


Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	556	679	101	465	331
v/c Ratio	0.63	1.52	0.13	0.72	0.82
Control Delay	21.7	268.3	5.1	33.9	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	268.3	5.1	33.9	48.7
Queue Length 50th (ft)	196	~555	4	240	180
Queue Length 95th (ft)	518	#988	36	430	#345
Internal Link Dist (ft)	435	1715		1371	1658
Turn Bay Length (ft)					
Base Capacity (vph)	882	447	783	759	406
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	1.52	0.13	0.61	0.82

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↰	↱		↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1994			1985	
Flt Permitted		0.97			0.68	1.00		0.97			0.48	
Satd. Flow (perm)		1931			1266	1340		1936			979	
Volume (vph)	15	465	10	145	425	85	25	345	40	105	175	5
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	17	528	11	173	506	101	28	392	45	122	203	6
RTOR Reduction (vph)	0	0	0	0	0	38	0	3	0	0	0	0
Lane Group Flow (vph)	0	556	0	0	679	63	0	462	0	0	331	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		54.7			54.7	54.7		32.3			32.3	
Effective Green, g (s)		55.7			55.7	55.7		33.3			33.3	
Actuated g/C Ratio		0.54			0.54	0.54		0.32			0.32	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1048			687	727		628			318	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.54	0.05		0.24			c0.34	
v/c Ratio		0.53			0.99	0.09		0.74			1.04	
Uniform Delay, d1		15.1			23.1	11.2		30.7			34.6	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.3			31.0	0.0		3.9			61.5	
Delay (s)		15.3			54.1	11.3		34.6			96.2	
Level of Service		B			D	B		C			F	
Approach Delay (s)		15.3			48.6			34.6			96.2	
Approach LOS		B			D			C			F	

Intersection Summary			
HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	102.6	Sum of lost time (s)	13.6
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		

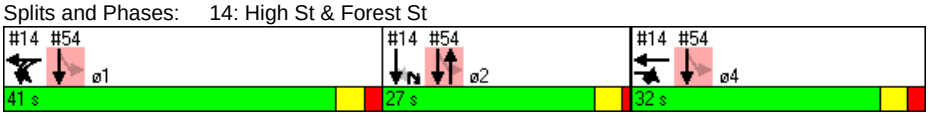
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	355	140	5	860	690	220	205	80	195	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	386	152	0	940	989	0	223	0	337	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Detector Phases	4	4	1	1	1 4		2	2	2	
Minimum Initial (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0			26.0	26.0	26.0	
Total Split (s)	32.0	32.0	41.0	41.0	73.0	0.0	27.0	27.0	27.0	0.0
Total Split (%)	32.0%	32.0%	41.0%	41.0%	73.0%	0.0%	27.0%	27.0%	27.0%	0.0%
Maximum Green (s)	27.0	27.0	36.0	36.0			23.0	23.0	23.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Recall Mode	None	None	None	None			None	None	None	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0			12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.90	0.34		0.76	0.80		0.25		0.76	
Control Delay	60.9	7.5		32.7	16.9		1.2		46.9	
Queue Delay	0.0	0.1		29.9	0.0		0.0		0.0	
Total Delay	60.9	7.5		62.6	16.9		1.2		46.9	
Queue Length 50th (ft)	238	1		268	380		6		198	
Queue Length 95th (ft)	#411	50		344	583		13		#319	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	429	448		1243	1239		898		451	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	15		347	0		0		0	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.90	0.35		1.05	0.80		0.25		0.75	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 99.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Lane Group	EBR	EBR2	WBL	WBT	NBR2	SBT
Lane Group Flow (vph)	386	152	940	989	223	337
v/c Ratio	0.90	0.34	0.76	0.80	0.25	0.76
Control Delay	60.9	7.5	32.7	16.9	1.2	46.9
Queue Delay	0.0	0.1	29.9	0.0	0.0	0.0
Total Delay	60.9	7.5	62.6	16.9	1.2	46.9
Queue Length 50th (ft)	238	1	268	380	6	198
Queue Length 95th (ft)	#411	50	344	583	13	#319
Internal Link Dist (ft)				649		1362
Turn Bay Length (ft)						
Base Capacity (vph)	429	448	1243	1239	898	451
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	15	347	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.35	1.05	0.80	0.25	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1932	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1932	
Volume (vph)	355	140	5	860	690	220	205	80	195	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	386	152	5	935	750	239	223	87	212	38
RTOR Reduction (vph)	0	109	0	1	11	0	173	0	5	0
Lane Group Flow (vph)	386	43	0	939	978	0	50	0	332	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	27.0	27.0		36.0	68.0		22.5		22.5	
Effective Green, g (s)	27.0	27.0		36.0	68.0		22.5		22.5	
Actuated g/C Ratio	0.27	0.27		0.36	0.68		0.23		0.23	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0		3.0	
Lane Grp Cap (vph)	430	339		1242	1227		364		437	
v/s Ratio Prot	c0.24	0.03		0.27	c0.54		0.03			
v/s Ratio Perm									0.17	
v/c Ratio	0.90	0.13		0.76	0.80		0.14		0.76	
Uniform Delay, d1	34.9	27.4		27.9	10.9		30.8		36.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	20.8	0.2		2.7	3.7		0.1		7.6	
Delay (s)	55.8	27.5		30.6	14.6		30.9		43.6	
Level of Service	E	C		C	B		C		D	
Approach Delay (s)					22.4				43.6	
Approach LOS					C				D	

Intersection Summary			
HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

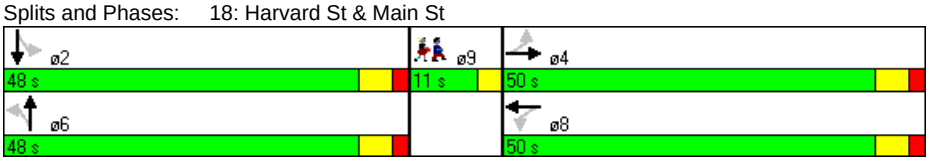
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	95	475	65	90	475	35	45	385	70	70	455	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	675	0	0	652	0	0	526	0	0	733	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.23			1.19			0.90			1.28		
Control Delay		147.5			132.4			47.3			166.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		147.5			132.4			47.3			166.3		
Queue Length 50th (ft)		~517			~488			291			~575		
Queue Length 95th (ft)		#843			#807			#583			#885		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		548			546			587			573		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.23			1.19			0.90			1.28		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St

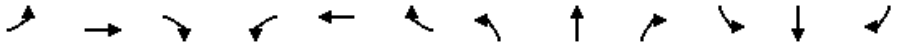


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	675	652	526	733
v/c Ratio	1.23	1.19	0.90	1.28
Control Delay	147.5	132.4	47.3	166.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	147.5	132.4	47.3	166.3
Queue Length 50th (ft)	~517	~488	291	~575
Queue Length 95th (ft)	#843	#807	#583	#885
Internal Link Dist (ft)	1715	1303	1231	2650
Turn Bay Length (ft)				
Base Capacity (vph)	548	546	587	573
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.23	1.19	0.90	1.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1657			1667			1637			1626	
Flt Permitted		0.75			0.75			0.85			0.84	
Satd. Flow (perm)		1256			1254			1405			1374	
Volume (vph)	95	475	65	90	475	35	45	385	70	70	455	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	101	505	69	98	516	38	47	405	74	80	517	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	675	0	0	652	0	0	526	0	0	733	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		552			551			590			577	
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.52			0.37			c0.53	
v/c Ratio		1.22			1.18			0.89			1.27	
Uniform Delay, d1		28.8			28.8			27.6			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		115.8			99.9			15.3			134.9	
Delay (s)		144.6			128.7			42.9			164.7	
Level of Service		F			F			D			F	
Approach Delay (s)		144.6			128.7			42.9			164.7	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	125.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	30	1075	1145	35	5	25	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	32	1156	1269	0	42	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	24.0	98.0	74.0	0.0	14.0	0.0	8.0
Total Split (%)	20.0%	81.7%	61.7%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	19.0		69.0		9.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.07	0.73	1.07		0.24		
Control Delay	5.6	13.8	48.9		23.8		
Queue Delay	2.0	2.7	0.0		0.0		
Total Delay	7.5	16.4	48.9		23.9		
Queue Length 50th (ft)	0	375	~1125		5		
Queue Length 95th (ft)	m5	m407	m777		27		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	460	1582	1184		178		
Starvation Cap Reductn	351	300	0		0		
Spillback Cap Reductn	0	0	0		3		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.29	0.90	1.07		0.24		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 55 (46%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Lane Group	NBL	NBT	SBT	SEL
Lane Group Flow (vph)	32	1156	1269	42
v/c Ratio	0.07	0.73	1.07	0.24
Control Delay	5.6	13.8	48.9	23.8
Queue Delay	2.0	2.7	0.0	0.0
Total Delay	7.5	16.4	48.9	23.9
Queue Length 50th (ft)	0	375	~1125	5
Queue Length 95th (ft)	m5	m407	m777	27
Internal Link Dist (ft)		49	1078	208
Turn Bay Length (ft)				
Base Capacity (vph)	460	1582	1184	178
Starvation Cap Reductn	351	300	0	0
Spillback Cap Reductn	0	0	0	3
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.90	1.07	0.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2018		1749	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	112	1900	2018		1749	
Volume (vph)	30	1075	1145	35	5	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	32	1156	1231	38	7	35
RTOR Reduction (vph)	0	0	1	0	32	0
Lane Group Flow (vph)	32	1156	1268	0	10	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	92.3	92.3	66.9		8.7	
Effective Green, g (s)	94.3	94.3	67.9		9.7	
Actuated g/C Ratio	0.79	0.79	0.57		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	460	1493	1142		141	
v/s Ratio Prot	0.02	c0.61	c0.63		c0.01	
v/s Ratio Perm	0.04					
v/c Ratio	0.07	0.77	1.11		0.07	
Uniform Delay, d1	37.2	7.0	26.0		51.0	
Progression Factor	1.65	2.32	0.45		1.00	
Incremental Delay, d2	0.1	2.2	51.1		0.3	
Delay (s)	61.3	18.6	62.9		51.3	
Level of Service	E	B	E		D	
Approach Delay (s)		19.7	62.9		51.3	
Approach LOS		B	E		D	

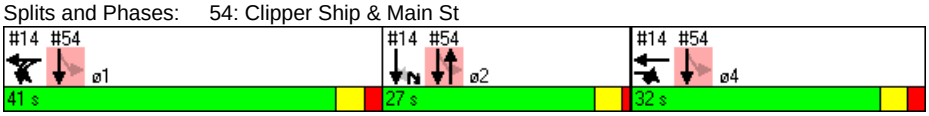
Intersection Summary				
HCM Average Control Delay	42.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	75.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Leading Detector (ft)			50	50	50	50		
Trailing Detector (ft)			0	0	0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	205	950	95	1100		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	236	1092	0	1373		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Detector Phases			2		1 2 4	1 2 4		
Minimum Initial (s)			10.0				10.0	10.0
Minimum Split (s)			26.0				23.0	23.0
Total Split (s)	0.0	0.0	27.0	0.0	100.0	100.0	41.0	32.0
Total Split (%)	0.0%	0.0%	27.0%	0.0%	100.0%	100.0%	41%	32%
Maximum Green (s)			23.0				36.0	27.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Vehicle Extension (s)			3.0				3.0	3.0
Recall Mode			None				None	None
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			12.0				8.0	8.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.56	0.69		0.61		
Control Delay			39.6	2.5		7.4		
Queue Delay			0.3	0.0		0.0		
Total Delay			39.9	2.5		7.4		
Queue Length 50th (ft)			133	0		176		
Queue Length 95th (ft)			204	0		150		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			430	1583		2236		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			23	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.58	0.69		0.61		

Intersection Summary

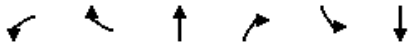
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 99.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 54: Clipper Ship & Main St



Lane Group	NBT	NBR	SBT
Lane Group Flow (vph)	236	1092	1373
v/c Ratio	0.56	0.69	0.61
Control Delay	39.6	2.5	7.4
Queue Delay	0.3	0.0	0.0
Total Delay	39.9	2.5	7.4
Queue Length 50th (ft)	133	0	176
Queue Length 95th (ft)	204	0	150
Internal Link Dist (ft)	240		1
Turn Bay Length (ft)			
Base Capacity (vph)	430	1583	2236
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	23	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.58	0.69	0.61

Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3185
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2247
Volume (vph)	0	0	205	950	95	1100
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	236	1092	109	1264
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	236	1092	0	1373
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			22.5	99.5		99.5
Effective Green, g (s)			22.5	99.5		99.5
Actuated g/C Ratio			0.23	1.00		1.00
Clearance Time (s)			4.0			
Vehicle Extension (s)			3.0			
Lane Grp Cap (vph)			421	1583		2247
v/s Ratio Prot			0.13			
v/s Ratio Perm				c0.69		0.61
v/c Ratio			0.56	0.69		0.61
Uniform Delay, d1			34.1	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.7	2.5		0.4
Delay (s)			35.8	2.5		0.4
Level of Service			D	A		A
Approach Delay (s)	0.0		8.4			0.4
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	0.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

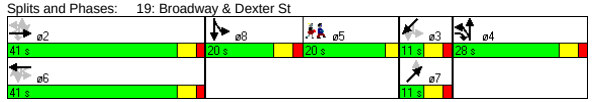
Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1197						1176			419		
Travel Time (s)			27.2						26.7			9.5		
Volume (vph)	5	25	415	260	10	1	20	20	680	140	275	150	5	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	483	294	0	0	0	0	927	0	0	462	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	41.0	41.0	41.0	28.0	0.0	41.0	41.0	41.0	41.0	0.0	28.0	28.0	0.0	20.0
Total Split (%)	34.2%	34.2%	34.2%	23.3%	0.0%	34.2%	34.2%	34.2%	34.2%	0.0%	23.3%	23.3%	0.0%	16.7%
Maximum Green (s)	35.0	35.0	35.0	22.0		35.0	35.0	35.0	35.0		22.0	22.0		14.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.59	0.30					0.95			1.10		
Control Delay			32.5	11.4					52.9			112.5		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			32.5	11.4					52.9			112.5		
Queue Length 50th (ft)			128	75					293			~326		
Queue Length 95th (ft)			236	188					#559			#659		
Internal Link Dist (ft)			1117						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			819	969					977			420		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.59	0.30					0.95			1.10		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 Build Alt 5 Condition - PM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	175	5	60	0	50	5	20	5	35	10	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	285	0	0	60	0	0	0	89	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	20.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	16.7%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	14.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	0.99			0.62				0.98			
Control Delay	95.5			77.9				137.2			
Queue Delay	0.0			0.0				0.0			
Total Delay	95.5			77.9				137.2			
Queue Length 50th (ft)	177			38				54			
Queue Length 95th (ft)	#430			#108				#173			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	287			96				91			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	0.99			0.63				0.98			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 5\optimize\coordination\2030 Build Alt 5a - PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3528	1564					3263			1890		
Flt Permitted			0.73	1.00					0.90			0.97		
Satd. Flow (perm)			2591	1564					2940			1890		
Volume (vph)	5	25	415	260	10	1	20	20	680	140	275	150	5	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	27	451	283	11	1	22	22	731	151	296	161	5	27
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	483	293	0	0	0	0	927	0	0	462	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			35.2	57.3					35.2			22.1		
Effective Green, g (s)			36.2	59.3					36.2			23.1		
Actuated g/C Ratio			0.34	0.56					0.34			0.22		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			882	946					1001			411		
v/s Ratio Prot				0.07								c0.24		
v/s Ratio Perm			0.19	0.12					c0.32					
v/c Ratio			0.55	0.31					0.93			1.12		
Uniform Delay, d1			28.4	12.6					33.8			41.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			0.9	0.5					14.1			82.6		
Delay (s)			29.3	13.1					47.8			124.2		
Level of Service			C	B					D			F		
Approach Delay (s)			23.2						47.8			124.2		
Approach LOS			C						D			F		

Intersection Summary			
HCM Average Control Delay	63.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Green Line Extension
19: Broadway & Dexter St

2030 Build Alt 5 Condition - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	1.00			1.00				0.98		
Satd. Flow (prot)	1921			1644				1693		
Flt Permitted	1.00			1.00				0.86		
Satd. Flow (perm)	1921			1644				1487		
Volume (vph)	175	5	60	0	50	5	20	5	35	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	188	5	65	0	60	6	24	6	41	12
RTOR Reduction (vph)	9	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	276	0	0	60	0	0	0	84	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	14.1			5.0				5.0		
Effective Green, g (s)	15.1			6.0				6.0		
Actuated g/C Ratio	0.14			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	273			93				84		
v/s Ratio Prot	c0.14			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.01			0.65				1.00		
Uniform Delay, d1	45.6			49.1				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	57.7			10.9				99.1		
Delay (s)	103.3			60.0				149.3		
Level of Service	F			E				F		
Approach Delay (s)	103.3			60.0				149.3		
Approach LOS	F			E				F		

Intersection Summary

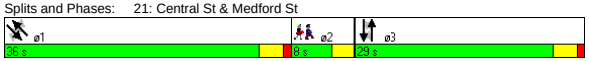
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 5\optimize\coordination\2030 Build Alt 5a - PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	290	100	5	95	5	15	380	60	65	470	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	528	0	0	129	0	0	529	0	0	622	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	8.0
Total Split (%)	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	49.3%	49.3%	0.0%	49.3%	49.3%	0.0%	11%
Maximum Green (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.86			0.19			0.60			0.77		
Control Delay		35.4			15.7			16.6			23.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.4			15.7			16.6			23.2		
Queue Length 50th (ft)		175			33			141			186		
Queue Length 95th (ft)		#403			69			270			#441		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		637			695			880			810		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.83			0.19			0.60			0.77		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 65.3	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1884			1827			1841	
Flt Permitted		0.90			0.98			0.98			0.90	
Satd. Flow (perm)		1654			1847			1788			1671	
Volume (vph)	100	290	100	5	95	5	15	380	60	65	470	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	312	108	6	117	6	17	442	70	72	522	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	516	0	0	129	0	0	529	0	0	620	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.7			23.7			32.2			32.2	
Effective Green, g (s)		23.7			23.7			32.2			32.2	
Actuated g/C Ratio		0.35			0.35			0.47			0.47	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		578			646			849			794	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.07			0.30			c0.37	
v/c Ratio		0.89			0.20			0.62			0.78	
Uniform Delay, d1		20.8			15.4			13.3			14.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		16.3			0.2			3.4			7.5	
Delay (s)		37.1			15.6			16.7			22.4	
Level of Service		D			B			B			C	
Approach Delay (s)		37.1			15.6			16.7			22.4	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

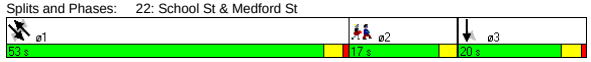
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			457		
Travel Time (s)		21.7			21.8			35.4			10.4		
Volume (vph)	0	0	0	70	255	25	40	410	100	180	555	155	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	398	0	0	611	0	0	918	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%	19%
Maximum Green (s)				16.0	16.0		49.0	49.0		49.0	49.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.95			0.54			1.02		
Control Delay					66.0			10.6			52.2		
Queue Delay					0.0			0.0			0.0		
Total Delay					66.0			10.6			52.2		
Queue Length 50th (ft)					175			113			333		
Queue Length 95th (ft)					#429			336			#876		
Internal Link Dist (ft)		873			879			1476			377		
Turn Bay Length (ft)													
Base Capacity (vph)					419			1127			899		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.95			0.54			1.02		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.4
Natural Cycle: 140
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1968			1908			1916	
Flt Permitted					0.99			0.90			0.76	
Satd. Flow (perm)					1968			1728			1479	
Volume (vph)	0	0	0	70	255	25	40	410	100	180	555	155
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	80	290	28	44	456	111	186	572	160
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	395	0	0	604	0	0	911	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			49.3			49.3	
Effective Green, g (s)					16.1			49.3			49.3	
Actuated g/C Ratio					0.20			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					402			1081			925	
v/s Ratio Prot												
v/s Ratio Perm					0.20			0.35			c0.62	
v/c Ratio					0.98			0.56			0.98	
Uniform Delay, d1					31.2			8.5			14.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					40.0			2.1			26.1	
Delay (s)					71.2			10.6			40.5	
Level of Service					E			B			D	
Approach Delay (s)		0.0			71.2			10.6			40.5	
Approach LOS		A			E			B			D	

Intersection Summary

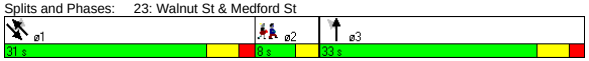
HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	13.4
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1078			533		
Travel Time (s)		17.7			19.2			24.5			12.1		
Volume (vph)	120	275	10	0	0	0	5	290	0	0	380	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	540	0	0	0	0	0	373	0	0	449	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.71						0.49			0.59		
Control Delay		22.5						17.8			19.4		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.5						17.8			19.4		
Queue Length 50th (ft)		159						97			122		
Queue Length 95th (ft)		240						176			250		
Internal Link Dist (ft)		699			764			998			453		
Turn Bay Length (ft)													
Base Capacity (vph)		783						756			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.69						0.49			0.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1830						1880			1890	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1830						1867			1890	
Volume (vph)	120	275	10	0	0	0	5	290	0	0	380	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	160	367	13	0	0	0	6	367	0	0	432	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	539	0	0	0	0	0	373	0	0	447	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			738	
v/s Ratio Prot											c0.24	
v/s Ratio Perm		0.29						0.20				
v/c Ratio		0.73						0.51			0.61	
Uniform Delay, d1		17.0						15.5			16.2	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		4.1						0.8			1.6	
Delay (s)		21.0						16.3			17.9	
Level of Service		C						B			B	
Approach Delay (s)		21.0			0.0			16.3			17.9	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	18.7	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.62				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	51.0%	ICU Level of Service	A		
Analysis Period (min)	15				

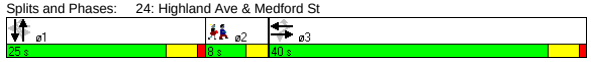
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	460	20	50	555	390	5	0	15	260	25	20	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	558	0	0	665	429	0	27	0	0	351	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	40.0	0.0	40.0	40.0	65.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	0.0%	54.8%	0.0%	54.8%	54.8%	89.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	11%
Maximum Green (s)		35.0		35.0	35.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.56			0.73	0.26		0.05			0.81		
Control Delay		13.3			18.4	0.5		10.2			38.6		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		13.3			18.4	0.5		10.2			38.6		
Queue Length 50th (ft)		127			175	0		2			123		
Queue Length 95th (ft)		251			#431	8		15			#284		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		996			916	1639		505			434		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.56			0.73	0.26		0.05			0.81		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 66.6
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.90			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1688			1771	
Flt Permitted		1.00			0.92	1.00		0.91			0.74	
Satd. Flow (perm)		1834			1811	1680		1556			1364	
Volume (vph)	0	460	20	50	555	390	5	0	15	260	25	20
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	535	23	55	610	429	7	0	20	299	29	23
RTOR Reduction (vph)	0	2	0	0	0	49	0	14	0	0	3	0
Lane Group Flow (vph)	0	556	0	0	665	380	0	13	0	0	348	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		35.1			35.1	60.1		20.0			20.0	
Effective Green, g (s)		36.1			36.1	61.1		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.89		0.30			0.30	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		960			947	1488		474			415	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.37	0.23		0.01			c0.25	
v/c Ratio		0.58			0.70	0.26		0.03			0.84	
Uniform Delay, d1		11.3			12.4	0.6		16.8			22.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.5			4.3	0.4		0.1			17.9	
Delay (s)		13.8			16.7	1.0		16.9			40.3	
Level of Service		B			B	A		B			D	
Approach Delay (s)		13.8			10.6			16.9			40.3	
Approach LOS		B			B			B			D	

Intersection Summary

HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

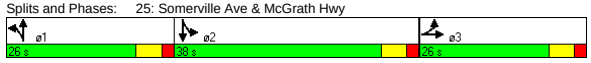
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	190	215	95	0	0	0	100	500	60	205	705	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	568	0	0	0	0	0	638	64	220	1038	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.69						0.77	0.04	0.34	0.85	
Control Delay		35.0						39.6	0.0	22.5	32.6	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.0						39.6	0.0	22.5	32.6	
Queue Length 50th (ft)		147						179	0	89	265	
Queue Length 95th (ft)		200						242	0	148	#359	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						827	1706	649	1222	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.69						0.77	0.04	0.34	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3408						3545	1706	1770	3217	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3408						3545	1706	1770	3217	
Volume (vph)	190	215	95	0	0	0	100	500	60	205	705	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	216	244	108	0	0	0	106	532	64	220	758	280
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	545	0	0	0	0	0	638	64	220	996	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1180	
v/s Ratio Prot		c0.16						c0.18		0.12	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.77	0.04	0.34	0.84	
Uniform Delay, d1		31.5						32.3	0.0	20.6	26.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.8						6.9	0.0	1.4	7.5	
Delay (s)		36.3						39.1	0.0	22.0	33.6	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.3			0.0			35.6			31.6	
Approach LOS		D			A			D			C	

Intersection Summary

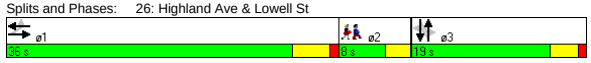
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	510	50	50	100	40	55	0	90	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	578	0	0	227	0	0	172	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	36.0	36.0	0.0	0.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0	8.0
Total Split (%)	57.1%	57.1%	0.0%	0.0%	57.1%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	13%
Maximum Green (s)	31.0	31.0			31.0		15.0	15.0		15.0	15.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.50			0.53			0.61			0.43		
Control Delay		9.8			9.9			26.8			12.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.8			9.9			26.8			12.0		
Queue Length 50th (ft)		77			90			62			16		
Queue Length 95th (ft)		212			240			129			58		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1002			1097			433			444		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.50			0.53			0.52			0.39		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 54.1	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



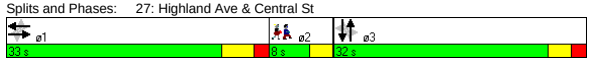
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1840			1804			1700	
Flt Permitted		0.92			1.00			0.89			0.78	
Satd. Flow (perm)		1709			1840			1624			1353	
Volume (vph)	45	420	0	0	510	50	50	100	40	55	0	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	526	52	60	119	48	65	0	107
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	506	0	0	578	0	0	227	0	0	88	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		31.3			31.3			12.4			12.4	
Effective Green, g (s)		32.3			32.3			12.4			12.4	
Actuated g/C Ratio		0.57			0.57			0.22			0.22	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		975			1050			356			296	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.07	
v/c Ratio		0.52			0.55			0.64			0.30	
Uniform Delay, d1		7.4			7.6			20.1			18.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			2.1			4.2			0.8	
Delay (s)		9.4			9.7			24.2			19.2	
Level of Service		A			A			C			B	
Approach Delay (s)		9.4			9.7			24.2			19.2	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	12.9	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.53				
Actuated Cycle Length (s)	56.6	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	77.8%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	40	360	25	30	435	40	55	355	100	15	90	45	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	461	0	0	560	0	0	560	0	0	172	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0	8.0
Total Split (%)	45.2%	45.2%	0.0%	45.2%	45.2%	0.0%	43.8%	43.8%	0.0%	43.8%	43.8%	0.0%	11%
Maximum Green (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.68			0.77			0.81			0.25		
Control Delay		21.8			25.4			28.6			12.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.8			25.4			28.6			12.3		
Queue Length 50th (ft)		136			174			176			33		
Queue Length 95th (ft)		#281			#392			#403			81		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		748			801			765			763		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.62			0.70			0.73			0.23		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 59.3	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1822			1838			1822			1804	
Flt Permitted		0.92			0.96			0.95			0.94	
Satd. Flow (perm)		1675			1768			1736			1704	
Volume (vph)	40	360	25	30	435	40	55	355	100	15	90	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	43	391	27	33	483	44	60	390	110	17	103	52
RTOR Reduction (vph)	0	3	0	0	4	0	0	12	0	0	21	0
Lane Group Flow (vph)	0	458	0	0	556	0	0	548	0	0	151	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		23.1			23.1			23.2			23.2	
Effective Green, g (s)		24.1			24.1			23.2			23.2	
Actuated g/C Ratio		0.39			0.39			0.38			0.38	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		661			697			659			647	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.31			c0.32			0.09	
v/c Ratio		0.69			0.80			0.83			0.23	
Uniform Delay, d1		15.4			16.3			17.2			12.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			6.7			9.2			0.3	
Delay (s)		18.8			23.0			26.4			13.2	
Level of Service		B			C			C			B	
Approach Delay (s)		18.8			23.0			26.4			13.2	
Approach LOS		B			C			C			B	

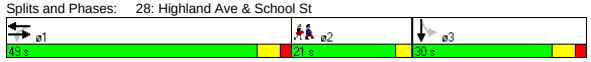
Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	465	15	55	500	0	0	0	0	110	240	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	539	0	0	591	0	0	0	0	0	474	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	49.0	0.0	49.0	49.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	21.0
Total Split (%)	0.0%	49.0%	0.0%	49.0%	49.0%	0.0%	0.0%	0.0%	0.0%	30.0%	30.0%	0.0%	21%
Maximum Green (s)		43.0		43.0	43.0					24.0	24.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.56			0.88						0.89		
Control Delay		17.2			35.7						50.3		
Queue Delay		0.0			0.0						0.0		
Total Delay		17.2			35.7						50.3		
Queue Length 50th (ft)		154			225						217		
Queue Length 95th (ft)		381			#629						#535		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		962			672						531		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.56			0.88						0.89		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.2
Natural Cycle: 110
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			1.00						0.99	
Satd. Flow (prot)		1800			1816						1752	
Flt Permitted		1.00			0.85						0.99	
Satd. Flow (perm)		1800			1558						1752	
Volume (vph)	0	465	15	55	500	0	0	0	0	110	240	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	522	17	59	532	0	0	0	0	111	242	121
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	538	0	0	591	0	0	0	0	0	474	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		43.4			43.4						24.2	
Effective Green, g (s)		44.4			44.4						25.2	
Actuated g/C Ratio		0.52			0.52						0.29	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		934			808						516	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.27	
v/c Ratio		0.58			0.73						0.92	
Uniform Delay, d1		14.1			16.0						29.2	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		0.9			3.4						21.6	
Delay (s)		15.0			19.4						50.8	
Level of Service		B			B						D	
Approach Delay (s)		15.0			19.4			0.0			50.8	
Approach LOS		B			B			A			D	

Intersection Summary

HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

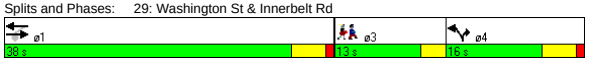
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	670	35	85	735	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	870	45	91	790	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	38.0	38.0	38.0	38.0	16.0	16.0	13.0
Total Split (%)	56.7%	56.7%	56.7%	56.7%	23.9%	23.9%	19%
Maximum Green (s)	33.0	33.0	33.0	33.0	11.0	11.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.78	0.05	0.70	0.72	0.75	0.59	
Control Delay	16.7	2.8	44.9	14.6	38.2	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.7	2.8	44.9	14.6	38.2	21.0	
Queue Length 50th (ft)	159	0	15	136	83	41	
Queue Length 95th (ft)	359	10	#114	#484	#151	78	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1127	825	131	1105	370	400	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.77	0.05	0.69	0.71	0.75	0.59	

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 56.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.15	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	269	1827	1719	1538
Volume (vph)	670	35	85	735	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	870	45	91	790	279	235
RTOR Reduction (vph)	0	19	0	0	0	70
Lane Group Flow (vph)	870	26	91	790	279	165
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	32.8	32.8	32.8	32.8	11.1	11.1
Effective Green, g (s)	33.8	33.8	33.8	33.8	12.1	12.1
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.21	0.21
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1075	769	155	1054	355	318
v/s Ratio Prot	c0.47			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.34			
v/c Ratio	0.81	0.03	0.59	0.75	0.79	0.52
Uniform Delay, d1	9.8	5.4	7.9	9.2	22.0	20.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.0	3.6	2.6	11.5	1.9
Delay (s)	14.2	5.4	11.6	11.8	33.5	22.6
Level of Service	B	A	B	B	C	C
Approach Delay (s)	13.7			11.8	28.5	
Approach LOS	B			B	C	

Intersection Summary

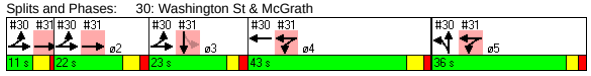
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	12.7
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	825	455	0	0	1070	170	60	560	685	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	868	469	0	0	1425	0	63	589	721	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	56.0	56.0	0.0	0.0	43.0	0.0	36.0	36.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	41.5%	41.5%	0.0%	0.0%	31.9%	0.0%	26.7%	26.7%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					37.0		31.0	31.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.62	0.25			1.01		0.16	1.40	0.46					
Control Delay	4.1	0.6			73.5		42.9	233.7	1.0					
Queue Delay	0.0	0.0			5.3		0.0	79.0	0.0					
Total Delay	4.1	0.6			78.8		43.0	312.7	1.0					
Queue Length 50th (ft)	65	1			~464		45	~690	0					
Queue Length 95th (ft)	m74	m1			#540		85	#921	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1397	1884			1416		399	420	1553					
Starvation Cap Reductn	0	0			0		0	47	0					
Spillback Cap Reductn	0	0			25		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.62	0.25			1.02		0.16	1.58	0.46					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath



Green Line Extension
30: Washington St & McGrath

2030 Build Alt 5 Condition - PM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	23.0
Total Split (%)	17%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 5\optimize\coordination\2030 Build Alt 5a - PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5033		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5033		1736	1827	1553			
Volume (vph)	825	455	0	0	1070	170	60	560	685	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	868	469	0	0	1230	195	63	589	721	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	868	469	0	0	1425	0	63	589	721	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	51.0	51.0			37.0		31.0	31.0	135.0			
Effective Green, g (s)	51.0	51.0			38.0		31.0	31.0	135.0			
Actuated g/C Ratio	0.38	0.38			0.28		0.23	0.23	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1397	1884			1417		399	420	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.04	c0.32				
v/s Ratio Perm									0.46			
v/c Ratio	0.62	0.25			1.01		0.16	1.40	0.46			
Uniform Delay, d1	34.1	28.8			48.5		41.6	52.0	0.0			
Progression Factor	0.10	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.8	0.1			25.3		0.8	194.9	1.0			
Delay (s)	4.1	0.6			73.8		42.4	246.9	1.0			
Level of Service	A	A			E		D	F	A			
Approach Delay (s)		2.9			73.8			108.4			0.0	
Approach LOS		A			E			F			A	

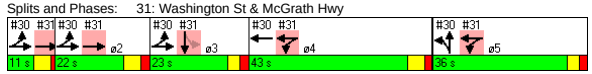
Intersection Summary			
HCM Average Control Delay	62.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1245	40	420	710	0	0	0	0	35	145	370		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1352	0	467	789	0	0	0	0	0	601	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	79.0	79.0	0.0	0.0	0.0	0.0	23.0	23.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	58.5%	58.5%	0.0%	0.0%	0.0%	0.0%	17.0%	17.0%	0.0%	8%	16%
Maximum Green (s)										18.0	18.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.91		0.49	0.41						1.41dr			
Control Delay		61.6		1.6	0.2						156.6			
Queue Delay		6.2		0.0	0.0						57.7			
Total Delay		67.8		1.6	0.2						214.3			
Queue Length 50th (ft)		287		0	0						~306			
Queue Length 95th (ft)		#328		m0	m0						#429			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1492		952	1940						494			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		113		0	0						48			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.98		0.49	0.41						1.35			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	43.0	36.0
Total Split (%)	32%	27%
Maximum Green (s)	37.0	31.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7179		1736	3539						3173	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7179		1736	3539						3173	
Volume (vph)	0	1245	40	420	710	0	0	0	0	35	145	370
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1311	41	467	789	0	0	0	0	41	158	402
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1348	0	467	789	0	0	0	0	0	531	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		74.0	74.0						18.0	
Effective Green, g (s)		28.0		74.0	74.0						18.0	
Actuated g/C Ratio		0.21		0.55	0.55						0.13	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1489		952	1940						423	
v/s Ratio Prot		c0.19		c0.27	0.22							
v/s Ratio Perm											0.17	
v/c Ratio		0.91		0.49	0.41						1.41dr	
Uniform Delay, d1		52.2		18.9	17.7						58.5	
Progression Factor		1.00		0.05	0.00						1.00	
Incremental Delay, d2		9.5		0.5	0.2						132.8	
Delay (s)		61.7		1.6	0.2						191.3	
Level of Service		E		A	A						F	
Approach Delay (s)		61.7			0.7			0.0			191.3	
Approach LOS		E			A			A			F	

Intersection Summary			
HCM Average Control Delay	62.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

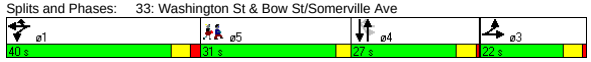
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	330	30	420	380	905	0	0	0	445	250	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	447	404	963	0	0	0	250	576	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	40.0	40.0	40.0	0.0	27.0	0.0	27.0	27.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	33.3%	33.3%	33.3%	0.0%	22.5%	0.0%	22.5%	22.5%	0.0%	26%
Maximum Green (s)	17.0	17.0		34.0	34.0	34.0		22.0		22.0	22.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.04		0.96	0.83	0.77				0.63	0.70		
Control Delay		102.8		42.0	34.8	7.9				45.4	42.0		
Queue Delay		0.0		0.0	0.0	2.1				0.0	0.0		
Total Delay		102.8		42.0	34.8	10.0				45.4	42.0		
Queue Length 50th (ft)		190		327	274	37				148	175		
Queue Length 95th (ft)		#313		m316	m265	m199				#421	#423		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		444		465	489	1248				399	819		
Starvation Cap Reductn		0		0	0	158				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.04		0.96	0.83	0.88				0.63	0.70		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 20 (17%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2796	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2350	
Volume (vph)	60	330	30	420	380	905	0	0	0	445	250	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	363	33	447	404	963	0	0	0	500	281	45
RTOR Reduction (vph)	0	0	0	0	0	353	0	0	0	0	4	0
Lane Group Flow (vph)	0	462	0	447	404	610	0	0	0	250	572	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.2		32.2	32.2	72.6				40.4	40.4	
Effective Green, g (s)		18.2		33.2	33.2	73.6				41.4	41.4	
Actuated g/C Ratio		0.15		0.28	0.28	0.61				0.34	0.34	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		445		441	464	874				398	811	
v/s Ratio Prot		c0.16		c0.28	0.24	0.19						
v/s Ratio Perm						0.23				0.22	c0.24	
v/c Ratio		1.04		1.01	0.87	0.70				0.63	0.71	
Uniform Delay, d1		50.9		43.4	41.4	15.7				32.9	34.0	
Progression Factor		1.00		0.82	0.81	5.03				1.00	1.00	
Incremental Delay, d2		52.9		16.4	2.3	0.2				3.5	3.0	
Delay (s)		103.8		51.9	35.9	79.2				36.4	37.0	
Level of Service		F		D	D	E				D	D	
Approach Delay (s)		103.8			62.8			0.0			36.8	
Approach LOS		F			E			A			D	

Intersection Summary					
HCM Average Control Delay	62.0	HCM Level of Service		E	
HCM Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.2	
Intersection Capacity Utilization	83.6%	ICU Level of Service		E	
Analysis Period (min)	15				

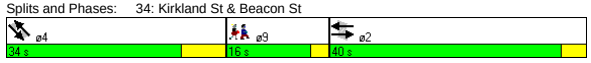
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	310	40	40	285	70	40	360	60	30	275	75	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	490	0	0	449	0	0	495	0	0	392	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0	16.0
Total Split (%)	44.4%	44.4%	0.0%	44.4%	44.4%	0.0%	37.8%	37.8%	0.0%	37.8%	37.8%	0.0%	18%
Maximum Green (s)	36.0	36.0		36.0	36.0		27.0	27.0		27.0	27.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.78			0.57			0.81			0.65		
Control Delay		29.5			18.9			35.8			27.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		29.5			18.9			35.8			27.3		
Queue Length 50th (ft)		170			131			193			138		
Queue Length 95th (ft)		#457			295			#469			#330		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		625			793			609			600		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.78			0.57			0.81			0.65		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.97	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1819			1809			1822			1806	
Flt Permitted		0.78			0.93			0.93			0.93	
Satd. Flow (perm)		1428			1682			1707			1687	
Volume (vph)	110	310	40	40	285	70	40	360	60	30	275	75
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	330	43	45	324	80	43	387	65	31	284	77
RTOR Reduction (vph)	0	3	0	0	8	0	0	6	0	0	9	0
Lane Group Flow (vph)	0	487	0	0	441	0	0	489	0	0	383	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.2			36.2			27.2			27.2	
Effective Green, g (s)		36.2			36.2			28.2			28.2	
Actuated g/C Ratio		0.45			0.45			0.35			0.35	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		649			765			605			598	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.26			c0.29			0.23	
v/c Ratio		0.75			0.58			0.81			0.64	
Uniform Delay, d1		18.0			16.0			23.3			21.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		7.8			3.2			11.1			5.2	
Delay (s)		25.7			19.2			34.4			26.7	
Level of Service		C			B			C			C	
Approach Delay (s)		25.7			19.2			34.4			26.7	
Approach LOS		C			B			C			C	

Intersection Summary

HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

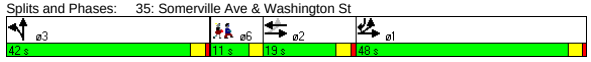
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	385	390	0	0	445	40	500	785	95	0	0	895	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	891	0	0	592	0	471	981	0	0	0	942	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	48.0	67.0	0.0	0.0	19.0	0.0	42.0	42.0	0.0	0.0	0.0	48.0	11.0
Total Split (%)	40.0%	55.8%	0.0%	0.0%	15.8%	0.0%	35.0%	35.0%	0.0%	0.0%	0.0%	40.0%	9%
Maximum Green (s)	44.0				15.0		38.0	38.0				44.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.58			1.03		1.02	1.02				1.02	
Control Delay		7.3			92.2		86.8	73.6				73.8	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		7.3			92.2		86.8	73.6				73.8	
Queue Length 50th (ft)		173			231		~412	~427				~441	
Queue Length 95th (ft)		m60			#394		#652	#579				#583	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1526			577		464	965				920	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.58			1.03		1.02	1.02				1.02	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3108			3177		1464	3026				2508
Flt Permitted		0.60			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1927			3177		1464	3026				2508
Volume (vph)	385	390	0	0	445	40	500	785	95	0	0	895
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	448	0	0	543	49	526	826	100	0	0	942
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	587	0	471	974	0	0	0	942
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		63.8			21.6		38.0	38.0				42.2
Effective Green, g (s)		63.8			21.6		38.0	38.0				42.2
Actuated g/C Ratio		0.53			0.18		0.32	0.32				0.35
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1440			572		464	958				882
v/s Ratio Prot		0.22			c0.18		0.32	c0.32				c0.38
v/s Ratio Perm		0.11										
v/c Ratio		0.62			1.03		1.02	1.02				1.07
Uniform Delay, d1		19.6			49.2		41.0	41.0				38.9
Progression Factor		0.32			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.2			44.5		45.6	33.4				50.2
Delay (s)		7.5			93.7		86.6	74.4				89.1
Level of Service		A			F		F	E				F
Approach Delay (s)		7.5			93.7			78.3			89.1	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM Average Control Delay	67.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.2
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

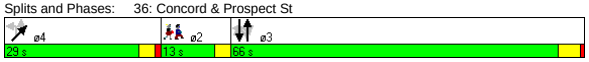
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	675	125	300	260	10	15	625	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	855	0	137	627	0	0	0	685	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			10.0	10.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			15.0	15.0		13.0
Total Split (s)	66.0	66.0	0.0	66.0	66.0	0.0	0.0	29.0	29.0	0.0	13.0
Total Split (%)	61.1%	61.1%	0.0%	61.1%	61.1%	0.0%	0.0%	26.9%	26.9%	0.0%	12%
Maximum Green (s)	61.0	61.0		61.0	61.0			25.0	25.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			None	None		None
Walk Time (s)											5.0
Flash Dont Walk (s)											5.0
Pedestrian Calls (#/hr)											10
v/c Ratio		1.20		0.37	0.53				1.33		
Control Delay		123.8		13.0	12.6				193.8		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		123.8		13.0	12.6				193.8		
Queue Length 50th (ft)		~608		34	178				~537		
Queue Length 95th (ft)		#992		100	374				#890		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		711		373	1176				514		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.20		0.37	0.53				1.33		

Intersection Summary

Area Type: Other
Cycle Length: 108
Actuated Cycle Length: 97.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1846				2000	
Flt Permitted		0.67		0.31	1.00				1.00	
Satd. Flow (perm)		1198		617	1846				2000	
Volume (vph)	120	0	675	125	300	260	10	15	625	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	726	137	330	286	11	16	658	11
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	826	0	137	627	0	0	0	684	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		61.2		61.2	61.2				25.1	
Effective Green, g (s)		62.2		62.2	62.2				25.1	
Actuated g/C Ratio		0.62		0.62	0.62				0.25	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		744		383	1147				501	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.69		0.22					0.34	
v/c Ratio		1.11		0.36	0.55				1.37	
Uniform Delay, d1		18.9		9.2	10.9				37.5	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		67.6		0.2	0.3				177.1	
Delay (s)		86.6		9.4	11.1				214.6	
Level of Service		F		A	B				F	
Approach Delay (s)		86.6			10.8				214.6	
Approach LOS		F			B				F	

Intersection Summary

HCM Average Control Delay	99.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	124.9%	ICU Level of Service	H
Analysis Period (min)	15		

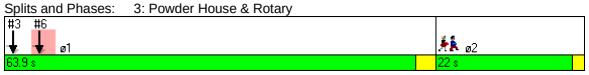
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	465	0	0	1080	500	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	547	0	0	1137	526	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.34			0.64	0.33	
Control Delay		0.6			4.4	0.6	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			4.4	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			595	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		10			12	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.34			0.64	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	465	0	0	1080	500
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	547	0	0	1137	526
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	502	0	0	1137	526
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.61	
v/s Ratio Perm		0.31				c0.33
v/c Ratio		0.33			0.66	0.33
Uniform Delay, d1		0.6			1.1	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			2.1	0.6
Delay (s)		1.2			3.1	0.6
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.3	
Approach LOS	A			A	A	

Intersection Summary

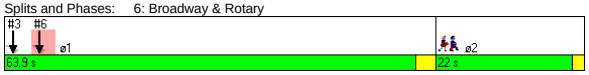
HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	114.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	450	0	0	1100	445	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	495	0	0	1158	468	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.32			0.65	0.30	
Control Delay		0.5			2.5	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			2.5	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			125	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.32			0.65	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	450	0	0	1100	445
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	495	0	0	1158	468
RTOR Reduction (vph)	0	41	0	0	0	0
Lane Group Flow (vph)	0	454	0	0	1158	468
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.62	
v/s Ratio Perm		0.29				c0.30
v/c Ratio		0.31			0.68	0.30
Uniform Delay, d1		0.6			1.1	0.0
Progression Factor		1.00			0.36	1.00
Incremental Delay, d2		0.6			1.9	0.4
Delay (s)		1.1			2.2	0.4
Level of Service		A			A	A
Approach Delay (s)	1.1			0.0	1.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	490	1080	495	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	538	1213	556	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.35	0.72	0.38			
Control Delay		0.6	5.0	0.6			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.6	5.0	0.7			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	813	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1464			
Starvation Cap Reductn		0	0	110			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.35	0.72	0.41			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	490	1080	495	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	538	1213	556	0	0
RTOR Reduction (vph)	0	44	0	46	0	0
Lane Group Flow (vph)	0	494	1213	510	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.68	0.34		
v/s Ratio Perm		0.32				
v/c Ratio		0.34	0.75	0.37		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.70	0.02		
Incremental Delay, d2		0.7	2.7	0.6		
Delay (s)		1.3	3.6	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.3		2.7			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	755	820	720	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	878	921	809	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.55	0.53	0.54			
Control Delay		1.4	3.1	1.6			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.4	3.1	1.6			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	361	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1499			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		45	12	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.57	0.54	0.54			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	755	820	720	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	878	921	809	0	0
RTOR Reduction (vph)	0	72	0	67	0	0
Lane Group Flow (vph)	0	806	921	742	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.51	0.49		
v/s Ratio Perm		0.50				
v/c Ratio		0.54	0.56	0.53		
Uniform Delay, d1		0.8	0.8	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.4	1.4	1.4		
Delay (s)		2.3	2.2	2.2		
Level of Service		A	A	A		
Approach Delay (s)	2.3		2.2			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

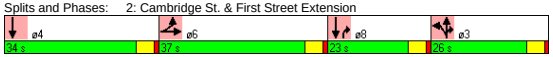
Lanes, Volumes, Timings
2: Cambridge St. & First Street Extension 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	210	50	0	0	0	100	250	500	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	289	0	0	0	0	0	389	556	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.63	0.77						1.17	0.58		0.52			
Control Delay	50.6	56.8						147.9	4.8		10.4			
Queue Delay	18.2	0.0						71.5	0.0		0.9			
Total Delay	68.7	56.8						219.3	4.8		11.3			
Queue Length 50th (ft)	144	182						~316	0		124			
Queue Length 95th (ft)	199	247						#488	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						332	958		1739			
Starvation Cap Reductn	0	0						0	0		528			
Spillback Cap Reductn	243	0						41	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.93	0.58						1.34	0.58		0.74			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Cambridge St. & First Street Extension



HCM Signalized Intersection Capacity Analysis
2: Cambridge St. & First Street Extension 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1811	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1811	1459		3222	
Volume (vph)	205	210	50	0	0	0	100	250	500	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	233	56	0	0	0	111	278	556	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	309	0	197	0
Lane Group Flow (vph)	228	281	0	0	0	0	0	389	247	0	702	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.6	23.6						21.0	52.4		55.4	
Effective Green, g (s)	24.6	24.6						22.0	53.4		57.4	
Actuated g/C Ratio	0.20	0.20						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	363	367						332	649		1541	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.63	0.77						1.17	0.38		0.46	
Uniform Delay, d1	43.5	45.0						49.0	22.3		20.9	
Progression Factor	1.00	1.00						1.00	1.00		1.50	
Incremental Delay, d2	3.4	9.2						104.6	0.4		0.7	
Delay (s)	46.9	54.2						153.6	22.6		32.0	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.0			0.0			76.5			32.0	
Approach LOS		D			A			E			C	

Intersection Summary

HCM Average Control Delay	54.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

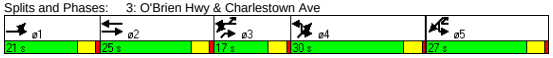
Lanes, Volumes, Timings
3: O'Brien Hwy & Charlestown Ave 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	540	985	330	385	710	425	430	1220	585	305	530	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	593	1082	363	389	717	429	453	1284	616	324	825	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.58	0.64	0.23	2.30	0.73	0.64	1.29	1.71	1.08	1.11	1.32		
Control Delay	744.8	34.8	0.3	620.2	30.5	19.3	189.3	354.7	93.8	129.1	189.9		
Queue Delay	0.0	0.0	0.0	0.0	176.3	1.4	0.0	0.0	184.2	0.0	0.0		
Total Delay	744.8	34.8	0.3	620.2	206.8	20.7	189.3	354.7	278.0	129.1	189.9		
Queue Length 50th (ft)	~678	224	0	~442	258	116	~394	~677	~443	~276	~384		
Queue Length 95th (ft)	#874	269	0	m#607	m314	m204	#575	#798	#645	#452	#504		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	573	293	627		
Starvation Cap Reductn	0	0	0	0	471	100	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	162	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.58	0.64	0.23	2.30	1.39	0.75	1.29	1.71	1.50	1.11	1.32		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



HCM Signalized Intersection Capacity Analysis
3: O'Brien Hwy & Charlestown Ave 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3062	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3062	
Volume (vph)	540	985	330	385	710	425	430	1220	585	305	530	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	593	1082	363	389	717	429	453	1284	616	324	564	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	35	0	40	0
Lane Group Flow (vph)	593	1082	363	389	717	178	453	1284	581	324	785	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.22		c0.25	c0.23	0.13	0.28	c0.37	0.39	0.21	c0.26	
v/s Ratio Perm			0.23									
v/c Ratio	2.58	0.64	0.23	2.30	0.73	0.42	1.29	1.71	1.08	1.11	1.34	
Uniform Delay, d1	51.5	32.7	0.0	53.5	36.4	33.7	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.58	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	722.8	0.8	0.3	597.0	1.6	0.4	150.6	324.0	62.4	84.0	162.8	
Delay (s)	774.3	33.5	0.3	641.9	28.9	154.7	197.6	371.0	100.9	132.5	211.3	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		243.2			219.4			266.9			189.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	237.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

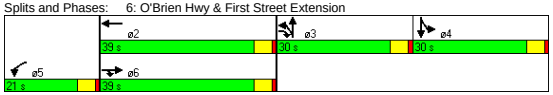
Lanes, Volumes, Timings
6: O'Brien Hwy & First Street Extension 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	960	120	350	890	55	225	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1067	133	389	1050	0	250	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.71	0.16	0.82	1.01		0.76	0.75			0.76	
Control Delay		23.9	1.0	64.9	73.3		64.6	64.0			49.0	
Queue Delay		0.0	0.0	2.1	0.0		326.6	354.8			37.5	
Total Delay		23.9	1.0	67.0	73.3		391.2	418.8			86.5	
Queue Length 50th (ft)		152	7	134	~399		183	192			218	
Queue Length 95th (ft)		183	0	#195	#519		m203	m211			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1037		384	404			858	
Starvation Cap Reductn		0	0	0	0		238	257			0	
Spillback Cap Reductn		0	7	31	0		0	0			247	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.71	0.15	0.85	1.01		1.71	1.78			1.06	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



HCM Signalized Intersection Capacity Analysis
6: O'Brien Hwy & First Street Extension 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3508		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3508		1770	1863			3459	
Volume (vph)	0	960	120	350	890	55	225	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1067	133	389	989	61	250	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1067	103	389	1046	0	250	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.30		c0.14	0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.71	0.13	0.82	1.01		0.76	0.75			0.76	
Uniform Delay, d1		37.7	15.1	50.2	42.3		46.3	46.3			41.8	
Progression Factor		0.55	0.08	1.00	1.00		1.27	1.27			1.00	
Incremental Delay, d2		2.8	0.1	10.6	30.7		3.9	3.6			6.2	
Delay (s)		23.7	1.4	60.8	73.0		62.7	62.4			48.0	
Level of Service		C	A	E	E		E	E			D	
Approach Delay (s)		21.2			69.7			62.5			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	49.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

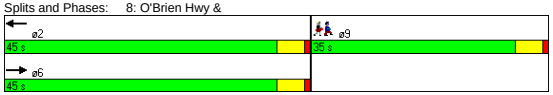
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1855	0	0	1335	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2016	0	0	1451	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.44			
Control Delay	3.0			3.3			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.3			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	282			315			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.44			

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 120
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: O'Brien Hwy &



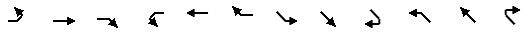
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1855	0	0	1335	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2016	0	0	1451	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2016	0	0	1451	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.40			c0.41		
v/s Ratio Perm						
v/c Ratio	0.45			0.47		
Uniform Delay, d1	1.5			1.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.0		
Level of Service	A			A		
Approach Delay (s)	1.8			2.0	0.0	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings
11: Cambridge St. & O'Brien Hwy 10/28/2008

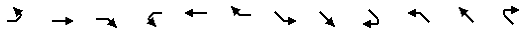


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	715	0	0	5	0	1140	0	0	1305	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	794	0	0	6	0	1267	0	0	1406	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

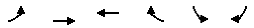
HCM Unsignalized Intersection Capacity Analysis
11: Cambridge St. & O'Brien Hwy 10/28/2008



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	715	0	0	5	0	1140	0	0	1305	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	794	0	0	6	0	1267	0	0	1374	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.82	0.86	0.86	0.91	0.91			0.82		
vC, conflicting volume	1959	2672	422	2606	2656	703	1405			1267		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1427	2254	0	2178	2236	574	1346			878		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	10	100	100	99	100			100		
cM capacity (veh/h)	80	35	883	2	35	413	377			571		

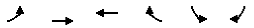
Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	794	6	422	422	422	916	489
Volume Left	0	0	0	0	0	0	0
Volume Right	794	6	0	0	0	0	32
cSH	883	413	1700	1700	1700	1700	1700
Volume to Capacity	0.90	0.01	0.25	0.25	0.25	0.54	0.29
Queue Length 95th (ft)	277	1	0	0	0	0	0
Control Delay (s)	33.0	13.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	33.0	13.8	0.0			0.0	
Approach LOS	D	B					

Intersection Summary					
Average Delay	7.6				
Intersection Capacity Utilization	73.0%	ICU Level of Service		C	
Analysis Period (min)	15				



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1855	1315	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2061	1539	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1855	1315	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2061	1461	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.81				0.85	0.81
vC, conflicting volume	1539				2187	769
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1429				1826	477
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	381				58	432

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	687	687	687	974	565	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	432
Volume to Capacity	0.40	0.40	0.40	0.57	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.8
Approach LOS						B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

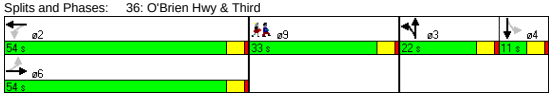
Lanes, Volumes, Timings
36: O'Brien Hwy & Third 10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1280	375	1	1410	1	875	1	30	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1840	0	0	1569	0	510	496	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.85			0.95		2.17	1.95			0.04		
Control Delay		30.9			51.7		566.2	471.0			48.3		
Queue Delay		0.2			1.4		0.0	28.6			0.0		
Total Delay		31.1			53.1		566.2	499.6			48.3		
Queue Length 50th (ft)		362			491		~586	~555			1		
Queue Length 95th (ft)		#549			#756		#783	#754			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2162			1654		235	254			79		
Starvation Cap Reductn		0			26		0	0			0		
Spillback Cap Reductn		40			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.87			0.96		2.17	2.02			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third



HCM Signalized Intersection Capacity Analysis
36: O'Brien Hwy & Third 10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4912			3539		1569	1674			1750	
Flt Permitted		0.91			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4454			3376		1569	1674			1779	
Volume (vph)	1	1280	375	1	1410	1	875	1	30	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1422	417	1	1567	1	972	1	33	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1799	0	0	1569	0	510	493	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2034			1542		235	251			33	
v/s Ratio Prot							c0.33	0.29				
v/s Ratio Perm		0.40			c0.46						c0.00	
v/c Ratio		0.88			1.02		2.17	1.97			0.06	
Uniform Delay, d1		29.7			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.40		1.00	1.00			1.00	
Incremental Delay, d2		6.1			25.4		540.4	448.8			0.8	
Delay (s)		35.8			71.0		591.4	499.8			58.7	
Level of Service		D			E		F	F			E	
Approach Delay (s)		35.8			71.0			546.3			58.7	
Approach LOS		D			E			F			E	

Intersection Summary

HCM Average Control Delay	164.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings
37: O'Brien Hwy & Gore St. 10/28/2008

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	985	15	0	1180	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1075	0	0	1255	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

HCM Unsignalized Intersection Capacity Analysis
37: O'Brien Hwy & Gore St. 10/28/2008

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	985	15	0	1180	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1059	16	0	1255	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1075		1695	361
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			906		1170	129
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			675		142	828

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	424	424	228	628	628	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	828
Volume to Capacity	0.25	0.25	0.13	0.37	0.37	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

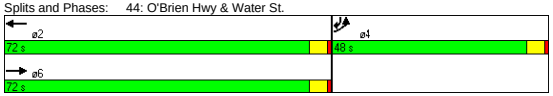
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	1000	0	0	1100	80	0	0	0	0	0	310
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1075	0	0	1255	0	0	0	0	0	0	344
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.31			0.53							0.79
Control Delay	72.8	0.6			6.2							46.6
Queue Delay	1.0	0.3			0.5							674.0
Total Delay	73.8	0.8			6.8							720.7
Queue Length 50th (ft)	240	6			78							180
Queue Length 95th (ft)	m276	m11			m91							249
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3446			2378							640
Starvation Cap Reductn	117	1504			211							0
Spillback Cap Reductn	0	0			628							606
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.55			0.72							10.12

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3403							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3403							1627
Volume (vph)	310	1000	0	0	1100	80	0	0	0	0	0	310
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1075	0	0	1170	85	0	0	0	0	0	344
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	53
Lane Group Flow (vph)	333	1075	0	0	1252	0	0	0	0	0	0	291
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.22			c0.37							0.18
v/s Ratio Perm												
v/c Ratio	0.82	0.31			0.53							0.76
Uniform Delay, d1	43.5	7.0			8.7							42.7
Progression Factor	1.51	0.06			0.61							1.00
Incremental Delay, d2	6.2	0.1			0.3							8.3
Delay (s)	71.9	0.5			5.6							51.0
Level of Service	E	A			A							D
Approach Delay (s)		17.4			5.6			0.0			51.0	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

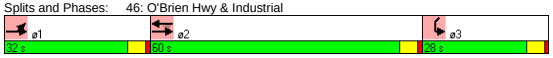
Lanes, Volumes, Timings
46: O'Brien Hwy & Industrial 10/28/2008

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1790	1385	225	370	135
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2038	1695	0	561	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.78	0.76		0.90	
Control Delay		12.0	28.3		62.3	
Queue Delay		1.7	10.0		2.9	
Total Delay		13.7	38.3		65.1	
Queue Length 50th (ft)		181	339		180	
Queue Length 95th (ft)		m185	395		#264	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2642	2225		639	
Starvation Cap Reductn		409	0		0	
Spillback Cap Reductn		0	521		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.91	0.99		0.92	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



HCM Signalized Intersection Capacity Analysis
46: O'Brien Hwy & Industrial 10/28/2008

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		4690	4631		3034	
Flt Permitted		0.69	1.00		0.96	
Satd. Flow (perm)		3256	4631		3034	
Volume (vph)	85	1790	1385	225	370	135
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1946	1458	237	411	150
RTOR Reduction (vph)	0	0	18	0	32	0
Lane Group Flow (vph)	0	2038	1677	0	529	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.6	56.2		22.4	
Effective Green, g (s)		84.6	57.2		23.4	
Actuated g/C Ratio		0.70	0.48		0.19	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2623	2207		592	
v/s Ratio Prot		c0.18	0.36		c0.17	
v/s Ratio Perm		c0.37				
v/c Ratio		0.78	0.76		0.89	
Uniform Delay, d1		11.5	25.8		47.1	
Progression Factor		1.38	1.00		1.00	
Incremental Delay, d2		0.8	2.5		15.8	
Delay (s)		16.7	28.3		62.9	
Level of Service		B	C		E	
Approach Delay (s)		16.7	28.3		62.9	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

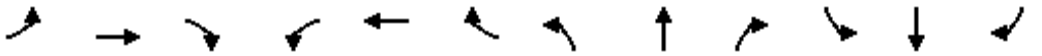
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	15	700	150	70	425	10	5	10	5	105	15	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	921	0	0	543	0	0	44	0	0	158	197
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	700	150	70	425	10	5	10	5	105	15	150
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	16	745	160	75	457	11	11	22	11	138	20	197
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	468			904			1677	1549	462	1492	1475	824
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	468			904			1677	1549	462	1492	1475	824
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			90			60	78	98	0	82	46
cM capacity (veh/h)	1089			752			28	102	604	75	110	367

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	920	543	44	158	197
Volume Left	16	75	11	138	0
Volume Right	160	11	11	0	197
cSH	1089	752	70	78	367
Volume to Capacity	0.01	0.10	0.64	2.03	0.54
Queue Length 95th (ft)	1	8	70	355	76
Control Delay (s)	0.4	2.7	120.8	593.5	25.7
Lane LOS	A	A	F	F	D
Approach Delay (s)	0.4	2.7	120.8	278.1	
Approach LOS			F	F	

Intersection Summary				
Average Delay	56.9			
Intersection Capacity Utilization	83.8%	ICU Level of Service	E	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	170	45	100	290	1055	0	0	910	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	349	0	315	1111	0	0	989	207
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	170	45	100	290	1055	0	0	910	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	189	49	111	315	1111	0	0	989	207
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked												
vC, conflicting volume	2866	2730	989	2730	2937	1111	1196			1111		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2866	2730	989	2730	2937	1111	1196			1111		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	100	0	0	57	46			100		
cM capacity (veh/h)	0	9	299	8	7	256	584			629		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	349	315	1111	989	207
Volume Left	189	315	0	0	0
Volume Right	111	0	0	0	207
cSH	11	584	1700	1700	1700
Volume to Capacity	32.21	0.54	0.65	0.58	0.12
Queue Length 95th (ft)	Err	80	0	0	0
Control Delay (s)	Err	18.2	0.0	0.0	0.0
Lane LOS	F	C			
Approach Delay (s)	Err	4.0		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	1176.5			
Intersection Capacity Utilization	147.4%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	225	200	190	0	0	0	0	1120	500	80	1000	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	683	0	0	0	0	0	1244	556	84	1053	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	225	200	190	0	0	0	0	1120	500	80	1000	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	250	222	211	0	0	0	0	1244	556	84	1053	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2465	3021	1053	2788	2465	1244	1053			1800		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2465	3021	1053	2788	2465	1244	1053			1800		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	24	0	100	100	100			75		
cM capacity (veh/h)	17	10	276	0	23	212	661			340		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	361	322	1244	556	84	1053
Volume Left	250	0	0	0	84	0
Volume Right	0	211	0	556	0	0
cSH	14	27	1700	1700	340	1700
Volume to Capacity	25.98	11.90	0.73	0.33	0.25	0.62
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	19.0	0.0
Lane LOS	F	F			C	
Approach Delay (s)	9999.0		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	1887.8			
Intersection Capacity Utilization	147.4%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	455	5	10	0	1	10	85	1155	1	5	365	820
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	534	0	0	25	0	0	1363	0	0	377	837
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	455	5	10	0	1	10	85	1155	1	5	365	820
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	517	6	11	0	2	23	93	1269	1	5	372	837
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1863	1840	372	1853	1839	1270	372			1270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1863	1840	372	1853	1839	1270	372			1270		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	89	92			99		
cM capacity (veh/h)	45	69	674	47	67	199	1192			547		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	534	25	1364	378	837
Volume Left	517	0	93	5	0
Volume Right	11	23	1	0	837
cSH	46	169	1192	547	1700
Volume to Capacity	11.60	0.15	0.08	0.01	0.49
Queue Length 95th (ft)	Err	13	6	1	0
Control Delay (s)	Err	30.0	3.0	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	30.0	3.0	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1703.9		
Intersection Capacity Utilization	129.7%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	35	440	425	100	55	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	479	577	0	149	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

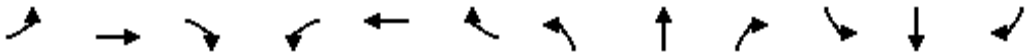
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	35	440	425	100	55	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	35	444	467	110	63	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	577				1037	522
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	530				1041	469
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				71	84
cM capacity (veh/h)	933				221	537

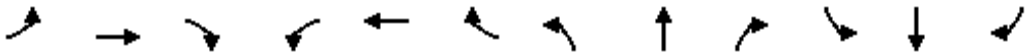
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	480	577	149
Volume Left	35	0	63
Volume Right	0	110	86
cSH	933	1700	335
Volume to Capacity	0.04	0.34	0.45
Queue Length 95th (ft)	3	0	55
Control Delay (s)	1.1	0.0	24.1
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	24.1
Approach LOS			C

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	15	180	115	245	305	10	75	20	125	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	383	0	0	596	0	0	259	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

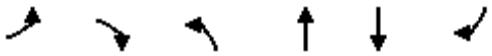
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	180	115	245	305	10	75	20	125	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	19	222	142	261	324	11	88	24	147	0	7	0

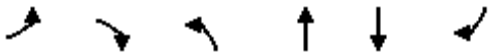
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	383	596	259	7
Volume Left (vph)	19	261	88	0
Volume Right (vph)	142	11	147	0
Hadj (s)	-0.20	0.11	-0.24	0.00
Departure Headway (s)	5.5	5.5	6.2	7.3
Degree Utilization, x	0.59	0.91	0.45	0.01
Capacity (veh/h)	620	596	556	424
Control Delay (s)	16.1	40.2	14.2	10.5
Approach Delay (s)	16.1	40.2	14.2	10.5
Approach LOS	C	E	B	B

Intersection Summary			
Delay	27.2		
HCM Level of Service	D		
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	210	95	185	575	440	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	321	0	0	826	876	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	210	95	185	575	440	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	221	100	201	625	473	403
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1702	675	876			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1702	675	876			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	78	74			
cM capacity (veh/h)	75	454	770			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	321	826	876
Volume Left	221	201	0
Volume Right	100	0	403
cSH	101	770	1700
Volume to Capacity	3.18	0.26	0.52
Queue Length 95th (ft)	Err	26	0
Control Delay (s)	Err	6.3	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1589.0		
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		846			499			1035		231		
Travel Time (s)		19.2			11.3			23.5		5.3		
Volume (vph)	25	0	375	195	250	35	35	480	10	35	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	522	0	0	571	0	76	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	195	250	35	35	480	10	35	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	212	272	38	38	522	11	38	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					499			1035				
pX, platoon unblocked	0.93	0.93	0.86	0.86			0.87			0.93	0.93	0.87
vC, conflicting volume	1356	1337	527	533			310			1726	1323	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1174	1154	451	457			207			1573	1139	185
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	77	100	22	78			97			0	100	95
cM capacity (veh/h)	120	138	524	955			1187			15	140	746

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	522	571	76
Volume Left	27	212	38	38
Volume Right	408	38	11	38
cSH	433	955	1187	29
Volume to Capacity	1.00	0.22	0.03	2.61
Queue Length 95th (ft)	322	21	2	226
Control Delay (s)	75.6	5.6	0.9	1015.9
Lane LOS	F	A	A	F
Approach Delay (s)	75.6	5.6	0.9	1015.9
Approach LOS	F			F

Intersection Summary				
Average Delay	70.8			
Intersection Capacity Utilization	95.9%	ICU Level of Service	F	
Analysis Period (min)	15			

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 5a PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	442	0.0	0.610	14.5	LOS B	178	0.85	0.94	22.6
8T	T	897	0.0	1.237	125.4	LOS F	1927	1.00	3.30	7.5
Approach		**1339**	**0.0**	**1.237**	**88.8**	**LOS F**	**1927**	**0.95**	**2.52**	**9.7**
Mystic Valley Parkway										
4T	T	796	0.0	0.898	18.8	LOS B	530	1.00	1.32	20.7
4R	R	525	0.0	0.696	12.4	LOS B	237	0.92	1.03	23.1
Approach		**1321**	**0.0**	**0.898**	**16.3**	**LOS B**	**530**	**0.97**	**1.20**	**21.6**
Mystic Valley Parkway										
5L	L	390	0.0	0.730	24.1	LOS C	259	1.00	1.23	19.4
2R	R	340	0.0	0.708	20.1	LOS C	231	1.00	1.21	20.2
Approach		**730**	**0.0**	**0.731**	**22.2**	**LOS C**	**259**	**1.00**	**1.22**	**19.8**
All Vehicles		**3390**	**0.0**	**1.237**	**46.2**	**LOS D**	**1927**	**0.97**	**1.73**	**14.3**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

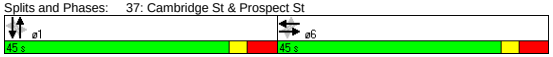
Site: 2007 Existing PM
\\Mabos\projects\10303.00\tech\Sidra\Alt 5a\Mystic&Alewife - Alt5a.aap
Processed Oct 06, 2008 03:10:47PM

2030 Build Alternative 6 Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	60	305	10	80	350	15	30	295	80	30	330	45
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	399	0	0	468	0	0	495	0	0	460	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.62			0.76			0.70			0.62	
Control Delay		26.3			32.5			20.2			25.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.3			32.5			20.2			25.5	
Queue Length 50th (ft)		175			223			94			202	
Queue Length 95th (ft)		275			#359			m176			295	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		639			615			710			740	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.62			0.76			0.70			0.62	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1831			1790			1832			1911	
Flt Permitted		0.84			0.83			0.94			0.94	
Satd. Flow (perm)		1555			1496			1729			1801	
Volume (vph)	60	305	10	80	350	15	30	295	80	30	330	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	64	324	11	84	368	16	37	360	98	34	375	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	399	0	0	468	0	0	495	0	0	460	0
Confl. Peds. (#/hr)	44		40	40		44	45		65	65		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		639			615			711			740	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.31			c0.29			0.26	
v/c Ratio		0.62			0.76			0.70			0.62	
Uniform Delay, d1		21.0			22.7			21.9			21.0	
Progression Factor		1.00			1.00			0.69			1.00	
Incremental Delay, d2		4.6			8.6			4.6			3.9	
Delay (s)		25.6			31.3			19.7			24.9	
Level of Service		C			C			B			C	
Approach Delay (s)		25.6			31.3			19.7			24.9	
Approach LOS		C			C			B			C	

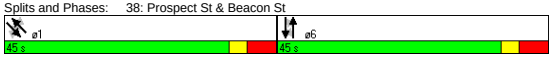
Intersection Summary					
HCM Average Control Delay		25.3	HCM Level of Service		C
HCM Volume to Capacity ratio		0.73			
Actuated Cycle Length (s)		90.0	Sum of lost time (s)		16.0
Intersection Capacity Utilization		77.4%	ICU Level of Service		D
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	355	30	25	390	10	20	515	90	40	280	25
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	571	0	0	467	0	0	665	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.59			0.66			0.91			0.64	
Control Delay		23.7			11.9			43.9			27.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.7			12.0			43.9			27.1	
Queue Length 50th (ft)		129			68			347			176	
Queue Length 95th (ft)		170			m91			#567			264	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		967			711			731			617	
Starvation Cap Reductn		0			5			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.59			0.66			0.91			0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3357			1831			1811			1793	
Flt Permitted		0.69			0.94			0.98			0.83	
Satd. Flow (perm)		2349			1730			1775			1501	
Volume (vph)	100	355	30	25	390	10	20	515	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	418	35	27	429	11	21	548	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	571	0	0	467	0	0	665	0	0	397	0
Confl. Peds. (#/hr)	15		19	19		15	27		20	20		27
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		966			711			730			617	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.27			c0.37			0.26	
v/c Ratio		0.59			0.66			0.91			0.64	
Uniform Delay, d1		20.6			21.4			24.9			21.2	
Progression Factor		1.00			0.38			1.00			1.00	
Incremental Delay, d2		2.7			3.6			17.5			5.1	
Delay (s)		23.3			11.7			42.5			26.3	
Level of Service		C			B			D			C	
Approach Delay (s)		23.3			11.7			42.5			26.3	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

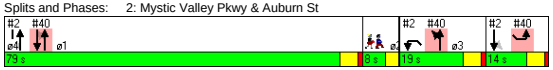
c Critical Lane Group

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	873			104	899			
Travel Time (s)	19.8			2.4	20.4			
Volume (vph)	805	20	105	1205	115	65		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	926	0	0	1456	219	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		8.0	13.0
Total Split (s)	79.0	0.0	93.0	93.0	19.0	0.0	8.0	14.0
Total Split (%)	65.8%	0.0%	77.5%	77.5%	15.8%	0.0%	7%	12%
Maximum Green (s)	74.0				14.0		5.0	9.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.41			0.78	0.68			
Control Delay	6.0			2.5	54.7			
Queue Delay	0.1			0.0	1.1			
Total Delay	6.1			2.5	55.8			
Queue Length 50th (ft)	156			33	143			
Queue Length 95th (ft)	m164			m33	#253			
Internal Link Dist (ft)	793			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2263			1871	322			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	249			0	21			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.46			0.78	0.73			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3597			3323	1850	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3597			2479	1850	
Volume (vph)	805	20	105	1205	115	65
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	904	22	117	1339	140	79
RTOR Reduction (vph)	2	0	0	0	16	0
Lane Group Flow (vph)	924	0	0	1456	203	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	72.0			87.1	18.9	
Effective Green, g (s)	73.0			88.1	19.9	
Actuated g/C Ratio	0.61			0.73	0.17	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	2188			1820	307	
v/s Ratio Prot	0.26				c0.11	
v/s Ratio Perm				c0.59		
v/c Ratio	0.42			0.80	0.66	
Uniform Delay, d1	12.4			10.3	46.9	
Progression Factor	0.52			0.11	1.00	
Incremental Delay, d2	0.3			1.2	5.8	
Delay (s)	6.7			2.3	52.7	
Level of Service	A			A	D	
Approach Delay (s)	6.7			2.3	52.7	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

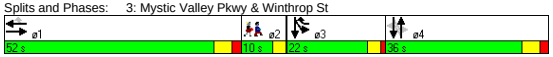
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	950	20	0	1060	200	30	400	365	565	875	120	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1032	0	0	1128	213	0	1019	0	0	1678	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	52.0	0.0	0.0	52.0	22.0	36.0	36.0	0.0	22.0	58.0	0.0	10.0
Total Split (%)	0.0%	43.3%	0.0%	0.0%	43.3%	18.3%	30.0%	30.0%	0.0%	18.3%	48.3%	0.0%	8%
Maximum Green (s)		46.0			46.0	18.0	30.0	30.0		18.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.30			1.53	0.20		1.67			1.38dl		
Control Delay		169.7			274.8	3.6		333.0			180.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		169.7			274.8	3.6		333.0			180.1		
Queue Length 50th (ft)		~1050			~1224	20		~563			~634		
Queue Length 95th (ft)		#1309			#1482	48		#563			#1135		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		792			737	1061		612			1260		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.30			1.53	0.20		1.67			1.33		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 110 (92%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2021			1881	1599		3322			3470	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2021			1881	1599		1947			2065	
Volume (vph)	0	950	20	0	1060	200	30	400	365	565	875	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1011	21	0	1128	213	38	513	468	608	941	129
RTOR Reduction (vph)	0	1	0	0	0	56	0	109	0	0	5	0
Lane Group Flow (vph)	0	1031	0	0	1128	157	0	910	0	0	1673	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		43.6			43.6	69.6		30.0			56.0	
Effective Green, g (s)		44.6			44.6	69.6		31.0			56.0	
Actuated g/C Ratio		0.37			0.37	0.58		0.26			0.47	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		751			699	927		503			1256	
v/s Ratio Prot		0.51			c0.60	0.04					c0.28	
v/s Ratio Perm						0.06		c0.47			0.34	
v/c Ratio		1.37			1.61	0.17		1.81			1.38dl	
Uniform Delay, d1		37.7			37.7	11.7		44.5			32.0	
Progression Factor		0.68			1.00	1.00		1.00			1.00	
Incremental Delay, d2		175.4			282.8	0.0		371.9			155.0	
Delay (s)		201.0			320.5	11.8		416.4			187.0	
Level of Service		F			F	B		F			F	
Approach Delay (s)		201.0			271.5			416.4			187.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	258.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	136.4%	ICU Level of Service	H
Analysis Period (min)	15		

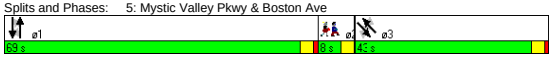
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			873			2678			1345		
Travel Time (s)		13.1			19.8			60.9			30.6		
Volume (vph)	40	775	175	45	1190	70	50	425	85	70	265	10	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1165	0	0	1467	0	0	692	0	0	410	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	69.0	69.0	0.0	69.0	69.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0	8.0
Total Split (%)	57.5%	57.5%	0.0%	57.5%	57.5%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%	7%
Maximum Green (s)	65.0	65.0		65.0	65.0		39.0	39.0		39.0	39.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.88			0.98			1.07			1.07		
Control Delay		32.3			50.1			90.8			104.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		32.3			50.1			90.8			104.0		
Queue Length 50th (ft)		388			583			~571			~343		
Queue Length 95th (ft)		450			#724			#763			#541		
Internal Link Dist (ft)		495			793			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1330			1501			648			382		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.88			0.98			1.07			1.07		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3507			3539			1919			1894	
Flt Permitted		0.68			0.77			0.91			0.61	
Satd. Flow (perm)		2373			2716			1746			1158	
Volume (vph)	40	775	175	45	1190	70	50	425	85	70	265	10
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	47	912	206	51	1337	79	62	525	105	83	315	12
RTOR Reduction (vph)	0	16	0	0	3	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	1149	0	0	1464	0	0	687	0	0	409	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		62.6			62.6			45.4			45.4	
Effective Green, g (s)		62.6			62.6			45.4			45.4	
Actuated g/C Ratio		0.52			0.52			0.38			0.38	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1238			1417			661			438	
v/s Ratio Prot												
v/s Ratio Perm		0.48			c0.54			c0.39			0.35	
v/c Ratio		0.93			1.03			1.04			0.93	
Uniform Delay, d1		26.6			28.7			37.3			35.9	
Progression Factor		1.00			1.38			1.00			1.00	
Incremental Delay, d2		13.3			27.9			45.6			27.4	
Delay (s)		39.9			67.4			82.9			63.3	
Level of Service		D			E			F			E	
Approach Delay (s)		39.9			67.4			82.9			63.3	
Approach LOS		D			E			F			E	

Intersection Summary

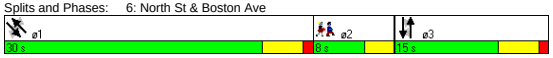
HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	25	20	15	65	55	50	5	540	55	15	280	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	91	0	0	200	0	0	645	0	0	343	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	15.0	15.0	0.0	15.0	15.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0	8.0
Total Split (%)	28.3%	28.3%	0.0%	28.3%	28.3%	0.0%	56.6%	56.6%	0.0%	56.6%	56.6%	0.0%	15%
Maximum Green (s)	10.0	10.0		10.0	10.0		25.0	25.0		25.0	25.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.27			0.59			0.62			0.34		
Control Delay		18.0			25.4			11.4			7.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.0			25.4			11.4			7.3		
Queue Length 50th (ft)		19			45			92			39		
Queue Length 95th (ft)		40			#111			#273			112		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		339			346			1043			1016		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.27			0.58			0.62			0.34		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 49.8	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1798			1755			1777			1788	
Flt Permitted		0.83			0.87			1.00			0.97	
Satd. Flow (perm)		1522			1549			1774			1730	
Volume (vph)	25	20	15	65	55	50	5	540	55	15	280	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	38	30	23	76	65	59	5	581	59	17	315	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	91	0	0	200	0	0	645	0	0	343	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		9.9			9.9			28.3			28.3	
Effective Green, g (s)		10.9			10.9			29.3			29.3	
Actuated g/C Ratio		0.21			0.21			0.56			0.56	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		318			324			998			973	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.13			c0.36			0.20	
v/c Ratio		0.29			0.62			0.65			0.35	
Uniform Delay, d1		17.3			18.7			7.8			6.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			4.0			3.2			1.0	
Delay (s)		18.0			22.7			11.1			7.2	
Level of Service		B			C			B			A	
Approach Delay (s)		18.0			22.7			11.1			7.2	
Approach LOS		B			C			B			A	

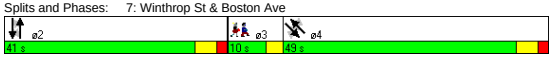
Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	10	340	65	125	120	90	200	400	25	35	185	90	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	506	0	0	380	0	0	666	0	0	334	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		10.0
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	10.0
Total Split (%)	41.0%	41.0%	0.0%	41.0%	41.0%	0.0%	49.0%	49.0%	0.0%	49.0%	49.0%	0.0%	10%
Maximum Green (s)	34.9	34.9		34.9	34.9		43.0	43.0		43.0	43.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.08			1.06			0.45		
Control Delay		31.3			100.0			78.9			19.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		31.3			100.0			78.9			19.0		
Queue Length 50th (ft)		235			~239			~413			118		
Queue Length 95th (ft)		360			#455			#721			229		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		707			353			628			741		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.72			1.08			1.06			0.45		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 92	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



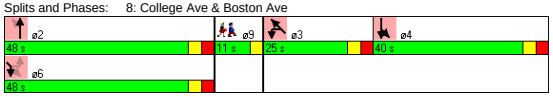
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1821			1880			1806			1729	
Flt Permitted		0.99			0.50			0.73			0.89	
Satd. Flow (perm)		1802			957			1337			1555	
Volume (vph)	10	340	65	125	120	90	200	400	25	35	185	90
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	12	415	79	142	136	102	213	426	27	38	199	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	506	0	0	380	0	0	666	0	0	334	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.0			35.0			43.1			43.1	
Effective Green, g (s)		36.1			36.1			44.1			44.1	
Actuated g/C Ratio		0.38			0.38			0.47			0.47	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		688			366			624			726	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.40			c0.50			0.21	
v/c Ratio		0.74			1.04			1.07			0.46	
Uniform Delay, d1		25.1			29.2			25.2			17.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.5			57.3			55.3			2.1	
Delay (s)		28.6			86.5			80.5			19.2	
Level of Service		C			F			F			B	
Approach Delay (s)		28.6			86.5			80.5			19.2	
Approach LOS		C			F			F			B	

Intersection Summary					
HCM Average Control Delay	56.9	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.05				
Actuated Cycle Length (s)	94.5	Sum of lost time (s)		14.3	
Intersection Capacity Utilization	116.4%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	135	5	60	325	80	65	330	210	10	175	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	156	0	0	522	0	0	454	241	0	297	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		11.0
Total Split (s)	48.0	48.0	0.0	40.0	40.0	0.0	48.0	48.0	48.0	25.0	25.0	0.0	11.0
Total Split (%)	38.7%	38.7%	0.0%	32.3%	32.3%	0.0%	38.7%	38.7%	38.7%	20.2%	20.2%	0.0%	9%
Maximum Green (s)	42.0	42.0		34.0	34.0		42.0	42.0	42.0	19.0	19.0		8.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.23			0.92			0.97	0.39		0.93		
Control Delay	27.2	28.2			63.9			74.3	17.9		83.8		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	27.2	28.2			63.9			74.3	17.9		83.8		
Queue Length 50th (ft)	39	76			357			315	66		210		
Queue Length 95th (ft)	85	144			#628			#565	144		#300		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	674	666			566			466	613		319		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.23			0.92			0.97	0.39		0.93		

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 117.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	0.99			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1853			1928			1832	1516		1936	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1853			1928			1299	1516		1936	
Volume (vph)	75	135	5	60	325	80	65	330	210	10	175	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	150	6	67	365	90	75	379	241	14	236	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	70	0	5	0
Lane Group Flow (vph)	83	155	0	0	516	0	0	454	171	0	292	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	42.1	42.1			34.1			42.1	42.1		19.0	
Effective Green, g (s)	42.1	42.1			34.1			42.1	42.1		19.0	
Actuated g/C Ratio	0.35	0.35			0.29			0.35	0.35		0.16	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	664	654			552			459	535		309	
v/s Ratio Prot		0.08			c0.27				0.11		c0.15	
v/s Ratio Perm	0.04							c0.35				
v/c Ratio	0.12	0.24			0.94			0.99	0.32		0.94	
Uniform Delay, d1	26.1	27.2			41.5			38.3	28.1		49.6	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			24.0			38.7	0.3		36.2	
Delay (s)	26.2	27.4			65.5			77.0	28.5		85.8	
Level of Service	C	C			E			E	C		F	
Approach Delay (s)		27.0			65.5			60.2			85.8	
Approach LOS		C			E			E			F	

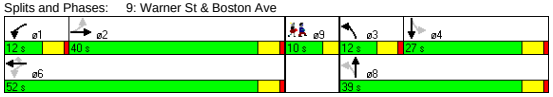
Intersection Summary			
HCM Average Control Delay	61.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	119.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1442			1738		
Travel Time (s)		12.0			40.8			32.8			39.5		
Volume (vph)	5	365	45	65	630	160	25	40	60	50	310	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	451	0	0	763	176	0	140	0	0	418	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	40.0	40.0	0.0	12.0	52.0	52.0	12.0	39.0	0.0	27.0	27.0	0.0	10.0
Total Split (%)	39.6%	39.6%	0.0%	11.9%	51.5%	51.5%	11.9%	38.6%	0.0%	26.7%	26.7%	0.0%	10%
Maximum Green (s)	35.0	35.0		7.0	47.0	47.0	7.0	34.0		22.0	22.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.39			0.83	0.21		0.30			0.79		
Control Delay		10.3			24.5	2.3		17.4			40.4		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		10.3			24.5	2.3		17.4			40.4		
Queue Length 50th (ft)		100			263	1		33			188		
Queue Length 95th (ft)		211			#628	30		89			#360		
Internal Link Dist (ft)		447			1715			1362			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1156			915	843		604			528		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.39			0.83	0.21		0.23			0.79		

Intersection Summary	
Area Type:	Other
Cycle Length: 101	
Actuated Cycle Length: 81	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.94			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1957			1809	1301		1877			1973	
Flt Permitted		0.99			0.92	1.00		0.83			0.94	
Satd. Flow (perm)		1945			1676	1301		1569			1871	
Volume (vph)	5	365	45	65	630	160	25	40	60	50	310	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	397	49	71	692	176	28	45	67	58	360	0
RTOR Reduction (vph)	0	3	0	0	0	73	0	36	0	0	0	0
Lane Group Flow (vph)	0	448	0	0	763	103	0	104	0	0	418	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		47.1			47.1	47.1		22.1			22.1	
Effective Green, g (s)		48.1			48.1	48.1		23.1			23.1	
Actuated g/C Ratio		0.58			0.58	0.58		0.28			0.28	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1120			965	749		434			518	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46	0.08		0.07			c0.22	
v/c Ratio		0.40			0.79	0.14		0.24			0.81	
Uniform Delay, d1		9.8			13.8	8.2		23.4			28.1	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			4.2	0.0		0.1			8.5	
Delay (s)		9.8			18.0	8.2		23.5			36.6	
Level of Service		A			B	A		C			D	
Approach Delay (s)		9.8			16.1			23.5			36.6	
Approach LOS		A			B			C			D	

Intersection Summary					
HCM Average Control Delay	19.6	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.80				
Actuated Cycle Length (s)	83.5	Sum of lost time (s)		12.3	
Intersection Capacity Utilization	92.1%	ICU Level of Service		F	
Analysis Period (min)	15				

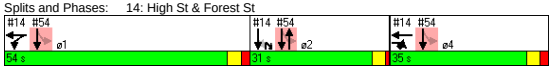
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	380	300	1375	605	80	90	40	430	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	409	323	1545	770	0	112	0	500	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	35.0	35.0	54.0	89.0	0.0	31.0	31.0	31.0	0.0
Total Split (%)	29.2%	29.2%	45.0%	74.2%	0.0%	25.8%	25.8%	25.8%	0.0%
Maximum Green (s)	30.0	30.0	49.0			27.0	27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.07	0.99	1.12	0.61		0.12		1.14	
Control Delay	110.3	88.6	99.7	11.8		0.5		128.0	
Queue Delay	0.0	3.0	231.3	0.0		0.0		0.0	
Total Delay	110.3	91.6	331.0	11.8		0.5		128.0	
Queue Length 50th (ft)	~352	229	~712	276		0		~451	
Queue Length 95th (ft)	#550	#425	#832	377		0		#666	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	381	326	1375	1260		933		440	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	4	434	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.07	1.00	1.64	0.61		0.12		1.14	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 130
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	380	300	1375	605	80	90	40	430	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	409	323	1545	680	90	112	41	439	20
RTOR Reduction (vph)	0	25	0	4	0	87	0	2	0
Lane Group Flow (vph)	409	298	1545	766	0	25	0	498	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	30.0	30.0	49.0	84.0		27.0		27.0	
Effective Green, g (s)	30.0	30.0	49.0	84.0		27.0		27.0	
Actuated g/C Ratio	0.25	0.25	0.41	0.70		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	381	301	1375	1257		372		439	
v/s Ratio Prot	c0.27	0.25	c0.46	0.43		0.02			
v/s Ratio Perm								0.26	
v/c Ratio	1.07	0.99	1.12	0.61		0.07		1.14	
Uniform Delay, d1	45.0	44.9	35.5	9.4		36.6		46.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	67.1	49.6	65.7	2.2		0.3		85.5	
Delay (s)	112.1	94.5	101.2	11.6		36.9		132.0	
Level of Service	F	F	F	B		D		F	
Approach Delay (s)				71.4				132.0	
Approach LOS				E				F	

Intersection Summary

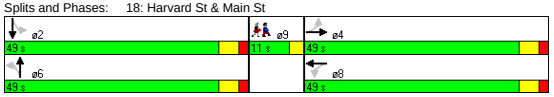
HCM Average Control Delay	85.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	460	50	100	490	15	45	320	100	35	595	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	637	0	0	672	0	0	604	0	0	818	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.11			1.36			1.16			1.23		
Control Delay		101.5			202.9			119.6			144.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		101.5			202.9			119.6			144.7		
Queue Length 50th (ft)		~451			~549			~441			~626		
Queue Length 95th (ft)		#767			#874			#590			#952		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		572			493			521			664		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.11			1.36			1.16			1.23		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1613	
Flt Permitted		0.80			0.71			0.79			0.95	
Satd. Flow (perm)		1334			1166			1244			1528	
Volume (vph)	70	460	50	100	490	15	45	320	100	35	595	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	505	55	111	544	17	58	416	130	40	676	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	637	0	0	672	0	0	604	0	0	818	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		573			501			534			656	
v/s Ratio Prot												
v/s Ratio Perm		0.48			c0.58			0.49			c0.54	
v/c Ratio		1.11			1.34			1.13			1.25	
Uniform Delay, d1		29.3			29.3			29.3			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		72.1			166.6			80.3			123.6	
Delay (s)		101.4			195.9			109.6			152.9	
Level of Service		F			F			F			F	
Approach Delay (s)		101.4			195.9			109.6			152.9	
Approach LOS		F			F			F			F	

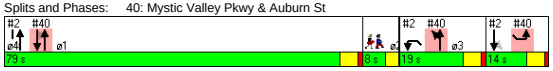
Intersection Summary					
HCM Average Control Delay	141.9	HCM Level of Service	F		
HCM Volume to Capacity ratio	1.29				
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5		
Intersection Capacity Utilization	110.8%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	50	820	1185	25	15	125	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	54	882	1235	0	169	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	19.0	98.0	79.0	0.0	14.0	0.0	8.0
Total Split (%)	15.8%	81.7%	65.8%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	14.0		74.0		9.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.15	0.57	0.98		0.78		
Control Delay	19.8	7.8	16.3		58.3		
Queue Delay	0.0	0.0	7.3		3.9		
Total Delay	19.8	7.8	23.7		62.2		
Queue Length 50th (ft)	8	360	265		84		
Queue Length 95th (ft)	m42	482	m68		#174		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	362	1560	1259		218		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	40		16		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.15	0.57	1.01		0.84		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2001		1773	
Flt Permitted	0.05	1.00	1.00		0.99	
Satd. Flow (perm)	104	1900	2001		1773	
Volume (vph)	50	820	1185	25	15	125
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	54	882	1209	26	18	151
RTOR Reduction (vph)	0	0	1	0	54	0
Lane Group Flow (vph)	54	882	1234	0	115	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	90.9	90.9	72.0		10.1	
Effective Green, g (s)	92.9	92.9	73.0		11.1	
Actuated g/C Ratio	0.77	0.77	0.61		0.09	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	363	1471	1217		164	
v/s Ratio Prot	0.02	c0.46	c0.62		c0.06	
v/s Ratio Perm	0.09					
v/c Ratio	0.15	0.60	1.01		0.70	
Uniform Delay, d1	43.0	5.7	23.5		52.8	
Progression Factor	2.12	1.97	0.46		1.00	
Incremental Delay, d2	0.2	0.7	11.6		13.1	
Delay (s)	91.4	11.9	22.3		65.9	
Level of Service	F	B	C		E	
Approach Delay (s)		16.5	22.3		65.9	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

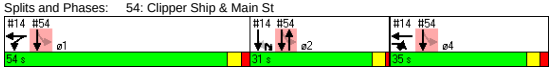
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	90	420	50	2055		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	97	452	0	2171		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	31.0	0.0	120.0	120.0	54.0	35.0
Total Split (%)	0.0%	0.0%	25.8%	0.0%	100.0%	100.0%	45%	29%
Maximum Green (s)			27.0				49.0	30.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.24	0.30		0.84		
Control Delay			40.1	0.5		10.1		
Queue Delay			0.0	0.0		0.0		
Total Delay			40.1	0.5		10.1		
Queue Length 50th (ft)			62	0		367		
Queue Length 95th (ft)			111	0		m160		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			400	1509		2571		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			7	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.25	0.30		0.84		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 130
Control Type: Pretimed
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.82
Satd. Flow (perm)			1776	1509		2572
Volume (vph)	0	0	90	420	50	2055
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	97	452	52	2119
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	97	452	0	2171
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			27.0	120.0		120.0
Effective Green, g (s)			27.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			400	1509		2572
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.30		c0.84
v/c Ratio			0.24	0.30		0.84
Uniform Delay, d1			38.1	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.4	0.5		0.3
Delay (s)			39.6	0.5		0.3
Level of Service			D	A		A
Approach Delay (s)	0.0		7.4			0.3
Approach LOS	A		A			A

Intersection Summary

HCM Average Control Delay	1.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

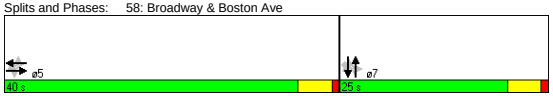
c Critical Lane Group

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50		50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0		0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15		9	9
Right Turn on Red				Yes				Yes				Yes				Yes
Link Speed (mph)		30					30				30			30		
Link Distance (ft)		1637					592				1354			1442		
Travel Time (s)		37.2					13.5				30.8			32.8		
Volume (vph)	10	865	30	20	10	5	520	130	5	15	50	75	315	25	10	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1006	0	0	0	0	581	141	0	0	75	82	0	380	0	22
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm			Perm
Protected Phases		5					5				7			7		
Permitted Phases	5				5	5		Free	7	7		Free	7			7
Detector Phases	5	5			5	5	5		7	7	7		7	7		7
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0		9.0	9.0	9.0		9.0	9.0		9.0
Total Split (s)	40.0	40.0	0.0	0.0	40.0	40.0	40.0	0.0	25.0	25.0	25.0	0.0	25.0	25.0	0.0	25.0
Total Split (%)	61.5%	61.5%	0.0%	0.0%	61.5%	61.5%	61.5%	0.0%	38.5%	38.5%	38.5%	0.0%	38.5%	38.5%	0.0%	38.5%
Maximum Green (s)	35.0	35.0			35.0	35.0	35.0		20.0	20.0	20.0		20.0	20.0		20.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag																
Lead-Lag Optimize?																
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	Max		None	None	None		None	None		None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0									
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0									
Pedestrian Calls (#/hr)	0	0			0	0	0									
v/c Ratio		0.99					0.58	0.09			0.14	0.05		0.96		0.04
Control Delay		42.2					12.5	0.1			16.6	0.1		62.4		7.4
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0		0.0
Total Delay		42.2					12.5	0.1			16.6	0.1		62.4		7.4
Queue Length 50th (ft)		354					137	0			21	0		153		0
Queue Length 95th (ft)		#638					224	0			48	0		#321		13
Internal Link Dist (ft)		1557					512				1274			1362		
Turn Bay Length (ft)																
Base Capacity (vph)		1020					999	1583			518	1583		395		501
Starvation Cap Reductn		0					0	0			0	0		0		0
Spillback Cap Reductn		0					0	0			0	0		0		0
Storage Cap Reductn		0					0	0			0	0		0		0
Reduced v/c Ratio		0.99					0.58	0.09			0.14	0.05		0.96		0.04

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 58: Broadway & Boston Ave



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		0.95		0.95
Frt		0.99					1.00	0.85			1.00	0.85		1.00		0.85
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.96		1.00
Satd. Flow (prot)		1848					1860	1583			1837	1583		1686		1504
Flt Permitted		0.99					0.97	1.00			0.86	1.00		0.69		1.00
Satd. Flow (perm)		1837					1803	1583			1603	1583		1223		1504
Volume (vph)	10	865	30	20	10	5	520	130	5	15	50	75	315	25	10	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	940	33	22	11	5	565	141	5	16	54	82	342	27	11	22
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Lane Group Flow (vph)	0	1005	0	0	0	0	581	141	0	0	75	82	0	380	0	7
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm			Perm
Protected Phases		5					5				7			7		
Permitted Phases	5				5	5		Free	7	7		Free	7			7
Actuated Green, G (s)		35.0					35.0	65.0			20.0	65.0		20.0		20.0
Effective Green, g (s)		36.0					36.0	65.0			21.0	65.0		21.0		21.0
Actuated g/C Ratio		0.55					0.55	1.00			0.32	1.00		0.32		0.32
Clearance Time (s)		5.0					5.0				5.0			5.0		5.0
Vehicle Extension (s)		3.0					3.0				3.0			3.0		3.0
Lane Grp Cap (vph)		1017					999	1583			518	1583		395		486
v/s Ratio Prot																
v/s Ratio Perm		c0.55					0.32	0.09			0.05	0.05		c0.31		0.00
v/c Ratio		0.99					0.58	0.09			0.14	0.05		0.96		0.01
Uniform Delay, d1		14.3					9.5	0.0			15.6	0.0		21.6		15.0
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00		1.00
Incremental Delay, d2		25.5					2.5	0.1			0.1	0.1		35.3		0.0
Delay (s)		39.7					12.0	0.1			15.8	0.1		56.9		15.0
Level of Service		D					B	A			B	A		E		B
Approach Delay (s)		39.7					9.7				7.6			54.6		
Approach LOS		D					A				A			D		

Intersection Summary

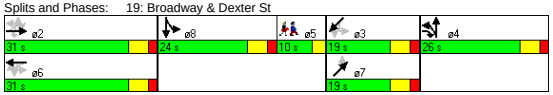
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14	14	14
Grade (%)			0%						0%			1%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0	0	
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15		9
Right Turn on Red					Yes								Yes			
Link Speed (mph)			30						30			30			30	
Link Distance (ft)			1382						1176			419			1711	
Travel Time (s)			31.4						26.7			9.5			38.9	
Volume (vph)	5	15	665	475	20	1	5	20	490	55	230	155	35	20	300	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0	0	0
Lane Group Flow (vph)	0	0	728	526	0	0	0	0	621	0	0	442	0	0	424	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split		
Protected Phases			2	4					6		4	4		8	8	
Permitted Phases	2	2		2		6	6	6								
Detector Phases	2	2	2	4		6	6	6	6		4	4		8	8	
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0	8.0	
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0	14.0	
Total Split (s)	31.0	31.0	31.0	26.0	0.0	31.0	31.0	31.0	31.0	0.0	26.0	26.0	0.0	24.0	24.0	0.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	0.0%	28.2%	28.2%	28.2%	28.2%	0.0%	23.6%	23.6%	0.0%	21.8%	21.8%	0.0%
Maximum Green (s)	25.0	25.0	25.0	20.0		25.0	25.0	25.0	25.0		20.0	20.0		18.0	18.0	
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag														Lead	Lead	
Lead-Lag Optimize?														Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0	2.0	
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None	None	
Walk Time (s)																
Flash Dont Walk (s)																
Pedestrian Calls (#/hr)																
v/c Ratio			0.99	0.66					1.06			1.14			1.16	
Control Delay			69.1	24.1					90.7			128.2			138.0	
Queue Delay			0.0	0.0					0.0			0.0			0.0	
Total Delay			69.1	24.1					90.7			128.2			138.0	
Queue Length 50th (ft)			242	231					~225			~326			~318	
Queue Length 95th (ft)			#420	422					#385			#588			#537	
Internal Link Dist (ft)			1302						1096			339			1631	
Turn Bay Length (ft)																
Base Capacity (vph)			737	792					588			387			364	
Starvation Cap Reductn			0	0					0			0			0	
Spillback Cap Reductn			0	0					0			0			0	
Storage Cap Reductn			0	0					0			0			0	
Reduced v/c Ratio			0.99	0.66					1.06			1.14			1.16	

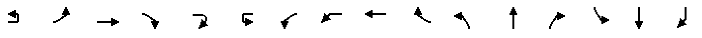
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 102	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
~	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations									
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	12	12	12	12	12	12	12	
Grade (%)		0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50	50			
Trailing Detector (ft)		0		0	0	0			
Turning Speed (mph)	9		9	15	15		9	9	
Right Turn on Red	Yes							Yes	
Link Speed (mph)		30				30			
Link Distance (ft)		342				975			
Travel Time (s)		7.8				22.2			
Volume (vph)	25	0	90	20	85	15	40	10	
Peak Hour Factor	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	105	0	0	0	201	0	0	
Turn Type				Perm	Perm				
Protected Phases		7				3			5
Permitted Phases				3	3				
Detector Phases		7		3	3	3			
Minimum Initial (s)		4.0		4.0	4.0	4.0			4.0
Minimum Split (s)		10.0		10.0	10.0	10.0			10.0
Total Split (s)	0.0	19.0	0.0	19.0	19.0	19.0	0.0	0.0	10.0
Total Split (%)	0.0%	17.3%	0.0%	17.3%	17.3%	17.3%	0.0%	0.0%	9%
Maximum Green (s)		13.0		13.0	13.0	13.0			7.0
Yellow Time (s)		4.0		4.0	4.0	4.0			3.0
All-Red Time (s)		2.0		2.0	2.0	2.0			0.0
Lead/Lag									Lag
Lead-Lag Optimize?									Yes
Vehicle Extension (s)		2.0		2.0	2.0	2.0			3.0
Recall Mode		None		None	None	None			None
Walk Time (s)									4.0
Flash Dont Walk (s)									3.0
Pedestrian Calls (#/hr)									11
v/c Ratio		0.46				1.14			
Control Delay		48.8				150.9			
Queue Delay		0.0				0.0			
Total Delay		48.8				150.9			
Queue Length 50th (ft)		62				~148			
Queue Length 95th (ft)		121				#300			
Internal Link Dist (ft)		262				895			
Turn Bay Length (ft)									
Base Capacity (vph)		226				177			
Starvation Cap Reductn		0				0			
Spillback Cap Reductn		0				0			
Storage Cap Reductn		0				0			
Reduced v/c Ratio		0.46				1.14			

Intersection Summary

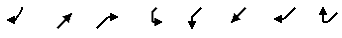


Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14	14	14
Grade (%)			0%						0%			1%			1%	
Total Lost time (s)			5.0	5.0					5.0			5.0			5.0	
Lane Util. Factor			0.95	1.00					0.95			1.00			1.00	
Frt			1.00	0.85					0.99			0.99			0.98	
Flt Protected			1.00	1.00					1.00			0.97			1.00	
Satd. Flow (prot)			3500	1549					3265			1861			1939	
Flt Permitted			0.85	1.00					0.73			0.97			1.00	
Satd. Flow (perm)			2987	1549					2404			1861			1939	
Volume (vph)	5	15	665	475	20	1	5	20	490	55	230	155	35	20	300	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86	0.86	0.86
Adj. Flow (vph)	5	16	707	505	21	1	5	22	533	60	242	163	37	23	349	23
RTOR Reduction (vph)	0	0	0	2	0	0	0	0	0	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	0	728	524	0	0	0	0	621	0	0	439	0	0	422	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split		
Protected Phases			2	4					6		4	4		8	8	
Permitted Phases	2	2		2		6	6	6								
Actuated Green, G (s)			25.0	45.0					25.0			20.0			18.0	
Effective Green, g (s)			26.0	47.0					26.0			21.0			19.0	
Actuated g/C Ratio			0.25	0.45					0.25			0.20			0.18	
Clearance Time (s)			6.0	6.0					6.0			6.0			6.0	
Vehicle Extension (s)			4.0	6.0					4.0			6.0			2.0	
Lane Grp Cap (vph)			745	772					599			375			353	
v/s Ratio Prot				0.14								c0.24			c0.22	
v/s Ratio Perm			0.24	0.20					c0.26							
v/c Ratio			0.98	0.68					1.04			1.17			1.19	
Uniform Delay, d1			38.9	22.7					39.2			41.6			42.6	
Progression Factor			1.00	1.00					1.00			1.00			1.00	
Incremental Delay, d2			27.2	3.7					46.6			101.5			111.9	
Delay (s)			66.0	26.4					85.8			143.1			154.5	
Level of Service			E	C					F			F			F	
Approach Delay (s)			49.4						85.8			143.1			154.5	
Approach LOS			D						F			F			F	

Intersection Summary				
HCM Average Control Delay	91.8	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	24.3	
Intersection Capacity Utilization	112.3%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St

2030 Build Condition Alt 6 - AM Peak
HCM Signalized Intersection Capacity Analysis



Movement	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	12	12	12	12	12
Grade (%)		0%				1%		
Total Lost time (s)		5.0				5.0		
Lane Util. Factor		1.00				1.00		
Frt		0.86				0.96		
Flt Protected		1.00				0.97		
Satd. Flow (prot)		1644				1761		
Flt Permitted		1.00				0.72		
Satd. Flow (perm)		1644				1305		
Volume (vph)	25	0	90	20	85	15	40	10
Peak-hour factor, PHF	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	29	0	105	24	100	18	47	12
RTOR Reduction (vph)	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	105	0	0	0	199	0	0
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0
Turn Type				Perm	Perm			
Protected Phases		7				3		
Permitted Phases				3	3			
Actuated Green, G (s)		13.0				13.0		
Effective Green, g (s)		14.0				14.0		
Actuated g/C Ratio		0.13				0.13		
Clearance Time (s)		6.0				6.0		
Vehicle Extension (s)		2.0				2.0		
Lane Grp Cap (vph)		221				175		
v/s Ratio Prot		0.06						
v/s Ratio Perm						c0.15		
v/c Ratio		0.48				1.14		
Uniform Delay, d1		41.8				45.2		
Progression Factor		1.00				1.00		
Incremental Delay, d2		0.6				110.2		
Delay (s)		42.3				155.4		
Level of Service		D				F		
Approach Delay (s)		42.3				155.4		
Approach LOS		D				F		

Intersection Summary

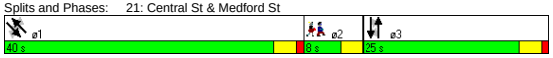
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 6\optimize\coordination\2030 Build Alt 6- AM.sy7
VHB:: VL
VHB, Inc.
10/29/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	200	80	20	170	10	15	615	120	85	255	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	409	0	0	236	0	0	824	0	0	384	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	25.0	25.0	0.0	25.0	25.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	8.0
Total Split (%)	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	54.8%	54.8%	0.0%	54.8%	54.8%	0.0%	11%
Maximum Green (s)	21.0	21.0		21.0	21.0		36.0	36.0		36.0	36.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.81			0.46			0.82			0.57		
Control Delay		35.7			22.4			22.4			14.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.7			22.4			22.4			14.7		
Queue Length 50th (ft)		135			72			242			89		
Queue Length 95th (ft)		#266			141			#571			214		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		531			542			1003			678		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.77			0.44			0.82			0.57		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 65.1
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1788			1823			1821			1798	
Flt Permitted		0.91			0.94			0.99			0.72	
Satd. Flow (perm)		1639			1719			1806			1302	
Volume (vph)	55	200	80	20	170	10	15	615	120	85	255	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	244	98	24	200	12	16	676	132	93	280	11
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	393	0	0	236	0	0	824	0	0	383	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		19.5			19.5			36.2			36.2	
Effective Green, g (s)		19.5			19.5			36.2			36.2	
Actuated g/C Ratio		0.29			0.29			0.54			0.54	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		473			496			967			697	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.46			0.29	
v/c Ratio		0.83			0.48			0.85			0.55	
Uniform Delay, d1		22.5			19.8			13.4			10.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.3			1.0			9.4			3.1	
Delay (s)		34.8			20.8			22.8			13.4	
Level of Service		C			C			C			B	
Approach Delay (s)		34.8			20.8			22.8			13.4	
Approach LOS		C			C			C			B	

Intersection Summary

HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

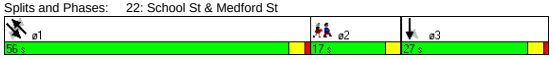
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			1535		
Travel Time (s)		21.7			21.8			35.4			34.9		
Volume (vph)	0	0	0	145	315	20	10	725	100	160	280	70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	522	0	0	869	0	0	580	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	27.0	27.0	0.0	56.0	56.0	0.0	56.0	56.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	27.0%	27.0%	0.0%	56.0%	56.0%	0.0%	56.0%	56.0%	0.0%	17%
Maximum Green (s)				23.0	23.0		52.0	52.0		52.0	52.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.02			0.77			1.12		
Control Delay					79.4			21.7			98.7		
Queue Delay					0.0			0.0			0.0		
Total Delay					79.4			21.7			98.7		
Queue Length 50th (ft)					265			270			~330		
Queue Length 95th (ft)					#597			#715			#655		
Internal Link Dist (ft)		873			879			1476			1455		
Turn Bay Length (ft)													
Base Capacity (vph)					514			1135			518		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.02			0.77			1.12		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89.8
Natural Cycle: 150
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.98	
Satd. Flow (prot)					1985			1949			1878	
Flt Permitted					0.99			0.99			0.52	
Satd. Flow (perm)					1985			1938			986	
Volume (vph)	0	0	0	145	315	20	10	725	100	160	280	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	158	342	22	10	755	104	182	318	80
RTOR Reduction (vph)	0	0	0	0	1	0	0	4	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	521	0	0	865	0	0	575	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					23.2			52.4			52.4	
Effective Green, g (s)					23.2			52.4			52.4	
Actuated g/C Ratio					0.25			0.57			0.57	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					503			1109			564	
v/s Ratio Prot												
v/s Ratio Perm					0.26			0.45			c0.58	
v/c Ratio					1.03			0.78			1.02	
Uniform Delay, d1					34.2			15.1			19.6	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					49.4			5.4			42.8	
Delay (s)					83.6			20.6			62.4	
Level of Service					F			C			E	
Approach Delay (s)		0.0			83.6			20.6			62.4	
Approach LOS		A			F			C			E	

Intersection Summary

HCM Average Control Delay	49.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		

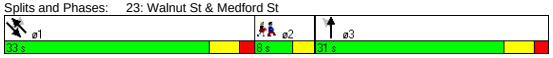
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1535			533		
Travel Time (s)		17.7			19.2			34.9			12.1		
Volume (vph)	80	200	10	0	0	0	10	590	0	0	165	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	306	0	0	0	0	0	625	0	0	211	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	8.0
Total Split (%)	43.1%	43.1%	0.0%	0.0%	0.0%	0.0%	45.8%	45.8%	0.0%	0.0%	45.8%	0.0%	11%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.41						0.79			0.27		
Control Delay		16.7						26.4			13.4		
Queue Delay		0.0						0.0			0.0		
Total Delay		16.7						26.4			13.4		
Queue Length 50th (ft)		81						196			47		
Queue Length 95th (ft)		168						#435			104		
Internal Link Dist (ft)		699			764			1455			453		
Turn Bay Length (ft)													
Base Capacity (vph)		743						801			783		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.41						0.78			0.27		

Intersection Summary

Area Type: Other
Cycle Length: 72
Actuated Cycle Length: 65
Natural Cycle: 70
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1847						1880			1818	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1847						1871			1818	
Volume (vph)	80	200	10	0	0	0	10	590	0	0	165	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	84	211	11	0	0	0	10	615	0	0	188	23
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	304	0	0	0	0	0	625	0	0	205	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.1						26.5			26.5	
Effective Green, g (s)		26.1						27.5			27.5	
Actuated g/C Ratio		0.39						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		714						762			741	
v/s Ratio Prot											0.11	
v/s Ratio Perm		0.16						c0.33				
v/c Ratio		0.43						0.82			0.28	
Uniform Delay, d1		15.2						17.8			13.4	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						7.4			0.3	
Delay (s)		15.8						25.2			13.6	
Level of Service		B						C			B	
Approach Delay (s)		15.8			0.0			25.2			13.6	
Approach LOS		B			A			C			B	

Intersection Summary

HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	67.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

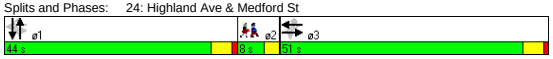
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	610	25	35	410	190	2	0	10	550	30	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	683	0	0	511	218	0	22	0	0	616	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	51.0	51.0	0.0	51.0	51.0	95.0	44.0	44.0	0.0	44.0	44.0	0.0	8.0
Total Split (%)	49.5%	49.5%	0.0%	49.5%	49.5%	92.2%	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%	8%
Maximum Green (s)	46.0	46.0		46.0	46.0		39.0	39.0		39.0	39.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.76			0.89	0.14		0.03			1.11		
Control Delay		27.7			43.6	0.3		9.5			99.5		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		27.7			43.6	0.3		9.5			99.5		
Queue Length 50th (ft)		316			264	0		1			~421		
Queue Length 95th (ft)		#545			#506	4		8			#701		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		895			572	1599		630			557		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.76			0.89	0.14		0.03			1.11		

Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 96.6	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1835			1913	1632		1595			1777	
Flt Permitted		1.00			0.67	1.00		0.93			0.72	
Satd. Flow (perm)		1835			1284	1632		1497			1345	
Volume (vph)	0	610	25	35	410	190	2	0	10	550	30	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	656	27	40	471	218	4	0	18	579	32	5
RTOR Reduction (vph)	0	2	0	0	0	17	0	11	0	0	0	0
Lane Group Flow (vph)	0	681	0	0	511	201	0	11	0	0	616	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		46.0			46.0	90.0		39.0			39.0	
Effective Green, g (s)		47.0			47.0	91.0		40.0			40.0	
Actuated g/C Ratio		0.48			0.48	0.92		0.40			0.40	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		872			610	1502		605			544	
v/s Ratio Prot		0.37										
v/s Ratio Perm					c0.40	0.12		0.01			c0.46	
v/c Ratio		0.78			0.84	0.13		0.02			1.13	
Uniform Delay, d1		21.7			22.6	0.4		17.7			29.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		6.9			12.9	0.2		0.1			80.5	
Delay (s)		28.6			35.6	0.5		17.7			110.0	
Level of Service		C			D	A		B			F	
Approach Delay (s)		28.6			25.1			17.7			110.0	
Approach LOS		C			C			B			F	

Intersection Summary			
HCM Average Control Delay	51.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	98.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

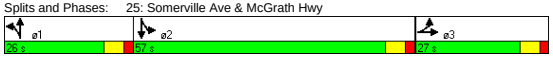
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	370	120	0	0	0	45	200	30	200	1230	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	635	0	0	0	0	0	266	33	213	1458	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	27.0	27.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	57.0	57.0	0.0
Total Split (%)	24.5%	24.5%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	51.8%	51.8%	0.0%
Maximum Green (s)	21.0	21.0					20.0	20.0		51.0	51.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.93						0.40	0.02	0.26	0.95	
Control Delay		63.2						41.1	0.0	18.5	41.5	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		63.2						41.1	0.0	18.5	41.5	
Queue Length 50th (ft)		225						87	0	88	497	
Queue Length 95th (ft)		#337						128	0	139	#668	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		682						663	1672	821	1539	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.93						0.40	0.02	0.26	0.95	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3305						3473	1672	1736	3238	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3305						3473	1672	1736	3238	
Volume (vph)	100	370	120	0	0	0	45	200	30	200	1230	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	398	129	0	0	0	49	217	33	213	1309	149
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	614	0	0	0	0	0	266	33	213	1450	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		21.0						20.0	110.0	51.0	51.0	
Effective Green, g (s)		22.0						21.0	110.0	52.0	52.0	
Actuated g/C Ratio		0.20						0.19	1.00	0.47	0.47	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		661						663	1672	821	1531	
v/s Ratio Prot		c0.19						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.93						0.40	0.02	0.26	0.95	
Uniform Delay, d1		43.2						39.0	0.0	17.4	27.7	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		21.4						1.8	0.0	0.8	13.5	
Delay (s)		64.6						40.8	0.0	18.2	41.1	
Level of Service		E						D	A	B	D	
Approach Delay (s)		64.6			0.0			36.3			38.2	
Approach LOS		E			A			D			D	

Intersection Summary

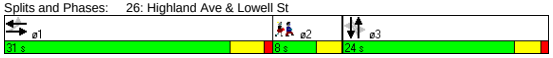
HCM Average Control Delay	44.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	30	385	0	0	460	30	25	70	40	170	0	145	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	483	0	0	644	0	0	190	0	0	335	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	31.0	31.0	0.0	0.0	31.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0	8.0
Total Split (%)	49.2%	49.2%	0.0%	0.0%	49.2%	0.0%	38.1%	38.1%	0.0%	38.1%	38.1%	0.0%	13%
Maximum Green (s)	26.0	26.0			26.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.71			0.69			0.38			0.77		
Control Delay		20.5			17.5			17.1			27.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		20.5			17.5			17.1			27.7		
Queue Length 50th (ft)		113			149			43			69		
Queue Length 95th (ft)		#300			255			78			#214		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		683			933			580			489		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.71			0.69			0.33			0.69		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 53.2	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



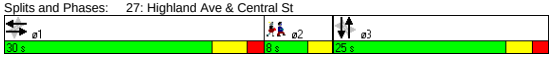
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1820			1812			1772			1693	
Flt Permitted		0.90			1.00			0.92			0.73	
Satd. Flow (perm)		1653			1812			1639			1266	
Volume (vph)	30	385	0	0	460	30	25	70	40	170	0	145
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	35	448	0	0	605	39	35	99	56	181	0	154
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	50	0
Lane Group Flow (vph)	0	483	0	0	644	0	0	190	0	0	285	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		26.4			26.4			16.3			16.3	
Effective Green, g (s)		27.4			27.4			16.3			16.3	
Actuated g/C Ratio		0.49			0.49			0.29			0.29	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		816			895			481			372	
v/s Ratio Prot					c0.36							
v/s Ratio Perm		0.29						0.12			c0.22	
v/c Ratio		0.59			0.72			0.40			0.77	
Uniform Delay, d1		10.1			11.0			15.7			17.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.1			5.0			0.7			9.6	
Delay (s)		13.2			16.0			16.4			27.5	
Level of Service		B			B			B			C	
Approach Delay (s)		13.2			16.0			16.4			27.5	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	40	195	45	30	230	50	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	318	0	0	408	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	47.6%	47.6%	0.0%	47.6%	47.6%	0.0%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	13%
Maximum Green (s)	24.0	24.0		24.0	24.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.72			0.66			0.58			0.70		
Control Delay		19.9			18.0			19.4			23.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		19.9			18.0			19.4			23.1		
Queue Length 50th (ft)		128			110			75			103		
Queue Length 95th (ft)		#287			182			167			175		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		832			799			624			668		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.65			0.60			0.51			0.61		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1792			1804	
Flt Permitted		0.95			0.93			0.90			0.95	
Satd. Flow (perm)		1741			1689			1626			1719	
Volume (vph)	30	405	35	30	300	25	40	195	45	30	230	50
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	45	222	51	39	303	66
RTOR Reduction (vph)	0	5	0	0	4	0	0	11	0	0	11	0
Lane Group Flow (vph)	0	535	0	0	476	0	0	307	0	0	397	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		20.3			20.3			16.7			16.7	
Effective Green, g (s)		21.3			21.3			16.7			16.7	
Actuated g/C Ratio		0.41			0.41			0.32			0.32	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		716			695			524			554	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.19			c0.23	
v/c Ratio		0.75			0.68			0.59			0.72	
Uniform Delay, d1		13.0			12.5			14.7			15.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.6			3.0			2.0			4.7	
Delay (s)		17.5			15.5			16.6			20.2	
Level of Service		B			B			B			C	
Approach Delay (s)		17.5			15.5			16.6			20.2	
Approach LOS		B			B			B			C	

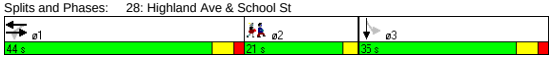
Intersection Summary					
HCM Average Control Delay	17.4	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.67				
Actuated Cycle Length (s)	51.8	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	62.0%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	510	15	40	380	0	0	0	0	200	260	90	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	610	0	0	483	0	0	0	0	0	592	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	44.0	0.0	44.0	44.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	21.0
Total Split (%)	0.0%	44.0%	0.0%	44.0%	44.0%	0.0%	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%	21%
Maximum Green (s)		38.0		38.0	38.0					29.0	29.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.12						0.91		
Control Delay		25.4			103.5						46.0		
Queue Delay		0.0			0.0						0.0		
Total Delay		25.4			103.5						46.0		
Queue Length 50th (ft)		218			~268						264		
Queue Length 95th (ft)		#514			#574						#639		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		846			433						654		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.72			1.12						0.91		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 83.2	
Natural Cycle: 120	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1798	
Flt Permitted		1.00			0.72						0.98	
Satd. Flow (perm)		1786			1285						1798	
Volume (vph)	0	510	15	40	380	0	0	0	0	200	260	90
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	593	17	46	437	0	0	0	0	215	280	97
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	609	0	0	483	0	0	0	0	0	592	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		38.3			38.3						29.3	
Effective Green, g (s)		39.3			39.3						30.3	
Actuated g/C Ratio		0.46			0.46						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		820			590						636	
v/s Ratio Prot		0.34										
v/s Ratio Perm					c0.38						0.33	
v/c Ratio		0.74			0.82						0.93	
Uniform Delay, d1		19.0			20.1						26.6	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.7			8.7						20.6	
Delay (s)		22.7			28.7						47.3	
Level of Service		C			C						D	
Approach Delay (s)		22.7			28.7			0.0			47.3	
Approach LOS		C			C			A			D	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	420	100	310	1000	220	320	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	545	130	333	1075	324	471	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	58.0	58.0	58.0	58.0	26.0	26.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	26.8%	26.8%	13%
Maximum Green (s)	53.0	53.0	53.0	53.0	21.0	21.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.47	0.15	0.87	0.94	0.74	1.03	
Control Delay	11.0	2.1	40.5	32.7	42.4	78.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	11.0	2.1	40.5	32.7	42.4	78.0	
Queue Length 50th (ft)	129	0	122	436	155	~212	
Queue Length 95th (ft)	228	16	#380	#976	205	#291	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1166	882	383	1143	438	458	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.15	0.87	0.94	0.74	1.03	

Intersection Summary

Area Type: Other
Cycle Length: 97
Actuated Cycle Length: 86.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	668	1827	1719	1538
Volume (vph)	420	100	310	1000	220	320
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	545	130	333	1075	324	471
RTOR Reduction (vph)	0	51	0	0	0	66
Lane Group Flow (vph)	545	79	333	1075	324	405
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	53.2	53.2	53.2	53.2	21.1	21.1
Effective Green, g (s)	54.2	54.2	54.2	54.2	22.1	22.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.25	0.25
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1133	811	406	1111	426	381
v/s Ratio Prot	0.29			c0.59	0.19	c0.26
v/s Ratio Perm		0.06	0.50			
v/c Ratio	0.48	0.10	0.82	0.97	0.76	1.06
Uniform Delay, d1	9.7	7.3	13.6	16.6	31.0	33.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	11.9	19.3	8.3	63.6
Delay (s)	9.8	7.3	25.6	35.9	39.3	97.1
Level of Service	A	A	C	D	D	F
Approach Delay (s)	9.3			33.5	73.6	
Approach LOS	A			C	E	

Intersection Summary

HCM Average Control Delay	38.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

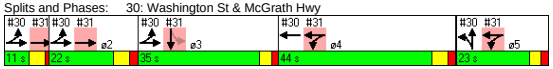
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2	ø3
Lane Configurations															
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900			
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0			
Turning Speed (mph)	15		9	15		9	15		9	15		9			
Right Turn on Red			Yes			No			Yes			Yes			
Link Speed (mph)		30			30			30			30				
Link Distance (ft)		86			958			410			438				
Travel Time (s)		2.0			21.8			9.3			10.0				
Volume (vph)	590	380	0	0	1270	105	25	235	545	0	0	0			
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92			
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%			
Lane Group Flow (vph)	641	427	0	0	1528	0	29	270	626	0	0	0			
Turn Type	Split						Split		Free						
Protected Phases	1 2 3	1 2 3			4		5	5					1	2	3
Permitted Phases									Free						
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0	10.0
Total Split (s)	68.0	68.0	0.0	0.0	44.0	0.0	23.0	23.0	0.0	0.0	0.0	0.0	11.0	22.0	35.0
Total Split (%)	50.4%	50.4%	0.0%	0.0%	32.6%	0.0%	17.0%	17.0%	0.0%	0.0%	0.0%	0.0%	8%	16%	26%
Maximum Green (s)					38.0		18.0	18.0					6.0	16.0	30.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0	3.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0	2.0
Lead/Lag					Lag								Lead	Lag	Lead
Lead-Lag Optimize?					Yes								Yes	Yes	Yes
Walk Time (s)					5.0									5.0	
Flash Dont Walk (s)					11.0									10.0	
Pedestrian Calls (#/hr)					0									0	
v/c Ratio	0.39	0.19			1.07		0.13	1.16	0.42						
Control Delay	1.9	0.6			91.0		53.4	160.7	0.9						
Queue Delay	0.0	0.0			39.0		0.1	0.0	0.0						
Total Delay	1.9	0.6			130.0		53.5	160.7	0.9						
Queue Length 50th (ft)	20	1			~543		23	~280	0						
Queue Length 95th (ft)	m22	m1			#640		52	#438	0						
Internal Link Dist (ft)		6			878			330			358				
Turn Bay Length (ft)															
Base Capacity (vph)	1660	2200			1426		221	232	1482						
Starvation Cap Reductn	0	0			0		0	0	0						
Spillback Cap Reductn	0	0			112		16	0	0						
Storage Cap Reductn	0	0			0		0	0	0						
Reduced v/c Ratio	0.39	0.19			1.16		0.14	1.16	0.42						

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Washington St & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4935		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4935		1656	1743	1482			
Volume (vph)	590	380	0	0	1270	105	25	235	545	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	641	427	0	0	1411	117	29	270	626	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	641	427	0	0	1528	0	29	270	626	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	63.0	63.0			38.0		18.0	18.0	135.0			
Effective Green, g (s)	63.0	63.0			39.0		18.0	18.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.29		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1660	2200			1426		221	232	1482			
v/s Ratio Prot	0.18	0.09			c0.31		0.02	c0.15				
v/s Ratio Perm									c0.42			
v/c Ratio	0.39	0.19			1.07		0.13	1.16	0.42			
Uniform Delay, d1	23.4	21.1			48.0		51.6	58.5	0.0			
Progression Factor	0.06	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			45.6		1.2	110.5	0.9			
Delay (s)	1.9	0.6			93.6		52.8	169.0	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		1.4			93.6			51.6			0.0	
Approach LOS		A			F			D			A	

Intersection Summary

HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

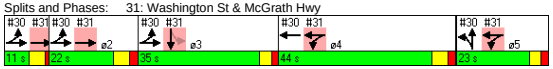
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2	ø4	ø5
Lane Configurations																
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750				
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14				
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0				
Turning Speed (mph)	15		9	15		9	15		9	15		9				
Right Turn on Red			Yes			Yes			Yes			Yes				
Link Speed (mph)		30			30			30			30					
Link Distance (ft)		1125			86			216			1794					
Travel Time (s)		25.6			2.0			4.9			40.8					
Volume (vph)	0	925	35	580	715	0	0	0	0	45	160	500				
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88				
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%				
Lane Group Flow (vph)	0	1044	0	617	812	0	0	0	0	0	812	0				
Turn Type				Split						Perm						
Protected Phases		1 2		4 5	4 5						3		1	2	4	5
Permitted Phases										3						
Minimum Split (s)										10.0	10.0		11.0	21.0	22.0	10.0
Total Split (s)	0.0	33.0	0.0	67.0	67.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	11.0	22.0	44.0	23.0
Total Split (%)	0.0%	24.4%	0.0%	49.6%	49.6%	0.0%	0.0%	0.0%	0.0%	25.9%	25.9%	0.0%	8%	16%	33%	17%
Maximum Green (s)										30.0	30.0		6.0	16.0	38.0	18.0
Yellow Time (s)										3.0	3.0		4.0	4.0	4.0	3.0
All-Red Time (s)										2.0	2.0		1.0	2.0	2.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag	Lag	
Lead-Lag Optimize?										Yes	Yes		Yes	Yes	Yes	
Walk Time (s)														5.0	5.0	
Flash Dont Walk (s)														10.0	11.0	
Pedestrian Calls (#/hr)														0	0	
v/c Ratio		0.74		0.78	0.52						1.40dr					
Control Delay		53.5		6.6	0.2						110.6					
Queue Delay		0.2		0.0	0.0						29.4					
Total Delay		53.7		6.6	0.2						140.0					
Queue Length 50th (ft)		212		102	0						~397					
Queue Length 95th (ft)		247		m66	m0						#510					
Internal Link Dist (ft)		1045			6			136			1714					
Turn Bay Length (ft)																
Base Capacity (vph)		1409		789	1564						732					
Starvation Cap Reductn		0		0	0						0					
Spillback Cap Reductn		47		0	0						43					
Storage Cap Reductn		0		0	0						0					
Reduced v/c Ratio		0.77		0.78	0.52						1.18					

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 31: Washington St & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6775		1719	3406						3010	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6775		1719	3406						3010	
Volume (vph)	0	925	35	580	715	0	0	0	0	45	160	500
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	1005	39	617	812	0	0	0	0	62	182	568
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	63	0
Lane Group Flow (vph)	0	1039	0	617	812	0	0	0	0	0	749	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		62.0	62.0						30.0	
Effective Green, g (s)		28.0		62.0	62.0						30.0	
Actuated g/C Ratio		0.21		0.46	0.46						0.22	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1405		789	1564						669	
v/s Ratio Prot		c0.15		c0.36	0.24							
v/s Ratio Perm											0.25	
v/c Ratio		0.74		0.78	0.52						1.40dr	
Uniform Delay, d1		50.1		30.8	25.9						52.5	
Progression Factor		1.00		0.18	0.00						1.00	
Incremental Delay, d2		3.5		0.7	0.1						72.5	
Delay (s)		53.6		6.4	0.2						125.0	
Level of Service		D		A	A						F	
Approach Delay (s)		53.6			2.9			0.0			125.0	
Approach LOS		D			A			A			F	

Intersection Summary

HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

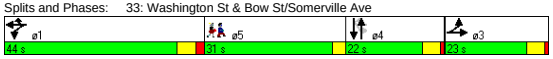
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	340	65	580	490	460	0	0	0	420	365	70	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	474	0	637	538	505	0	0	0	260	649	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	23.0	23.0	0.0	44.0	44.0	44.0	0.0	22.0	0.0	22.0	22.0	0.0	31.0
Total Split (%)	19.2%	19.2%	0.0%	36.7%	36.7%	36.7%	0.0%	18.3%	0.0%	18.3%	18.3%	0.0%	26%
Maximum Green (s)	18.0	18.0		38.0	38.0	38.0		17.0		17.0	17.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													14
v/c Ratio		1.09		1.28	1.03	0.47				0.76	0.89		
Control Delay		115.9		150.9	43.7	2.4				56.2	55.2		
Queue Delay		0.0		0.0	0.0	0.6				0.0	0.0		
Total Delay		115.9		150.9	43.7	3.0				56.2	55.2		
Queue Length 50th (ft)		~217		~616	~400	34				168	218		
Queue Length 95th (ft)		#326		m#489	m283	m23				#497	#541		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		436		498	524	1065				342	733		
Starvation Cap Reductn		0		0	0	237				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.09		1.28	1.03	0.61				0.76	0.89		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2750		1533	1613	1371				1408	2721	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2750		1533	1613	1371				1122	2371	
Volume (vph)	35	340	65	580	490	460	0	0	0	420	365	70
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	366	70	637	538	505	0	0	0	447	388	74
RTOR Reduction (vph)	0	0	0	0	0	199	0	0	0	0	6	0
Lane Group Flow (vph)	0	474	0	637	538	306	0	0	0	260	643	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		18.0		36.2	36.2	71.8				35.6	35.6	
Effective Green, g (s)		19.0		37.2	37.2	72.8				36.6	36.6	
Actuated g/C Ratio		0.16		0.31	0.31	0.61				0.30	0.30	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		435		475	500	832				342	723	
v/s Ratio Prot		c0.17		c0.42	0.33	0.11						
v/s Ratio Perm						0.11				0.23	c0.27	
v/c Ratio		1.09		1.34	1.08	0.37				0.76	0.89	
Uniform Delay, d1		50.5		41.4	41.4	12.0				37.7	39.8	
Progression Factor		1.00		0.54	0.53	2.55				1.00	1.00	
Incremental Delay, d2		69.5		154.8	38.3	0.0				10.1	13.1	
Delay (s)		120.0		177.2	60.4	30.5				47.9	52.9	
Level of Service		F		F	E	C				D	D	
Approach Delay (s)		120.0			95.7			0.0			51.5	
Approach LOS		F			F			A			D	

Intersection Summary

HCM Average Control Delay	86.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

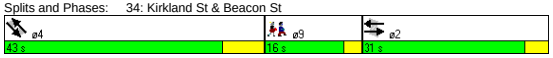
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	210	35	45	320	55	40	505	140	30	280	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	380	0	0	467	0	0	761	0	0	370	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	31.0	31.0	0.0	31.0	31.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0	16.0
Total Split (%)	34.4%	34.4%	0.0%	34.4%	34.4%	0.0%	47.8%	47.8%	0.0%	47.8%	47.8%	0.0%	18%
Maximum Green (s)	27.0	27.0		27.0	27.0		36.0	36.0		36.0	36.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.88			0.89			0.95			0.52		
Control Delay		50.7			48.4			45.6			19.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		50.7			48.4			45.6			19.9		
Queue Length 50th (ft)		152			187			288			103		
Queue Length 95th (ft)		#321			#467			#702			249		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		432			524			801			708		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.88			0.89			0.95			0.52		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80.4
Natural Cycle: 100
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1748			1703			1771			1730	
Flt Permitted		0.77			0.92			0.96			0.90	
Satd. Flow (perm)		1355			1569			1702			1568	
Volume (vph)	55	210	35	45	320	55	40	505	140	30	280	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	266	44	50	356	61	44	561	156	33	304	33
RTOR Reduction (vph)	0	5	0	0	6	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	375	0	0	461	0	0	751	0	0	366	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		27.2			27.2			36.3			36.3	
Effective Green, g (s)		27.2			27.2			37.3			37.3	
Actuated g/C Ratio		0.33			0.33			0.45			0.45	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		449			520			773			712	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.29			c0.44			0.23	
v/c Ratio		0.84			0.89			0.97			0.51	
Uniform Delay, d1		25.4			26.0			21.9			15.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		16.7			19.6			26.2			2.6	
Delay (s)		42.0			45.5			48.1			18.6	
Level of Service		D			D			D			B	
Approach Delay (s)		42.0			45.5			48.1			18.6	
Approach LOS		D			D			D			B	

Intersection Summary

HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	17.6
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

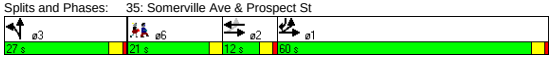
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	260	505	0	0	160	40	155	580	75	0	0	1265	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	823	0	0	225	0	170	719	0	0	0	1421	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	60.0	72.0	0.0	0.0	12.0	0.0	27.0	27.0	0.0	0.0	0.0	60.0	21.0
Total Split (%)	50.0%	60.0%	0.0%	0.0%	10.0%	0.0%	22.5%	22.5%	0.0%	0.0%	0.0%	50.0%	18%
Maximum Green (s)	56.0				8.0		23.0	23.0				56.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.36		0.64	1.28				1.26	
Control Delay		1.1			41.0		56.7	179.2				155.1	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		1.1			41.0		56.7	179.2				155.1	
Queue Length 50th (ft)		1			68		134	~386				~785	
Queue Length 95th (ft)		m2			#173		219	#518				#919	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1816			625		267	561				1126	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.36		0.64	1.28				1.26	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2986			2945		1395	2886				2413
Flt Permitted		0.73			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2204			2945		1395	2886				2413
Volume (vph)	260	505	0	0	160	40	155	580	75	0	0	1265
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	280	543	0	0	180	45	170	637	82	0	0	1421
RTOR Reduction (vph)	0	0	0	0	16	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	823	0	0	209	0	170	711	0	0	0	1421
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		78.4			24.8		23.0	23.0				53.6
Effective Green, g (s)		78.4			24.8		23.0	23.0				53.6
Actuated g/C Ratio		0.65			0.21		0.19	0.19				0.45
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1789			609		267	553				1078
v/s Ratio Prot		0.21			0.07		0.12	c0.25				c0.59
v/s Ratio Perm		c0.10										
v/c Ratio		0.46			0.34		0.64	1.29				1.32
Uniform Delay, d1		10.3			40.6		44.7	48.5				33.2
Progression Factor		0.08			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.3			1.5		5.5	141.8				149.8
Delay (s)		1.1			42.2		50.2	190.3				183.0
Level of Service		A			D		D	F				F
Approach Delay (s)		1.1			42.2			163.5			183.0	
Approach LOS		A			D			F			F	

Intersection Summary

HCM Average Control Delay	123.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	220	130	500	370	5	20	370	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	311	0	134	901	0	0	0	466	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	61.0	61.0	0.0	61.0	61.0	0.0	0.0	34.0	34.0	0.0	25.0
Total Split (%)	50.8%	50.8%	0.0%	50.8%	50.8%	0.0%	0.0%	28.3%	28.3%	0.0%	21%
Maximum Green (s)	56.0	56.0		56.0	56.0			30.0	30.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											12
v/c Ratio		1.60		0.23	0.85				0.77		
Control Delay		314.0		13.6	28.8				42.9		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		314.0		13.6	28.8				42.9		
Queue Length 50th (ft)		~147		34	392				248		
Queue Length 95th (ft)		#412		107	#994				#536		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		194		587	1059				603		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.60		0.23	0.85				0.77		

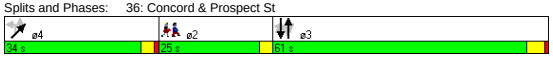
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1675		1869	1841				1988	
Flt Permitted		0.39		0.55	1.00				1.00	
Satd. Flow (perm)		658		1079	1841				1988	
Volume (vph)	60	0	220	130	500	370	5	20	370	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	244	134	515	381	5	23	420	23
RTOR Reduction (vph)	0	33	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	278	0	134	901	0	0	0	465	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		56.5		56.5	56.5				30.3	
Effective Green, g (s)		57.5		57.5	57.5				30.3	
Actuated g/C Ratio		0.56		0.56	0.56				0.30	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		369		605	1033				588	
v/s Ratio Prot					c0.49					
v/s Ratio Perm		0.42		0.12					0.23	
v/c Ratio		0.75		0.22	0.87				0.79	
Uniform Delay, d1		17.1		11.3	19.3				33.2	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		7.5		0.1	8.0				6.7	
Delay (s)		24.6		11.3	27.3				39.9	
Level of Service		C		B	C				D	
Approach Delay (s)		24.6			25.3				39.9	
Approach LOS		C			C				D	

Intersection Summary

HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	530	0	0	1510	500	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	570	0	0	1557	515	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.36			0.93	0.33	
Control Delay		0.6			21.7	0.6	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			21.7	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1622	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.36			0.93	0.33	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	530	0	0	1510	500
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	570	0	0	1557	515
RTOR Reduction (vph)	0	66	0	0	0	0
Lane Group Flow (vph)	0	504	0	0	1557	515
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.85	
v/s Ratio Perm		0.31				c0.33
v/c Ratio		0.35			0.96	0.33
Uniform Delay, d1		1.2			5.5	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			15.2	0.6
Delay (s)		1.8			20.7	0.6
Level of Service		A			C	A
Approach Delay (s)	1.8			0.0	15.7	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	136.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	575	0	0	1225	815	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	653	0	0	1303	867	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.42			0.77	0.55	
Control Delay		0.9			5.2	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.9			5.2	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m139	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			5	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.42			0.78	0.55	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	575	0	0	1225	815
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	653	0	0	1303	867
RTOR Reduction (vph)	0	75	0	0	0	0
Lane Group Flow (vph)	0	578	0	0	1303	867
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.71	
v/s Ratio Perm		0.37				c0.55
v/c Ratio		0.41			0.80	0.55
Uniform Delay, d1		1.3			2.8	0.0
Progression Factor		1.00			0.35	1.00
Incremental Delay, d2		0.9			2.6	0.9
Delay (s)		2.2			3.6	0.9
Level of Service		A			A	A
Approach Delay (s)	2.2			0.0	2.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	660	955	425	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	759	985	438	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.49	0.56	0.27			
Control Delay		1.1	2.6	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.6	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	423	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.49	0.56	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	660	955	425	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	759	985	438	0	0
RTOR Reduction (vph)	0	62	0	0	0	0
Lane Group Flow (vph)	0	697	985	438	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.54			
v/s Ratio Perm		0.44		c0.27		
v/c Ratio		0.48	0.59	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.1	1.3	0.4		
Delay (s)		1.9	2.0	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	740	640	945	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	949	660	974	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.59	0.38	0.63			
Control Delay		1.6	1.9	2.2			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.6	1.9	2.2			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	198	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1537			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.60	0.38	0.63			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary

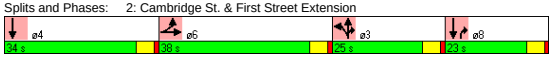
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	740	640	945	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	949	660	974	0	0
RTOR Reduction (vph)	0	78	0	80	0	0
Lane Group Flow (vph)	0	871	660	894	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.57		
v/s Ratio Perm		0.53				
v/c Ratio		0.58	0.39	0.62		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.6	0.7	2.1		
Delay (s)		2.5	1.3	3.0		
Level of Service		A	A	A		
Approach Delay (s)	2.5		2.3			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	230	55	0	0	0	60	120	95	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	297	0	0	0	0	0	200	106	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.38	0.78						0.72	0.25		0.51			
Control Delay	42.5	57.3						63.4	7.8		1.8			
Queue Delay	0.9	0.0						6.3	0.0		0.4			
Total Delay	43.4	57.3						69.6	7.8		2.2			
Queue Length 50th (ft)	84	188						130	0		11			
Queue Length 95th (ft)	125	251						200	39		m8			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						320	568		1943			
Starvation Cap Reductn	0	0						0	0		412			
Spillback Cap Reductn	183	0						76	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.44	0.58						0.82	0.19		0.65			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1792						1802	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1792						1802	1459		3201	
Volume (vph)	135	230	55	0	0	0	60	120	95	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	240	57	0	0	0	67	133	106	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	80	0	218	0
Lane Group Flow (vph)	141	289	0	0	0	0	0	200	26	0	776	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.9	23.9						17.4	27.9		63.7	
Effective Green, g (s)	24.9	24.9						18.4	28.9		64.7	
Actuated g/C Ratio	0.21	0.21						0.15	0.24		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	367	372						276	351		1726	
v/s Ratio Prot	0.08	c0.16						c0.11	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.38	0.78						0.72	0.07		0.45	
Uniform Delay, d1	40.9	44.9						48.4	35.2		16.8	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.8						9.1	0.1		0.1	
Delay (s)	41.6	54.7						57.5	35.3		2.1	
Level of Service	D	D						E	D		A	
Approach Delay (s)		50.5			0.0			49.8			2.1	
Approach LOS		D			A			D			A	

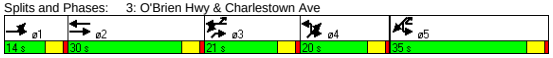
Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	175	1360	450	315	850	300	135	425	275	540	925	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	192	1495	495	346	934	330	142	447	289	564	1181	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.42	0.93	0.31	1.57	0.76	0.44	0.66	0.97	0.60	1.43	1.43		
Control Delay	267.3	50.0	0.5	308.5	54.3	3.0	64.8	86.0	38.4	242.6	236.7		
Queue Delay	0.0	671.0	0.0	33.2	508.3	0.5	0.0	0.0	0.6	0.0	0.8		
Total Delay	267.3	721.0	0.5	341.7	562.6	3.5	64.8	86.0	39.0	242.6	237.5		
Queue Length 50th (ft)	~177	358	0	~344	356	27	93	161	153	~571	~601		
Queue Length 95th (ft)	#309	#444	0	m#420	m406	m28	#165	#255	238	#783	#729		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	756	216	463	479	394	823		
Starvation Cap Reductn	0	0	0	10	783	152	0	0	0	0	0		
Spillback Cap Reductn	0	1031	0	0	0	0	0	0	37	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.42	2.60	0.31	1.64	2.13	0.55	0.66	0.97	0.65	1.43	1.44		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3162	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3162	
Volume (vph)	175	1360	450	315	850	300	135	425	275	540	925	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	192	1495	495	346	934	330	142	447	289	600	1028	117
RTOR Reduction (vph)	0	0	0	0	0	198	0	0	17	0	7	0
Lane Group Flow (vph)	192	1495	495	346	934	132	142	447	272	564	1174	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.30	0.09	0.09	c0.13	0.18	0.37	c0.37	
v/s Ratio Perm			0.31									
v/c Ratio	1.42	0.93	0.31	1.57	0.76	0.24	0.66	0.97	0.59	1.43	1.44	
Uniform Delay, d1	55.0	38.7	0.0	51.5	31.7	23.9	49.4	51.7	35.1	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.40	1.62	1.42	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	227.5	10.1	0.5	265.2	1.4	0.1	7.0	32.7	1.9	208.3	203.8	
Delay (s)	282.5	48.7	0.5	337.5	52.7	33.9	56.4	84.5	37.0	252.8	248.3	
Level of Service	F	D	A	F	D	C	E	F	D	F	F	
Approach Delay (s)		58.3			110.1			64.3			249.8	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	124.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1550	165	445	495	75	20	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1722	183	494	633	0	22	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.92	0.20	0.76	0.49		0.07	0.84			0.94	
Control Delay		20.5	3.8	53.5	30.8		19.6	46.6			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	157.4			0.0	
Total Delay		20.5	3.8	53.5	30.8		19.6	204.1			78.1	
Queue Length 50th (ft)		312	28	165	170		9	189			165	
Queue Length 95th (ft)		#544	50	207	235		m19	m#282			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1286		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	117			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.92	0.20	0.62	0.49		0.07	1.35			0.94	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: O'Brien Hwy & First Street Extension



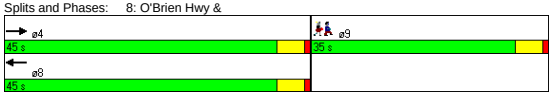
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3470		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3470		1770	1863			3472	
Volume (vph)	0	1550	165	445	495	75	20	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1722	183	494	550	83	22	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1722	157	494	624	0	22	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1278		295	311			492	
v/s Ratio Prot		c0.34	0.10	c0.14	0.18		0.01	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.92	0.17	0.76	0.49		0.07	0.84			0.93	
Uniform Delay, d1		36.2	12.4	46.0	29.2		42.2	48.4			50.9	
Progression Factor		0.30	0.38	1.00	1.00		0.45	0.51			1.00	
Incremental Delay, d2		7.1	0.3	5.0	1.3		0.4	20.2			27.0	
Delay (s)		18.1	5.1	51.0	30.5		19.5	44.8			78.0	
Level of Service		B	A	D	C		B	D			E	
Approach Delay (s)		16.9			39.5			42.9			78.0	
Approach LOS		B			D			D			E	

Intersection Summary					
HCM Average Control Delay	33.0	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.87				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	80.0%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1985	0	0	1095	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2206	0	0	1217	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.48			0.38			
Control Delay	5.1			4.6			
Queue Delay	0.0			0.0			
Total Delay	5.1			4.6			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	350			258			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.48			0.38			

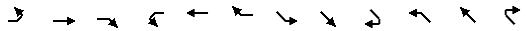
Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



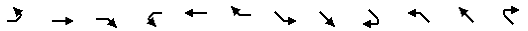
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1985	0	0	1095	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2206	0	0	1217	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2206	0	0	1217	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.9			30.9		
Effective Green, g (s)	31.9			31.9		
Actuated g/C Ratio	0.73			0.73		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3695			2572		
v/s Ratio Prot	c0.43			0.34		
v/s Ratio Perm						
v/c Ratio	0.60			0.47		
Uniform Delay, d1	2.9			2.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.6		
Level of Service	A			A		
Approach Delay (s)	3.2			2.6	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	320	0	0	5	0	1665	0	0	1010	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	333	0	0	6	0	1716	0	0	1203	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	320	0	0	5	0	1665	0	0	1010	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	333	0	0	6	0	1716	0	0	1110	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.76	0.76	0.68	0.76	0.76	0.85	0.85			0.68		
vC, conflicting volume	2277	2920	572	2062	2873	602	1203			1716		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1353	2203	0	1069	2141	356	1063			1118		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	55	100	100	99	100			100		
cM capacity (veh/h)	80	33	737	71	35	537	463			382		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	333	6	572	572	572	740	463
Volume Left	0	0	0	0	0	0	0
Volume Right	333	6	0	0	0	0	93
cSH	737	537	1700	1700	1700	1700	1700
Volume to Capacity	0.45	0.01	0.34	0.34	0.34	0.44	0.27
Queue Length 95th (ft)	52	1	0	0	0	0	0
Control Delay (s)	13.9	11.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.9	11.8	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	58.7%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1985	1055	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2206	1216	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1985	1055	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2206	1172	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.75				0.86	0.75
vC, conflicting volume	1217				1930	608
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	955				858	143
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	536				256	659

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	735	735	735	781	435	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	659
Volume to Capacity	0.43	0.43	0.43	0.46	0.26	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.9
Approach LOS						B

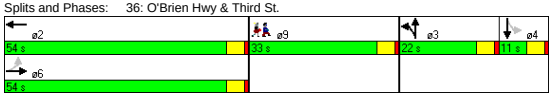
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2271	670	0	660	15	175	1	45	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	3037	0	0	733	0	119	126	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.32			0.42		0.51	0.48			0.03		
Control Delay		175.5			28.4		55.3	44.8			48.0		
Queue Delay		56.2			0.4		0.0	0.0			0.0		
Total Delay		231.7			28.8		55.3	44.9			48.0		
Queue Length 50th (ft)		~954			207		80	68			1		
Queue Length 95th (ft)		#1140			313		137	127			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2299			1730		235	262			91		
Starvation Cap Reductn		0			499		0	0			0		
Spillback Cap Reductn		199			0		0	2			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.45			0.60		0.51	0.48			0.03		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.94			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4911			3528		1569	1616			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4612			3528		1569	1616			1779	
Volume (vph)	5	2271	670	0	660	15	175	1	45	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2341	691	0	717	16	194	1	50	1	1	1
RTOR Reduction (vph)	0	41	0	0	1	0	0	20	0	0	1	0
Lane Group Flow (vph)	0	2996	0	0	732	0	119	106	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2106			1611		235	242			33	
v/s Ratio Prot					0.21		c0.08	0.07				
v/s Ratio Perm		c0.65									c0.00	
v/c Ratio		1.42			0.45		0.51	0.44			0.06	
Uniform Delay, d1		32.6			22.3		46.9	46.4			57.9	
Progression Factor		1.00			1.35		1.00	1.00			1.00	
Incremental Delay, d2		192.9			0.9		7.6	5.7			0.8	
Delay (s)		225.5			31.1		54.5	52.1			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		225.5			31.1			53.3			58.7	
Approach LOS		F			C			D			E	

Intersection Summary

HCM Average Control Delay	179.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1685	170	0	495	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1974	0	0	544	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1685	170	0	495	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1793	181	0	544	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.73		0.79	0.73
vC, conflicting volume			1973		2155	688
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1598		1420	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			290		102	797

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	717	717	539	272	272	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	181	0	0	33
cSH	1700	1700	1700	1700	1700	797
Volume to Capacity	0.42	0.42	0.32	0.16	0.16	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

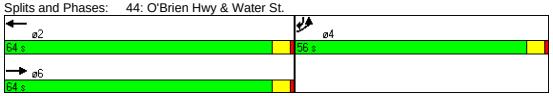
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1855	0	0	430	65	0	0	0	0	0	245
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1973	0	0	544	0	0	0	0	0	0	272
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.67			0.27							0.36
Control Delay	49.5	3.1			15.4							2.4
Queue Delay	38.0	1.5			0.0							0.0
Total Delay	87.5	4.6			15.4							2.4
Queue Length 50th (ft)	353	32			50							0
Queue Length 95th (ft)	m271	m32			m143							24
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2965			2030							886
Starvation Cap Reductn	282	741			0							0
Spillback Cap Reductn	0	0			115							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.89			0.28							0.31

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3371							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3371							1627
Volume (vph)	460	1855	0	0	430	65	0	0	0	0	0	245
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1973	0	0	473	71	0	0	0	0	0	272
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	181
Lane Group Flow (vph)	489	1973	0	0	536	0	0	0	0	0	0	91
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2023							542
v/s Ratio Prot	c0.28	c0.40			0.16							0.06
v/s Ratio Perm												
v/c Ratio	0.85	0.67			0.26							0.17
Uniform Delay, d1	37.3	16.0			11.4							28.2
Progression Factor	1.31	0.17			1.24							1.00
Incremental Delay, d2	1.2	0.1			0.3							0.1
Delay (s)	50.2	2.8			14.4							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.3			14.4			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1995	1315	305	285	150
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2390	1723	0	484	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.89	0.88		0.81	
Control Delay		19.9	38.0		50.9	
Queue Delay		125.8	103.0		165.2	
Total Delay		145.6	141.0		216.0	
Queue Length 50th (ft)		489	381		138	
Queue Length 95th (ft)		m455	444		189	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2681	1947		662	
Starvation Cap Reductn		814	0		0	
Spillback Cap Reductn		0	545		306	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.28	1.23		1.36	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4597		3008	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3004	4597		3008	
Volume (vph)	180	1995	1315	305	285	150
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2192	1399	324	317	167
RTOR Reduction (vph)	0	0	32	0	62	0
Lane Group Flow (vph)	0	2390	1692	0	422	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.6	49.0		20.4	
Effective Green, g (s)		86.6	50.0		21.4	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2679	1915		536	
v/s Ratio Prot		c0.27	0.37		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.89	0.88		0.79	
Uniform Delay, d1		13.0	32.3		47.1	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.4	6.3		7.5	
Delay (s)		29.5	38.7		54.6	
Level of Service		C	D		D	
Approach Delay (s)		29.5	38.7		54.6	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	35.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	370	150	220	510	5	5	25	25	115	10	65
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	596	0	0	875	0	0	77	0	0	160	83
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	370	150	220	510	5	5	25	25	115	10	65
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	416	169	262	607	6	7	35	35	147	13	83
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	613			584			1746	1741	610	1709	1659	500
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	613			584			1746	1741	610	1709	1659	500
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			73			82	44	93	0	82	85
cM capacity (veh/h)	942			976			39	62	492	29	69	565

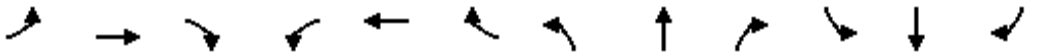
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	596	875	77	160	83
Volume Left	11	262	7	147	0
Volume Right	169	6	35	0	83
cSH	942	976	95	31	565
Volume to Capacity	0.01	0.27	0.82	5.23	0.15
Queue Length 95th (ft)	1	27	110	Err	13
Control Delay (s)	0.3	6.0	126.8	Err	12.5
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.0	126.8	6582.6	
Approach LOS			F	F	

Intersection Summary				
Average Delay	903.5			
Intersection Capacity Utilization	92.0%	ICU Level of Service		F
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	130	50	80	90	430	0	0	1775	280
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	313	0	98	512	0	0	1811	304
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

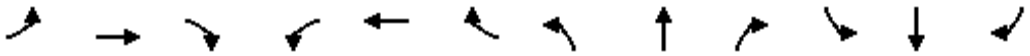
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	130	50	80	90	430	0	0	1775	280
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	160	54	99	98	512	0	0	1811	304
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2645	2519	1811	2519	2823	512	2116			512		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	201675186309		99979186309223443			512137113				512		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	82	0			100		
cM capacity (veh/h)	0	0	0	0	0	552	0			1043		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	314	98	512	1811	304
Volume Left	160	98	0	0	0
Volume Right	99	0	0	0	304
cSH	0	0	1700	1700	1700
Volume to Capacity	1.22594573629452336E67		0.30	1.07	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1604.3		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	123.1%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	90	275	305	0	0	0	0	430	485	185	1720	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	745	0	0	0	0	0	457	516	189	1755	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	275	305	0	0	0	0	430	485	185	1720	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	100	306	339	0	0	0	0	457	516	189	1755	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2590	3106	1755	3082	2590	457	1755			973		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	91868121353		44151119965	91868		457	44151			973		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	603	0			700		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	253	492	457	516	189	1755
Volume Left	100	0	0	0	189	0
Volume Right	0	339	0	516	0	0
cSH	0	0	1700	1700	700	1700
Volume to Capacity	Err	Err	0.27	0.30	0.27	1.03
Queue Length 95th (ft)	Err	Err	0	0	27	0
Control Delay (s)	Err	Err	0.0	0.0	12.0	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2033.5			
Intersection Capacity Utilization	123.1%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	450	2	30	0	1	10	40	455	0	5	965	1055
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	524	0	0	22	0	0	556	0	0	1065	1159
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	450	2	30	0	1	10	40	455	0	5	965	1055
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	489	2	33	0	2	20	45	511	0	5	1060	1159
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1694	1673	1060	1706	1673	511	1060			511		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1694	1673	1060	1706	1673	511	1060			511		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	98	88	100	98	96	93			99		
cM capacity (veh/h)	65	88	270	59	89	567	642			1049		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	524	22	556	1066	1159
Volume Left	489	0	45	5	0
Volume Right	33	20	0	0	1159
cSH	68	382	642	1049	1700
Volume to Capacity	7.67	0.06	0.07	0.01	0.68
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.0	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.0	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1574.9		
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	60	360	845	180	75	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	462	1127	0	165	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

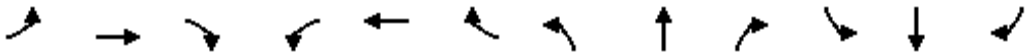
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	60	360	845	180	75	50
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	66	396	929	198	99	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1126				1555	1027
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1154				1676	1033
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				0	72
cM capacity (veh/h)	494				75	234

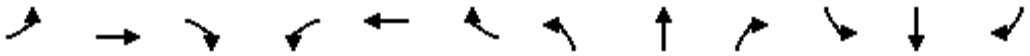
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	462	1126	164
Volume Left	66	0	99
Volume Right	0	198	66
cSH	494	1700	103
Volume to Capacity	0.13	0.66	1.59
Queue Length 95th (ft)	11	0	314
Control Delay (s)	3.9	0.0	379.1
Lane LOS	A		F
Approach Delay (s)	3.9	0.0	379.1
Approach LOS			F

Intersection Summary			
Average Delay	36.6		
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	185	135	380	200	5	45	15	110	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	345	0	0	616	0	0	200	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

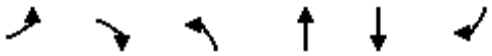
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	185	135	380	200	5	45	15	110	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	191	139	400	211	5	53	18	129	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	345	616	200	29
Volume Left (vph)	15	400	53	7
Volume Right (vph)	139	5	129	7
Hadj (s)	-0.20	0.19	-0.32	-0.10
Departure Headway (s)	5.4	5.4	6.1	6.9
Degree Utilization, x	0.52	0.92	0.34	0.05
Capacity (veh/h)	650	656	559	465
Control Delay (s)	14.0	40.7	12.3	10.3
Approach Delay (s)	14.0	40.7	12.3	10.3
Approach LOS	B	E	B	B

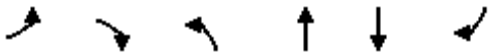
Intersection Summary			
Delay	27.5		
HCM Level of Service	D		
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	170	135	95	425	555	485
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	321	0	0	702	1072	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

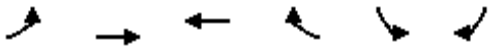
Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	170	135	95	425	555	485
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	179	142	128	574	572	500
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1653	822	1072			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1653	822	1072			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	62	80			
cM capacity (veh/h)	86	372	635			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	321	703	1072
Volume Left	179	128	0
Volume Right	142	0	500
cSH	130	635	1700
Volume to Capacity	2.47	0.20	0.63
Queue Length 95th (ft)	703	19	0
Control Delay (s)	736.2	5.2	0.0
Lane LOS	F	A	
Approach Delay (s)	736.2	5.2	0.0
Approach LOS	F		

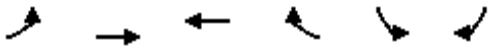
Intersection Summary			
Average Delay	114.5		
Intersection Capacity Utilization	114.2%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		592	1382		890	
Travel Time (s)		13.5	31.4		20.2	
Volume (vph)	35	1220	590	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	1364	684	0	202	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	1220	590	40	110	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	1326	641	43	120	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		592				
pX, platoon unblocked					0.48	
vC, conflicting volume	685				2065	663
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	685				3215	663
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				0	82
cM capacity (veh/h)	909				5	461

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1364	685	201
Volume Left	38	0	120
Volume Right	0	43	82
cSH	909	1700	8
Volume to Capacity	0.04	0.40	24.02
Queue Length 95th (ft)	3	0	Err
Control Delay (s)	1.9	0.0	Err
Lane LOS	A		F
Approach Delay (s)	1.9	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	894.8		
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	11	11
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	838			564	970	
Travel Time (s)	19.0			12.8	22.0	
Volume (vph)	50	310	250	620	200	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	7%	1%	4%	10%
Lane Group Flow (vph)	391	0	0	946	222	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	50	310	250	620	200	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	337	272	674	217	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				564	970	
pX, platoon unblocked	0.63					
vC, conflicting volume	1438	220	223			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1693	220	223			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	59	79			
cM capacity (veh/h)	52	815	1317			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	391	946	223
Volume Left	54	272	0
Volume Right	337	0	5
cSH	267	1317	1700
Volume to Capacity	1.46	0.21	0.13
Queue Length 95th (ft)	553	19	0
Control Delay (s)	263.1	4.5	0.0
Lane LOS	F	A	
Approach Delay (s)	263.1	4.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	68.7		
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 6 AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	305	1.0	0.406	11.7	LOS B	88	0.71	0.79	23.7
8T	T	661	1.1	0.880	18.4	LOS B	474	1.00	1.25	20.8
Approach		**966**	**1.0**	**0.880**	**16.3**	**LOS B**	**474**	**0.91**	**1.11**	**21.7**
Mystic Valley Parkway										
4T	T	962	0.0	0.906	15.0	LOS B	588	1.00	1.13	22.0
4R	R	511	0.0	0.608	8.8	LOS A	175	0.78	0.80	24.8
Approach		**1473**	**0.0**	**0.906**	**12.9**	**LOS B**	**588**	**0.92**	**1.01**	**22.9**
Mystic Valley Parkway										
5L	L	434	0.0	1.212	142.1	LOS F	1039	1.00	2.54	7.1
2R	R	490	0.0	1.210	135.3	LOS F	1140	1.00	2.65	7.1
Approach		**924**	**0.0**	**1.212**	**138.5**	**LOS F**	**1140**	**1.00**	**2.60**	**7.1**
All Vehicles		**3363**	**0.3**	**1.212**	**48.4**	**LOS D**	**1140**	**0.94**	**1.48**	**14.0**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 6\Mystic&Alewife - Alt6.aap
Processed Oct 07, 2008 10:12:06AM

M0114, VHB, Large Office
Produced by SIDRA Intersection 3.2.0.1455
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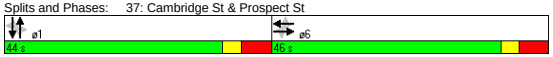
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	125	285	25	45	340	35	60	530	80	30	230	60
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	505	0	0	457	0	0	736	0	0	352	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	46.0	46.0		46.0	46.0		44.0	44.0		44.0	44.0	
Total Split (s)	46.0	46.0	0.0	46.0	46.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%
Maximum Green (s)	38.0	38.0		38.0	38.0		36.0	36.0		36.0	36.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		26.0	26.0		26.0	26.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.95			0.66			1.02			0.53	
Control Delay		55.5			26.4			59.5			24.2	
Queue Delay		0.0			0.0			16.9			0.0	
Total Delay		55.5			26.4			76.4			24.2	
Queue Length 50th (ft)		270			202			~457			149	
Queue Length 95th (ft)		#442			311			#683			233	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		532			693			724			663	
Starvation Cap Reductn		0			0			34			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.95			0.66			1.07			0.53	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



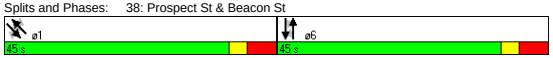
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1794			1811			1942			1903	
Flt Permitted		0.69			0.90			0.93			0.87	
Satd. Flow (perm)		1259			1641			1808			1657	
Volume (vph)	125	285	25	45	340	35	60	530	80	30	230	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	331	29	49	370	38	66	582	88	33	253	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	457	0	0	736	0	0	352	0
Confl. Peds. (#/hr)	67		59	59		67	77		31	31		77
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		38.0			38.0			36.0			36.0	
Effective Green, g (s)		38.0			38.0			36.0			36.0	
Actuated g/C Ratio		0.42			0.42			0.40			0.40	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		532			693			723			663	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.28			c0.41			0.21	
v/c Ratio		0.95			0.66			1.02			0.53	
Uniform Delay, d1		25.1			20.8			27.0			20.6	
Progression Factor		1.00			1.00			0.92			1.00	
Incremental Delay, d2		28.3			4.9			33.1			3.0	
Delay (s)		53.3			25.7			57.8			23.6	
Level of Service		D			C			E			C	
Approach Delay (s)		53.3			25.7			57.8			23.6	
Approach LOS		D			C			E			C	

Intersection Summary					
HCM Average Control Delay	43.7	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.98				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	109.2%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	140	570	40	25	255	15	45	280	70	20	345	40
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	807	0	0	323	0	0	445	0	0	445	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.71			0.47			0.66			0.61	
Control Delay		26.4			34.2			27.1			25.1	
Queue Delay		0.9			0.0			7.8			3.9	
Total Delay		27.4			34.2			34.9			29.0	
Queue Length 50th (ft)		196			172			199			193	
Queue Length 95th (ft)		267			m246			301			293	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1131			681			676			735	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		125			0			188			205	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.80			0.47			0.91			0.84	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3493			1855			1814			1848	
Flt Permitted		0.78			0.89			0.90			0.96	
Satd. Flow (perm)		2750			1656			1644			1785	
Volume (vph)	140	570	40	25	255	15	45	280	70	20	345	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	151	613	43	27	280	16	51	315	79	22	379	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	807	0	0	323	0	0	445	0	0	445	0
Confl. Peds. (#/hr)	17		35	35		17	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1131			681			676			734	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.27			0.25	
v/c Ratio		0.71			0.47			0.66			0.61	
Uniform Delay, d1		22.1			19.4			21.4			20.8	
Progression Factor		1.00			1.62			1.00			1.00	
Incremental Delay, d2		3.8			1.9			5.0			3.7	
Delay (s)		25.9			33.3			26.4			24.5	
Level of Service		C			C			C			C	
Approach Delay (s)		25.9			33.3			26.4			24.5	
Approach LOS		C			C			C			C	

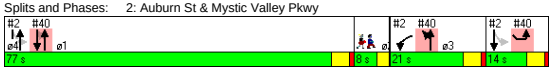
Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		868			129		
Travel Time (s)	20.5		19.7			2.9		
Volume (vph)	155	95	1015	40	70	1150		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	324	0	1172	0	0	1312		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				8.0	13.0
Total Split (s)	21.0	0.0	77.0	0.0	91.0	91.0	8.0	14.0
Total Split (%)	17.5%	0.0%	64.2%	0.0%	75.8%	75.8%	7%	12%
Maximum Green (s)	16.0		72.0				5.0	9.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							3.0	
Flash Dont Walk (s)							2.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.85		0.53			0.70		
Control Delay	65.1		10.1			1.3		
Queue Delay	0.1		0.1			23.8		
Total Delay	65.3		10.2			25.1		
Queue Length 50th (ft)	226		271			27		
Queue Length 95th (ft)	#363		m214			m24		
Internal Link Dist (ft)	821		788			49		
Turn Bay Length (ft)								
Base Capacity (vph)	380		2196			1844		
Starvation Cap Reductn	0		0			578		
Spillback Cap Reductn	1		225			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.85		0.59			1.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1865		3590			3360
Flt Permitted	0.97		1.00			0.77
Satd. Flow (perm)	1865		3590			2580
Volume (vph)	155	95	1015	40	70	1150
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	201	123	1128	44	75	1237
RTOR Reduction (vph)	17	0	2	0	0	0
Lane Group Flow (vph)	307	0	1170	0	0	1312
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	22.4		70.0			83.6
Effective Green, g (s)	23.4		71.0			84.6
Actuated g/C Ratio	0.19		0.59			0.70
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	364		2124			1819
v/s Ratio Prot	c0.16		0.33			
v/s Ratio Perm						c0.51
v/c Ratio	0.84		0.55			0.72
Uniform Delay, d1	46.5		14.8			10.6
Progression Factor	1.00		0.73			0.12
Incremental Delay, d2	16.7		0.1			0.1
Delay (s)	63.3		11.0			1.4
Level of Service	E		B			A
Approach Delay (s)	63.3		11.0			1.4
Approach LOS	E		B			A

Intersection Summary

HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

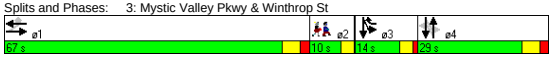
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1090	5	0	1140	460	20	465	185	425	520	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1208	0	0	1213	489	0	817	0	0	1157	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	67.0	67.0	0.0	0.0	67.0	14.0	29.0	29.0	0.0	14.0	43.0	0.0	10.0
Total Split (%)	55.8%	55.8%	0.0%	0.0%	55.8%	11.7%	24.2%	24.2%	0.0%	11.7%	35.8%	0.0%	8%
Maximum Green (s)	61.0	61.0			61.0	10.0	23.0	23.0		10.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													3.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.74			1.24	0.41		1.69			1.53dl		
Control Delay		358.4			143.0	3.9		349.9			145.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		358.4			143.0	3.9		349.9			145.1		
Queue Length 50th (ft)		~1425			~1164	49		~478			~519		
Queue Length 95th (ft)		#1701			#1424	91		#534			#774		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		694			982	1201		483			940		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.74			1.24	0.41		1.69			1.23		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 110 (92%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3421			3508	
Flt Permitted		0.66			1.00	1.00		0.75			0.62	
Satd. Flow (perm)		1337			1900	1615		2554			2204	
Volume (vph)	5	1090	5	0	1140	460	20	465	185	425	520	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1198	5	0	1213	489	24	567	226	494	605	58
RTOR Reduction (vph)	0	0	0	0	0	98	0	34	0	0	3	0
Lane Group Flow (vph)	0	1208	0	0	1213	391	0	783	0	0	1154	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		58.6			58.6	76.6		23.0			41.0	
Effective Green, g (s)		59.6			59.6	76.6		24.0			41.0	
Actuated g/C Ratio		0.50			0.50	0.64		0.20			0.34	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		664			944	1031		511			938	
v/s Ratio Prot					0.64	0.05					c0.17	
v/s Ratio Perm		c0.90				0.19		c0.31			0.25	
v/c Ratio		1.82			1.28	0.38		1.53			1.53dl	
Uniform Delay, d1		30.2			30.2	10.4		48.0			39.5	
Progression Factor		0.66			1.00	1.00		1.00			1.00	
Incremental Delay, d2		372.8			136.3	0.1		249.6			113.2	
Delay (s)		392.7			166.5	10.4		297.6			152.7	
Level of Service		F			F	B		F			F	
Approach Delay (s)		392.7			121.7			297.6			152.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	225.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		

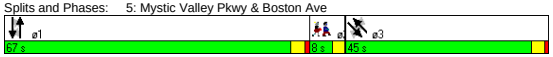
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			868			2678			1345		
Travel Time (s)		15.3			19.7			60.9			30.6		
Volume (vph)	90	935	150	45	1175	85	55	240	40	150	360	65	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1263	0	0	1373	0	0	425	0	0	737	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		8.0
Total Split (s)	67.0	67.0	0.0	67.0	67.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	8.0
Total Split (%)	55.8%	55.8%	0.0%	55.8%	55.8%	0.0%	37.5%	37.5%	0.0%	37.5%	37.5%	0.0%	7%
Maximum Green (s)	63.0	63.0		63.0	63.0		41.0	41.0		41.0	41.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.20			0.97			0.74			1.52		
Control Delay		125.4			55.8			40.7			272.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		125.4			55.8			40.7			272.1		
Queue Length 50th (ft)		~622			595			268			~787		
Queue Length 95th (ft)		#762			#722			364			#901		
Internal Link Dist (ft)		593			788			2598			1265		
Turn Bay Length (ft)													
Base Capacity (vph)		1056			1413			573			486		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			0.97			0.74			1.52		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3527			3569			1920			1904	
Flt Permitted		0.55			0.73			0.76			0.67	
Satd. Flow (perm)		1955			2626			1478			1290	
Volume (vph)	90	935	150	45	1175	85	55	240	40	150	360	65
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	97	1005	161	47	1237	89	70	304	51	192	462	83
RTOR Reduction (vph)	0	10	0	0	4	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	1253	0	0	1369	0	0	421	0	0	733	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		60.6			60.6			47.4			47.4	
Effective Green, g (s)		60.6			60.6			47.4			47.4	
Actuated g/C Ratio		0.50			0.50			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		987			1326			584			510	
v/s Ratio Prot												
v/s Ratio Perm		c0.64			0.52			0.29			c0.57	
v/c Ratio		1.27			1.03			0.72			1.44	
Uniform Delay, d1		29.7			29.7			30.7			36.3	
Progression Factor		1.00			1.54			1.00			1.00	
Incremental Delay, d2		129.4			29.1			4.7			208.1	
Delay (s)		159.1			74.7			35.4			244.4	
Level of Service		F			E			D			F	
Approach Delay (s)		159.1			74.7			35.4			244.4	
Approach LOS		F			E			D			F	

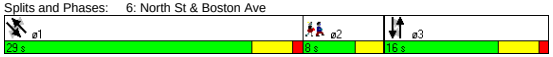
Intersection Summary			
HCM Average Control Delay	131.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			1345			1456		
Travel Time (s)		22.5			15.0			30.6			33.1		
Volume (vph)	20	5	20	40	65	30	10	370	50	50	430	15	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	67	0	0	171	0	0	506	0	0	510	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0	8.0
Total Split (%)	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	54.7%	54.7%	0.0%	54.7%	54.7%	0.0%	15%
Maximum Green (s)	11.0	11.0		11.0	11.0		24.0	24.0		24.0	24.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.20			0.48			0.45			0.48		
Control Delay		16.3			20.4			8.6			9.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		16.3			20.4			8.6			9.1		
Queue Length 50th (ft)		13			36			68			70		
Queue Length 95th (ft)		31			80			173			200		
Internal Link Dist (ft)		911			582			1265			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		355			378			1119			1064		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.19			0.45			0.45			0.48		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 53	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.97			0.98			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1746			1816			1787			1819	
Flt Permitted		0.84			0.88			0.99			0.92	
Satd. Flow (perm)		1498			1625			1768			1686	
Volume (vph)	20	5	20	40	65	30	10	370	50	50	430	15
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	30	7	30	51	82	38	12	435	59	52	443	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	67	0	0	171	0	0	506	0	0	510	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		9.5			9.5			32.0			32.0	
Effective Green, g (s)		10.5			10.5			33.0			33.0	
Actuated g/C Ratio		0.19			0.19			0.59			0.59	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		283			307			1051			1002	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.11			0.29			c0.30	
v/c Ratio		0.24			0.56			0.48			0.51	
Uniform Delay, d1		19.1			20.4			6.4			6.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			2.7			1.6			1.8	
Delay (s)		19.7			23.1			8.0			8.4	
Level of Service		B			C			A			A	
Approach Delay (s)		19.7			23.1			8.0			8.4	
Approach LOS		B			C			A			A	

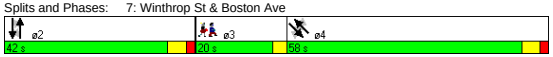
Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	85	115	140	30	395	55	55	370	165	195	340	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	369	0	0	558	0	0	648	0	0	601	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0	20.0
Total Split (%)	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%	48.3%	48.3%	0.0%	48.3%	48.3%	0.0%	17%
Maximum Green (s)	35.9	35.9		35.9	35.9		52.0	52.0		52.0	52.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.25			0.86			0.82			1.31		
Control Delay		170.8			48.9			35.4			182.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		170.8			48.9			35.4			182.7		
Queue Length 50th (ft)		~282			314			310			~475		
Queue Length 95th (ft)		#574			#600			#702			#864		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		295			651			792			458		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.25			0.86			0.82			1.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



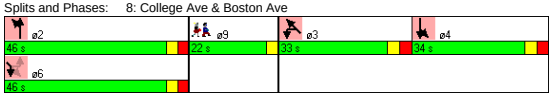
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1755			1989			1784			1818	
Flt Permitted		0.55			0.95			0.90			0.54	
Satd. Flow (perm)		976			1905			1615			990	
Volume (vph)	85	115	140	30	395	55	55	370	165	195	340	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	92	125	152	35	459	64	60	407	181	207	362	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	369	0	0	558	0	0	648	0	0	601	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.2			36.2			52.4			52.4	
Effective Green, g (s)		37.3			37.3			53.4			53.4	
Actuated g/C Ratio		0.34			0.34			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		332			647			785			481	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.29			0.40			c0.61	
v/c Ratio		1.11			0.86			0.83			1.25	
Uniform Delay, d1		36.2			33.9			24.2			28.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		82.9			11.1			9.7			128.6	
Delay (s)		119.1			44.9			33.9			156.8	
Level of Service		F			D			C			F	
Approach Delay (s)		119.1			44.9			33.9			156.8	
Approach LOS		F			D			C			F	

Intersection Summary			
HCM Average Control Delay	85.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	121.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	155	240	1	35	230	130	110	190	120	10	300	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	167	262	0	0	434	0	0	337	135	0	421	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	46.0	46.0	0.0	34.0	34.0	0.0	46.0	46.0	46.0	33.0	33.0	0.0	22.0
Total Split (%)	34.1%	34.1%	0.0%	25.2%	25.2%	0.0%	34.1%	34.1%	34.1%	24.4%	24.4%	0.0%	16%
Maximum Green (s)	40.0	40.0		28.0	28.0		40.0	40.0	40.0	27.0	27.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.28	0.43			0.96			0.93	0.23		0.95		
Control Delay	33.9	36.2			79.1			72.7	10.6		79.5		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	33.9	36.2			79.1			72.7	10.6		79.5		
Queue Length 50th (ft)	86	142			296			226	13		293		
Queue Length 95th (ft)	179	275			#623			#502	66		#603		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	586	616			452			364	579		442		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.28	0.43			0.96			0.93	0.23		0.95		

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 121.8	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: College Ave & Boston Ave



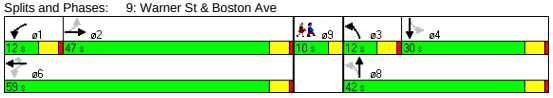
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.96			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1890			1829	1531		1950	
Flt Permitted	0.95	1.00			1.00			0.61	1.00		1.00	
Satd. Flow (perm)	1770	1862			1890			1138	1531		1950	
Volume (vph)	155	240	1	35	230	130	110	190	120	10	300	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	167	261	1	38	253	143	124	213	135	11	337	73
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	73	0	5	0
Lane Group Flow (vph)	167	262	0	0	421	0	0	337	62	0	416	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	40.3	40.3			28.2			40.3	40.3		27.2	
Effective Green, g (s)	40.3	40.3			28.2			40.3	40.3		27.2	
Actuated g/C Ratio	0.33	0.33			0.23			0.33	0.33		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	577	607			431			371	499		429	
v/s Ratio Prot	0.09	0.14			c0.22				0.04		c0.21	
v/s Ratio Perm								c0.30				
v/c Ratio	0.29	0.43			0.98			0.91	0.12		0.97	
Uniform Delay, d1	31.0	32.7			47.4			39.9	29.3		47.8	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.5			37.2			25.1	0.1		34.7	
Delay (s)	31.3	33.2			84.6			65.0	29.4		82.5	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		32.4			84.6			54.8			82.5	
Approach LOS		C			F			D			F	

Intersection Summary			
HCM Average Control Delay	63.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1450			1738		
Travel Time (s)		11.7			40.8			33.0			39.5		
Volume (vph)	15	500	10	145	415	80	20	280	35	105	180	10	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	596	0	0	667	95	0	381	0	0	343	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		11.0	15.0	15.0	11.0	11.0		11.0	11.0		10.0
Total Split (s)	47.0	47.0	0.0	12.0	59.0	59.0	12.0	42.0	0.0	30.0	30.0	0.0	10.0
Total Split (%)	42.3%	42.3%	0.0%	10.8%	53.2%	53.2%	10.8%	37.8%	0.0%	27.0%	27.0%	0.0%	9%
Maximum Green (s)	42.0	42.0		7.0	54.0	54.0	7.0	37.0		25.0	25.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.52			1.26	0.11		0.66			0.79		
Control Delay		13.9			155.1	2.8		34.6			45.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		13.9			155.1	2.8		34.6			45.1		
Queue Length 50th (ft)		168			~466	0		185			178		
Queue Length 95th (ft)		372			#771	21		310			300		
Internal Link Dist (ft)		435			1715			1370			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1155			528	839		718			433		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.52			1.26	0.11		0.53			0.79		

Intersection Summary	
Area Type:	Other
Cycle Length: 111	
Actuated Cycle Length: 92.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.99			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1992			1982	
Flt Permitted		0.98			0.69	1.00		0.97			0.52	
Satd. Flow (perm)		1937			1285	1340		1933			1040	
Volume (vph)	15	500	10	145	415	80	20	280	35	105	180	10
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	17	568	11	173	494	95	23	318	40	122	209	12
RTOR Reduction (vph)	0	0	0	0	0	40	0	4	0	0	0	0
Lane Group Flow (vph)	0	596	0	0	667	55	0	377	0	0	343	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		54.3			54.3	54.3		26.5			26.5	
Effective Green, g (s)		55.3			55.3	55.3		27.5			27.5	
Actuated g/C Ratio		0.58			0.58	0.58		0.29			0.29	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1128			748	780		560			301	
v/s Ratio Prot												
v/s Ratio Perm		0.31			c0.52	0.04		0.19			c0.33	
v/c Ratio		0.53			0.89	0.07		0.67			1.14	
Uniform Delay, d1		12.0			17.2	8.7		29.8			33.8	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2			12.6	0.0		2.5			95.1	
Delay (s)		12.2			29.9	8.7		32.3			128.8	
Level of Service		B			C	A		C			F	
Approach Delay (s)		12.2			27.2			32.3			128.8	
Approach LOS		B			C			C			F	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

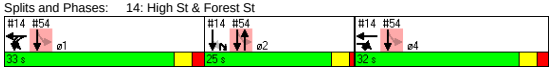
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	365	140	2	865	690	220	230	80	195	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	397	152	0	942	989	0	250	0	337	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	26.0	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	32.0	32.0	33.0	33.0	65.0	0.0	25.0	25.0	25.0	0.0
Total Split (%)	35.6%	35.6%	36.7%	36.7%	72.2%	0.0%	27.8%	27.8%	27.8%	0.0%
Maximum Green (s)	27.0	27.0	28.0	28.0			21.0	21.0	21.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.84	0.32		0.88	0.82		0.29		0.74	
Control Delay	46.8	6.1		40.8	17.7		1.3		42.5	
Queue Delay	0.0	0.0		157.6	0.0		0.0		0.0	
Total Delay	46.8	6.2		198.3	17.7		1.3		42.5	
Queue Length 50th (ft)	210	0		260	350		7		175	
Queue Length 95th (ft)	#366	43		#370	557		14		#292	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	475	481		1068	1210		871		456	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	16		371	0		0		1	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.84	0.33		1.35	0.82		0.29		0.74	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.98	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1932	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1932	
Volume (vph)	365	140	2	865	690	220	230	80	195	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	152	2	940	750	239	250	87	212	38
RTOR Reduction (vph)	0	106	0	0	13	0	192	0	5	0
Lane Group Flow (vph)	397	46	0	942	976	0	58	0	332	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	27.0	27.0		28.0	60.0		21.0		21.0	
Effective Green, g (s)	27.0	27.0		28.0	60.0		21.0		21.0	
Actuated g/C Ratio	0.30	0.30		0.31	0.67		0.23		0.23	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	475	375		1068	1197		376		451	
v/s Ratio Prot	0.25	0.04		0.27	c0.54		0.04			
v/s Ratio Perm									0.17	
v/c Ratio	0.84	0.12		0.88	0.82		0.16		0.74	
Uniform Delay, d1	29.4	22.9		29.4	11.0		27.4		31.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	15.9	0.7		10.5	6.2		0.7		10.2	
Delay (s)	45.3	23.5		39.9	17.2		28.1		42.1	
Level of Service	D	C		D	B		C		D	
Approach Delay (s)					28.3				42.1	
Approach LOS					C				D	

Intersection Summary

HCM Average Control Delay	31.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

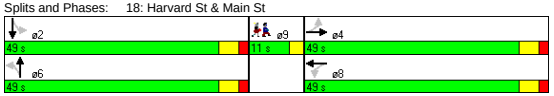
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	95	490	65	90	470	35	50	365	70	70	450	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	691	0	0	647	0	0	511	0	0	727	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0	11.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	10%
Maximum Green (s)	43.0	43.0		43.0	43.0		43.0	43.0		43.0	43.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		Max	Max		Min	Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.29			1.24			0.88			1.22		
Control Delay		171.1			151.0			44.2			140.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		171.1			151.0			44.2			140.1		
Queue Length 50th (ft)		~546			~497			277			~551		
Queue Length 95th (ft)		#876			#815			#562			#861		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		536			522			584			598		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.29			1.24			0.88			1.22		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1658			1667			1635			1625	
Flt Permitted		0.75			0.73			0.83			0.85	
Satd. Flow (perm)		1256			1229			1369			1394	
Volume (vph)	95	490	65	90	470	35	50	365	70	70	450	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	101	521	69	98	511	38	53	384	74	80	511	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	691	0	0	647	0	0	511	0	0	727	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		43.1			43.1			43.1			43.1	
Effective Green, g (s)		44.1			44.1			44.1			44.1	
Actuated g/C Ratio		0.43			0.43			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		539			528			588			599	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.53			0.37			c0.52	
v/c Ratio		1.28			1.23			0.87			1.21	
Uniform Delay, d1		29.3			29.3			26.7			29.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		140.6			117.4			16.0			111.0	
Delay (s)		169.9			146.7			42.7			140.3	
Level of Service		F			F			D			F	
Approach Delay (s)		169.9			146.7			42.7			140.3	
Approach LOS		F			F			D			F	

Intersection Summary

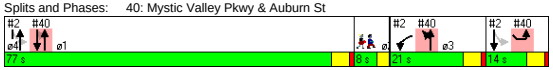
HCM Average Control Delay	130.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	30	1080	1175	35	10	45	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	32	1161	1301	0	77	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		8.0
Total Split (s)	21.0	98.0	77.0	0.0	14.0	0.0	8.0
Total Split (%)	17.5%	81.7%	64.2%	0.0%	11.7%	0.0%	7%
Maximum Green (s)	16.0		72.0		9.0		5.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							3.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.08	0.73	1.05		0.39		
Control Delay	6.5	13.3	34.7		23.1		
Queue Delay	1.9	2.0	0.0		0.2		
Total Delay	8.4	15.2	34.7		23.3		
Queue Length 50th (ft)	0	462	~1140		10		
Queue Length 95th (ft)	m8	399	m52		36		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	415	1583	1235		204		
Starvation Cap Reductn	306	267	0		0		
Spillback Cap Reductn	0	0	0		9		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.29	0.88	1.05		0.39		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



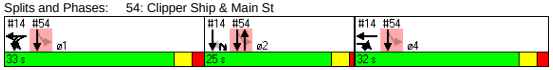
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2019		1752	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	107	1900	2019		1752	
Volume (vph)	30	1080	1175	35	10	45
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	32	1161	1263	38	14	63
RTOR Reduction (vph)	0	0	1	0	58	0
Lane Group Flow (vph)	32	1161	1300	0	19	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	92.4	92.4	70.0		8.6	
Effective Green, g (s)	94.4	94.4	71.0		9.6	
Actuated g/C Ratio	0.79	0.79	0.59		0.08	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	415	1495	1195		140	
v/s Ratio Prot	0.02	c0.61	c0.64		c0.01	
v/s Ratio Perm	0.05					
v/c Ratio	0.08	0.78	1.09		0.14	
Uniform Delay, d1	39.6	7.0	24.5		51.3	
Progression Factor	1.82	2.12	0.17		1.00	
Incremental Delay, d2	0.1	2.3	41.2		0.6	
Delay (s)	72.0	17.2	45.5		51.9	
Level of Service	E	B	D		D	
Approach Delay (s)		18.7	45.5		51.9	
Approach LOS		B	D		D	

Intersection Summary			
HCM Average Control Delay	33.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	230	945	100	1105		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	264	1086	0	1385		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	25.0	0.0	90.0	90.0	33.0	32.0
Total Split (%)	0.0%	0.0%	27.8%	0.0%	100.0%	100.0%	37%	36%
Maximum Green (s)			21.0				28.0	27.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.61	0.69		0.61		
Control Delay			37.7	2.4		7.4		
Queue Delay			0.5	0.0		0.0		
Total Delay			38.1	2.4		7.4		
Queue Length 50th (ft)			135	0		162		
Queue Length 95th (ft)			207	0		181		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			435	1583		2287		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			26	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.65	0.69		0.61		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3185
Flt Permitted			1.00	1.00		0.72
Satd. Flow (perm)			1863	1583		2287
Volume (vph)	0	0	230	945	100	1105
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	264	1086	115	1270
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	264	1086	0	1385
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			21.0	90.0		90.0
Effective Green, g (s)			21.0	90.0		90.0
Actuated g/C Ratio			0.23	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			435	1583		2287
v/s Ratio Prot			0.14			
v/s Ratio Perm				c0.69		0.61
v/c Ratio			0.61	0.69		0.61
Uniform Delay, d1			30.8	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			6.2	2.4		0.8
Delay (s)			37.0	2.4		0.8
Level of Service			D	A		A
Approach Delay (s)	0.0		9.2			0.8
Approach LOS	A		A			A

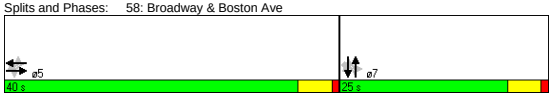
Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50	50	50	50	50	50		50
Trailing Detector (ft)	0	0			0	0	0	0	0	0	0	0	0	0		0
Turning Speed (mph)	15		9	9	15	15		9	15	15		9	15		9	9
Right Turn on Red				Yes				Yes				Yes				Yes
Link Speed (mph)		30					30				30			30		
Link Distance (ft)		1405					767				1558			1450		
Travel Time (s)		31.9					17.4				35.4			33.0		
Volume (vph)	5	590	25	25	20	25	610	225	5	5	30	35	190	60	15	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	700	0	0	0	0	712	245	0	0	43	38	0	288	0	16
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm			Perm
Protected Phases		5					5				7			7		
Permitted Phases	5				5	5		Free	7	7		Free	7			7
Detector Phases	5	5			5	5	5		7	7	7		7	7		7
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	24.0	24.0			24.0	24.0	24.0		9.0	9.0	9.0		9.0	9.0		9.0
Total Split (s)	40.0	40.0	0.0	0.0	40.0	40.0	40.0	0.0	25.0	25.0	25.0	0.0	25.0	25.0	0.0	25.0
Total Split (%)	61.5%	61.5%	0.0%	0.0%	61.5%	61.5%	61.5%	0.0%	38.5%	38.5%	38.5%	0.0%	38.5%	38.5%	0.0%	38.5%
Maximum Green (s)	35.0	35.0			35.0	35.0	35.0		20.0	20.0	20.0		20.0	20.0		20.0
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag																
Lead-Lag Optimize?																
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	Max		None	None	None		None	None		None
Walk Time (s)	8.0	8.0			8.0	8.0	8.0									
Flash Dont Walk (s)	11.0	11.0			11.0	11.0	11.0									
Pedestrian Calls (#/hr)	0	0			0	0	0									
v/c Ratio		0.64					0.70	0.15			0.09	0.02		0.76		0.04
Control Delay		12.9					14.8	0.2			16.1	0.0		34.4		8.2
Queue Delay		0.0					0.0	0.0			0.0	0.0		0.0		0.0
Total Delay		12.9					14.8	0.2			16.1	0.0		34.4		8.2
Queue Length 50th (ft)		170					184	0			12	0		102		0
Queue Length 95th (ft)		294					326	0			31	0		#195		12
Internal Link Dist (ft)		1325					687				1478			1370		
Turn Bay Length (ft)																
Base Capacity (vph)		1086					1018	1583			542	1583		423		488
Starvation Cap Reductn		0					0	0			0	0		0		0
Spillback Cap Reductn		0					0	0			0	0		0		0
Storage Cap Reductn		0					0	0			0	0		0		0
Reduced v/c Ratio		0.64					0.70	0.15			0.08	0.02		0.68		0.03

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 63.3
Natural Cycle: 50
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 58: Broadway & Boston Ave



Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					4.0	4.0			4.0	4.0		4.0		4.0
Lane Util. Factor		1.00					1.00	1.00			1.00	1.00		0.95		0.95
Frt		0.99					1.00	0.85			1.00	0.85		0.99		0.85
Flt Protected		1.00					1.00	1.00			0.99	1.00		0.97		1.00
Satd. Flow (prot)		1843					1856	1583			1841	1583		1694		1504
Flt Permitted		1.00					0.93	1.00			0.91	1.00		0.76		1.00
Satd. Flow (perm)		1836					1727	1583			1698	1583		1333		1504
Volume (vph)	5	590	25	25	20	25	610	225	5	5	30	35	190	60	15	15
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	641	27	27	22	27	663	245	5	5	33	38	207	65	16	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Lane Group Flow (vph)	0	698	0	0	0	0	712	245	0	0	43	38	0	288	0	5
Turn Type	Perm				Perm	Perm		Free	Perm	Perm		Free	Perm			Perm
Protected Phases		5					5				7			7		
Permitted Phases	5				5	5		Free	7	7		Free	7			7
Actuated Green, G (s)		36.3					36.3	63.2			16.9	63.2		16.9		16.9
Effective Green, g (s)		37.3					37.3	63.2			17.9	63.2		17.9		17.9
Actuated g/C Ratio		0.59					0.59	1.00			0.28	1.00		0.28		0.28
Clearance Time (s)		5.0					5.0				5.0			5.0		5.0
Vehicle Extension (s)		3.0					3.0				3.0			3.0		3.0
Lane Grp Cap (vph)		1084					1019	1583			481	1583		378		426
v/s Ratio Prot																
v/s Ratio Perm		0.38					c0.41	0.15			0.03	0.02		c0.22		0.00
v/c Ratio		0.64					0.70	0.15			0.09	0.02		0.76		0.01
Uniform Delay, d1		8.6					9.0	0.0			16.7	0.0		20.7		16.3
Progression Factor		1.00					1.00	1.00			1.00	1.00		1.00		1.00
Incremental Delay, d2		2.9					4.0	0.2			0.1	0.0		8.8		0.0
Delay (s)		11.5					13.0	0.2			16.7	0.0		29.5		16.3
Level of Service		B					B	A			B	A		C		B
Approach Delay (s)		11.5					9.7				8.9			28.8		
Approach LOS		B					A				A			C		

Intersection Summary

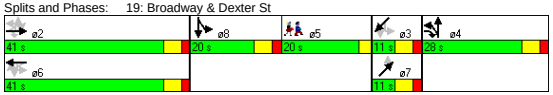
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14	14	14
Grade (%)			0%						0%			1%			1%	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0	0	
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15		9
Right Turn on Red					Yes								Yes			
Link Speed (mph)			30						30			30			30	
Link Distance (ft)			1200						1176			419			1711	
Travel Time (s)			27.3						26.7			9.5			38.9	
Volume (vph)	2	25	415	240	10	1	20	20	665	135	255	145	10	30	165	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0	0	0
Lane Group Flow (vph)	0	0	480	272	0	0	0	0	905	0	0	441	0	0	279	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split		
Protected Phases			2	4					6		4	4		8	8	
Permitted Phases	2	2		2		6	6	6								
Detector Phases	2	2	2	4		6	6	6	6		4	4		8	8	
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0	8.0	
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0	14.0	
Total Split (s)	41.0	41.0	41.0	28.0	0.0	41.0	41.0	41.0	41.0	0.0	28.0	28.0	0.0	20.0	20.0	0.0
Total Split (%)	34.2%	34.2%	34.2%	23.3%	0.0%	34.2%	34.2%	34.2%	34.2%	0.0%	23.3%	23.3%	0.0%	16.7%	16.7%	0.0%
Maximum Green (s)	35.0	35.0	35.0	22.0		35.0	35.0	35.0	35.0		22.0	22.0		14.0	14.0	
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag														Lead	Lead	
Lead-Lag Optimize?														Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0	2.0	
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None	None	
Walk Time (s)																
Flash Dont Walk (s)																
Pedestrian Calls (#/hr)																
v/c Ratio			0.56	0.28					0.93			1.05			0.98	
Control Delay			31.7	11.1					49.5			97.5			91.3	
Queue Delay			0.0	0.0					0.0			0.0			0.0	
Total Delay			31.7	11.1					49.5			97.5			91.3	
Queue Length 50th (ft)			126	68					283			~288			172	
Queue Length 95th (ft)			231	172					#540			#626			#419	
Internal Link Dist (ft)			1120						1096			339			1631	
Turn Bay Length (ft)																
Base Capacity (vph)			853	969					977			421			286	
Starvation Cap Reductn			0	0					0			0			0	
Spillback Cap Reductn			0	0					0			0			0	
Storage Cap Reductn			0	0					0			0			0	
Reduced v/c Ratio			0.56	0.28					0.93			1.05			0.98	

Intersection Summary

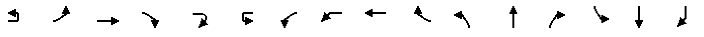
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations									
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	12	12	12	12	12	12	12	
Grade (%)		0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50	50			
Trailing Detector (ft)		0		0	0	0			
Turning Speed (mph)	9		9	15	15		9	9	
Right Turn on Red	Yes							Yes	
Link Speed (mph)		30				30			
Link Distance (ft)		342				975			
Travel Time (s)		7.8				22.2			
Volume (vph)	60	0	50	5	20	5	30	10	
Peak Hour Factor	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	60	0	0	0	83	0	0	
Turn Type				Perm	Perm				
Protected Phases		7				3			5
Permitted Phases				3	3				
Detector Phases		7		3	3	3			
Minimum Initial (s)		4.0		4.0	4.0	4.0			4.0
Minimum Split (s)		10.0		10.0	10.0	10.0			20.0
Total Split (s)	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)		5.0		5.0	5.0	5.0			17.0
Yellow Time (s)		4.0		4.0	4.0	4.0			3.0
All-Red Time (s)		2.0		2.0	2.0	2.0			0.0
Lead/Lag									Lag
Lead-Lag Optimize?									Yes
Vehicle Extension (s)		2.0		2.0	2.0	2.0			3.0
Recall Mode		None		None	None	None			None
Walk Time (s)									5.0
Flash Dont Walk (s)									12.0
Pedestrian Calls (#/hr)									11
v/c Ratio		0.62				0.91			
Control Delay		77.9				120.9			
Queue Delay		0.0				0.0			
Total Delay		77.9				120.9			
Queue Length 50th (ft)		38				50			
Queue Length 95th (ft)		#108				#160			
Internal Link Dist (ft)		262				895			
Turn Bay Length (ft)									
Base Capacity (vph)		96				91			
Starvation Cap Reductn		0				0			
Spillback Cap Reductn		0				0			
Storage Cap Reductn		0				0			
Reduced v/c Ratio		0.63				0.91			

Intersection Summary

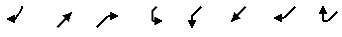


Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations																
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14	14	14
Grade (%)			0%						0%			1%			1%	
Total Lost time (s)			5.0	5.0					5.0			5.0			5.0	
Lane Util. Factor			0.95	1.00					0.95			1.00			1.00	
Frt			1.00	0.85					0.98			1.00			0.97	
Flt Protected			1.00	1.00					1.00			0.97			0.99	
Satd. Flow (prot)			3529	1564					3264			1888			1918	
Flt Permitted			0.76	1.00					0.90			0.97			0.99	
Satd. Flow (perm)			2690	1564					2939			1888			1918	
Volume (vph)	2	25	415	240	10	1	20	20	665	135	255	145	10	30	165	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	451	261	11	1	22	22	715	145	274	156	11	32	177	5
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	0	480	271	0	0	0	0	905	0	0	440	0	0	270	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split		
Protected Phases			2	4					6		4	4		8	8	
Permitted Phases	2	2	2			6	6	6								
Actuated Green, G (s)			35.2	57.3					35.2			22.1			14.1	
Effective Green, g (s)			36.2	59.3					36.2			23.1			15.1	
Actuated g/C Ratio			0.34	0.56					0.34			0.22			0.14	
Clearance Time (s)			6.0	6.0					6.0			6.0			6.0	
Vehicle Extension (s)			4.0	6.0					4.0			6.0			2.0	
Lane Grp Cap (vph)			916	946					1001			410			272	
v/s Ratio Prot				0.06								c0.23			c0.14	
v/s Ratio Perm			0.18	0.11					c0.31							
v/c Ratio			0.52	0.29					0.90			1.07			0.99	
Uniform Delay, d1			28.1	12.4					33.4			41.6			45.6	
Progression Factor			1.00	1.00					1.00			1.00			1.00	
Incremental Delay, d2			0.7	0.5					11.5			65.5			52.6	
Delay (s)			28.8	12.8					44.9			107.1			98.2	
Level of Service			C	B					D			F			F	
Approach Delay (s)			23.1						44.9			107.1			98.2	
Approach LOS			C						D			F			F	

Intersection Summary				
HCM Average Control Delay	58.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	105.7%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extention
19: Broadway & Dexter St

2030 Build Condition Alt 6 - PM Peak
HCM Signalized Intersection Capacity Analysis



Movement	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	12	12	12	12	12
Grade (%)		0%				1%		
Total Lost time (s)		5.0				5.0		
Lane Util. Factor		1.00				1.00		
Frt		0.86				0.92		
Flt Protected		1.00				0.98		
Satd. Flow (prot)		1644				1698		
Flt Permitted		1.00				0.86		
Satd. Flow (perm)		1644				1479		
Volume (vph)	60	0	50	5	20	5	30	10
Peak-hour factor, PHF	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	65	0	60	6	24	6	35	12
RTOR Reduction (vph)	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	0	60	0	0	0	78	0	0
Heavy Vehicles (%)	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0
Turn Type				Perm	Perm			
Protected Phases		7				3		
Permitted Phases				3	3			
Actuated Green, G (s)		5.0				5.0		
Effective Green, g (s)		6.0				6.0		
Actuated g/C Ratio		0.06				0.06		
Clearance Time (s)		6.0				6.0		
Vehicle Extension (s)		2.0				2.0		
Lane Grp Cap (vph)		93				83		
v/s Ratio Prot		0.04						
v/s Ratio Perm						c0.05		
v/c Ratio		0.65				0.94		
Uniform Delay, d1		49.1				50.0		
Progression Factor		1.00				1.00		
Incremental Delay, d2		10.9				78.7		
Delay (s)		60.0				128.7		
Level of Service		E				F		
Approach Delay (s)		60.0				128.7		
Approach LOS		E				F		

Intersection Summary

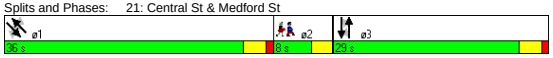
\\Mabos\projects\10303.00\tech\Synchro\EA\2030 Build\Alt 6\optimize\coordination\2030 Build Alt 6- PM.sy7
VHB:: VL
VHB, Inc.
10/29/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	290	90	5	100	5	15	380	60	60	460	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	517	0	0	135	0	0	529	0	0	606	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	29.0	29.0	0.0	29.0	29.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0	8.0
Total Split (%)	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	49.3%	49.3%	0.0%	49.3%	49.3%	0.0%	11%
Maximum Green (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.85			0.20			0.60			0.74		
Control Delay		34.6			15.8			16.5			21.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		34.6			15.8			16.5			21.6		
Queue Length 50th (ft)		170			34			141			178		
Queue Length 95th (ft)		#392			72			270			#419		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		636			696			884			823		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.81			0.19			0.60			0.74		

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 65.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1815			1884			1827			1841	
Flt Permitted		0.90			0.98			0.98			0.91	
Satd. Flow (perm)		1658			1850			1789			1683	
Volume (vph)	100	290	90	5	100	5	15	380	60	60	460	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	312	97	6	123	6	17	442	70	67	511	28
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	506	0	0	135	0	0	529	0	0	604	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		23.4			23.4			32.2			32.2	
Effective Green, g (s)		23.4			23.4			32.2			32.2	
Actuated g/C Ratio		0.35			0.35			0.48			0.48	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		575			641			853			803	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.07			0.30			c0.36	
v/c Ratio		0.88			0.21			0.62			0.75	
Uniform Delay, d1		20.7			15.5			13.1			14.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		14.7			0.2			3.4			6.4	
Delay (s)		35.5			15.8			16.5			20.8	
Level of Service		D			B			B			C	
Approach Delay (s)		35.5			15.8			16.5			20.8	
Approach LOS		D			B			B			C	

Intersection Summary

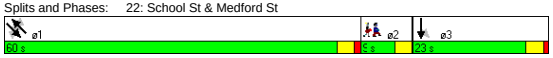
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	67.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			1535		
Travel Time (s)		21.7			21.8			35.4			34.9		
Volume (vph)	0	0	0	60	255	30	40	380	100	175	540	150	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	392	0	0	577	0	0	892	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		9.0
Total Split (s)	0.0	0.0	0.0	23.0	23.0	0.0	60.0	60.0	0.0	60.0	60.0	0.0	9.0
Total Split (%)	0.0%	0.0%	0.0%	25.0%	25.0%	0.0%	65.2%	65.2%	0.0%	65.2%	65.2%	0.0%	10%
Maximum Green (s)				19.0	19.0		56.0	56.0		56.0	56.0		6.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.90			0.52			0.93		
Control Delay					58.9			10.4			32.3		
Queue Delay					0.0			0.0			0.0		
Total Delay					58.9			10.4			32.3		
Queue Length 50th (ft)					194			120			321		
Queue Length 95th (ft)					#391			262			#766		
Internal Link Dist (ft)		873			879			1476			1455		
Turn Bay Length (ft)													
Base Capacity (vph)					436			1120			962		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.90			0.52			0.93		

Intersection Summary	
Area Type:	Other
Cycle Length: 92	
Actuated Cycle Length: 86.6	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 22: School St & Medford St



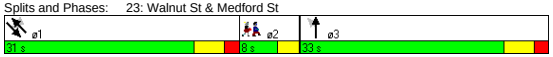
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.97			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1966			1905			1917	
Flt Permitted					0.99			0.90			0.77	
Satd. Flow (perm)					1966			1718			1496	
Volume (vph)	0	0	0	60	255	30	40	380	100	175	540	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	68	290	34	44	422	111	180	557	155
RTOR Reduction (vph)	0	0	0	0	4	0	0	9	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	388	0	0	568	0	0	884	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					19.0			56.1			56.1	
Effective Green, g (s)					19.0			56.1			56.1	
Actuated g/C Ratio					0.21			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					423			1090			949	
v/s Ratio Prot												
v/s Ratio Perm					0.20			0.33			c0.59	
v/c Ratio					0.92			0.52			0.93	
Uniform Delay, d1					33.9			8.8			14.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					24.8			1.8			16.8	
Delay (s)					58.7			10.6			31.2	
Level of Service					E			B			C	
Approach Delay (s)		0.0			58.7			10.6			31.2	
Approach LOS		A			E			B			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	13.3
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1535			533		
Travel Time (s)		17.7			19.2			34.9			12.1		
Volume (vph)	115	275	10	0	0	0	5	245	0	0	355	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	533	0	0	0	0	0	316	0	0	420	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.70						0.42			0.55		
Control Delay		22.1						16.7			18.7		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.1						16.7			18.7		
Queue Length 50th (ft)		156						79			112		
Queue Length 95th (ft)		236						147			231		
Internal Link Dist (ft)		699			764			1455			453		
Turn Bay Length (ft)													
Base Capacity (vph)		784						755			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.68						0.42			0.55		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1830						1879			1890	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1830						1865			1890	
Volume (vph)	115	275	10	0	0	0	5	245	0	0	355	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	153	367	13	0	0	0	6	310	0	0	403	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	532	0	0	0	0	0	316	0	0	418	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			738	
v/s Ratio Prot											c0.22	
v/s Ratio Perm		0.29						0.17				
v/c Ratio		0.72						0.43			0.57	
Uniform Delay, d1		16.9						14.9			15.9	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		3.8						0.6			1.2	
Delay (s)		20.7						15.5			17.1	
Level of Service		C						B			B	
Approach Delay (s)		20.7			0.0			15.5			17.1	
Approach LOS		C			A			B			B	

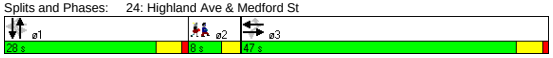
Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	465	20	50	560	360	5	0	20	240	25	15	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	564	0	0	670	396	0	34	0	0	322	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	47.0	0.0	47.0	47.0	75.0	28.0	28.0	0.0	28.0	28.0	0.0	8.0
Total Split (%)	0.0%	56.6%	0.0%	56.6%	56.6%	90.4%	33.7%	33.7%	0.0%	33.7%	33.7%	0.0%	10%
Maximum Green (s)		42.0		42.0	42.0		23.0	23.0		23.0	23.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.55			0.70	0.24		0.07			0.75		
Control Delay		13.5			17.6	0.4		10.2			37.6		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		13.5			17.6	0.4		10.2			37.6		
Queue Length 50th (ft)		146			199	0		2			131		
Queue Length 95th (ft)		269			404	7		17			#277		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		1033			960	1643		513			427		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.55			0.70	0.24		0.07			0.75		

Intersection Summary	
Area Type:	Other
Cycle Length: 83	
Actuated Cycle Length: 76.6	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.89			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1835			1969	1680		1679			1773	
Flt Permitted		1.00			0.92	1.00		0.93			0.73	
Satd. Flow (perm)		1835			1809	1680		1579			1355	
Volume (vph)	0	465	20	50	560	360	5	0	20	240	25	15
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	541	23	55	615	396	7	0	27	276	29	17
RTOR Reduction (vph)	0	2	0	0	0	40	0	19	0	0	2	0
Lane Group Flow (vph)	0	562	0	0	670	356	0	15	0	0	320	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		42.1			42.1	70.1		23.0			23.0	
Effective Green, g (s)		43.1			43.1	71.1		24.0			24.0	
Actuated g/C Ratio		0.55			0.55	0.90		0.30			0.30	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1001			987	1512		480			412	
v/s Ratio Prot		0.31										
v/s Ratio Perm					c0.37	0.21		0.01			c0.24	
v/c Ratio		0.56			0.68	0.24		0.03			0.78	
Uniform Delay, d1		11.8			13.0	0.5		19.3			25.1	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.3			3.8	0.4		0.1			13.4	
Delay (s)		14.0			16.7	0.9		19.5			38.5	
Level of Service		B			B	A		B			D	
Approach Delay (s)		14.0			10.8			19.5			38.5	
Approach LOS		B			B			B			D	

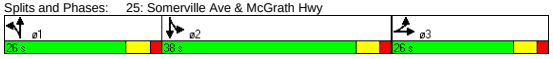
Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	190	220	95	0	0	0	105	500	60	210	700	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	574	0	0	0	0	0	644	64	226	1033	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.70						0.78	0.04	0.35	0.85	
Control Delay		35.3						40.0	0.0	22.6	32.4	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.3						40.0	0.0	22.6	32.4	
Queue Length 50th (ft)		150						181	0	92	263	
Queue Length 95th (ft)		202						244	0	151	#353	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						826	1706	649	1221	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.70						0.78	0.04	0.35	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3409						3543	1706	1770	3217	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3409						3543	1706	1770	3217	
Volume (vph)	190	220	95	0	0	0	105	500	60	210	700	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	216	250	108	0	0	0	112	532	64	226	753	280
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	552	0	0	0	0	0	644	64	226	991	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1180	
v/s Ratio Prot		c0.16						c0.18		0.13	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.78	0.04	0.35	0.84	
Uniform Delay, d1		31.6						32.3	0.0	20.7	26.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.0						7.1	0.0	1.5	7.2	
Delay (s)		36.5						39.5	0.0	22.2	33.3	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.5			0.0			35.9			31.3	
Approach LOS		D			A			D			C	

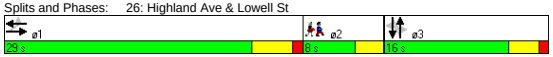
Intersection Summary

HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	45	420	0	0	510	45	50	100	40	50	0	80	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	506	0	0	572	0	0	227	0	0	155	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	29.0	29.0	0.0	0.0	29.0	0.0	16.0	16.0	0.0	16.0	16.0	0.0	8.0
Total Split (%)	54.7%	54.7%	0.0%	0.0%	54.7%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	15%
Maximum Green (s)	24.0	24.0			24.0		12.0	12.0		12.0	12.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.49			0.49			0.62			0.40		
Control Delay		9.5			9.2			24.4			10.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		9.5			9.2			24.4			10.6		
Queue Length 50th (ft)		72			81			49			12		
Queue Length 95th (ft)		203			219			113			49		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		1030			1164			396			408		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.49			0.49			0.57			0.38		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 47.4	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



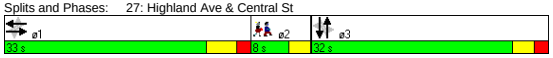
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1854			1843			1804			1701	
Flt Permitted		0.92			1.00			0.89			0.75	
Satd. Flow (perm)		1713			1843			1619			1294	
Volume (vph)	45	420	0	0	510	45	50	100	40	50	0	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	49	457	0	0	526	46	60	119	48	60	0	95
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	77	0
Lane Group Flow (vph)	0	506	0	0	572	0	0	227	0	0	78	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		28.2			28.2			9.5			9.5	
Effective Green, g (s)		29.2			29.2			9.5			9.5	
Actuated g/C Ratio		0.58			0.58			0.19			0.19	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		989			1064			304			243	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.06	
v/c Ratio		0.51			0.54			0.75			0.32	
Uniform Delay, d1		6.4			6.6			19.4			17.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			1.9			10.2			1.0	
Delay (s)		8.3			8.5			29.6			18.8	
Level of Service		A			A			C			B	
Approach Delay (s)		8.3			8.5			29.6			18.8	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	40	360	25	30	425	40	55	355	100	20	95	45	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	461	0	0	549	0	0	560	0	0	184	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	33.0	33.0	0.0	33.0	33.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0	8.0
Total Split (%)	45.2%	45.2%	0.0%	45.2%	45.2%	0.0%	43.8%	43.8%	0.0%	43.8%	43.8%	0.0%	11%
Maximum Green (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.68			0.76			0.81			0.27		
Control Delay		21.8			24.8			28.5			12.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.8			24.8			28.5			12.8		
Queue Length 50th (ft)		136			169			176			38		
Queue Length 95th (ft)		279			#380			#403			88		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		751			801			768			748		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.61			0.69			0.73			0.25		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 59	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1822			1837			1822			1807	
Flt Permitted		0.92			0.96			0.95			0.92	
Satd. Flow (perm)		1679			1766			1734			1678	
Volume (vph)	40	360	25	30	425	40	55	355	100	20	95	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	43	391	27	33	472	44	60	390	110	23	109	52
RTOR Reduction (vph)	0	3	0	0	4	0	0	12	0	0	19	0
Lane Group Flow (vph)	0	458	0	0	545	0	0	548	0	0	165	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		22.9			22.9			23.1			23.1	
Effective Green, g (s)		23.9			23.9			23.1			23.1	
Actuated g/C Ratio		0.39			0.39			0.38			0.38	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		660			694			659			638	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.31			c0.32			0.10	
v/c Ratio		0.69			0.78			0.83			0.26	
Uniform Delay, d1		15.4			16.2			17.1			13.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			6.2			9.2			0.3	
Delay (s)		18.8			22.4			26.3			13.3	
Level of Service		B			C			C			B	
Approach Delay (s)		18.8			22.4			26.3			13.3	
Approach LOS		B			C			C			B	

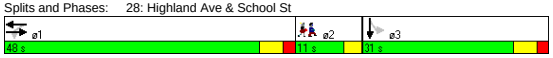
Intersection Summary					
HCM Average Control Delay	21.7	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.75				
Actuated Cycle Length (s)	60.8	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	77.1%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	470	20	55	500	0	0	0	0	110	240	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	550	0	0	591	0	0	0	0	0	474	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		11.0
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	11.0
Total Split (%)	0.0%	53.3%	0.0%	53.3%	53.3%	0.0%	0.0%	0.0%	0.0%	34.4%	34.4%	0.0%	12%
Maximum Green (s)		42.0		42.0	42.0					25.0	25.0		8.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.61			0.85						0.81		
Control Delay		17.4			30.7						37.5		
Queue Delay		0.0			0.0						0.0		
Total Delay		17.4			30.7						37.5		
Queue Length 50th (ft)		164			213						212		
Queue Length 95th (ft)		331			#509						#452		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		981			761						623		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.56			0.78						0.76		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 73.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		0.99			1.00						0.97	
Flt Protected		1.00			1.00						0.99	
Satd. Flow (prot)		1798			1816						1752	
Flt Permitted		1.00			0.81						0.99	
Satd. Flow (perm)		1798			1482						1752	
Volume (vph)	0	470	20	55	500	0	0	0	0	110	240	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	528	22	59	532	0	0	0	0	111	242	121
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	548	0	0	591	0	0	0	0	0	474	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		35.3			35.3						23.5	
Effective Green, g (s)		36.3			36.3						24.5	
Actuated g/C Ratio		0.48			0.48						0.33	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		869			716						572	
v/s Ratio Prot		0.31										
v/s Ratio Perm					c0.40						0.27	
v/c Ratio		0.63			0.83						0.83	
Uniform Delay, d1		14.4			16.7						23.4	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.5			7.7						10.1	
Delay (s)		15.9			24.4						33.4	
Level of Service		B			C						C	
Approach Delay (s)		15.9			24.4			0.0			33.4	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	14.3
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

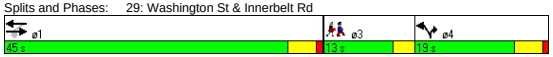
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	660	35	85	735	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	857	45	91	790	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	45.0	45.0	45.0	45.0	19.0	19.0	13.0
Total Split (%)	58.4%	58.4%	58.4%	58.4%	24.7%	24.7%	17%
Maximum Green (s)	40.0	40.0	40.0	40.0	14.0	14.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.75	0.05	0.78	0.70	0.72	0.57	
Control Delay	15.8	2.7	61.1	14.3	37.9	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.8	2.7	61.1	14.3	37.9	21.3	
Queue Length 50th (ft)	188	0	21	165	100	49	
Queue Length 95th (ft)	373	10	#130	#479	152	85	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1166	851	117	1143	401	426	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.05	0.78	0.69	0.70	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 77
Actuated Cycle Length: 64.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.17	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	302	1827	1719	1538
Volume (vph)	660	35	85	735	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	857	45	91	790	279	235
RTOR Reduction (vph)	0	18	0	0	0	69
Lane Group Flow (vph)	857	27	91	790	279	166
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	38.6	38.6	38.6	38.6	13.4	13.4
Effective Green, g (s)	39.6	39.6	39.6	39.6	14.4	14.4
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.22	0.22
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1106	791	179	1085	371	332
v/s Ratio Prot	c0.46			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.30			
v/c Ratio	0.77	0.03	0.51	0.73	0.75	0.50
Uniform Delay, d1	10.2	5.6	7.9	9.7	24.5	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.0	0.8	2.1	8.9	1.6
Delay (s)	13.3	5.6	8.7	11.8	33.3	24.6
Level of Service	B	A	A	B	C	C
Approach Delay (s)	13.0			11.5	29.3	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	12.7
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

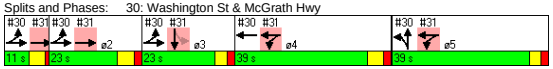
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2	ø3
Lane Configurations															
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900			
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0			
Turning Speed (mph)	15		9	15		9	15		9	15		9			
Right Turn on Red			Yes			No			Yes			Yes			
Link Speed (mph)		30			30			30			30				
Link Distance (ft)		86			812			410			438				
Travel Time (s)		2.0			18.5			9.3			10.0				
Volume (vph)	815	440	0	0	1070	165	60	550	705	0	0	0			
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92			
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%			
Lane Group Flow (vph)	858	454	0	0	1420	0	63	579	742	0	0	0			
Turn Type	Split						Split		Free						
Protected Phases	1 2 3	1 2 3			4		5	5					1	2	3
Permitted Phases									Free						
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0	10.0
Total Split (s)	57.0	57.0	0.0	0.0	39.0	0.0	39.0	39.0	0.0	0.0	0.0	0.0	11.0	23.0	23.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	28.9%	0.0%	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	8%	17%	17%
Maximum Green (s)					33.0		34.0	34.0					6.0	17.0	18.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0	3.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0	2.0
Lead/Lag					Lag								Lead	Lag	Lead
Lead-Lag Optimize?					Yes								Yes	Yes	Yes
Walk Time (s)					5.0									5.0	
Flash Dont Walk (s)					11.0									10.0	
Pedestrian Calls (#/hr)					0									0	
v/c Ratio	0.60	0.24			1.12		0.14	1.26	0.48						
Control Delay	4.1	0.5			110.9		40.4	174.7	1.1						
Queue Delay	0.0	0.0			12.5		0.0	107.3	0.0						
Total Delay	4.1	0.5			123.4		40.4	281.9	1.1						
Queue Length 50th (ft)	67	1			~523		43	~635	0						
Queue Length 95th (ft)	m81	m1			#586		83	#864	0						
Internal Link Dist (ft)		6			732			330			358				
Turn Bay Length (ft)															
Base Capacity (vph)	1424	1921			1268		437	460	1553						
Starvation Cap Reductn	0	0			0		0	74	0						
Spillback Cap Reductn	0	0			32		17	0	0						
Storage Cap Reductn	0	0			0		0	0	0						
Reduced v/c Ratio	0.60	0.24			1.15		0.15	1.50	0.48						

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 30: Washington St & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5036		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5036		1736	1827	1553			
Volume (vph)	815	440	0	0	1070	165	60	550	705	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	858	454	0	0	1230	190	63	579	742	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	858	454	0	0	1420	0	63	579	742	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			33.0		34.0	34.0	135.0			
Effective Green, g (s)	52.0	52.0			34.0		34.0	34.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.25		0.25	0.25	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1268		437	460	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.04	c0.32				
v/s Ratio Perm									c0.48			
v/c Ratio	0.60	0.24			1.12		0.14	1.26	0.48			
Uniform Delay, d1	33.2	28.1			50.5		39.2	50.5	0.0			
Progression Factor	0.09	0.01			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.1			65.0		0.7	133.1	1.1			
Delay (s)	4.0	0.5			115.5		39.9	183.6	1.1			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.8			115.5			79.2			0.0	
Approach LOS		A			F			E			A	

Intersection Summary

HCM Average Control Delay	67.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

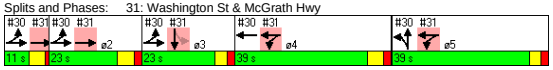
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2	ø4	ø5
Lane Configurations																
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750				
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14				
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0				
Turning Speed (mph)	15		9	15		9	15		9	15		9				
Right Turn on Red			Yes			Yes			Yes			Yes				
Link Speed (mph)		30			30			30			30					
Link Distance (ft)		1125			86			285			1794					
Travel Time (s)		25.6			2.0			6.5			40.8					
Volume (vph)	0	1225	40	410	720	0	0	0	0	30	140	370				
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92				
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%				
Lane Group Flow (vph)	0	1330	0	456	800	0	0	0	0	0	589	0				
Turn Type				Split						Perm						
Protected Phases		1 2		4 5	4 5						3		1	2	4	5
Permitted Phases										3						
Minimum Split (s)										10.0	10.0		11.0	21.0	22.0	10.0
Total Split (s)	0.0	34.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	23.0	23.0	0.0	11.0	23.0	39.0	39.0
Total Split (%)	0.0%	25.2%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	17.0%	17.0%	0.0%	8%	17%	29%	29%
Maximum Green (s)										18.0	18.0		6.0	17.0	33.0	34.0
Yellow Time (s)										3.0	3.0		4.0	4.0	4.0	3.0
All-Red Time (s)										2.0	2.0		1.0	2.0	2.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag	Lag	
Lead-Lag Optimize?										Yes	Yes		Yes	Yes	Yes	
Walk Time (s)														5.0	5.0	
Flash Dont Walk (s)														10.0	11.0	
Pedestrian Calls (#/hr)														0	0	
v/c Ratio		0.86		0.49	0.42						1.41dr					
Control Delay		57.5		1.9	0.3						148.5					
Queue Delay		2.1		0.0	0.0						55.2					
Total Delay		59.6		1.9	0.3						203.7					
Queue Length 50th (ft)		279		0	0						~294					
Queue Length 95th (ft)		317		m0	m0						#418					
Internal Link Dist (ft)		1045			6			205			1714					
Turn Bay Length (ft)																
Base Capacity (vph)		1545		939	1914						493					
Starvation Cap Reductn		0		0	0						0					
Spillback Cap Reductn		108		0	0						47					
Storage Cap Reductn		0		0	0						0					
Reduced v/c Ratio		0.93		0.49	0.42						1.32					

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 150
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 31: Washington St & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3168	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3168	
Volume (vph)	0	1225	40	410	720	0	0	0	0	30	140	370
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1289	41	456	800	0	0	0	0	35	152	402
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1326	0	456	800	0	0	0	0	0	519	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		28.0		73.0	73.0						18.0	
Effective Green, g (s)		29.0		73.0	73.0						18.0	
Actuated g/C Ratio		0.21		0.54	0.54						0.13	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1542		939	1914						422	
v/s Ratio Prot		c0.18		c0.26	0.23							
v/s Ratio Perm											0.16	
v/c Ratio		0.86		0.49	0.42						1.41dr	
Uniform Delay, d1		51.0		19.3	18.4						58.5	
Progression Factor		1.00		0.09	0.01						1.00	
Incremental Delay, d2		6.5		0.2	0.1						122.5	
Delay (s)		57.5		1.9	0.3						181.0	
Level of Service		E		A	A						F	
Approach Delay (s)		57.5			0.9				0.0		181.0	
Approach LOS		E			A				A		F	

Intersection Summary

HCM Average Control Delay	58.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

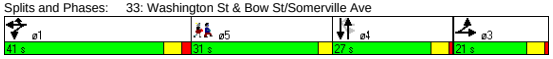
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	325	30	455	380	900	0	0	0	440	255	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	456	0	484	404	957	0	0	0	247	579	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	21.0	21.0	0.0	41.0	41.0	41.0	0.0	27.0	0.0	27.0	27.0	0.0	31.0
Total Split (%)	17.5%	17.5%	0.0%	34.2%	34.2%	34.2%	0.0%	22.5%	0.0%	22.5%	22.5%	0.0%	26%
Maximum Green (s)	16.0	16.0		35.0	35.0	35.0		22.0		22.0	22.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.09		1.01	0.80	0.76				0.62	0.70		
Control Delay		117.5		49.8	32.1	8.7				45.0	42.0		
Queue Delay		0.0		0.0	0.0	1.6				0.0	0.0		
Total Delay		117.5		49.8	32.1	10.3				45.0	42.0		
Queue Length 50th (ft)		~203		~361	251	1				146	175		
Queue Length 95th (ft)		#318		m315	m228	m185				#416	#425		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		419		478	503	1252				399	822		
Starvation Cap Reductn		0		0	0	148				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.09		1.01	0.80	0.87				0.62	0.70		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 15 (13%), Referenced to phase 1:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2797	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2355	
Volume (vph)	60	325	30	455	380	900	0	0	0	440	255	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	357	33	484	404	957	0	0	0	494	287	45
RTOR Reduction (vph)	0	0	0	0	0	345	0	0	0	0	4	0
Lane Group Flow (vph)	0	456	0	484	404	612	0	0	0	247	575	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		16.1		33.2	33.2	73.7				40.5	40.5	
Effective Green, g (s)		17.1		34.2	34.2	74.7				41.5	41.5	
Actuated g/C Ratio		0.14		0.29	0.29	0.62				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		418		454	478	887				399	814	
v/s Ratio Prot		c0.16		c0.30	0.24	0.20						
v/s Ratio Perm						0.23				0.21	c0.24	
v/c Ratio		1.09		1.07	0.85	0.69				0.62	0.71	
Uniform Delay, d1		51.4		42.9	40.4	15.0				32.7	34.0	
Progression Factor		1.00		0.78	0.77	5.69				1.00	1.00	
Incremental Delay, d2		70.8		34.7	1.8	0.2				3.3	3.0	
Delay (s)		122.2		68.2	33.0	85.5				35.9	37.0	
Level of Service		F		E	C	F				D	D	
Approach Delay (s)		122.2			69.5			0.0			36.7	
Approach LOS		F			E			A			D	

Intersection Summary

HCM Average Control Delay	68.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.2
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

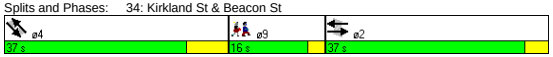
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	300	40	40	270	70	40	360	60	30	475	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	479	0	0	432	0	0	495	0	0	593	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	16.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	18%
Maximum Green (s)	33.0	33.0		33.0	33.0		30.0	30.0		30.0	30.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.86			0.60			0.79			0.84		
Control Delay		39.3			21.8			32.2			34.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		39.3			21.8			32.2			34.8		
Queue Length 50th (ft)		183			137			183			228		
Queue Length 95th (ft)		#480			300			#460			#551		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		554			720			627			704		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.86			0.60			0.79			0.84		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1818			1807			1822			1827	
Flt Permitted		0.76			0.93			0.89			0.96	
Satd. Flow (perm)		1391			1683			1637			1758	
Volume (vph)	110	300	40	40	270	70	40	360	60	30	475	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	319	43	45	307	80	43	387	65	31	490	72
RTOR Reduction (vph)	0	3	0	0	8	0	0	5	0	0	5	0
Lane Group Flow (vph)	0	476	0	0	424	0	0	490	0	0	588	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		33.2			33.2			30.2			30.2	
Effective Green, g (s)		33.2			33.2			31.2			31.2	
Actuated g/C Ratio		0.42			0.42			0.39			0.39	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		580			702			642			689	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.25			0.30			c0.33	
v/c Ratio		0.82			0.60			0.76			0.85	
Uniform Delay, d1		20.6			18.1			21.0			22.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.3			3.8			8.3			12.8	
Delay (s)		32.8			21.9			29.3			34.9	
Level of Service		C			C			C			C	
Approach Delay (s)		32.8			21.9			29.3			34.9	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

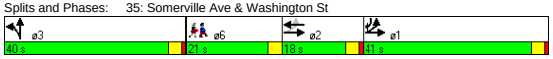
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	380	390	0	0	445	40	540	810	105	0	0	895	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	885	0	0	592	0	496	1036	0	0	0	942	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	21.0
Total Split (s)	41.0	59.0	0.0	0.0	18.0	0.0	40.0	40.0	0.0	0.0	0.0	41.0	21.0
Total Split (%)	34.2%	49.2%	0.0%	0.0%	15.0%	0.0%	33.3%	33.3%	0.0%	0.0%	0.0%	34.2%	18%
Maximum Green (s)	37.0				14.0		36.0	36.0				37.0	18.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													14.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.62			0.83		1.13	1.13				1.22	
Control Delay		7.3			56.5		122.6	112.3				146.8	
Queue Delay		0.0			0.0		3.2	3.2				0.0	
Total Delay		7.3			56.5		125.8	115.5				146.8	
Queue Length 50th (ft)		147			207		~490	~511				~508	
Queue Length 95th (ft)		m127			#406		#721	#652				#650	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1438			709		439	914				773	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		3	6				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.62			0.83		1.14	1.14				1.22	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3109			3177		1464	3021				2508
Flt Permitted		0.57			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1813			3177		1464	3021				2508
Volume (vph)	380	390	0	0	445	40	540	810	105	0	0	895
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	437	448	0	0	543	49	568	853	111	0	0	942
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	885	0	0	587	0	496	1029	0	0	0	942
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		61.8			26.6		36.0	36.0				35.2
Effective Green, g (s)		61.8			26.6		36.0	36.0				35.2
Actuated g/C Ratio		0.52			0.22		0.30	0.30				0.29
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1314			704		439	906				736
v/s Ratio Prot		0.20			c0.18		0.34	c0.34				c0.38
v/s Ratio Perm		0.15										
v/c Ratio		0.67			0.83		1.13	1.14				1.28
Uniform Delay, d1		21.6			44.6		42.0	42.0				42.4
Progression Factor		0.28			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.6			11.2		83.4	74.7				136.3
Delay (s)		7.7			55.8		125.4	116.7				178.7
Level of Service		A			E		F	F				F
Approach Delay (s)		7.7			55.8			119.5			178.7	
Approach LOS		A			E			F			F	

Intersection Summary

HCM Average Control Delay	99.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

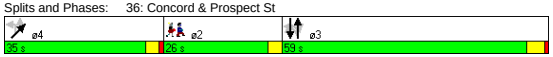
Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	120	0	685	160	305	265	10	15	635	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	866	0	176	637	0	0	0	695	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		25.0
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	0.0	35.0	35.0	0.0	26.0
Total Split (%)	49.2%	49.2%	0.0%	49.2%	49.2%	0.0%	0.0%	29.2%	29.2%	0.0%	22%
Maximum Green (s)	54.0	54.0		54.0	54.0			31.0	31.0		23.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											7.0
Flash Dont Walk (s)											15.0
Pedestrian Calls (#/hr)											10
v/c Ratio		2.08		0.64	0.61				1.10		
Control Delay		514.0		30.9	19.6				99.0		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		514.0		30.9	19.6				99.0		
Queue Length 50th (ft)		~563		63	223				~457		
Queue Length 95th (ft)		#1086		#244	542				#935		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		416		275	1036				633		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		2.08		0.64	0.61				1.10		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 99
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1763		1888	1846				2000	
Flt Permitted		0.57		0.28	1.00				1.00	
Satd. Flow (perm)		1007		564	1846				2000	
Volume (vph)	120	0	685	160	305	265	10	15	635	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	129	0	737	176	335	291	11	16	668	11
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	832	0	176	637	0	0	0	694	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		54.5		54.5	54.5				31.3	
Effective Green, g (s)		55.5		55.5	55.5				31.3	
Actuated g/C Ratio		0.55		0.55	0.55				0.31	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		551		308	1009				617	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.83		0.31					0.35	
v/c Ratio		1.51		0.57	0.63				1.13	
Uniform Delay, d1		23.0		15.2	15.9				35.1	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		238.4		1.6	1.0				75.9	
Delay (s)		261.4		16.8	16.9				111.0	
Level of Service		F		B	B				F	
Approach Delay (s)		261.4			16.8				111.0	
Approach LOS		F			B				F	

Intersection Summary

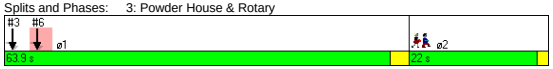
HCM Average Control Delay	133.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	101.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	470	0	0	1060	480	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	553	0	0	1116	505	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.34			0.63	0.32	
Control Delay		0.6			4.2	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			4.2	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			562	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		7			8	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.34			0.63	0.32	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	470	0	0	1060	480
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	553	0	0	1116	505
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	508	0	0	1116	505
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.60	
v/s Ratio Perm		0.31				c0.32
v/c Ratio		0.34			0.65	0.32
Uniform Delay, d1		0.6			1.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			2.0	0.5
Delay (s)		1.2			3.0	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.2	
Approach LOS	A			A	A	

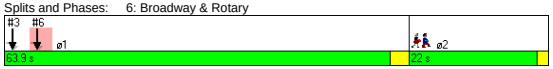
Intersection Summary			
HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	113.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	430	0	0	995	515	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	473	0	0	1047	542	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.30			0.59	0.34	
Control Delay		0.5			1.9	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.5			1.9	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			113	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.30			0.59	0.34	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	430	0	0	995	515
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	473	0	0	1047	542
RTOR Reduction (vph)	0	39	0	0	0	0
Lane Group Flow (vph)	0	434	0	0	1047	542
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.56	
v/s Ratio Perm		0.27				c0.34
v/c Ratio		0.30			0.61	0.34
Uniform Delay, d1		0.6			0.9	0.0
Progression Factor		1.00			0.32	1.00
Incremental Delay, d2		0.5			1.4	0.5
Delay (s)		1.1			1.7	0.5
Level of Service		A			A	A
Approach Delay (s)	1.1			0.0	1.3	
Approach LOS	A			A	A	

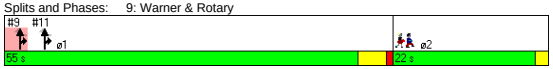
Intersection Summary			
HCM Average Control Delay	1.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	470	1070	515	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	516	1202	579	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.33	0.71	0.40			
Control Delay		0.6	4.8	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.6	4.8	0.7			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	781	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1465			
Starvation Cap Reductn		0	0	103			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.33	0.71	0.43			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



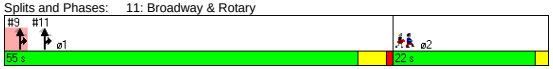
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	470	1070	515	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	516	1202	579	0	0
RTOR Reduction (vph)	0	42	0	48	0	0
Lane Group Flow (vph)	0	474	1202	531	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.68	0.35		
v/s Ratio Perm		0.30				
v/c Ratio		0.33	0.74	0.38		
Uniform Delay, d1		0.6	1.3	0.6		
Progression Factor		1.00	0.69	0.02		
Incremental Delay, d2		0.6	2.6	0.7		
Delay (s)		1.2	3.5	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.2		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	755	830	670	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	878	933	753	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.55	0.54	0.50			
Control Delay		1.4	3.1	1.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.4	3.1	1.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	371	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1496			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		43	10	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.57	0.54	0.50			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



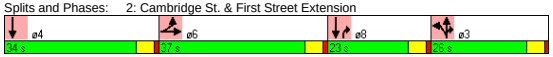
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	755	830	670	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	878	933	753	0	0
RTOR Reduction (vph)	0	72	0	62	0	0
Lane Group Flow (vph)	0	806	933	691	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			c0.52	0.45		
v/s Ratio Perm		0.50				
v/c Ratio		0.54	0.56	0.49		
Uniform Delay, d1		0.8	0.9	0.7		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.4	1.4	1.2		
Delay (s)		2.3	2.3	2.0		
Level of Service		A	A	A		
Approach Delay (s)	2.3		2.1			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	210	50	0	0	0	100	245	500	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	289	0	0	0	0	0	383	556	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.63	0.77						1.15	0.58		0.52			
Control Delay	50.6	56.8						141.7	4.8		10.4			
Queue Delay	18.2	0.0						67.9	0.0		0.9			
Total Delay	68.7	56.8						209.6	4.8		11.3			
Queue Length 50th (ft)	144	182						~308	0		124			
Queue Length 95th (ft)	199	247						#478	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						332	958		1739			
Starvation Cap Reductn	0	0						0	0		528			
Spillback Cap Reductn	243	0						40	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.93	0.58						1.31	0.58		0.74			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 2: Cambridge St. & First Street Extension



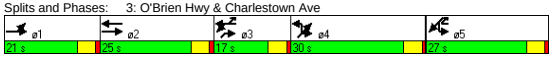
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1810	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1810	1459		3222	
Volume (vph)	205	210	50	0	0	0	100	245	500	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	233	56	0	0	0	111	272	556	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	309	0	197	0
Lane Group Flow (vph)	228	281	0	0	0	0	0	383	247	0	702	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.6	23.6						21.0	52.4		55.4	
Effective Green, g (s)	24.6	24.6						22.0	53.4		57.4	
Actuated g/C Ratio	0.20	0.20						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	363	367						332	649		1541	
v/s Ratio Prot	0.13	c0.16						c0.21	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.63	0.77						1.15	0.38		0.46	
Uniform Delay, d1	43.5	45.0						49.0	22.3		20.9	
Progression Factor	1.00	1.00						1.00	1.00		1.50	
Incremental Delay, d2	3.4	9.2						97.9	0.4		0.7	
Delay (s)	46.9	54.2						146.9	22.6		32.0	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.0			0.0			73.3			32.0	
Approach LOS		D			A			E			C	

Intersection Summary			
HCM Average Control Delay	52.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	550	995	335	380	750	420	430	1225	590	300	520	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	604	1093	368	384	758	424	453	1289	621	319	814	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.63	0.65	0.23	2.27	0.77	0.63	1.29	1.71	1.08	1.09	1.29		
Control Delay	765.8	35.0	0.3	607.0	31.6	19.0	189.3	357.6	96.5	124.0	181.0		
Queue Delay	0.0	0.0	0.0	0.0	204.9	1.3	0.0	0.0	210.2	0.0	0.0		
Total Delay	765.8	35.0	0.3	607.0	236.5	20.3	189.3	357.6	306.7	124.0	181.0		
Queue Length 50th (ft)	~694	227	0	~435	273	114	~394	~681	~450	~269	~375		
Queue Length 95th (ft)	#891	272	0	m#587	m332	m201	#575	#802	#652	#445	#493		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	573	293	629		
Starvation Cap Reductn	0	0	0	0	466	101	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	176	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.63	0.65	0.23	2.27	1.45	0.75	1.29	1.71	1.56	1.09	1.29		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3060	
Volume (vph)	550	995	335	380	750	420	430	1225	590	300	520	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	604	1093	368	384	758	424	453	1289	621	319	553	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	35	0	42	0
Lane Group Flow (vph)	604	1093	368	384	758	173	453	1289	586	319	772	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	587	
v/s Ratio Prot	c0.37	0.23		c0.25	c0.24	0.12	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.23									
v/c Ratio	2.63	0.65	0.23	2.27	0.77	0.41	1.29	1.71	1.09	1.09	1.32	
Uniform Delay, d1	51.5	32.8	0.0	53.5	37.0	33.5	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.83	0.75	4.73	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	744.2	0.9	0.3	583.5	2.2	0.4	150.6	327.0	65.1	78.3	153.6	
Delay (s)	795.7	33.7	0.3	628.2	29.9	158.9	197.6	374.0	103.6	126.8	202.1	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		250.6			211.6			269.1			180.9	
Approach LOS		F			F			F			F	

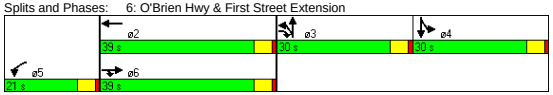
Intersection Summary					
HCM Average Control Delay	237.1	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.66				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	119.0%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	980	120	350	925	55	220	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1089	133	389	1089	0	244	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.73	0.16	0.82	1.05		0.74	0.75			0.76	
Control Delay		24.4	1.1	64.9	82.7		63.9	64.1			48.9	
Queue Delay		0.0	0.0	2.1	0.0		303.5	344.1			36.3	
Total Delay		24.4	1.1	67.0	82.7		367.4	408.2			85.2	
Queue Length 50th (ft)		157	7	134	~428		178	191			218	
Queue Length 95th (ft)		189	0	#195	#548		m201	m213			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1038		384	404			859	
Starvation Cap Reductn		0	0	0	0		237	255			0	
Spillback Cap Reductn		0	7	31	0		0	0			246	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.73	0.15	0.85	1.05		1.66	1.75			1.06	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3509		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3509		1770	1863			3459	
Volume (vph)	0	980	120	350	925	55	220	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1089	133	389	1028	61	244	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1089	103	389	1085	0	244	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.21	0.06	c0.11	c0.31		0.14	c0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.73	0.13	0.82	1.05		0.74	0.75			0.76	
Uniform Delay, d1		37.9	15.1	50.2	42.3		46.1	46.3			41.8	
Progression Factor		0.56	0.09	1.00	1.00		1.26	1.26			1.00	
Incremental Delay, d2		3.0	0.1	10.6	41.7		3.7	3.8			6.2	
Delay (s)		24.1	1.4	60.8	84.0		62.0	62.3			48.0	
Level of Service		C	A	E	F		E	E			D	
Approach Delay (s)		21.7			77.9			62.1			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

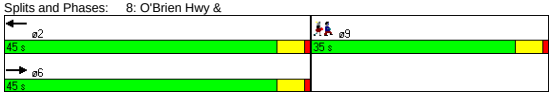
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1875	0	0	1375	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	2038	0	0	1495	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.43			0.45			
Control Delay	3.0			3.4			
Queue Delay	0.0			0.0			
Total Delay	3.0			3.4			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	286			331			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.43			0.45			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

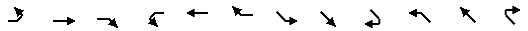
Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1875	0	0	1375	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2038	0	0	1495	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2038	0	0	1495	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.40			c0.42		
v/s Ratio Perm						
v/c Ratio	0.46			0.48		
Uniform Delay, d1	1.5			1.6		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.9			2.1		
Level of Service	A			A		
Approach Delay (s)	1.9			2.1	0.0	
Approach LOS	A			A	A	

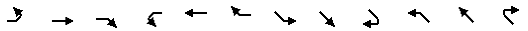
Intersection Summary

HCM Average Control Delay	2.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	715	0	0	5	0	1160	0	0	1345	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	794	0	0	6	0	1289	0	0	1448	0
Sign Control		Yield			Stop			Free			Free	

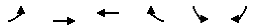
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	715	0	0	5	0	1160	0	0	1345	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	794	0	0	6	0	1289	0	0	1416	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.86	0.86	0.81	0.86	0.86	0.90	0.90			0.81		
vC, conflicting volume	2002	2736	430	2656	2720	724	1447			1289		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1451	2305	0	2211	2287	589	1389			892		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	9	100	100	99	100			100		
cM capacity (veh/h)	77	32	878	2	32	402	359			560		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	794	6	430	430	430	944	504
Volume Left	0	0	0	0	0	0	0
Volume Right	794	6	0	0	0	0	32
cSH	878	402	1700	1700	1700	1700	1700
Volume to Capacity	0.91	0.01	0.25	0.25	0.25	0.56	0.30
Queue Length 95th (ft)	282	1	0	0	0	0	0
Control Delay (s)	33.9	14.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	33.9	14.1	0.0			0.0	
Approach LOS	D	B					

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	73.4%	ICU Level of Service	D	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1875	1355	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2083	1584	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1875	1355	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2083	1506	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.79				0.83	0.79
vC, conflicting volume	1583				2239	792
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1474				1877	475
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	359				53	425

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	694	694	694	1004	580	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	425
Volume to Capacity	0.41	0.41	0.41	0.59	0.34	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.9
Approach LOS						B

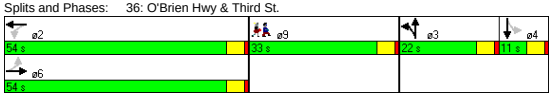
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1295	380	1	1445	1	875	1	35	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1862	0	0	1608	0	513	499	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.86			0.97		2.18	1.97			0.04		
Control Delay		31.5			55.7		571.7	479.5			48.3		
Queue Delay		0.3			2.3		0.0	29.0			0.0		
Total Delay		31.8			58.0		571.7	508.5			48.3		
Queue Length 50th (ft)		369			505		~590	~560			1		
Queue Length 95th (ft)		#561			#786		#787	#758			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2161			1654		235	253			79		
Starvation Cap Reductn		0			25		0	0			0		
Spillback Cap Reductn		40			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.88			0.99		2.18	2.04			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4912			3539		1569	1672			1750	
Flt Permitted		0.89			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4377			3376		1569	1672			1779	
Volume (vph)	1	1295	380	1	1445	1	875	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1439	422	1	1606	1	972	1	39	1	1	1
RTOR Reduction (vph)	0	41	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1821	0	0	1608	0	513	496	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1999			1542		235	251			33	
v/s Ratio Prot							c0.33	0.30				
v/s Ratio Perm		0.42			c0.48						c0.00	
v/c Ratio		0.91			1.04		2.18	1.98			0.06	
Uniform Delay, d1		30.3			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.41		1.00	1.00			1.00	
Incremental Delay, d2		7.7			32.9		546.1	454.1			0.8	
Delay (s)		38.1			78.8		597.1	505.1			58.7	
Level of Service		D			E		F	F			E	
Approach Delay (s)		38.1			78.8			551.7			58.7	
Approach LOS		D			E			F			E	

Intersection Summary

HCM Average Control Delay	168.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1005	15	0	1215	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1097	0	0	1293	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1005	15	0	1215	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1081	16	0	1293	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.76	0.92
vC, conflicting volume			1097		1735	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			924		1209	129
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			663		134	825

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	432	432	232	646	646	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	825
Volume to Capacity	0.25	0.25	0.14	0.38	0.38	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						B

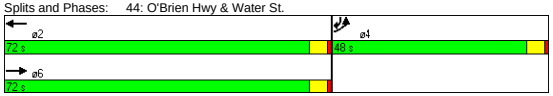
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	1020	0	0	1135	80	0	0	0	0	0	310
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1097	0	0	1292	0	0	0	0	0	0	344
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.32			0.54							0.80
Control Delay	72.1	0.6			6.6							48.2
Queue Delay	1.0	0.3			0.6							674.0
Total Delay	73.0	0.9			7.2							722.2
Queue Length 50th (ft)	239	7			76							185
Queue Length 95th (ft)	m271	m13			m86							253
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3446			2378							636
Starvation Cap Reductn	117	1500			206							0
Spillback Cap Reductn	0	0			646							606
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.56			0.75							11.47

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3404							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3404							1627
Volume (vph)	310	1020	0	0	1135	80	0	0	0	0	0	310
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1097	0	0	1207	85	0	0	0	0	0	344
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	48
Lane Group Flow (vph)	333	1097	0	0	1289	0	0	0	0	0	0	296
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.22			c0.38							0.18
v/s Ratio Perm												
v/c Ratio	0.82	0.32			0.54							0.77
Uniform Delay, d1	43.5	7.1			8.8							42.8
Progression Factor	1.50	0.06			0.64							1.00
Incremental Delay, d2	5.9	0.1			0.2							9.2
Delay (s)	71.3	0.6			5.9							52.0
Level of Service	E	A			A							D
Approach Delay (s)		17.0			5.9			0.0			52.0	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

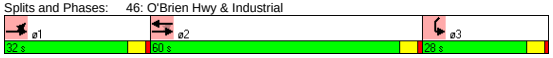
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1800	1410	225	370	140
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2049	1721	0	567	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.78	0.77		0.90	
Control Delay		12.4	28.8		62.5	
Queue Delay		1.9	17.4		3.1	
Total Delay		14.3	46.2		65.7	
Queue Length 50th (ft)		189	348		181	
Queue Length 95th (ft)		m193	404		#268	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2638	2224		641	
Starvation Cap Reductn		410	0		0	
Spillback Cap Reductn		0	541		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.92	1.02		0.93	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4690	4633		3031	
Flt Permitted		0.69	1.00		0.97	
Satd. Flow (perm)		3244	4633		3031	
Volume (vph)	85	1800	1410	225	370	140
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1957	1484	237	411	156
RTOR Reduction (vph)	0	0	18	0	35	0
Lane Group Flow (vph)	0	2049	1703	0	532	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.5	56.1		22.5	
Effective Green, g (s)		84.5	57.1		23.5	
Actuated g/C Ratio		0.70	0.48		0.20	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2614	2205		594	
v/s Ratio Prot		c0.18	0.37		c0.18	
v/s Ratio Perm		c0.37				
v/c Ratio		0.78	0.77		0.90	
Uniform Delay, d1		11.7	26.1		47.1	
Progression Factor		1.42	1.00		1.00	
Incremental Delay, d2		0.8	2.7		16.1	
Delay (s)		17.5	28.8		63.1	
Level of Service		B	C		E	
Approach Delay (s)		17.5	28.8		63.1	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

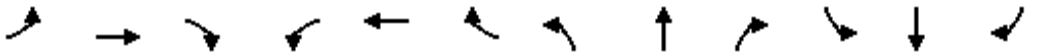
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	685	145	70	435	10	10	15	2	95	15	140
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	894	0	0	554	0	0	59	0	0	145	184
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	685	145	70	435	10	10	15	2	95	15	140
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	11	729	154	75	468	11	22	33	4	125	20	184
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	478			883			1645	1528	473	1472	1456	806
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478			883			1645	1528	473	1472	1456	806
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			90			32	69	99	0	83	51
cM capacity (veh/h)	1079			766			33	106	595	71	114	376

Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	894	554	60	145	184
Volume Left	11	75	22	125	0
Volume Right	154	11	4	0	184
cSH	1079	766	60	75	376
Volume to Capacity	0.01	0.10	1.00	1.93	0.49
Queue Length 95th (ft)	1	8	119	323	65
Control Delay (s)	0.3	2.6	230.2	554.4	23.4
Lane LOS	A	A	F	F	C
Approach Delay (s)	0.3	2.6	230.2	257.1	
Approach LOS			F	F	

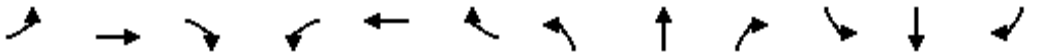
Intersection Summary				
Average Delay	54.5			
Intersection Capacity Utilization	87.9%	ICU Level of Service		E
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	170	45	100	285	1075	0	0	915	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	349	0	310	1132	0	0	995	207
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

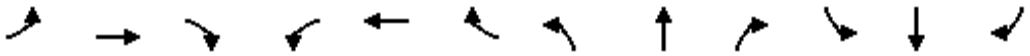
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	170	45	100	285	1075	0	0	915	190
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	189	49	111	310	1132	0	0	995	207
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked												
vC, conflicting volume	2881	2746	995	2746	2952	1132	1201			1132		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2881	2746	995	2746	2952	1132	1201			1132		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	100	0	0	55	47			100		
cM capacity (veh/h)	0	9	297	8	7	249	581			617		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	349	310	1132	995	207
Volume Left	189	310	0	0	0
Volume Right	111	0	0	0	207
cSH	11	581	1700	1700	1700
Volume to Capacity	32.69	0.53	0.67	0.59	0.12
Queue Length 95th (ft)	Err	78	0	0	0
Control Delay (s)	Err	18.0	0.0	0.0	0.0
Lane LOS	F	C			
Approach Delay (s)	Err	3.9		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	1168.2			
Intersection Capacity Utilization	148.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	240	210	200	0	0	0	0	1120	500	80	1005	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	722	0	0	0	0	0	1244	556	84	1058	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	240	210	200	0	0	0	0	1120	500	80	1005	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	267	233	222	0	0	0	0	1244	556	84	1058	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2471	3026	1058	2810	2471	1244	1058			1800		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2471	3026	1058	2810	2471	1244	1058			1800		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	19	0	100	100	100			75		
cM capacity (veh/h)	17	10	274	0	23	212	658			340		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	383	339	1244	556	84	1058
Volume Left	267	0	0	0	84	0
Volume Right	0	222	0	556	0	0
cSH	14	27	1700	1700	340	1700
Volume to Capacity	27.76	12.59	0.73	0.33	0.25	0.62
Queue Length 95th (ft)	Err	Err	0	0	24	0
Control Delay (s)	Err	Err	0.0	0.0	19.0	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	1971.2			
Intersection Capacity Utilization	148.8%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	465	5	10	0	1	5	85	1150	1	5	365	835
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	545	0	0	13	0	0	1358	0	0	377	852
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	465	5	10	0	1	5	85	1150	1	5	365	835
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	528	6	11	0	2	11	93	1264	1	5	372	852
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1846	1834	372	1848	1834	1264	372			1265		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1846	1834	372	1848	1834	1264	372			1265		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	94	92			99		
cM capacity (veh/h)	49	69	674	48	67	201	1192			550		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	545	14	1358	378	852
Volume Left	528	0	93	5	0
Volume Right	11	11	1	0	852
cSH	50	151	1192	550	1700
Volume to Capacity	10.83	0.09	0.08	0.01	0.50
Queue Length 95th (ft)	Err	7	6	1	0
Control Delay (s)	Err	31.3	2.9	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	31.3	2.9	0.1	
Approach LOS	F	D			

Intersection Summary				
Average Delay	1734.6			
Intersection Capacity Utilization	130.3%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	35	430	415	90	55	70
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	469	555	0	143	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

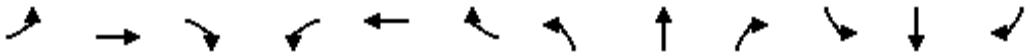
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	35	430	415	90	55	70
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	35	434	456	99	63	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	555				1011	505
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511				1012	456
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				73	85
cM capacity (veh/h)	959				233	551

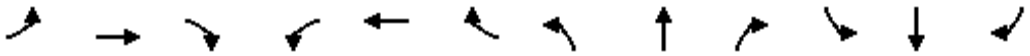
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	470	555	144
Volume Left	35	0	63
Volume Right	0	99	80
cSH	959	1700	345
Volume to Capacity	0.04	0.33	0.42
Queue Length 95th (ft)	3	0	50
Control Delay (s)	1.1	0.0	22.7
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	22.7
Approach LOS			C

Intersection Summary			
Average Delay		3.2	
Intersection Capacity Utilization		65.5%	ICU Level of Service C
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	15	175	110	250	305	10	85	25	140	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	371	0	0	601	0	0	294	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

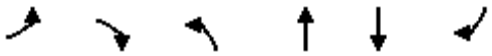
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	175	110	250	305	10	85	25	140	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	19	216	136	266	324	11	100	29	165	0	7	0

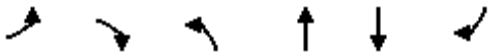
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	370	601	294	7
Volume Left (vph)	19	266	100	0
Volume Right (vph)	136	11	165	0
Hadj (s)	-0.19	0.11	-0.23	0.00
Departure Headway (s)	5.7	5.7	6.3	7.5
Degree Utilization, x	0.59	0.94	0.51	0.01
Capacity (veh/h)	608	625	548	414
Control Delay (s)	16.6	46.7	15.7	10.7
Approach Delay (s)	16.6	46.7	15.7	10.7
Approach LOS	C	E	C	B

Intersection Summary			
Delay	30.6		
HCM Level of Service	D		
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	250	100	185	575	450	380
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	368	0	0	826	893	0
Sign Control	Stop			Free	Free	

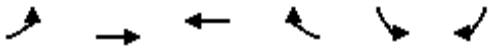
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	250	100	185	575	450	380
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	263	105	201	625	484	409
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1715	688	892			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1715	688	892			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	76	74			
cM capacity (veh/h)	73	446	760			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	368	826	892
Volume Left	263	201	0
Volume Right	105	0	409
cSH	96	760	1700
Volume to Capacity	3.85	0.26	0.52
Queue Length 95th (ft)	Err	27	0
Control Delay (s)	Err	6.4	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.4	0.0
Approach LOS	F		

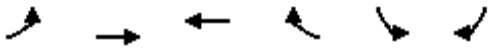
Intersection Summary			
Average Delay	1767.7		
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		767	1200		743	
Travel Time (s)		17.4	27.3		16.9	
Volume (vph)	60	755	825	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	0	886	957	0	120	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	60	755	825	55	55	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	821	897	60	60	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		767	1200			
pX, platoon unblocked	0.70				0.82	0.70
vC, conflicting volume	957				1878	927
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	938				1607	895
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				28	75
cM capacity (veh/h)	509				83	237

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	886	957	120
Volume Left	65	0	60
Volume Right	0	60	60
cSH	509	1700	123
Volume to Capacity	0.13	0.56	0.97
Queue Length 95th (ft)	11	0	163
Control Delay (s)	4.0	0.0	142.3
Lane LOS	A		F
Approach Delay (s)	4.0	0.0	142.3
Approach LOS			F

Intersection Summary			
Average Delay	10.5		
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	11	11
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	870			539	996	
Travel Time (s)	19.8			12.3	22.6	
Volume (vph)	25	375	195	245	490	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	1%	0%	0%	1%
Lane Group Flow (vph)	435	0	0	478	544	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	25	375	195	245	490	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	408	212	266	533	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				539	996	
pX, platoon unblocked	0.93	0.88	0.88			
vC, conflicting volume	1228	538	543			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1072	473	480			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	21	78			
cM capacity (veh/h)	177	518	954			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	435	478	543
Volume Left	27	212	0
Volume Right	408	0	11
cSH	462	954	1700
Volume to Capacity	0.94	0.22	0.32
Queue Length 95th (ft)	279	21	0
Control Delay (s)	58.3	5.8	0.0
Lane LOS	F	A	
Approach Delay (s)	58.3	5.8	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	19.3		
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 6 PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	446	0.0	0.609	14.4	LOS B	178	0.85	0.94	22.7
8T	T	909	0.0	1.242	127.0	LOS F	1970	1.00	3.32	7.4
Approach		**1355**	**0.0**	**1.242**	**89.9**	**LOS F**	**1970**	**0.95**	**2.54**	**9.6**
Mystic Valley Parkway										
4T	T	798	0.0	0.904	19.5	LOS B	545	1.00	1.34	20.4
4R	R	581	0.0	0.751	13.7	LOS B	287	0.97	1.09	22.6
Approach		**1379**	**0.0**	**0.904**	**17.1**	**LOS B**	**545**	**0.99**	**1.24**	**21.3**
Mystic Valley Parkway										
5L	L	383	0.0	0.720	23.6	LOS C	251	1.00	1.22	19.6
2R	R	333	0.0	0.697	19.7	LOS B	223	1.00	1.20	20.4
Approach		**716**	**0.0**	**0.720**	**21.8**	**LOS C**	**251**	**1.00**	**1.21**	**19.9**
All Vehicles		**3450**	**0.0**	**1.242**	**46.7**	**LOS D**	**1970**	**0.97**	**1.74**	**14.3**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
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2030 Build Alternative 7 Analysis

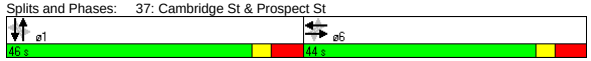
Note: Alternative 7 is referred to as Alternative 5a in the Environmental Consequences Chapter

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			385			1421	
Travel Time (s)		35.7			26.6			8.8			32.3	
Volume (vph)	55	305	10	80	350	15	30	265	80	30	335	45
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Lane Group Flow (vph)	0	394	0	0	468	0	0	458	0	0	466	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	44.0	44.0		44.0	44.0		46.0	46.0		46.0	46.0	
Total Split (s)	44.0	44.0	0.0	44.0	44.0	0.0	46.0	46.0	0.0	46.0	46.0	0.0
Total Split (%)	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	51.1%	51.1%	0.0%	51.1%	51.1%	0.0%
Maximum Green (s)	36.0	36.0		36.0	36.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	29.0	29.0		29.0	29.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.63			0.79			0.63			0.61	
Control Delay		27.0			34.9			17.2			24.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		27.0			34.9			17.2			24.5	
Queue Length 50th (ft)		175			228			86			200	
Queue Length 95th (ft)		275			#389			m157			293	
Internal Link Dist (ft)		1490			1090			305			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		630			596			730			762	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.63			0.79			0.63			0.61	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 6:EBWB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1835			1795			1840			1914	
Flt Permitted		0.85			0.82			0.93			0.94	
Satd. Flow (perm)		1577			1491			1727			1806	
Volume (vph)	55	305	10	80	350	15	30	265	80	30	335	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.95	0.95	0.95	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	59	324	11	84	368	16	37	323	98	34	381	51
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	394	0	0	468	0	0	458	0	0	466	0
Confl. Peds. (#/hr)	34		19	19		34	45		32	32		45
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		36.0			36.0			38.0			38.0	
Effective Green, g (s)		36.0			36.0			38.0			38.0	
Actuated g/C Ratio		0.40			0.40			0.42			0.42	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		631			596			729			763	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.31			c0.27			0.26	
v/c Ratio		0.62			0.79			0.63			0.61	
Uniform Delay, d1		21.6			23.6			20.4			20.2	
Progression Factor		1.00			1.00			0.66			1.00	
Incremental Delay, d2		4.6			10.0			3.4			3.6	
Delay (s)		26.2			33.6			16.8			23.9	
Level of Service		C			C			B			C	
Approach Delay (s)		26.2			33.6			16.8			23.9	
Approach LOS		C			C			B			C	

Intersection Summary

HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

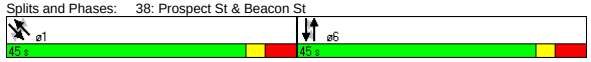
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			122			3010			1027	
Travel Time (s)		21.4			2.8			68.4			23.3	
Volume (vph)	100	330	30	25	390	10	20	505	90	40	280	25
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Lane Group Flow (vph)	0	541	0	0	467	0	0	654	0	0	397	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.57			0.65			0.90			0.64	
Control Delay		23.2			12.3			42.2			27.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.2			12.4			42.2			27.0	
Queue Length 50th (ft)		121			68			338			176	
Queue Length 95th (ft)		160			m90			#554			263	
Internal Link Dist (ft)		862			42			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		956			713			729			620	
Starvation Cap Reductn		0			6			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.57			0.66			0.90			0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 1:NWSE, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3353			1831			1811			1793	
Flt Permitted		0.69			0.95			0.98			0.84	
Satd. Flow (perm)		2326			1735			1774			1509	
Volume (vph)	100	330	30	25	390	10	20	505	90	40	280	25
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	118	388	35	27	429	11	21	537	96	46	322	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	541	0	0	467	0	0	654	0	0	397	0
Confl. Peds. (#/hr)	14		18	18		14	26		19	19		26
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		956			713			729			620	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			c0.37			0.26	
v/c Ratio		0.57			0.65			0.90			0.64	
Uniform Delay, d1		20.3			21.4			24.7			21.2	
Progression Factor		1.00			0.40			1.00			1.00	
Incremental Delay, d2		2.4			3.6			16.0			5.0	
Delay (s)		22.8			12.1			40.7			26.2	
Level of Service		C			B			D			C	
Approach Delay (s)		22.8			12.1			40.7			26.2	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

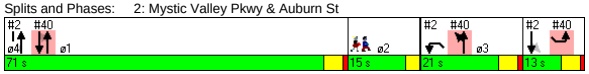
c Critical Lane Group

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	10	10	14	14		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50	50	50			
Trailing Detector (ft)	0		0	0	0			
Turning Speed (mph)		9	15		15	9		
Right Turn on Red		Yes				Yes		
Link Speed (mph)	30			30	30			
Link Distance (ft)	545			104	899			
Travel Time (s)	12.4			2.4	20.4			
Volume (vph)	835	20	105	1265	110	60		
Peak Hour Factor	0.89	0.89	0.90	0.90	0.82	0.82		
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%		
Lane Group Flow (vph)	960	0	0	1523	207	0		
Turn Type			Perm					
Protected Phases	1			1 4	3		2	4
Permitted Phases			1 4					
Detector Phases	1		1 4	1 4	3			
Minimum Initial (s)	8.0				8.0		2.0	8.0
Minimum Split (s)	13.0				13.0		15.0	13.0
Total Split (s)	71.0	0.0	84.0	84.0	21.0	0.0	15.0	13.0
Total Split (%)	59.2%	0.0%	70.0%	70.0%	17.5%	0.0%	13%	11%
Maximum Green (s)	66.0				16.0		12.0	8.0
Yellow Time (s)	4.0				4.0		3.0	4.0
All-Red Time (s)	1.0				1.0		0.0	1.0
Lead/Lag	Lead				Lead		Lag	Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes
Vehicle Extension (s)	4.0				4.0		3.0	4.0
Recall Mode	C-Min				Min		None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							4	
v/c Ratio	0.47			0.83	0.64			
Control Delay	16.1			5.0	52.4			
Queue Delay	0.1			0.0	0.9			
Total Delay	16.2			5.0	53.3			
Queue Length 50th (ft)	224			34	134			
Queue Length 95th (ft)	272			m37	203			
Internal Link Dist (ft)	465			24	819			
Turn Bay Length (ft)								
Base Capacity (vph)	2064			1835	324			
Starvation Cap Reductn	0			0	0			
Spillback Cap Reductn	192			0	22			
Storage Cap Reductn	0			0	0			
Reduced v/c Ratio	0.51			0.83	0.69			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 50 (42%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mystic Valley Pkwy & Auburn St



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	10	10	14	14
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3598			3323	1851	
Flt Permitted	1.00			0.74	0.97	
Satd. Flow (perm)	3598			2471	1851	
Volume (vph)	835	20	105	1265	110	60
Peak-hour factor, PHF	0.89	0.89	0.90	0.90	0.82	0.82
Adj. Flow (vph)	938	22	117	1406	134	73
RTOR Reduction (vph)	1	0	0	0	16	0
Lane Group Flow (vph)	959	0	0	1523	191	0
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Turn Type			Perm			
Protected Phases	1			1 4	3	
Permitted Phases			1 4			
Actuated Green, G (s)	65.4			85.8	18.8	
Effective Green, g (s)	66.4			86.8	19.8	
Actuated g/C Ratio	0.55			0.72	0.16	
Clearance Time (s)	5.0				5.0	
Vehicle Extension (s)	4.0				4.0	
Lane Grp Cap (vph)	1991			1787	305	
v/s Ratio Prot	0.27				c0.10	
v/s Ratio Perm				c0.62		
v/c Ratio	0.48			0.85	0.63	
Uniform Delay, d1	16.3			12.0	46.7	
Progression Factor	1.00			0.24	1.00	
Incremental Delay, d2	0.8			1.1	4.5	
Delay (s)	17.2			3.9	51.2	
Level of Service	B			A	D	
Approach Delay (s)	17.2			3.9	51.2	
Approach LOS	B			A	D	

Intersection Summary

HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

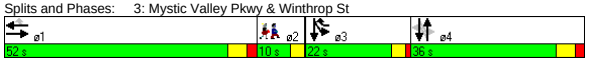
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50			50	50	50	50		50	50		
Trailing Detector (ft)		0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1273			1257			632			825		
Travel Time (s)		28.9			28.6			14.4			18.8		
Volume (vph)	0	985	30	0	1105	200	30	400	365	565	870	120	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	1080	0	0	1176	213	0	1019	0	0	1672	0	
Turn Type						pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases						1	4			3 4			
Detector Phases		1			1	3	4	4		3	3 4		
Minimum Initial (s)		12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)		18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	0.0	52.0	0.0	0.0	52.0	22.0	36.0	36.0	0.0	22.0	58.0	0.0	10.0
Total Split (%)	0.0%	43.3%	0.0%	0.0%	43.3%	18.3%	30.0%	30.0%	0.0%	18.3%	48.3%	0.0%	8%
Maximum Green (s)		46.0			46.0	18.0	30.0	30.0		18.0			7.0
Yellow Time (s)		4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)		2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?		Yes			Yes								Yes
Vehicle Extension (s)		1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode		C-Min			C-Min	None	None	None		None			None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.36			1.60	0.20		1.67			1.38dl		
Control Delay		194.9			302.8	3.8		335.5			177.6		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		194.9			302.8	3.8		335.5			177.6		
Queue Length 50th (ft)		~1112			~1302	22		~564			~627		
Queue Length 95th (ft)		#1349			#1561	50		#564			#1130		
Internal Link Dist (ft)		1193			1177			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		792			737	1059		610			1261		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.36			1.60	0.20		1.67			1.33		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.93			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2019			1881	1599		3322			3470	
Flt Permitted		1.00			1.00	1.00		0.59			0.58	
Satd. Flow (perm)		2019			1881	1599		1947			2066	
Volume (vph)	0	985	30	0	1105	200	30	400	365	565	870	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.78	0.78	0.78	0.93	0.93	0.93
Adj. Flow (vph)	0	1048	32	0	1176	213	38	513	468	608	935	129
RTOR Reduction (vph)	0	1	0	0	0	54	0	107	0	0	5	0
Lane Group Flow (vph)	0	1079	0	0	1176	159	0	912	0	0	1667	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type						pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases						1	4			3 4		
Actuated Green, G (s)		43.6			43.6	69.6		30.0			56.0	
Effective Green, g (s)		44.6			44.6	69.6		31.0			56.0	
Actuated g/C Ratio		0.37			0.37	0.58		0.26			0.47	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		750			699	927		503			1257	
v/s Ratio Prot		0.53			c0.63	0.04					c0.28	
v/s Ratio Perm						0.06		c0.47			0.34	
v/c Ratio		1.44			1.68	0.17		1.81			1.38dl	
Uniform Delay, d1		37.7			37.7	11.8		44.5			32.0	
Progression Factor		0.64			1.00	1.00		1.00			1.00	
Incremental Delay, d2		203.8			313.3	0.0		373.9			152.5	
Delay (s)		227.9			351.0	11.8		418.4			184.5	
Level of Service		F			F	B		F			F	
Approach Delay (s)		227.9			299.0			418.4			184.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	270.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	138.6%	ICU Level of Service	H
Analysis Period (min)	15		

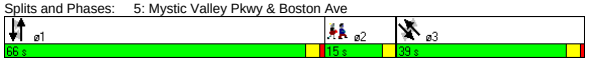
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		575			329			2678			359		
Travel Time (s)		13.1			7.5			60.9			8.2		
Volume (vph)	40	810	180	60	1225	80	65	425	85	75	285	10	
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1212	0	0	1533	0	0	710	0	0	440	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	66.0	66.0	0.0	66.0	66.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0	15.0
Total Split (%)	55.0%	55.0%	0.0%	55.0%	55.0%	0.0%	32.5%	32.5%	0.0%	32.5%	32.5%	0.0%	13%
Maximum Green (s)	62.0	62.0		62.0	62.0		35.0	35.0		35.0	35.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.01			1.21			1.16			1.24		
Control Delay		57.0			130.3			122.9			160.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		57.0			130.3			122.9			160.7		
Queue Length 50th (ft)		~484			~765			~618			~405		
Queue Length 95th (ft)		#585			#891			#877			#643		
Internal Link Dist (ft)		495			249			2598			279		
Turn Bay Length (ft)													
Base Capacity (vph)		1201			1267			612			356		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.01			1.21			1.16			1.24		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			0.99			0.98			1.00	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3508			3535			1918			1894	
Flt Permitted		0.63			0.68			0.86			0.62	
Satd. Flow (perm)		2231			2395			1664			1186	
Volume (vph)	40	810	180	60	1225	80	65	425	85	75	285	10
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.81	0.81	0.81	0.84	0.84	0.84
Adj. Flow (vph)	47	953	212	67	1376	90	80	525	105	89	339	12
RTOR Reduction (vph)	0	16	0	0	4	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1196	0	0	1529	0	0	706	0	0	439	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		59.6			59.6			47.0			47.0	
Effective Green, g (s)		59.6			59.6			47.0			47.0	
Actuated g/C Ratio		0.50			0.50			0.39			0.39	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1108			1190			652			465	
v/s Ratio Prot												
v/s Ratio Perm		0.54			c0.64			c0.42			0.37	
v/c Ratio		1.08			1.28			1.08			0.94	
Uniform Delay, d1		30.2			30.2			36.5			35.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		51.3			134.7			59.6			28.4	
Delay (s)		81.5			164.9			96.1			63.6	
Level of Service		F			F			F			E	
Approach Delay (s)		81.5			164.9			96.1			63.6	
Approach LOS		F			F			F			E	

Intersection Summary

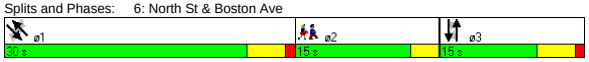
HCM Average Control Delay	115.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	113.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			986			1456		
Travel Time (s)		22.5			15.0			22.4			33.1		
Volume (vph)	25	15	10	70	55	50	2	565	55	15	300	10	
Peak Hour Factor	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89	
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	76	0	0	206	0	0	669	0	0	365	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		2.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		15.0
Total Split (s)	15.0	15.0	0.0	15.0	15.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0	15.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	25%
Maximum Green (s)	10.0	10.0		10.0	10.0		25.0	25.0		25.0	25.0		12.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.25			0.61			0.66			0.37		
Control Delay		19.4			28.5			14.4			8.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		19.4			28.5			14.4			8.7		
Queue Length 50th (ft)		16			46			97			42		
Queue Length 95th (ft)		40			#147			#400			154		
Internal Link Dist (ft)		911			582			906			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		308			341			1018			989		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.25			0.60			0.66			0.37		

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 50.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.96			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1804			1756			1779			1789	
Flt Permitted		0.80			0.85			1.00			0.97	
Satd. Flow (perm)		1472			1521			1778			1732	
Volume (vph)	25	15	10	70	55	50	2	565	55	15	300	10
Peak-hour factor, PHF	0.66	0.66	0.66	0.85	0.85	0.85	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	38	23	15	82	65	59	2	608	59	17	337	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	76	0	0	206	0	0	669	0	0	365	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		10.0			10.0			28.0			28.0	
Effective Green, g (s)		11.0			11.0			29.0			29.0	
Actuated g/C Ratio		0.21			0.21			0.55			0.55	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		306			316			973			948	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.14			c0.38			0.21	
v/c Ratio		0.25			0.65			0.69			0.39	
Uniform Delay, d1		17.5			19.2			8.7			6.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			5.3			4.0			1.2	
Delay (s)		18.1			24.5			12.7			8.1	
Level of Service		B			C			B			A	
Approach Delay (s)		18.1			24.5			12.7			8.1	
Approach LOS		B			C			B			A	

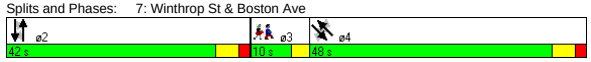
Intersection Summary					
HCM Average Control Delay	13.6	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	13.0		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2234		
Travel Time (s)		29.5			53.6			33.1			50.8		
Volume (vph)	10	345	70	140	130	95	200	420	25	35	195	90	
Peak Hour Factor	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%	
Lane Group Flow (vph)	0	518	0	0	415	0	0	687	0	0	345	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		2.0
Minimum Split (s)	17.0	17.0		17.0	17.0		37.0	37.0		37.0	37.0		10.0
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	10.0
Total Split (%)	42.0%	42.0%	0.0%	42.0%	42.0%	0.0%	48.0%	48.0%	0.0%	48.0%	48.0%	0.0%	10%
Maximum Green (s)	35.9	35.9		35.9	35.9		42.0	42.0		42.0	42.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.72			1.15			1.13			0.48		
Control Delay		30.5			123.8			103.5			20.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		30.5			123.8			103.5			20.2		
Queue Length 50th (ft)		238			~276			~450			127		
Queue Length 95th (ft)		364			#502			#763			243		
Internal Link Dist (ft)		1216			2277			1376			2154		
Turn Bay Length (ft)													
Base Capacity (vph)		724			361			609			723		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.72			1.15			1.13			0.48		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 92	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.99			0.96	
Flt Protected		1.00			0.98			0.98			0.99	
Satd. Flow (prot)		1819			1881			1807			1731	
Flt Permitted		0.99			0.50			0.72			0.89	
Satd. Flow (perm)		1799			952			1327			1555	
Volume (vph)	10	345	70	140	130	95	200	420	25	35	195	90
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	12	421	85	159	148	108	213	447	27	38	210	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	415	0	0	687	0	0	345	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		36.0			36.0			42.1			42.1	
Effective Green, g (s)		37.1			37.1			43.1			43.1	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		706			374			605			709	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.44			c0.52			0.22	
v/c Ratio		0.73			1.11			1.14			0.49	
Uniform Delay, d1		24.5			28.7			25.7			18.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.7			79.5			80.0			2.4	
Delay (s)		31.1			108.2			105.7			20.3	
Level of Service		C			F			F			C	
Approach Delay (s)		31.1			108.2			105.7			20.3	
Approach LOS		C			F			F			C	

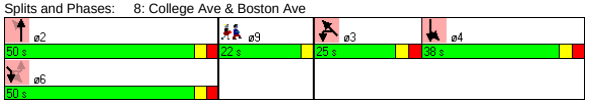
Intersection Summary					
HCM Average Control Delay	71.6	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.12				
Actuated Cycle Length (s)	94.5	Sum of lost time (s)		14.3	
Intersection Capacity Utilization	119.7%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1064			1813			2234			1738		
Travel Time (s)		24.2			41.2			50.8			39.5		
Volume (vph)	75	130	2	60	330	85	65	335	210	10	190	35	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74	
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%	
Lane Group Flow (vph)	83	146	0	0	534	0	0	460	241	0	318	0	
Turn Type	Perm			Split			custom		custom	Split			
Protected Phases		2		4	4				6	3	3		9
Permitted Phases	2						6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		2.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	23.0	23.0		22.0
Total Split (s)	50.0	50.0	0.0	38.0	38.0	0.0	50.0	50.0	50.0	25.0	25.0	0.0	22.0
Total Split (%)	37.0%	37.0%	0.0%	28.1%	28.1%	0.0%	37.0%	37.0%	37.0%	18.5%	18.5%	0.0%	16%
Maximum Green (s)	44.0	44.0		32.0	32.0		44.0	44.0	44.0	19.0	19.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.12	0.22			1.03			0.97	0.39		1.03		
Control Delay	29.0	29.7			92.3			74.8	18.9		108.9		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	29.0	29.7			92.3			74.8	18.9		108.9		
Queue Length 50th (ft)	38	69			378			312	64		229		
Queue Length 95th (ft)	92	150			#761			#632	157		#377		
Internal Link Dist (ft)		984			1733			2154			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	684	677			516			473	620		309		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.12	0.22			1.03			0.97	0.39		1.03		

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 121.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.98			1.00	0.85		0.98	
Flt Protected	0.95	1.00			0.99			0.99	1.00		1.00	
Satd. Flow (prot)	1787	1859			1927			1833	1516		1940	
Flt Permitted	1.00	1.00			0.99			0.70	1.00		1.00	
Satd. Flow (perm)	1881	1859			1927			1299	1516		1940	
Volume (vph)	75	130	2	60	330	85	65	335	210	10	190	35
Peak-hour factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	83	144	2	67	371	96	75	385	241	14	257	47
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	69	0	4	0
Lane Group Flow (vph)	83	145	0	0	528	0	0	460	172	0	314	0
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	2%	3%	3%	1%	1%	2%
Turn Type	Perm			Split			custom		custom	Split		
Protected Phases		2		4	4				6	3	3	
Permitted Phases	2						6	6				
Actuated Green, G (s)	44.3	44.3			32.2			44.3	44.3		19.1	
Effective Green, g (s)	44.3	44.3			32.2			44.3	44.3		19.1	
Actuated g/C Ratio	0.36	0.36			0.26			0.36	0.36		0.15	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	675	667			502			466	544		300	
v/s Ratio Prot		0.08			c0.27				0.11		c0.16	
v/s Ratio Perm	0.04							c0.35				
v/c Ratio	0.12	0.22			1.05			0.99	0.32		1.05	
Uniform Delay, d1	26.6	27.5			45.6			39.3	28.6		52.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2			54.5			38.0	0.3		64.5	
Delay (s)	26.6	27.7			100.2			77.3	29.0		116.7	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		27.3			100.2			60.7			116.7	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	78.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	27.9
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

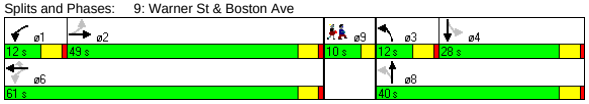
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		527			1795			1441			1738		
Travel Time (s)		12.0			40.8			32.8			39.5		
Volume (vph)	5	380	45	65	645	170	25	40	60	50	300	0	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	467	0	0	780	187	0	140	0	0	407	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		2.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		10.0
Total Split (s)	49.0	49.0	0.0	12.0	61.0	61.0	12.0	40.0	0.0	28.0	28.0	0.0	10.0
Total Split (%)	44.1%	44.1%	0.0%	10.8%	55.0%	55.0%	10.8%	36.0%	0.0%	25.2%	25.2%	0.0%	9%
Maximum Green (s)	44.0	44.0		7.0	56.0	56.0	7.0	35.0		23.0	23.0		7.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													4
v/c Ratio		0.42			0.86	0.23		0.30			0.73		
Control Delay		10.7			25.8	2.4		20.5			37.8		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		10.7			25.8	2.4		20.5			37.8		
Queue Length 50th (ft)		109			279	2		37			188		
Queue Length 95th (ft)		222			#655	32		103			#393		
Internal Link Dist (ft)		447			1715			1361			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		1171			995	885		607			565		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.40			0.78	0.21		0.23			0.72		

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 80.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.94			1.00	
Flt Protected		1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1958			1810	1301		1877			1973	
Flt Permitted		0.99			0.92	1.00		0.86			0.94	
Satd. Flow (perm)		1946			1675	1301		1626			1859	
Volume (vph)	5	380	45	65	645	170	25	40	60	50	300	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	5	413	49	71	709	187	28	45	67	58	349	0
RTOR Reduction (vph)	0	3	0	0	0	78	0	31	0	0	0	0
Lane Group Flow (vph)	0	464	0	0	780	109	0	109	0	0	407	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	0%	0%	0%	2%	2%	2%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		45.2			45.2	45.2		23.3			23.3	
Effective Green, g (s)		46.2			46.2	46.2		24.3			24.3	
Actuated g/C Ratio		0.56			0.56	0.56		0.29			0.29	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1088			937	728		478			547	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.47	0.08		0.07			c0.22	
v/c Ratio		0.43			0.83	0.15		0.23			0.74	
Uniform Delay, d1		10.5			15.0	8.8		22.1			26.3	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.1			6.1	0.0		0.1			4.8	
Delay (s)		10.6			21.1	8.8		22.1			31.1	
Level of Service		B			C	A		C			C	
Approach Delay (s)		10.6			18.7			22.1			31.1	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	12.1
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

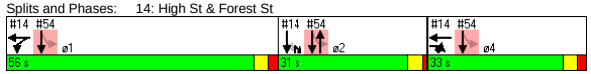
c Critical Lane Group

Lane Group	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	14	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15		9	9	15		9
Right Turn on Red		Yes			Yes	Yes			Yes
Link Speed (mph)				30				30	
Link Distance (ft)				723				1442	
Travel Time (s)				16.4				32.8	
Volume (vph)	365	295	1380	605	80	80	40	435	20
Peak Hour Factor	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Lane Group Flow (vph)	392	317	1551	770	0	100	0	505	0
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Minimum Split (s)	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	33.0	33.0	56.0	89.0	0.0	31.0	31.0	31.0	0.0
Total Split (%)	27.5%	27.5%	46.7%	74.2%	0.0%	25.8%	25.8%	25.8%	0.0%
Maximum Green (s)	28.0	28.0	51.0			27.0	27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0			0	0	0	
v/c Ratio	1.10	1.04	1.08	0.61		0.11		1.15	
Control Delay	120.9	102.9	83.7	11.8		0.4		131.9	
Queue Delay	0.0	3.4	201.1	0.0		0.0		0.0	
Total Delay	120.9	106.3	284.9	11.8		0.4		131.9	
Queue Length 50th (ft)	~345	~245	~694	276		0		~460	
Queue Length 95th (ft)	#540	#428	#814	377		0		#674	
Internal Link Dist (ft)				643				1362	
Turn Bay Length (ft)									
Base Capacity (vph)	356	305	1431	1260		950		440	
Starvation Cap Reductn	0	0	0	0		0		0	
Spillback Cap Reductn	0	3	422	0		0		0	
Storage Cap Reductn	0	0	0	0		0		0	
Reduced v/c Ratio	1.10	1.05	1.54	0.61		0.11		1.15	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 140
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations									
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	14	14	14
Total Lost time (s)	5.0	5.0	5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00	0.97	1.00		1.00		1.00	
Frt	0.85	0.85	1.00	0.98		0.86		0.99	
Flt Protected	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (prot)	1524	1203	3367	1795		1654		1949	
Flt Permitted	1.00	1.00	0.95	1.00		1.00		1.00	
Satd. Flow (perm)	1524	1203	3367	1795		1654		1949	
Volume (vph)	365	295	1380	605	80	80	40	435	20
Peak-hour factor, PHF	0.93	0.93	0.89	0.89	0.89	0.80	0.98	0.98	0.98
Adj. Flow (vph)	392	317	1551	680	90	100	41	444	20
RTOR Reduction (vph)	0	25	0	4	0	78	0	2	0
Lane Group Flow (vph)	392	292	1551	766	0	23	0	503	0
Heavy Vehicles (%)	6%	6%	4%	4%	4%	6%	3%	3%	3%
Turn Type	custom	custom	Prot			custom	Perm		
Protected Phases	4	4	1	1 4		2		2	
Permitted Phases							2		
Actuated Green, G (s)	28.0	28.0	51.0	84.0		27.0		27.0	
Effective Green, g (s)	28.0	28.0	51.0	84.0		27.0		27.0	
Actuated g/C Ratio	0.23	0.23	0.42	0.70		0.22		0.22	
Clearance Time (s)	5.0	5.0	5.0			4.0		4.0	
Lane Grp Cap (vph)	356	281	1431	1257		372		439	
v/s Ratio Prot	c0.26	0.24	c0.46	0.43		0.01			
v/s Ratio Perm								0.26	
v/c Ratio	1.10	1.04	1.08	0.61		0.06		1.15	
Uniform Delay, d1	46.0	46.0	34.5	9.4		36.5		46.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	77.7	64.7	50.0	2.2		0.3		89.7	
Delay (s)	123.7	110.7	84.5	11.6		36.8		136.2	
Level of Service	F	F	F	B		D		F	
Approach Delay (s)				60.3				136.2	
Approach LOS				E				F	

Intersection Summary

HCM Average Control Delay	81.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

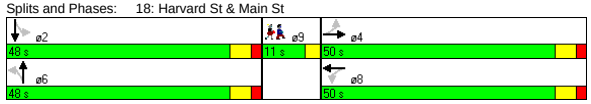
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2727		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	70	455	50	105	505	15	45	320	100	35	605	90	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%	
Lane Group Flow (vph)	0	632	0	0	695	0	0	604	0	0	830	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		None	None		None	None		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													9
v/c Ratio		1.08			1.37			1.21			1.28		
Control Delay		90.1			207.2			141.1			166.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		90.1			207.2			141.1			166.7		
Queue Length 50th (ft)		~436			~571			~457			~653		
Queue Length 95th (ft)		#751			#902			#606			#982		
Internal Link Dist (ft)		1715			1303			1231			2647		
Turn Bay Length (ft)													
Base Capacity (vph)		584			506			499			647		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.08			1.37			1.21			1.28		

Intersection Summary

Area Type: CBD
Cycle Length: 109
Actuated Cycle Length: 100.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1647			1625			1574			1613	
Flt Permitted		0.80			0.71			0.77			0.94	
Satd. Flow (perm)		1331			1167			1220			1525	
Volume (vph)	70	455	50	105	505	15	45	320	100	35	605	90
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	77	500	55	117	561	17	58	416	130	40	688	102
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	632	0	0	695	0	0	604	0	0	830	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		584			512			512			640	
v/s Ratio Prot												
v/s Ratio Perm		0.47			c0.60			0.50			c0.54	
v/c Ratio		1.08			1.36			1.18			1.30	
Uniform Delay, d1		28.8			28.8			29.8			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		61.4			173.2			99.6			144.9	
Delay (s)		90.2			202.0			129.4			174.7	
Level of Service		F			F			F			F	
Approach Delay (s)		90.2			202.0			129.4			174.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	152.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		

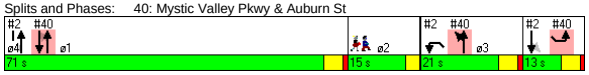
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		104	1100		285		
Travel Time (s)		2.4	25.0		6.5		
Volume (vph)	50	845	1230	25	15	140	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.83	0.83	
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	
Lane Group Flow (vph)	54	909	1281	0	187	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		2.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	21.0	92.0	71.0	0.0	13.0	0.0	15.0
Total Split (%)	17.5%	76.7%	59.2%	0.0%	10.8%	0.0%	13%
Maximum Green (s)	16.0		66.0		8.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							4
v/c Ratio	0.15	0.63	1.12		0.63		
Control Delay	15.3	7.2	68.9		44.2		
Queue Delay	0.0	0.0	39.4		0.8		
Total Delay	15.3	7.2	108.4		45.0		
Queue Length 50th (ft)	7	242	~1195		91		
Queue Length 95th (ft)	m31	332	m80		#218		
Internal Link Dist (ft)		24	1020		205		
Turn Bay Length (ft)							
Base Capacity (vph)	365	1455	1147		295		
Starvation Cap Reductn	0	0	0		0		
Spillback Cap Reductn	0	0	86		18		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.15	0.62	1.21		0.68		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 50 (42%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.88	
Flt Protected	0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1805	1900	2001		1771	
Flt Permitted	0.06	1.00	1.00		1.00	
Satd. Flow (perm)	114	1900	2001		1771	
Volume (vph)	50	845	1230	25	15	140
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.83	0.83
Adj. Flow (vph)	54	909	1255	26	18	169
RTOR Reduction (vph)	0	0	0	0	52	0
Lane Group Flow (vph)	54	909	1281	0	135	0
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	84.2	84.2	65.4		15.4	
Effective Green, g (s)	86.2	86.2	66.4		16.4	
Actuated g/C Ratio	0.72	0.72	0.55		0.14	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	361	1365	1107		242	
v/s Ratio Prot	0.02	c0.48	c0.64		c0.08	
v/s Ratio Perm	0.08					
v/c Ratio	0.15	0.67	1.16		0.56	
Uniform Delay, d1	43.1	9.1	26.8		48.4	
Progression Factor	1.62	0.85	0.40		1.00	
Incremental Delay, d2	0.2	1.2	71.6		3.4	
Delay (s)	70.2	8.9	82.3		51.8	
Level of Service	E	A	F		D	
Approach Delay (s)		12.4	82.3		51.8	
Approach LOS		B	F		D	

Intersection Summary

HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

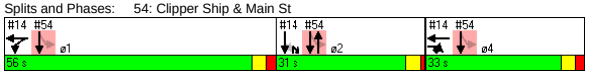
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	80	455	50	2060		
Peak Hour Factor	0.92	0.92	0.93	0.93	0.97	0.97		
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%		
Lane Group Flow (vph)	0	0	86	489	0	2176		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	31.0	0.0	120.0	120.0	56.0	33.0
Total Split (%)	0.0%	0.0%	25.8%	0.0%	100.0%	100.0%	47%	28%
Maximum Green (s)			27.0				51.0	28.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.22	0.32		0.85		
Control Delay			39.6	0.6		9.6		
Queue Delay			0.0	0.0		0.0		
Total Delay			39.6	0.6		9.6		
Queue Length 50th (ft)			55	0		356		
Queue Length 95th (ft)			101	0		m149		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			400	1509		2556		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			5	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.22	0.32		0.85		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 140	
Control Type: Pretimed	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1776	1509		3132
Flt Permitted			1.00	1.00		0.81
Satd. Flow (perm)			1776	1509		2555
Volume (vph)	0	0	80	455	50	2060
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.97	0.97
Adj. Flow (vph)	0	0	86	489	52	2124
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	86	489	0	2176
Heavy Vehicles (%)	2%	2%	7%	7%	3%	3%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			27.0	120.0		120.0
Effective Green, g (s)			27.0	120.0		120.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			400	1509		2555
v/s Ratio Prot			0.05			
v/s Ratio Perm				0.32		c0.85
v/c Ratio			0.22	0.32		0.85
Uniform Delay, d1			37.9	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			1.2	0.6		0.4
Delay (s)			39.1	0.6		0.4
Level of Service			D	A		A
Approach Delay (s)	0.0		6.3			0.4
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1340						1176			419		
Travel Time (s)			30.5						26.7			9.5		
Volume (vph)	5	15	650	500	20	1	5	20	490	55	240	160	35	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	712	553	0	0	0	0	621	0	0	458	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	32.0	32.0	32.0	26.0	0.0	32.0	32.0	32.0	32.0	0.0	26.0	26.0	0.0	24.0
Total Split (%)	26.7%	26.7%	26.7%	21.7%	0.0%	26.7%	26.7%	26.7%	26.7%	0.0%	21.7%	21.7%	0.0%	20.0%
Maximum Green (s)	26.0	26.0	26.0	20.0		26.0	26.0	26.0	26.0		20.0	20.0		18.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.98	0.70					1.07			1.21		
Control Delay			68.7	26.4					94.4			151.8		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			68.7	26.4					94.4			151.8		
Queue Length 50th (ft)			234	244					~224			~349		
Queue Length 95th (ft)			#462	#530					#432			#685		
Internal Link Dist (ft)			1260						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			725	795					582			380		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.98	0.70					1.07			1.21		

Intersection Summary

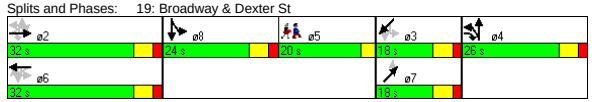
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St
2030 Build Alt 7 Condition - AM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	305	20	25	0	90	20	85	15	40	5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	430	0	0	105	0	0	0	195	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	24.0	0.0	0.0	18.0	0.0	18.0	18.0	18.0	0.0	0.0	20.0
Total Split (%)	20.0%	0.0%	0.0%	15.0%	0.0%	15.0%	15.0%	15.0%	0.0%	0.0%	17%
Maximum Green (s)	18.0			12.0		12.0	12.0	12.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.20			0.51				1.30			
Control Delay	151.1			53.5				213.6			
Queue Delay	0.0			0.0				0.0			
Total Delay	151.1			53.5				213.6			
Queue Length 50th (ft)	~326			63				~157			
Queue Length 95th (ft)	#610			132				#339			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	359			207				150			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.20			0.51				1.30			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\optimize\coordination\2030 Build Alt7 -AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.99			0.99		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3500	1549					3265			1862		
Flt Permitted			0.86	1.00					0.75			0.97		
Satd. Flow (perm)			3012	1549					2465			1862		
Volume (vph)	5	15	650	500	20	1	5	20	490	55	240	160	35	20
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.86
Adj. Flow (vph)	5	16	691	532	21	1	5	22	533	60	253	168	37	23
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	712	552	0	0	0	0	621	0	0	456	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			26.1	46.2					26.1			20.1		
Effective Green, g (s)			27.1	48.2					27.1			21.1		
Actuated g/C Ratio			0.25	0.45					0.25			0.20		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			768	775					628			370		
v/s Ratio Prot				0.14								c0.24		
v/s Ratio Perm			0.24	0.21					c0.25					
v/c Ratio			0.93	0.71					0.99			1.23		
Uniform Delay, d1			38.6	23.4					39.4			42.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			17.3	4.5					32.8			125.6		
Delay (s)			56.0	27.9					72.2			168.2		
Level of Service			E	C					E			F		
Approach Delay (s)			43.7						72.2			168.2		
Approach LOS			D						E			F		

Intersection Summary				
HCM Average Control Delay	95.0	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.15			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	113.1%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 Build Alt 7 Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.98			0.86				0.96		
Flt Protected	1.00			1.00				0.97		
Satd. Flow (prot)	1940			1644				1765		
Flt Permitted	1.00			1.00				0.70		
Satd. Flow (perm)	1940			1644				1277		
Volume (vph)	305	20	25	0	90	20	85	15	40	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	355	23	29	0	105	24	100	18	47	6
RTOR Reduction (vph)	2	0	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	428	0	0	105	0	0	0	194	0	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	18.1			12.1				12.1		
Effective Green, g (s)	19.1			13.1				13.1		
Actuated g/C Ratio	0.18			0.12				0.12		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	349			203				157		
v/s Ratio Prot	c0.22			0.06						
v/s Ratio Perm								c0.15		
v/c Ratio	1.23			0.52				1.24		
Uniform Delay, d1	43.6			43.6				46.6		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	124.2			0.9				149.2		
Delay (s)	167.8			44.6				195.8		
Level of Service	F			D				F		
Approach Delay (s)	167.8			44.6				195.8		
Approach LOS	F			D				F		

Intersection Summary

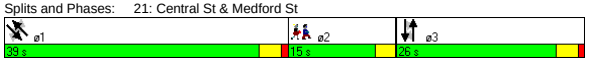
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\optimize\coordination\2030 Build Alt7 -AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	55	195	85	25	170	15	15	640	15	85	265	10	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%	
Lane Group Flow (vph)	0	409	0	0	247	0	0	735	0	0	395	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		15.0
Total Split (s)	26.0	26.0	0.0	26.0	26.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0	15.0
Total Split (%)	32.5%	32.5%	0.0%	32.5%	32.5%	0.0%	48.8%	48.8%	0.0%	48.8%	48.8%	0.0%	19%
Maximum Green (s)	22.0	22.0		22.0	22.0		35.0	35.0		35.0	35.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													5.0
Pedestrian Calls (#/hr)													15
v/c Ratio		0.80			0.48			0.76			0.64		
Control Delay		35.3			23.4			21.1			19.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		35.3			23.4			21.1			19.7		
Queue Length 50th (ft)		133			75			205			99		
Queue Length 95th (ft)		#302			165			#559			#315		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		531			535			973			617		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.77			0.46			0.76			0.64		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 66.8	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			1.00			1.00	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1784			1816			1855			1799	
Flt Permitted		0.91			0.93			0.99			0.73	
Satd. Flow (perm)		1634			1691			1838			1336	
Volume (vph)	55	195	85	25	170	15	15	640	15	85	265	10
Peak-hour factor, PHF	0.82	0.82	0.82	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	67	238	104	29	200	18	16	703	16	93	291	11
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	394	0	0	247	0	0	735	0	0	394	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		20.8			20.8			35.4			35.4	
Effective Green, g (s)		20.8			20.8			35.4			35.4	
Actuated g/C Ratio		0.30			0.30			0.51			0.51	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		491			508			940			683	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.15			c0.40			0.29	
v/c Ratio		0.80			0.49			0.78			0.58	
Uniform Delay, d1		22.3			19.8			13.8			11.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.7			1.0			6.4			3.5	
Delay (s)		32.0			20.8			20.2			15.2	
Level of Service		C			C			C			B	
Approach Delay (s)		32.0			20.8			20.2			15.2	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

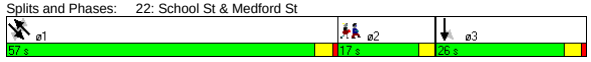
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			459		
Travel Time (s)		21.7			21.8			35.4			10.4		
Volume (vph)	0	0	0	145	295	20	10	760	95	165	290	75	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	501	0	0	901	0	0	603	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	26.0	26.0	0.0	57.0	57.0	0.0	57.0	57.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	26.0%	26.0%	0.0%	57.0%	57.0%	0.0%	57.0%	57.0%	0.0%	17%
Maximum Green (s)				22.0	22.0		53.0	53.0		53.0	53.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				None	None		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													18
v/c Ratio					1.02			0.78			1.16		
Control Delay					81.7			21.7			112.5		
Queue Delay					0.0			0.0			0.0		
Total Delay					81.7			21.7			112.5		
Queue Length 50th (ft)					255			278			~354		
Queue Length 95th (ft)					#580			#747			#686		
Internal Link Dist (ft)		873			879			1476			379		
Turn Bay Length (ft)													
Base Capacity (vph)					491			1157			521		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					1.02			0.78			1.16		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89.8
Natural Cycle: 150
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.99			0.98	
Flt Protected					0.98			1.00			0.98	
Satd. Flow (prot)					1983			1952			1878	
Flt Permitted					0.98			0.99			0.51	
Satd. Flow (perm)					1983			1941			972	
Volume (vph)	0	0	0	145	295	20	10	760	95	165	290	75
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	0	0	0	158	321	22	10	792	99	188	330	85
RTOR Reduction (vph)	0	0	0	0	2	0	0	4	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	499	0	0	897	0	0	598	0
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					22.2			53.4			53.4	
Effective Green, g (s)					22.2			53.4			53.4	
Actuated g/C Ratio					0.24			0.58			0.58	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					481			1132			567	
v/s Ratio Prot												
v/s Ratio Perm					0.25			0.46			c0.61	
v/c Ratio					1.04			0.79			1.05	
Uniform Delay, d1					34.7			14.8			19.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					51.3			5.7			52.8	
Delay (s)					86.0			20.5			71.9	
Level of Service					F			C			E	
Approach Delay (s)		0.0			86.0			20.5			71.9	
Approach LOS		A			F			C			E	

Intersection Summary

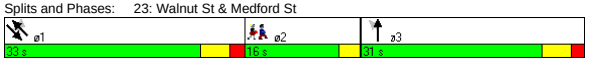
HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1076			533		
Travel Time (s)		17.7			19.2			24.5			12.1		
Volume (vph)	85	200	10	0	0	0	10	630	0	0	190	20	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%	
Lane Group Flow (vph)	0	311	0	0	0	0	0	666	0	0	239	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		16.0
Total Split (s)	31.0	31.0	0.0	0.0	0.0	0.0	33.0	33.0	0.0	0.0	33.0	0.0	16.0
Total Split (%)	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	41.3%	41.3%	0.0%	0.0%	41.3%	0.0%	20%
Maximum Green (s)	25.0	25.0					27.0	27.0			27.0		13.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.43						0.85			0.31		
Control Delay		18.5						31.7			15.2		
Queue Delay		0.0						0.0			0.0		
Total Delay		18.5						31.7			15.2		
Queue Length 50th (ft)		83						216			55		
Queue Length 95th (ft)		200						#559			141		
Internal Link Dist (ft)		699			764			996			453		
Turn Bay Length (ft)													
Base Capacity (vph)		721						785			769		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.43						0.85			0.31		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 67.2	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1846						1880			1821	
Flt Permitted		0.99						0.99			1.00	
Satd. Flow (perm)		1846						1871			1821	
Volume (vph)	85	200	10	0	0	0	10	630	0	0	190	20
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.88	0.88	0.88
Adj. Flow (vph)	89	211	11	0	0	0	10	656	0	0	216	23
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	310	0	0	0	0	0	666	0	0	235	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.2						27.2			27.2	
Effective Green, g (s)		26.2						28.2			28.2	
Actuated g/C Ratio		0.38						0.41			0.41	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		695						758			738	
v/s Ratio Prot											0.13	
v/s Ratio Perm		0.17						c0.36				
v/c Ratio		0.45						0.88			0.32	
Uniform Delay, d1		16.3						19.1			14.1	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		0.6						11.6			0.3	
Delay (s)		16.9						30.7			14.5	
Level of Service		B						C			B	
Approach Delay (s)		16.9			0.0			30.7			14.5	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

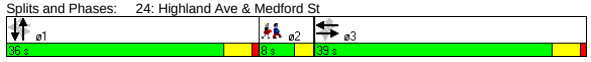
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	590	25	35	410	205	5	0	5	600	35	5	
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%	
Lane Group Flow (vph)	0	661	0	0	511	236	0	18	0	0	674	0	
Turn Type	Perm			Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		1 3	1			1			
Detector Phases	3	3		3	3	1 3	1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	39.0	39.0	0.0	39.0	39.0	75.0	36.0	36.0	0.0	36.0	36.0	0.0	8.0
Total Split (%)	47.0%	47.0%	0.0%	47.0%	47.0%	90.4%	43.4%	43.4%	0.0%	43.4%	43.4%	0.0%	10%
Maximum Green (s)	34.0	34.0		34.0	34.0		31.0	31.0		31.0	31.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.79			0.98	0.15		0.03			1.19		
Control Delay		26.7			57.5	0.3		10.7			127.2		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		26.7			57.5	0.3		10.7			127.2		
Queue Length 50th (ft)		243			218	0		2			~383		
Queue Length 95th (ft)		#504			#457	5		9			#667		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		841			524	1592		589			566		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.79			0.98	0.15		0.03			1.19		

Intersection Summary

Area Type: Other
Cycle Length: 83
Actuated Cycle Length: 76.6
Natural Cycle: 110
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.93			1.00	
Flt Protected		1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)		1834			1913	1632		1646			1778	
Flt Permitted		1.00			0.67	1.00		0.81			0.73	
Satd. Flow (perm)		1834			1281	1632		1363			1352	
Volume (vph)	0	590	25	35	410	205	5	0	5	600	35	5
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.56	0.56	0.56	0.95	0.95	0.95
Adj. Flow (vph)	0	634	27	40	471	236	9	0	9	632	37	5
RTOR Reduction (vph)	0	2	0	0	0	24	0	5	0	0	1	0
Lane Group Flow (vph)	0	659	0	0	511	212	0	13	0	0	673	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Turn Type	Perm			Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		1 3	1			1		
Actuated Green, G (s)		34.1			34.1	70.2		31.1			31.1	
Effective Green, g (s)		35.1			35.1	71.2		32.1			32.1	
Actuated g/C Ratio		0.44			0.44	0.90		0.41			0.41	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		814			568	1469		553			549	
v/s Ratio Prot		0.36										
v/s Ratio Perm					c0.40	0.13		0.01			c0.50	
v/c Ratio		0.81			0.90	0.14		0.02			1.23	
Uniform Delay, d1		19.1			20.4	0.5		14.1			23.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		8.6			19.8	0.2		0.1			117.4	
Delay (s)		27.7			40.1	0.7		14.2			140.9	
Level of Service		C			D	A		B			F	
Approach Delay (s)		27.7			27.7			14.2			140.9	
Approach LOS		C			C			B			F	

Intersection Summary

HCM Average Control Delay	63.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

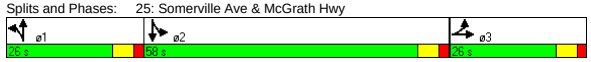
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	100	360	120	0	0	0	45	195	25	200	1250	140
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Lane Group Flow (vph)	0	624	0	0	0	0	0	261	27	213	1479	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	58.0	58.0	0.0
Total Split (%)	23.6%	23.6%	0.0%	0.0%	0.0%	0.0%	23.6%	23.6%	0.0%	52.7%	52.7%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		52.0	52.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
v/c Ratio		0.96						0.39	0.02	0.25	0.94	
Control Delay		69.3						41.0	0.0	17.9	40.2	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		69.3						41.0	0.0	17.9	40.2	
Queue Length 50th (ft)		223						85	0	86	502	
Queue Length 95th (ft)		#340						126	0	136	#674	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		651						663	1672	836	1568	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.96						0.39	0.02	0.25	0.94	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 100
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.98	
Flt Protected		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3303						3472	1672	1736	3239	
Flt Permitted		0.99						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3303						3472	1672	1736	3239	
Volume (vph)	100	360	120	0	0	0	45	195	25	200	1250	140
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	108	387	129	0	0	0	49	212	27	213	1330	149
RTOR Reduction (vph)	0	21	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	603	0	0	0	0	0	261	27	213	1471	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	110.0	52.0	52.0	
Effective Green, g (s)		21.0						21.0	110.0	53.0	53.0	
Actuated g/C Ratio		0.19						0.19	1.00	0.48	0.48	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		631						663	1672	836	1561	
v/s Ratio Prot		c0.18						c0.08		0.12	c0.45	
v/s Ratio Perm									0.02			
v/c Ratio		0.96						0.39	0.02	0.25	0.94	
Uniform Delay, d1		44.0						38.9	0.0	16.8	27.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		26.4						1.8	0.0	0.7	12.7	
Delay (s)		70.5						40.7	0.0	17.6	39.7	
Level of Service		E						D	A	B	D	
Approach Delay (s)		70.5			0.0			36.9			36.9	
Approach LOS		E			A			D			D	

Intersection Summary

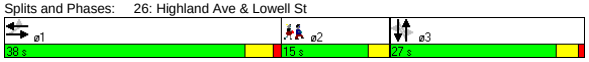
HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	35	385	0	0	455	30	25	70	40	180	0	150	
Peak Hour Factor	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	489	0	0	638	0	0	190	0	0	351	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		15.0
Total Split (s)	38.0	38.0	0.0	0.0	38.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0	15.0
Total Split (%)	47.5%	47.5%	0.0%	0.0%	47.5%	0.0%	33.8%	33.8%	0.0%	33.8%	33.8%	0.0%	19%
Maximum Green (s)	33.0	33.0			33.0		23.0	23.0		23.0	23.0		12.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													16
v/c Ratio		0.81			0.69			0.36			0.83		
Control Delay		29.1			19.2			20.5			38.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		29.1			19.2			20.5			38.0		
Queue Length 50th (ft)		146			171			54			103		
Queue Length 95th (ft)		#402			315			101			#314		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		604			931			552			436		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.81			0.69			0.34			0.81		

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 66.9	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 26: Highland Ave & Lowell St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.94	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		1819			1812			1772			1693	
Flt Permitted		0.84			1.00			0.91			0.71	
Satd. Flow (perm)		1529			1812			1631			1228	
Volume (vph)	35	385	0	0	455	30	25	70	40	180	0	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.76	0.76	0.76	0.71	0.71	0.71	0.94	0.94	0.94
Adj. Flow (vph)	41	448	0	0	599	39	35	99	56	191	0	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	36	0
Lane Group Flow (vph)	0	489	0	0	638	0	0	190	0	0	315	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		33.3			33.3			21.9			21.9	
Effective Green, g (s)		34.3			34.3			21.9			21.9	
Actuated g/C Ratio		0.50			0.50			0.32			0.32	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		758			898			516			389	
v/s Ratio Prot					c0.35							
v/s Ratio Perm		0.32						0.12			c0.26	
v/c Ratio		0.65			0.71			0.37			0.81	
Uniform Delay, d1		12.9			13.6			18.3			21.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.2			4.7			0.6			12.4	
Delay (s)		17.1			18.3			18.9			34.1	
Level of Service		B			B			B			C	
Approach Delay (s)		17.1			18.3			18.9			34.1	
Approach LOS		B			B			B			C	

Intersection Summary					
HCM Average Control Delay	21.4	HCM Level of Service	C		
HCM Volume to Capacity ratio	0.75				
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	13.0		
Intersection Capacity Utilization	81.8%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

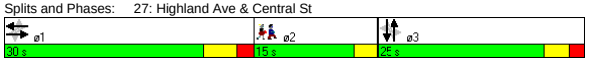
Green Line Extension
27: Highland Ave & Central St

2030 Build Alt 7 Condition - AM Peak
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	30	405	35	30	300	25	35	195	45	25	215	50	
Peak Hour Factor	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%	
Lane Group Flow (vph)	0	540	0	0	480	0	0	313	0	0	382	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		15.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	15.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	35.7%	35.7%	0.0%	35.7%	35.7%	0.0%	21%
Maximum Green (s)	24.0	24.0		24.0	24.0		20.0	20.0		20.0	20.0		12.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													6.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.72			0.68			0.60			0.68		
Control Delay		21.7			20.5			21.6			24.1		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		21.7			20.5			21.6			24.1		
Queue Length 50th (ft)		126			109			74			94		
Queue Length 95th (ft)		#364			219			190			188		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		813			767			601			648		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.63			0.52			0.59		

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 51.9	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Green Line Extension
27: Highland Ave & Central St

2030 Build Alt 7 Condition - AM Peak
HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1820			1802			1793			1802	
Flt Permitted		0.95			0.93			0.92			0.96	
Satd. Flow (perm)		1740			1689			1654			1729	
Volume (vph)	30	405	35	30	300	25	35	195	45	25	215	50
Peak-hour factor, PHF	0.87	0.87	0.87	0.74	0.74	0.74	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	34	466	40	41	405	34	40	222	51	33	283	66
RTOR Reduction (vph)	0	4	0	0	4	0	0	10	0	0	10	0
Lane Group Flow (vph)	0	536	0	0	476	0	0	303	0	0	372	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		21.3			21.3			16.7			16.7	
Effective Green, g (s)		22.3			22.3			16.7			16.7	
Actuated g/C Ratio		0.41			0.41			0.31			0.31	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		721			700			513			537	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			0.18			c0.21	
v/c Ratio		0.74			0.68			0.59			0.69	
Uniform Delay, d1		13.3			12.8			15.7			16.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.4			3.0			2.1			4.1	
Delay (s)		17.8			15.8			17.8			20.4	
Level of Service		B			B			B			C	
Approach Delay (s)		17.8			15.8			17.8			20.4	
Approach LOS		B			B			B			C	

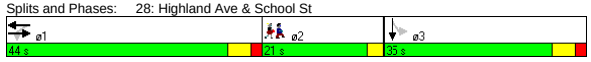
Intersection Summary					
HCM Average Control Delay	17.8	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	53.8	Sum of lost time (s)		14.8	
Intersection Capacity Utilization	61.4%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	495	15	40	380	0	0	0	0	195	250	95	
Peak Hour Factor	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0	
Lane Group Flow (vph)	0	593	0	0	483	0	0	0	0	0	581	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	44.0	0.0	44.0	44.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0	21.0
Total Split (%)	0.0%	44.0%	0.0%	44.0%	44.0%	0.0%	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%	21%
Maximum Green (s)		38.0		38.0	38.0					29.0	29.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					None	None		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.70			1.05						0.89		
Control Delay		24.6			82.4						44.2		
Queue Delay		0.0			0.0						0.0		
Total Delay		24.6			82.4						44.2		
Queue Length 50th (ft)		209			~233						257		
Queue Length 95th (ft)		#489			#561						#624		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		846			458						652		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.70			1.05						0.89		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.2
Natural Cycle: 120
Control Type: Semi Act-Uncoord
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.98	
Flt Protected		1.00			1.00						0.98	
Satd. Flow (prot)		1786			1775						1795	
Flt Permitted		1.00			0.74						0.98	
Satd. Flow (perm)		1786			1327						1795	
Volume (vph)	0	495	15	40	380	0	0	0	0	195	250	95
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	576	17	46	437	0	0	0	0	210	269	102
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	592	0	0	483	0	0	0	0	0	581	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	7	7	7	6	6	6	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		38.3			38.3						29.3	
Effective Green, g (s)		39.3			39.3						30.3	
Actuated g/C Ratio		0.46			0.46						0.35	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		820			609						635	
v/s Ratio Prot		0.33										
v/s Ratio Perm					c0.36						0.32	
v/c Ratio		0.72			0.79						0.91	
Uniform Delay, d1		18.7			19.7						26.4	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		3.2			7.0						18.1	
Delay (s)		21.9			26.7						44.5	
Level of Service		C			C						D	
Approach Delay (s)		21.9			26.7			0.0			44.5	
Approach LOS		C			C			A			D	

Intersection Summary

HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	415	100	305	1015	220	315	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	539	130	328	1091	324	463	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	58.0	58.0	58.0	58.0	26.0	26.0	13.0
Total Split (%)	59.8%	59.8%	59.8%	59.8%	26.8%	26.8%	13%
Maximum Green (s)	53.0	53.0	53.0	53.0	21.0	21.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							12
v/c Ratio	0.46	0.15	0.85	0.95	0.74	1.01	
Control Delay	10.9	2.1	36.8	35.1	42.4	73.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	10.9	2.1	36.8	35.1	42.4	73.5	
Queue Length 50th (ft)	127	0	116	451	155	203	
Queue Length 95th (ft)	224	16	#369	#997	205	#283	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1166	882	388	1143	438	458	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.15	0.85	0.95	0.74	1.01	

Intersection Summary

Area Type: Other
Cycle Length: 97
Actuated Cycle Length: 86.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington Street & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.37	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	676	1827	1719	1538
Volume (vph)	415	100	305	1015	220	315
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	539	130	328	1091	324	463
RTOR Reduction (vph)	0	51	0	0	0	66
Lane Group Flow (vph)	539	79	328	1091	324	397
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	53.2	53.2	53.2	53.2	21.1	21.1
Effective Green, g (s)	54.2	54.2	54.2	54.2	22.1	22.1
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.25	0.25
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1133	811	411	1111	426	381
v/s Ratio Prot	0.29			c0.60	0.19	c0.26
v/s Ratio Perm		0.06	0.49			
v/c Ratio	0.48	0.10	0.80	0.98	0.76	1.04
Uniform Delay, d1	9.6	7.3	13.3	17.0	31.0	33.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	9.7	22.5	8.3	57.3
Delay (s)	9.7	7.3	23.0	39.5	39.3	90.8
Level of Service	A	A	C	D	D	F
Approach Delay (s)	9.3			35.7	69.6	
Approach LOS	A			D	E	

Intersection Summary

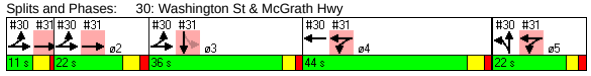
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			958			410			438			
Travel Time (s)		2.0			21.8			9.3			10.0			
Volume (vph)	565	380	0	0	1310	110	25	230	540	0	0	0		
Peak Hour Factor	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92		
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%		
Lane Group Flow (vph)	614	427	0	0	1578	0	29	264	621	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	69.0	69.0	0.0	0.0	44.0	0.0	22.0	22.0	0.0	0.0	0.0	0.0	11.0	22.0
Total Split (%)	51.1%	51.1%	0.0%	0.0%	32.6%	0.0%	16.3%	16.3%	0.0%	0.0%	0.0%	0.0%	8%	16%
Maximum Green (s)					38.0		17.0	17.0					6.0	16.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.36	0.19			1.11		0.14	1.21	0.42					
Control Delay	1.7	0.6			103.3		54.5	176.3	0.9					
Queue Delay	0.0	0.0			46.2		0.1	0.0	0.0					
Total Delay	1.7	0.6			149.5		54.6	176.3	0.9					
Queue Length 50th (ft)	14	1			~577		23	~281	0					
Queue Length 95th (ft)	m15	m1			#674		53	#437	0					
Internal Link Dist (ft)		6			878			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1686	2235			1425		209	219	1482					
Starvation Cap Reductn	0	0			0		0	0	0					
Spillback Cap Reductn	0	0			124		16	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.36	0.19			1.21		0.15	1.21	0.42					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath Hwy



Green Line Extension
30: Washington St & McGrath Hwy

2030 Build Alt 7 Condition - AM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	36.0
Total Split (%)	27%
Maximum Green (s)	31.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\optimize\coordination\2030 Build Alt7 -AM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3557	4715			4934		1656	1743	1482			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3557	4715			4934		1656	1743	1482			
Volume (vph)	565	380	0	0	1310	110	25	230	540	0	0	0
Peak-hour factor, PHF	0.92	0.89	0.89	0.90	0.90	0.90	0.87	0.87	0.87	0.92	0.92	0.92
Adj. Flow (vph)	614	427	0	0	1456	122	29	264	621	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	614	427	0	0	1578	0	29	264	621	0	0	0
Heavy Vehicles (%)	5%	10%	10%	5%	5%	5%	9%	9%	9%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	64.0	64.0			38.0		17.0	17.0	135.0			
Effective Green, g (s)	64.0	64.0			39.0		17.0	17.0	135.0			
Actuated g/C Ratio	0.47	0.47			0.29		0.13	0.13	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1686	2235			1425		209	219	1482			
v/s Ratio Prot	0.17	0.09			c0.32		0.02	c0.15				
v/s Ratio Perm									c0.42			
v/c Ratio	0.36	0.19			1.11		0.14	1.21	0.42			
Uniform Delay, d1	22.6	20.5			48.0		52.5	59.0	0.0			
Progression Factor	0.06	0.02			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.1			59.0		1.4	127.4	0.9			
Delay (s)	1.6	0.6			107.0		53.9	186.4	0.9			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		1.2			107.0			56.2			0.0	
Approach LOS		A			F			E			A	

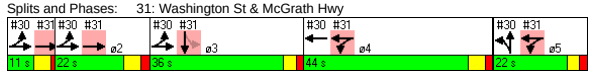
Intersection Summary			
HCM Average Control Delay	62.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			216			1794			
Travel Time (s)		25.6			2.0			4.9			40.8			
Volume (vph)	0	900	35	600	735	0	0	0	0	45	155	565		
Peak Hour Factor	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88		
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%		
Lane Group Flow (vph)	0	1017	0	638	835	0	0	0	0	0	880	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	33.0	0.0	66.0	66.0	0.0	0.0	0.0	0.0	36.0	36.0	0.0	11.0	22.0
Total Split (%)	0.0%	24.4%	0.0%	48.9%	48.9%	0.0%	0.0%	0.0%	0.0%	26.7%	26.7%	0.0%	8%	16%
Maximum Green (s)										31.0	31.0		6.0	16.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.72		0.82	0.54						1.54dr			
Control Delay		53.0		7.9	0.3						133.0			
Queue Delay		0.1		0.0	0.0						31.3			
Total Delay		53.1		7.9	0.3						164.2			
Queue Length 50th (ft)		205		121	0						~454			
Queue Length 95th (ft)		240		m67	m0						#567			
Internal Link Dist (ft)		1045			6			136			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1409		777	1539						750			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		40		0	0						43			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.74		0.82	0.54						1.24			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	44.0	22.0
Total Split (%)	33%	16%
Maximum Green (s)	38.0	17.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		0.99		1.00	1.00						0.89	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		6774		1719	3406						2996	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		6774		1719	3406						2996	
Volume (vph)	0	900	35	600	735	0	0	0	0	45	155	565
Peak-hour factor, PHF	0.92	0.92	0.89	0.94	0.88	0.88	0.92	0.92	0.92	0.73	0.88	0.88
Adj. Flow (vph)	0	978	39	638	835	0	0	0	0	62	176	642
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	62	0
Lane Group Flow (vph)	0	1012	0	638	835	0	0	0	0	0	818	0
Heavy Vehicles (%)	7%	7%	7%	5%	6%	6%	2%	2%	2%	6%	5%	5%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		27.0		61.0	61.0						31.0	
Effective Green, g (s)		28.0		61.0	61.0						31.0	
Actuated g/C Ratio		0.21		0.45	0.45						0.23	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1405		777	1539						688	
v/s Ratio Prot		c0.15		c0.37	0.25							
v/s Ratio Perm											0.27	
v/c Ratio		0.72		0.82	0.54						1.54dr	
Uniform Delay, d1		49.9		32.2	26.9						52.0	
Progression Factor		1.00		0.20	0.01						1.00	
Incremental Delay, d2		3.2		0.9	0.1						98.9	
Delay (s)		53.1		7.3	0.3						150.9	
Level of Service		D		A	A						F	
Approach Delay (s)		53.1			3.3			0.0			150.9	
Approach LOS		D			A			A			F	

Intersection Summary			
HCM Average Control Delay	56.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

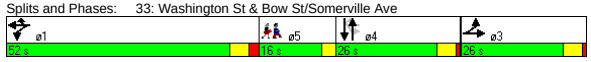
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	35	345	65	590	505	480	0	0	0	425	355	70	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94	
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%	
Lane Group Flow (vph)	0	479	0	648	555	527	0	0	0	260	644	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		16.0
Total Split (s)	26.0	26.0	0.0	52.0	52.0	52.0	0.0	26.0	0.0	26.0	26.0	0.0	16.0
Total Split (%)	21.7%	21.7%	0.0%	43.3%	43.3%	43.3%	0.0%	21.7%	0.0%	21.7%	21.7%	0.0%	13%
Maximum Green (s)	21.0	21.0		46.0	46.0	46.0		21.0		21.0	21.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.95		1.08	0.88	0.48				0.88	1.02		
Control Delay		78.3		61.1	20.2	1.6				73.6	83.8		
Queue Delay		0.0		0.0	0.0	0.4				0.0	0.0		
Total Delay		78.3		61.1	20.2	2.0				73.6	83.8		
Queue Length 50th (ft)		194		~552	310	26				196	252		
Queue Length 95th (ft)		#302		m382	m258	m19				#464	#501		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		504		600	632	1094				295	633		
Starvation Cap Reductn		0		0	0	199				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		0.95		1.08	0.88	0.59				0.88	1.02		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 30 (25%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.98		1.00	1.00	0.85				1.00	0.98	
Flt Protected		1.00		0.95	1.00	1.00				0.95	0.99	
Satd. Flow (prot)		2751		1533	1613	1371				1408	2719	
Flt Permitted		1.00		0.95	1.00	1.00				0.76	0.86	
Satd. Flow (perm)		2751		1533	1613	1371				1122	2366	
Volume (vph)	35	345	65	590	505	480	0	0	0	425	355	70
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	38	371	70	648	555	527	0	0	0	452	378	74
RTOR Reduction (vph)	0	0	0	0	0	194	0	0	0	0	7	0
Lane Group Flow (vph)	0	479	0	648	555	333	0	0	0	260	637	0
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	2%	2%	2%	5%	5%	5%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		21.0		44.2	44.2	74.8				30.6	30.6	
Effective Green, g (s)		22.0		45.2	45.2	75.8				31.6	31.6	
Actuated g/C Ratio		0.18		0.38	0.38	0.63				0.26	0.26	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		504		577	608	866				295	623	
v/s Ratio Prot		c0.17		c0.42	0.34	0.14						
v/s Ratio Perm						0.10				0.23	c0.27	
v/c Ratio		0.95		1.12	0.91	0.38				0.88	1.02	
Uniform Delay, d1		48.5		37.4	35.5	10.8				42.4	44.2	
Progression Factor		1.00		0.52	0.50	2.45				1.00	1.00	
Incremental Delay, d2		29.5		57.8	2.6	0.0				25.5	41.7	
Delay (s)		77.9		77.2	20.5	26.3				67.9	85.9	
Level of Service		E		E	C	C				E	F	
Approach Delay (s)		77.9			43.5			0.0			80.7	
Approach LOS		E			D			A			F	

Intersection Summary					
HCM Average Control Delay	59.6	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.05				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.2	
Intersection Capacity Utilization	81.0%	ICU Level of Service		D	
Analysis Period (min)	15				

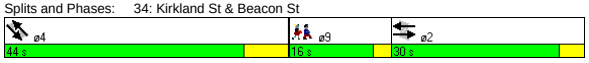
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	55	215	35	45	315	55	40	510	140	25	275	30	
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%	
Lane Group Flow (vph)	0	386	0	0	461	0	0	767	0	0	359	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	44.0	44.0	0.0	44.0	44.0	0.0	16.0
Total Split (%)	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%	48.9%	48.9%	0.0%	48.9%	48.9%	0.0%	18%
Maximum Green (s)	26.0	26.0		26.0	26.0		37.0	37.0		37.0	37.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio		0.94			0.93			0.93			0.47		
Control Delay		62.0			55.3			42.0			18.2		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		62.0			55.3			42.0			18.2		
Queue Length 50th (ft)		160			190			283			95		
Queue Length 95th (ft)		#339			#473			#699			230		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		410			497			821			758		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.94			0.93			0.93			0.47		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80.4
Natural Cycle: 100
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.97			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1749			1703			1772			1731	
Flt Permitted		0.76			0.91			0.96			0.92	
Satd. Flow (perm)		1340			1552			1705			1606	
Volume (vph)	55	215	35	45	315	55	40	510	140	25	275	30
Peak-hour factor, PHF	0.79	0.79	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	70	272	44	50	350	61	44	567	156	27	299	33
RTOR Reduction (vph)	0	5	0	0	6	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	381	0	0	455	0	0	757	0	0	355	0
Heavy Vehicles (%)	6%	6%	6%	9%	9%	9%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		26.2			26.2			37.3			37.3	
Effective Green, g (s)		26.2			26.2			38.3			38.3	
Actuated g/C Ratio		0.32			0.32			0.47			0.47	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		428			495			795			749	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.29			c0.44			0.22	
v/c Ratio		0.89			0.92			0.95			0.47	
Uniform Delay, d1		26.6			26.9			21.0			15.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		23.3			24.6			22.3			2.1	
Delay (s)		49.9			51.5			43.3			17.2	
Level of Service		D			D			D			B	
Approach Delay (s)		49.9			51.5			43.3			17.2	
Approach LOS		D			D			D			B	

Intersection Summary

HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	17.6
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

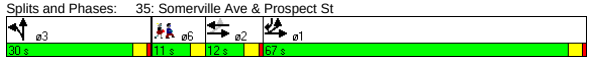
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	265	505	0	0	160	35	145	535	70	0	0	1340	
Peak Hour Factor	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	
Lane Group Flow (vph)	0	828	0	0	219	0	159	665	0	0	0	1506	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	67.0	79.0	0.0	0.0	12.0	0.0	30.0	30.0	0.0	0.0	0.0	67.0	11.0
Total Split (%)	55.8%	65.8%	0.0%	0.0%	10.0%	0.0%	25.0%	25.0%	0.0%	0.0%	0.0%	55.8%	9%
Maximum Green (s)	63.0				8.0		26.0	26.0				63.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.45			0.51		0.53	1.05				1.19	
Control Delay		1.7			49.9		48.8	94.6				121.2	
Queue Delay		0.0			0.0		0.0	0.0				22.1	
Total Delay		1.7			49.9		48.8	94.6				143.3	
Queue Length 50th (ft)		1			75		120	~305				~798	
Queue Length 95th (ft)		m4			#170		201	#433				#932	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1854			427		302	633				1267	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				51	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.45			0.51		0.53	1.05				1.24	

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.97		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		2985			2955		1395	2885				2413
Flt Permitted		0.71			1.00		0.95	1.00				1.00
Satd. Flow (perm)		2148			2955		1395	2885				2413
Volume (vph)	265	505	0	0	160	35	145	535	70	0	0	1340
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	285	543	0	0	180	39	159	588	77	0	0	1506
RTOR Reduction (vph)	0	0	0	0	14	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	828	0	0	205	0	159	657	0	0	0	1506
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		77.4			16.8		26.0	26.0				60.6
Effective Green, g (s)		77.4			16.8		26.0	26.0				60.6
Actuated g/C Ratio		0.64			0.14		0.22	0.22				0.50
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1808			414		302	625				1219
v/s Ratio Prot		0.23			c0.07		0.11	c0.23				c0.62
v/s Ratio Perm		0.06										
v/c Ratio		0.46			0.50		0.53	1.05				1.24
Uniform Delay, d1		10.7			47.7		41.6	47.0				29.7
Progression Factor		0.14			1.00		1.00	1.00				1.00
Incremental Delay, d2		0.3			4.2		2.2	50.3				113.2
Delay (s)		1.8			51.9		43.7	97.3				142.9
Level of Service		A			D		D	F				F
Approach Delay (s)		1.8			51.9			86.9			142.9	
Approach LOS		A			D			F			F	

Intersection Summary

HCM Average Control Delay	88.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

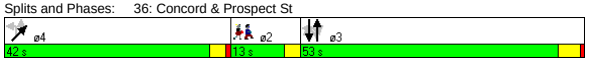
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	60	0	200	115	510	370	5	20	340	20	
Peak Hour Factor	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88	
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%	
Lane Group Flow (vph)	0	289	0	119	912	0	0	0	432	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		13.0
Total Split (s)	53.0	53.0	0.0	53.0	53.0	0.0	0.0	42.0	42.0	0.0	13.0
Total Split (%)	49.1%	49.1%	0.0%	49.1%	49.1%	0.0%	0.0%	38.9%	38.9%	0.0%	12%
Maximum Green (s)	48.0	48.0		48.0	48.0			38.0	38.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											4.0
Flash Dont Walk (s)											6.0
Pedestrian Calls (#/hr)											12
v/c Ratio		1.46		0.21	0.91				0.64		
Control Delay		252.0		13.0	33.8				30.7		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		252.0		13.0	33.8				30.7		
Queue Length 50th (ft)		~199		30	401				194		
Queue Length 95th (ft)		#322		84	#891				343		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		198		573	1006				778		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.46		0.21	0.91				0.56		

Intersection Summary	
Area Type:	Other
Cycle Length: 108	
Actuated Cycle Length: 90.2	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.90		1.00	0.94				0.99	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1678		1869	1843				1987	
Flt Permitted		0.32		0.56	1.00				1.00	
Satd. Flow (perm)		545		1105	1843				1987	
Volume (vph)	60	0	200	115	510	370	5	20	340	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.88	0.88	0.88
Adj. Flow (vph)	67	0	222	119	526	381	5	23	386	23
RTOR Reduction (vph)	0	36	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	253	0	119	912	0	0	0	430	0
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	3%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		48.2		48.2	48.2				30.7	
Effective Green, g (s)		49.2		49.2	49.2				30.7	
Actuated g/C Ratio		0.53		0.53	0.53				0.33	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		289		586	978				658	
v/s Ratio Prot					c0.49					
v/s Ratio Perm		0.46		0.11					0.22	
v/c Ratio		0.88		0.20	0.93				0.65	
Uniform Delay, d1		19.1		11.4	20.2				26.5	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		23.7		0.1	14.9				1.8	
Delay (s)		42.8		11.5	35.1				28.2	
Level of Service		D		B	D				C	
Approach Delay (s)		42.8			32.4				28.2	
Approach LOS		D			C				C	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	92.7	Sum of lost time (s)	12.8
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		

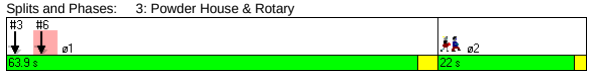
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	555	0	0	1535	515	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.97	0.97	
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%	
Lane Group Flow (vph)	0	597	0	0	1582	531	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.38			0.95	0.34	
Control Delay		0.7			23.7	0.6	
Queue Delay		0.0			0.2	0.0	
Total Delay		0.7			23.9	0.6	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			#1661	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1581			1669	1553	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		22			5	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.38			0.95	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1627			1827	1553
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1627			1827	1553
Volume (vph)	0	555	0	0	1535	515
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.97	0.97
Adj. Flow (vph)	0	597	0	0	1582	531
RTOR Reduction (vph)	0	69	0	0	0	0
Lane Group Flow (vph)	0	528	0	0	1582	531
Heavy Vehicles (%)	1%	1%	2%	2%	4%	4%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1439			1616	1553
v/s Ratio Prot					c0.87	
v/s Ratio Perm		0.32				c0.34
v/c Ratio		0.37			0.98	0.34
Uniform Delay, d1		1.2			6.0	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.7			17.9	0.6
Delay (s)		1.9			23.9	0.6
Level of Service		A			C	A
Approach Delay (s)	1.9			0.0	18.1	
Approach LOS	A			A	B	

Intersection Summary

HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	138.1%	ICU Level of Service	H
Analysis Period (min)	15		

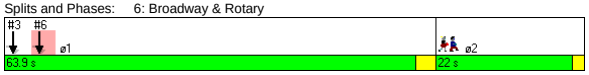
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	575	0	0	1270	820	
Peak Hour Factor	0.88	0.88	0.92	0.92	0.94	0.94	
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%	
Lane Group Flow (vph)	0	653	0	0	1351	872	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.42			0.80	0.56	
Control Delay		0.9			6.2	0.9	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.9			6.2	0.9	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			m#155	m0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1538			1685	1568	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.42			0.80	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1845	1568
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1845	1568
Volume (vph)	0	575	0	0	1270	820
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	653	0	0	1351	872
RTOR Reduction (vph)	0	75	0	0	0	0
Lane Group Flow (vph)	0	578	0	0	1351	872
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		108.1			108.1	121.2
Effective Green, g (s)		107.2			107.2	121.2
Actuated g/C Ratio		0.88			0.88	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1397			1632	1568
v/s Ratio Prot					c0.73	
v/s Ratio Perm		0.37				c0.56
v/c Ratio		0.41			0.83	0.56
Uniform Delay, d1		1.3			3.0	0.0
Progression Factor		1.00			0.38	1.00
Incremental Delay, d2		0.9			3.1	0.9
Delay (s)		2.2			4.2	0.9
Level of Service		A			A	A
Approach Delay (s)	2.2			0.0	2.9	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	4.0
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	670	975	430	0	0	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	10	10	0	0	0	
Lane Group Flow (vph)	0	770	1005	443	0	0	
Turn Type		custom		Free			
Protected Phases			1				2
Permitted Phases		1		Free			
Detector Phases		1	1				
Minimum Initial (s)		50.0	50.0				4.0
Minimum Split (s)		55.0	55.0				22.0
Total Split (s)	0.0	55.0	55.0	0.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	0.0%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0				20.0
Yellow Time (s)		4.0	4.0				2.0
All-Red Time (s)		1.0	1.0				0.0
Lead/Lag		Lead	Lead				Lag
Lead-Lag Optimize?		Yes	Yes				Yes
Vehicle Extension (s)		3.0	3.0				3.0
Recall Mode		Max	Max				None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.49	0.58	0.27			
Control Delay		1.1	2.8	0.4			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.1	2.8	0.4			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	446	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1557	1745	1615			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.49	0.58	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1578	1824	1615		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1578	1824	1615		
Volume (vph)	0	670	975	430	0	0
Peak-hour factor, PHF	0.87	0.87	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	770	1005	443	0	0
RTOR Reduction (vph)	0	63	0	0	0	0
Lane Group Flow (vph)	0	707	1005	443	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	10	10	0	0	0
Turn Type		custom		Free		
Protected Phases			1			
Permitted Phases		1		Free		
Actuated Green, G (s)		110.6	110.6	121.6		
Effective Green, g (s)		111.6	111.6	121.6		
Actuated g/C Ratio		0.92	0.92	1.00		
Clearance Time (s)		5.0	5.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		1448	1674	1615		
v/s Ratio Prot			c0.55			
v/s Ratio Perm		0.45		c0.27		
v/c Ratio		0.49	0.60	0.27		
Uniform Delay, d1		0.7	0.9	0.0		
Progression Factor		1.00	0.73	1.00		
Incremental Delay, d2		1.2	1.4	0.4		
Delay (s)		1.9	2.1	0.4		
Level of Service		A	A	A		
Approach Delay (s)	1.9		1.5			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	760	645	1000	0	0	
Peak Hour Factor	0.78	0.78	0.97	0.97	0.92	0.92	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Bus Blockages (#/hr)	0	0	8	8	0	0	
Lane Group Flow (vph)	0	974	665	1031	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							5
v/c Ratio		0.60	0.38	0.67			
Control Delay		1.7	1.9	2.5			
Queue Delay		0.0	0.0	0.0			
Total Delay		1.8	1.9	2.5			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	200	24			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1620	1759	1540			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		33	1	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.61	0.38	0.67			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1644	1839	1563		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1644	1839	1563		
Volume (vph)	0	760	645	1000	0	0
Peak-hour factor, PHF	0.78	0.78	0.97	0.97	0.92	0.92
Adj. Flow (vph)	0	974	665	1031	0	0
RTOR Reduction (vph)	0	80	0	85	0	0
Lane Group Flow (vph)	0	894	665	946	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	8	8	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1509	1688	1434		
v/s Ratio Prot			0.36	c0.61		
v/s Ratio Perm		0.54				
v/c Ratio		0.59	0.39	0.66		
Uniform Delay, d1		0.9	0.6	1.0		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.7	0.7	2.4		
Delay (s)		2.6	1.3	3.4		
Level of Service		A	A	A		
Approach Delay (s)	2.6		2.6			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Green Line Extension
2: Cambridge St. & First Street Extension

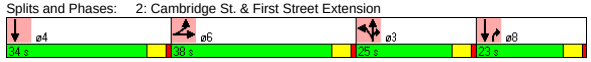
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	135	230	55	0	0	0	60	130	110	0	325	570		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	141	297	0	0	0	0	0	211	122	0	994	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	38.0	38.0	0.0	0.0	0.0	0.0	25.0	25.0	48.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	31.7%	31.7%	0.0%	0.0%	0.0%	0.0%	20.8%	20.8%	40.0%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	33.0	33.0					20.0	20.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lead	Lead					Lead	Lag
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	None
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.38	0.78						0.74	0.27		0.51			
Control Delay	42.5	57.3						64.0	7.6		1.8			
Queue Delay	0.7	0.0						7.9	0.0		0.4			
Total Delay	43.2	57.3						71.9	7.6		2.2			
Queue Length 50th (ft)	84	188						137	0		11			
Queue Length 95th (ft)	125	251						211	41		m7			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	502	515						323	582		1931			
Starvation Cap Reductn	0	0						0	0		401			
Spillback Cap Reductn	165	0						76	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.42	0.58						0.85	0.21		0.65			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 4:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Cambridge St. & First Street Extension



Green Line Extension
2: Cambridge St. & First Street Extension

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.90	
Flt Protected	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (prot)	1770	1792						1806	1459		3201	
Flt Permitted	0.95	1.00						0.98	1.00		1.00	
Satd. Flow (perm)	1770	1792						1806	1459		3201	
Volume (vph)	135	230	55	0	0	0	60	130	110	0	325	570
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	240	57	0	0	0	67	144	122	0	361	633
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	92	0	219	0
Lane Group Flow (vph)	141	289	0	0	0	0	0	211	30	0	775	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.9	23.9						17.9	28.4		63.2	
Effective Green, g (s)	24.9	24.9						18.9	29.4		64.2	
Actuated g/C Ratio	0.21	0.21						0.16	0.24		0.54	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	367	372						284	357		1713	
v/s Ratio Prot	0.08	c0.16						c0.12	0.02		c0.24	
v/s Ratio Perm												
v/c Ratio	0.38	0.78						0.74	0.08		0.45	
Uniform Delay, d1	40.9	44.9						48.2	34.9		17.1	
Progression Factor	1.00	1.00						1.00	1.00		0.12	
Incremental Delay, d2	0.7	9.8						10.0	0.1		0.1	
Delay (s)	41.6	54.7						58.3	35.0		2.1	
Level of Service	D	D						E	D		A	
Approach Delay (s)		50.5			0.0			49.8			2.1	
Approach LOS		D			A			D			A	

Intersection Summary

HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extension
3: O'Brien Hwy & Charlestown Ave

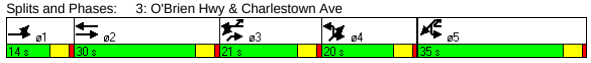
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		100	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	175	1350	450	315	780	300	135	430	280	535	920	105	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	192	1484	495	346	857	330	142	453	295	560	1173	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	14.0			9.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	14.0	44.0	0.0	21.0	51.0	56.0	20.0	20.0	41.0	35.0	35.0	0.0	30.0
Total Split (%)	11.7%	36.7%	0.0%	17.5%	42.5%	46.7%	16.7%	16.7%	34.2%	29.2%	29.2%	0.0%	25%
Maximum Green (s)	9.0			16.0			15.0	15.0		30.0	30.0		25.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			None			None	None		None	None		C-Max
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	1.42	0.92	0.31	1.57	0.70	0.44	0.66	0.98	0.62	1.42	1.42		
Control Delay	267.3	49.2	0.5	309.5	52.8	3.1	64.8	88.9	38.9	238.4	231.9		
Queue Delay	0.0	671.3	0.0	33.2	434.0	0.5	0.0	0.0	0.6	0.0	0.8		
Total Delay	267.3	720.6	0.5	342.7	486.8	3.6	64.8	88.9	39.5	238.4	232.7		
Queue Length 50th (ft)	~177	354	0	~345	326	29	93	164	158	~565	~595		
Queue Length 95th (ft)	#309	#438	0	m#437	m384	m30	#165	#261	244	#776	#722		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		100							110			
Base Capacity (vph)	135	1607	1605	221	1222	756	216	463	479	394	824		
Starvation Cap Reductn	0	0	0	10	785	149	0	0	0	0	0		
Spillback Cap Reductn	0	1027	0	0	0	0	0	0	34	0	1		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	1.42	2.56	0.31	1.64	1.96	0.54	0.66	0.98	0.66	1.42	1.43		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Green Line Extension
3: O'Brien Hwy & Charlestown Ave

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3161	
Volume (vph)	175	1350	450	315	780	300	135	430	280	535	920	105
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	192	1484	495	346	857	330	142	453	295	594	1022	117
RTOR Reduction (vph)	0	0	0	0	0	198	0	0	17	0	7	0
Lane Group Flow (vph)	192	1484	495	346	857	132	142	453	278	560	1166	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	9.0	39.0	120.0	16.0	46.0	46.0	15.0	15.0	36.0	30.0	30.0	
Effective Green, g (s)	10.0	40.0	120.0	17.0	47.0	48.0	16.0	16.0	37.0	31.0	31.0	
Actuated g/C Ratio	0.08	0.33	1.00	0.14	0.39	0.40	0.13	0.13	0.31	0.26	0.26	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1607	1605	221	1222	558	216	463	463	394	817	
v/s Ratio Prot	c0.12	c0.31		c0.22	0.27	0.09	0.09	c0.13	0.19	0.37	c0.37	
v/s Ratio Perm			0.31									
v/c Ratio	1.42	0.92	0.31	1.57	0.70	0.24	0.66	0.98	0.60	1.42	1.43	
Uniform Delay, d1	55.0	38.5	0.0	51.5	30.6	23.9	49.4	51.8	35.2	44.5	44.5	
Progression Factor	1.00	1.00	1.00	1.41	1.64	1.49	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	227.5	9.3	0.5	266.0	1.0	0.1	7.0	35.8	2.2	203.9	199.5	
Delay (s)	282.5	47.8	0.5	338.8	51.3	35.6	56.4	87.6	37.4	248.4	244.0	
Level of Service	F	D	A	F	D	D	E	F	D	F	F	
Approach Delay (s)		57.8			112.8			66.0			245.4	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	123.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extension
6: O'Brien Hwy & First Street Extension

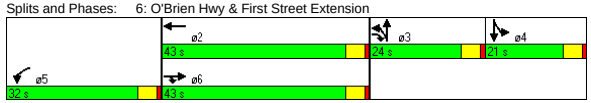
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	85		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	1520	165	445	425	75	30	235	0	115	285	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1689	183	494	555	0	33	261	0	0	462	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		24.0	24.0		21.0	21.0	
Total Split (s)	0.0	43.0	67.0	32.0	43.0	0.0	24.0	24.0	0.0	21.0	21.0	0.0
Total Split (%)	0.0%	35.8%	55.8%	26.7%	35.8%	0.0%	20.0%	20.0%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)		38.0		27.0	38.0		19.0	19.0		16.0	16.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		10.0	10.0		9.0	9.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.90	0.20	0.76	0.43		0.11	0.84			0.94	
Control Delay		18.8	3.7	53.5	29.5		20.3	46.3			78.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	145.6			0.0	
Total Delay		18.8	3.7	53.5	29.5		20.3	191.8			78.1	
Queue Length 50th (ft)		295	27	165	143		13	188			165	
Queue Length 95th (ft)		#526	45	207	202		m27	m#274			#256	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	85								
Base Capacity (vph)		1872	925	801	1285		295	311			494	
Starvation Cap Reductn		0	0	0	0		0	113			0	
Spillback Cap Reductn		0	0	2	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.90	0.20	0.62	0.43		0.11	1.32			0.94	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Green Line Extension
6: O'Brien Hwy & First Street Extension

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		5085	1583	3433	3460		1770	1863			3472	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)		5085	1583	3433	3460		1770	1863			3472	
Volume (vph)	0	1520	165	445	425	75	30	235	0	115	285	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1689	183	494	472	83	33	261	0	128	317	17
RTOR Reduction (vph)	0	0	26	0	11	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1689	157	494	544	0	33	261	0	0	459	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		43.2	67.2	21.8	43.2		19.0	19.0			16.0	
Effective Green, g (s)		44.2	68.2	22.8	44.2		20.0	20.0			17.0	
Actuated g/C Ratio		0.37	0.57	0.19	0.37		0.17	0.17			0.14	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1873	900	652	1274		295	311			492	
v/s Ratio Prot		c0.33	0.10	c0.14	0.16		0.02	c0.14			c0.13	
v/s Ratio Perm												
v/c Ratio		0.90	0.17	0.76	0.43		0.11	0.84			0.93	
Uniform Delay, d1		35.8	12.4	46.0	28.4		42.5	48.4			50.9	
Progression Factor		0.30	0.37	1.00	1.00		0.46	0.51			1.00	
Incremental Delay, d2		6.1	0.3	5.0	1.0		0.6	20.0			27.0	
Delay (s)		16.8	4.9	51.0	29.5		20.0	44.5			78.0	
Level of Service		B	A	D	C		C	D			E	
Approach Delay (s)		15.6			39.6			41.7			78.0	
Approach LOS		B			D			D			E	

Intersection Summary

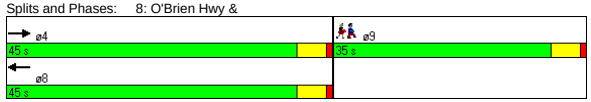
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	223			260	73		
Travel Time (s)	5.1			5.9	1.7		
Volume (vph)	1975	0	0	1020	0	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Lane Group Flow (vph)	2194	0	0	1133	0	0	
Turn Type							
Protected Phases	4			8			9
Permitted Phases							
Detector Phases	4			8			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	None			None			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.48			0.35			
Control Delay	5.0			4.4			
Queue Delay	0.0			0.0			
Total Delay	5.0			4.4			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	346			232			
Internal Link Dist (ft)	143			180	1		
Turn Bay Length (ft)							
Base Capacity (vph)	4589			3194			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.48			0.35			

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 40.3	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1975	0	0	1020	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2194	0	0	1133	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2194	0	0	1133	0	0
Turn Type						
Protected Phases	4			8		
Permitted Phases						
Actuated Green, G (s)	30.7			30.7		
Effective Green, g (s)	31.7			31.7		
Actuated g/C Ratio	0.73			0.73		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	3689			2567		
v/s Ratio Prot	c0.43			0.32		
v/s Ratio Perm						
v/c Ratio	0.59			0.44		
Uniform Delay, d1	2.9			2.4		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.1		
Delay (s)	3.2			2.5		
Level of Service	A			A		
Approach Delay (s)	3.2			2.5	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Green Line Extension
11: Cambridge St. & O'Brien Hwy

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			223	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	340	0	0	5	0	1635	0	0	935	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	354	0	0	6	0	1686	0	0	1120	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Green Line Extension
11: Cambridge St. & O'Brien Hwy

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	340	0	0	5	0	1635	0	0	935	85
Peak Hour Factor	0.96	0.96	0.96	0.90	0.90	0.90	0.97	0.97	0.97	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	354	0	0	6	0	1686	0	0	1027	93
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			223	
pX, platoon unblocked	0.76	0.76	0.69	0.76	0.76	0.87	0.87			0.69		
vC, conflicting volume	2205	2806	562	1990	2760	560	1121			1686		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1344	2139	0	1060	2077	344	988			1099		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	53	100	100	99	100			100		
cM capacity (veh/h)	82	36	747	69	39	559	509			394		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	354	6	562	562	562	685	436
Volume Left	0	0	0	0	0	0	0
Volume Right	354	6	0	0	0	0	93
cSH	747	559	1700	1700	1700	1700	1700
Volume to Capacity	0.47	0.01	0.33	0.33	0.33	0.40	0.26
Queue Length 95th (ft)	56	1	0	0	0	0	0
Control Delay (s)	14.1	11.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	14.1	11.5	0.0			0.0	
Approach LOS	B	B					

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	59.3%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1975	980	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2194	1133	0	0	44
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1975	980	40	0	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2194	1089	44	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		260	415			
pX, platoon unblocked	0.78				0.88	0.78
vC, conflicting volume	1133				1843	567
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	889				816	162
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	93
cM capacity (veh/h)	591				278	666

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	731	731	731	726	407	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	44	44
cSH	1700	1700	1700	1700	1700	666
Volume to Capacity	0.43	0.43	0.43	0.43	0.24	0.07
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS						B
Approach Delay (s)	0.0			0.0		10.8
Approach LOS						B

Intersection Summary					
Average Delay	0.1				
Intersection Capacity Utilization	41.5%	ICU Level of Service		A	
Analysis Period (min)	15				

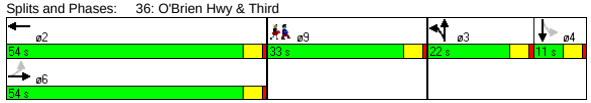
Green Line Extension
36: O'Brien Hwy & Third

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	5	2245	670	0	595	15	175	1	35	1	1	1	
Peak Hour Factor	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	3010	0	0	663	0	116	118	0	0	3	0	
Turn Type	Perm						Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6									4			
Detector Phases	6	6			2		3	3		4	4		
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	23.0	23.0			21.0		21.0	21.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	0.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	0.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0			49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max			C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		1.31			0.38		0.49	0.46			0.03		
Control Delay		170.2			26.8		54.8	46.0			48.0		
Queue Delay		55.6			0.4		0.0	0.0			0.0		
Total Delay		225.8			27.2		54.8	46.0			48.0		
Queue Length 50th (ft)		~940			180		77	66			1		
Queue Length 95th (ft)		#1126			277		134	123			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2300			1728		235	259			92		
Starvation Cap Reductn		0			555		0	0			0		
Spillback Cap Reductn		199			0		0	1			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		1.43			0.57		0.49	0.46			0.03		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 36: O'Brien Hwy & Third



Green Line Extension
36: O'Brien Hwy & Third

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.95			0.96	
Flt Protected		1.00			1.00		0.95	0.97			0.98	
Satd. Flow (prot)		4910			3526		1569	1628			1750	
Flt Permitted		0.94			1.00		0.95	0.97			1.00	
Satd. Flow (perm)		4611			3526		1569	1628			1779	
Volume (vph)	5	2245	670	0	595	15	175	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.97	0.97	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	2314	691	0	647	16	194	1	39	1	1	1
RTOR Reduction (vph)	0	42	0	0	1	0	0	14	0	0	1	0
Lane Group Flow (vph)	0	2968	0	0	662	0	116	104	0	0	2	0
Turn Type	Perm						Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6									4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2106			1610		235	244			33	
v/s Ratio Prot					0.19		c0.07	0.06				
v/s Ratio Perm		c0.64									c0.00	
v/c Ratio		1.41			0.41		0.49	0.42			0.06	
Uniform Delay, d1		32.6			21.8		46.8	46.3			57.9	
Progression Factor		1.00			1.31		1.00	1.00			1.00	
Incremental Delay, d2		187.1			0.8		7.2	5.3			0.8	
Delay (s)		219.7			29.4		54.1	51.6			58.7	
Level of Service		F			C		D	D			E	
Approach Delay (s)		219.7			29.4			52.8			58.7	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM Average Control Delay	177.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\2030 Lechmere Build Alt 7 AM.sy7
VHB:: JGM
VHB, Inc.
10/28/2008

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	1655	165	0	435	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1937	0	0	478	0	33
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1655	165	0	435	0	30
Peak Hour Factor	0.94	0.94	0.91	0.91	0.90	0.90
Hourly flow rate (vph)	1761	176	0	478	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.74		0.79	0.74
vC, conflicting volume			1936		2087	675
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1564		1437	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			303		98	806

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	704	704	528	239	239	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	176	0	0	33
cSH	1700	1700	1700	1700	1700	806
Volume to Capacity	0.41	0.41	0.31	0.14	0.14	0.04
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.7
Approach LOS						A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Green Line Extension
44: O'Brien Hwy & Water St.

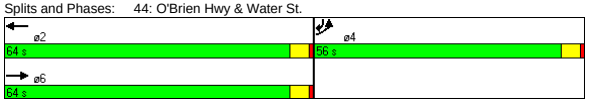
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	460	1820	0	0	370	65	0	0	0	0	0	240
Peak Hour Factor	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	489	1936	0	0	478	0	0	0	0	0	0	267
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	21.0	28.0			17.0							21.0
Total Split (s)	56.0	64.0	0.0	0.0	64.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0
Total Split (%)	46.7%	53.3%	0.0%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	46.7%
Maximum Green (s)	51.0	59.0			59.0							51.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	5.0				7.0							5.0
Flash Dont Walk (s)	11.0				5.0							11.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.85	0.65			0.24							0.34
Control Delay	49.6	2.8			13.5							1.2
Queue Delay	38.8	1.3			0.0							0.0
Total Delay	88.4	4.1			13.5							1.2
Queue Length 50th (ft)	352	31			46							0
Queue Length 95th (ft)	m273	m31			m116							0
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	745	2963			2026							921
Starvation Cap Reductn	283	748			0							0
Spillback Cap Reductn	0	0			101							11
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	1.06	0.87			0.25							0.29

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Green Line Extension
44: O'Brien Hwy & Water St.

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.98							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3361							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3361							1627
Volume (vph)	460	1820	0	0	370	65	0	0	0	0	0	240
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	489	1936	0	0	407	71	0	0	0	0	0	267
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	0	0	0	178
Lane Group Flow (vph)	489	1936	0	0	468	0	0	0	0	0	0	89
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	39.0	71.0			71.0							39.0
Effective Green, g (s)	40.0	72.0			72.0							40.0
Actuated g/C Ratio	0.33	0.60			0.60							0.33
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	573	2964			2017							542
v/s Ratio Prot	c0.28	c0.39			0.14							0.05
v/s Ratio Perm												
v/c Ratio	0.85	0.65			0.23							0.16
Uniform Delay, d1	37.3	15.8			11.2							28.2
Progression Factor	1.32	0.16			1.12							1.00
Incremental Delay, d2	1.2	0.1			0.2							0.1
Delay (s)	50.3	2.6			12.8							28.4
Level of Service	D	A			B							C
Approach Delay (s)		12.2			12.8			0.0			28.4	
Approach LOS		B			B			A			C	

Intersection Summary

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Green Line Extension
46: O'Brien Hwy & Industrial

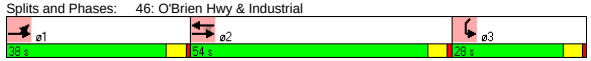
Lanes, Volumes, Timings

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	180	1985	1260	305	285	140
Peak Hour Factor	0.91	0.91	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2379	1664	0	473	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		4.0	
Minimum Split (s)	20.0		15.0		27.0	
Total Split (s)	38.0	92.0	54.0	0.0	28.0	0.0
Total Split (%)	31.7%	76.7%	45.0%	0.0%	23.3%	0.0%
Maximum Green (s)	33.0		49.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.89	0.85		0.80	
Control Delay		19.7	35.9		51.4	
Queue Delay		123.5	75.4		160.1	
Total Delay		143.2	111.3		211.4	
Queue Length 50th (ft)		487	359		137	
Queue Length 95th (ft)		m453	420		188	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2681	1948		656	
Starvation Cap Reductn		815	0		0	
Spillback Cap Reductn		0	520		305	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		1.27	1.17		1.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Green Line Extension
46: O'Brien Hwy & Industrial

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.97		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4681	4592		3013	
Flt Permitted		0.64	1.00		0.97	
Satd. Flow (perm)		3000	4592		3013	
Volume (vph)	180	1985	1260	305	285	140
Peak-hour factor, PHF	0.91	0.91	0.94	0.94	0.90	0.90
Adj. Flow (vph)	198	2181	1340	324	317	156
RTOR Reduction (vph)	0	0	34	0	54	0
Lane Group Flow (vph)	0	2379	1630	0	419	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		84.7	49.0		20.3	
Effective Green, g (s)		86.7	50.0		21.3	
Actuated g/C Ratio		0.72	0.42		0.18	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2682	1913		535	
v/s Ratio Prot		c0.27	0.35		c0.14	
v/s Ratio Perm		c0.37				
v/c Ratio		0.89	0.85		0.78	
Uniform Delay, d1		12.9	31.7		47.1	
Progression Factor		2.23	1.00		1.00	
Incremental Delay, d2		0.4	5.0		7.3	
Delay (s)		29.1	36.7		54.5	
Level of Service		C	D		D	
Approach Delay (s)		29.1	36.7		54.5	
Approach LOS		C	D		D	

Intersection Summary

HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\2030 Lechmere Build Alt 7 AM.sy7
VHB:: JGM
VHB, Inc.
10/28/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	10	365	160	235	505	5	5	30	35	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	3%	3%	3%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	601	0	0	887	0	0	98	0	0	167	90
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	365	160	235	505	5	5	30	35	120	10	70
Peak Hour Factor	0.89	0.89	0.89	0.84	0.84	0.84	0.71	0.71	0.71	0.78	0.78	0.78
Hourly flow rate (vph)	11	410	180	280	601	6	7	42	49	154	13	90
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	607			590			1782	1776	604	1757	1689	500
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	607			590			1782	1776	604	1757	1689	500
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			71			80	27	90	0	80	84
cM capacity (veh/h)	947			971			35	58	496	19	65	565

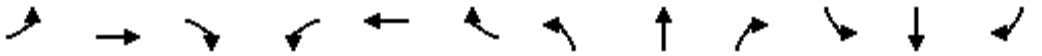
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	601	887	99	167	90
Volume Left	11	280	7	154	0
Volume Right	180	6	49	0	90
cSH	947	971	96	20	565
Volume to Capacity	0.01	0.29	1.03	8.28	0.16
Queue Length 95th (ft)	1	30	157	Err	14
Control Delay (s)	0.3	6.3	182.2	Err	12.6
Lane LOS	A	A	F	F	B
Approach Delay (s)	0.3	6.3	182.2	6503.8	
Approach LOS			F	F	

Intersection Summary				
Average Delay	917.7			
Intersection Capacity Utilization	93.2%	ICU Level of Service	F	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		324			467			261			320	
Travel Time (s)		7.4			10.6			5.9			7.3	
Volume (vph)	0	0	0	125	45	85	90	450	0	0	1785	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Heavy Vehicles (%)	2%	2%	2%	7%	2%	7%	2%	5%	5%	4%	4%	2%
Lane Group Flow (vph)	0	0	0	0	308	0	98	536	0	0	1821	299
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

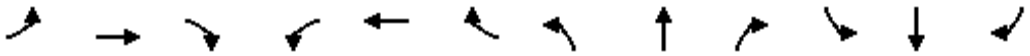
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	125	45	85	90	450	0	0	1785	275
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.84	0.84	0.98	0.98	0.92
Hourly flow rate (vph)	0	0	0	154	49	105	98	536	0	0	1821	299
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.01	0.01	0.01	0.01	0.01		0.01					
vC, conflicting volume	2682	2553	1821	2553	2852	536	2120			536		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2093	2019	1331	2027	3419	3314	2303	35		536		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.2		
p0 queue free %	0	0	100	0	0	80	0			100		
cM capacity (veh/h)	0	0	0	0	0	535	0			1022		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	308	98	536	1821	299
Volume Left	154	98	0	0	0
Volume Right	105	0	0	0	299
cSH	0	0	1700	1700	1700
Volume to Capacity	2.51	1.48	0.32	1.07	0.18
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	1544.0		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	123.4%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	90	280	315	0	0	0	0	450	485	185	1725	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Lane Group Flow (vph)	0	761	0	0	0	0	0	479	516	189	1760	0
Sign Control		Stop			Stop			Free			Free	

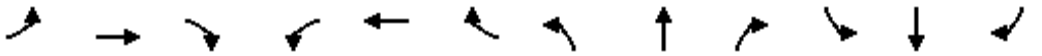
Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	280	315	0	0	0	0	450	485	185	1725	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98
Hourly flow rate (vph)	100	311	350	0	0	0	0	479	516	189	1760	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked	0.02	0.02	0.02	0.02	0.02		0.02					
vC, conflicting volume	2616	3132	1760	3122	2616	479	1760			995		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	95046	125064	45228	124459	95046	479	45228			995		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	100	100	100			73		
cM capacity (veh/h)	0	0	0	0	0	587	0			688		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	256	506	479	516	189	1760
Volume Left	100	0	0	0	189	0
Volume Right	0	350	0	516	0	0
cSH	0	0	1700	1700	688	1700
Volume to Capacity	Err	Err	0.28	0.30	0.27	1.04
Queue Length 95th (ft)	Err	Err	0	0	28	0
Control Delay (s)	Err	Err	0.0	0.0	12.2	0.0
Lane LOS	F	F			B	
Approach Delay (s)	Err		0.0		1.2	
Approach LOS	F					

Intersection Summary				
Average Delay	2054.8			
Intersection Capacity Utilization	123.4%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1177			369			1757			605	
Travel Time (s)		26.8			8.4			39.9			13.8	
Volume (vph)	455	5	30	0	1	10	40	470	0	5	965	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	6%	6%	6%	3%	3%	3%
Lane Group Flow (vph)	0	533	0	0	22	0	0	573	0	0	1065	1176
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	455	5	30	0	1	10	40	470	0	5	965	1070
Peak Hour Factor	0.92	0.92	0.92	0.50	0.50	0.50	0.89	0.89	0.89	0.91	0.91	0.91
Hourly flow rate (vph)	495	5	33	0	2	20	45	528	0	5	1060	1176
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1710	1689	1060	1725	1689	528	1060			528		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1710	1689	1060	1725	1689	528	1060			528		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	94	88	100	98	96	93			99		
cM capacity (veh/h)	63	85	270	56	87	554	642			1034		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	533	22	573	1066	1176
Volume Left	495	0	45	5	0
Volume Right	33	20	0	0	1176
cSH	66	373	642	1034	1700
Volume to Capacity	8.02	0.06	0.07	0.01	0.69
Queue Length 95th (ft)	Err	5	6	0	0
Control Delay (s)	Err	15.3	1.9	0.2	0.0
Lane LOS	F	C	A	A	
Approach Delay (s)	Err	15.3	1.9	0.1	
Approach LOS	F	C			

Intersection Summary			
Average Delay	1581.0		
Intersection Capacity Utilization	106.5%	ICU Level of Service	G
Analysis Period (min)	15		



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	65	360	890	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles (%)	3%	3%	2%	2%	0%	0%
Lane Group Flow (vph)	0	467	1187	0	177	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



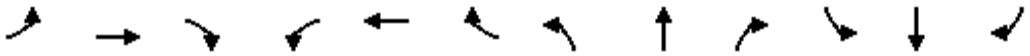
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	65	360	890	190	80	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.76	0.76
Hourly flow rate (vph)	71	396	978	209	105	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1187				1621	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1227				1755	1100
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	66
cM capacity (veh/h)	464				66	214

Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	467	1187	178
Volume Left	71	0	105
Volume Right	0	209	72
cSH	464	1700	92
Volume to Capacity	0.15	0.70	1.94
Queue Length 95th (ft)	13	0	378
Control Delay (s)	4.6	0.0	534.6
Lane LOS	A		F
Approach Delay (s)	4.6	0.0	534.6
Approach LOS			F

Intersection Summary			
Average Delay	53.0		
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		520			1210			1813			376	
Travel Time (s)		11.8			27.5			41.2			8.5	
Volume (vph)	15	165	130	380	200	5	40	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	0	319	0	0	616	0	0	189	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

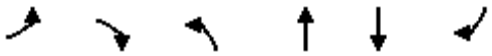
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	165	130	380	200	5	40	15	105	5	10	5
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	15	170	134	400	211	5	47	18	124	7	14	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	320	616	188	29
Volume Left (vph)	15	400	47	7
Volume Right (vph)	134	5	124	7
Hadj (s)	-0.21	0.19	-0.33	-0.10
Departure Headway (s)	5.3	5.3	6.0	6.7
Degree Utilization, x	0.47	0.90	0.31	0.05
Capacity (veh/h)	656	616	566	477
Control Delay (s)	12.9	37.0	11.8	10.1
Approach Delay (s)	12.9	37.0	11.8	10.1
Approach LOS	B	E	B	B

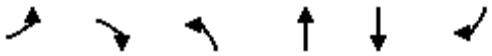
Intersection Summary			
Delay	25.5		
HCM Level of Service	D		
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1210			2727	1177	
Travel Time (s)	27.5			62.0	26.8	
Volume (vph)	155	120	100	425	565	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Bus Blockages (#/hr)	3	3	4	4	0	0
Lane Group Flow (vph)	289	0	0	709	1087	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	155	120	100	425	565	490
Peak Hour Factor	0.95	0.95	0.74	0.74	0.97	0.97
Hourly flow rate (vph)	163	126	135	574	582	505
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1680	835	1088			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1680	835	1088			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	0	65	78			
cM capacity (veh/h)	81	366	627			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	289	709	1088
Volume Left	163	135	0
Volume Right	126	0	505
cSH	123	627	1700
Volume to Capacity	2.35	0.22	0.64
Queue Length 95th (ft)	628	20	0
Control Delay (s)	690.3	5.6	0.0
Lane LOS	F	A	
Approach Delay (s)	690.3	5.6	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	97.7		
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		815			459			1076		190		
Travel Time (s)		18.5			10.4			24.5		4.3		
Volume (vph)	50	5	300	250	585	70	20	205	5	25	0	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	4%	7%	1%	2%	2%	4%	10%	2%	2%	2%
Lane Group Flow (vph)	0	385	0	0	984	0	0	250	0	103	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	50	5	300	250	585	70	20	205	5	25	0	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	5	326	272	636	76	22	223	5	27	0	76
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					459			1076				
pX, platoon unblocked	0.61	0.61					0.61			0.61	0.61	0.61
vC, conflicting volume	1562	1524	226	228			712			1815	1489	674
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1916	1854	226	228			531			2327	1796	469
tC, single (s)	7.1	6.5	6.2	4.2			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.3			2.2			3.5	4.0	3.3
p0 queue free %	0	85	60	79			97			0	100	79
cM capacity (veh/h)	21	35	809	1311			637			7	38	365

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	386	984	250	103
Volume Left	54	272	22	27
Volume Right	326	76	5	76
cSH	121	1311	637	25
Volume to Capacity	3.19	0.21	0.03	4.14
Queue Length 95th (ft)	Err	19	3	Err
Control Delay (s)	Err	4.5	1.3	Err
Lane LOS	F	A	A	F
Approach Delay (s)	Err	4.5	1.3	Err
Approach LOS	F			F

Intersection Summary			
Average Delay	2841.6		
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 7 AM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	305	1.0	0.401	11.6	LOS B	87	0.70	0.78	23.8
8T	T	684	1.0	0.900	20.0	LOS B	520	1.00	1.29	20.3
Approach		**989**	**1.0**	**0.900**	**17.4**	**LOS B**	**520**	**0.91**	**1.13**	**21.3**
Mystic Valley Parkway										
4T	T	978	0.0	0.920	16.3	LOS B	630	1.00	1.17	21.6
4R	R	522	0.0	0.620	8.9	LOS A	182	0.78	0.81	24.7
Approach		**1500**	**0.0**	**0.920**	**13.7**	**LOS B**	**630**	**0.92**	**1.04**	**22.6**
Mystic Valley Parkway										
5L	L	449	0.0	1.290	175.1	LOS F	1226	1.00	2.78	6.1
2R	R	505	0.0	1.282	165.6	LOS F	1334	1.00	2.89	6.0
Approach		**954**	**0.0**	**1.292**	**170.0**	**LOS F**	**1334**	**1.00**	**2.84**	**6.0**
All Vehicles		**3443**	**0.3**	**1.290**	**58.1**	**LOS E**	**1334**	**0.94**	**1.57**	**12.6**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing AM
\\Mabos\projects\10303.00\tech\Sidra\Alt 7\Mystic&Alewife - Alt7.aap
Processed Oct 06, 2008 02:57:29PM

M0114, VHB, Large Office
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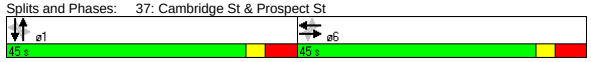
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1570			1170			347			1421	
Travel Time (s)		35.7			26.6			7.9			32.3	
Volume (vph)	120	285	20	40	340	30	70	490	85	30	235	60
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	494	0	0	446	0	0	708	0	0	357	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	30.0	30.0		30.0	30.0		27.0	27.0		27.0	27.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.95			0.65			0.98			0.51	
Control Delay		55.8			26.7			49.6			22.9	
Queue Delay		0.0			0.0			12.7			0.0	
Total Delay		55.8			26.7			62.3			22.9	
Queue Length 50th (ft)		264			199			421			147	
Queue Length 95th (ft)		#434			305			#647			230	
Internal Link Dist (ft)		1490			1090			267			1341	
Turn Bay Length (ft)												
Base Capacity (vph)		522			688			725			702	
Starvation Cap Reductn		0			0			36			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.95			0.65			1.03			0.51	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 41 (46%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 37: Cambridge St & Prospect St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1803			1820			1939			1920	
Flt Permitted		0.69			0.92			0.90			0.88	
Satd. Flow (perm)		1269			1674			1765			1706	
Volume (vph)	120	285	20	40	340	30	70	490	85	30	235	60
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	140	331	23	43	370	33	77	538	93	33	258	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	494	0	0	446	0	0	708	0	0	357	0
Confl. Peds. (#/hr)	57		38	38		57	44		31	31		44
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		522			688			726			701	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.27			c0.40			0.21	
v/c Ratio		0.95			0.65			0.98			0.51	
Uniform Delay, d1		25.5			21.3			26.0			19.7	
Progression Factor		1.00			1.00			0.93			1.00	
Incremental Delay, d2		28.1			4.7			23.1			2.6	
Delay (s)		53.7			26.0			47.3			22.4	
Level of Service		D			C			D			C	
Approach Delay (s)		53.7			26.0			47.3			22.4	
Approach LOS		D			C			D			C	

Intersection Summary

HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		

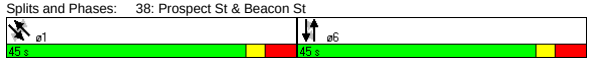
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		942			160			3010			1027	
Travel Time (s)		21.4			3.6			68.4			23.3	
Volume (vph)	135	565	40	25	255	15	40	275	70	20	330	40
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lane Group Flow (vph)	0	796	0	0	323	0	0	433	0	0	429	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Minimum Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0	45.0	45.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Flash Dont Walk (s)	6.0	6.0		6.0	6.0		9.0	9.0		9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.70			0.47			0.63			0.59	
Control Delay		26.0			35.5			26.1			24.6	
Queue Delay		0.8			0.0			1.8			1.2	
Total Delay		26.8			35.5			27.9			25.8	
Queue Length 50th (ft)		192			176			191			184	
Queue Length 95th (ft)		261			m252			288			281	
Internal Link Dist (ft)		862			80			2930			947	
Turn Bay Length (ft)												
Base Capacity (vph)		1135			682			688			733	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		118			0			126			134	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.78			0.47			0.77			0.72	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 53 (59%), Referenced to phase 1:NWSE, Start of Green
Natural Cycle: 90
Control Type: Pretimed
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Prospect St & Beacon St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.0			8.0			8.0			8.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		3495			1855			1814			1847	
Flt Permitted		0.78			0.89			0.92			0.96	
Satd. Flow (perm)		2761			1659			1675			1784	
Volume (vph)	135	565	40	25	255	15	40	275	70	20	330	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	145	608	43	27	280	16	45	309	79	22	363	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	796	0	0	323	0	0	433	0	0	429	0
Confl. Peds. (#/hr)	16		34	34		16	2		11	11		2
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			6			1			1	
Permitted Phases	6			6			1			1		
Actuated Green, G (s)		37.0			37.0			37.0			37.0	
Effective Green, g (s)		37.0			37.0			37.0			37.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		8.0			8.0			8.0			8.0	
Lane Grp Cap (vph)		1135			682			689			733	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.26			0.24	
v/c Ratio		0.70			0.47			0.63			0.59	
Uniform Delay, d1		21.9			19.4			21.0			20.6	
Progression Factor		1.00			1.68			1.00			1.00	
Incremental Delay, d2		3.6			2.0			4.3			3.4	
Delay (s)		25.6			34.6			25.3			24.0	
Level of Service		C			C			C			C	
Approach Delay (s)		25.6			34.6			25.3			24.0	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

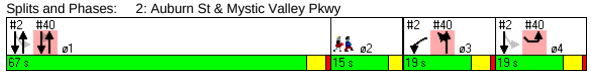
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	14	12	12	10	10		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50		50		50	50		
Trailing Detector (ft)	0		0		0	0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	901		367			129		
Travel Time (s)	20.5		8.3			2.9		
Volume (vph)	185	90	1055	40	60	1155		
Peak Hour Factor	0.77	0.77	0.90	0.90	0.93	0.93		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%		
Lane Group Flow (vph)	357	0	1216	0	0	1307		
Turn Type					Perm			
Protected Phases	3		1			1 4	2	4
Permitted Phases					1 4			
Detector Phases	3		1		1 4	1 4		
Minimum Initial (s)	8.0		8.0				4.0	8.0
Minimum Split (s)	13.0		13.0				15.0	13.0
Total Split (s)	19.0	0.0	67.0	0.0	86.0	86.0	15.0	19.0
Total Split (%)	15.8%	0.0%	55.8%	0.0%	71.7%	71.7%	13%	16%
Maximum Green (s)	14.0		62.0				12.0	14.0
Yellow Time (s)	4.0		4.0				3.0	4.0
All-Red Time (s)	1.0		1.0				0.0	1.0
Lead/Lag	Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes				Yes	Yes
Vehicle Extension (s)	4.0		4.0				3.0	4.0
Recall Mode	Min		C-Min				None	Min
Walk Time (s)							7.0	
Flash Dont Walk (s)							5.0	
Pedestrian Calls (#/hr)							3	
v/c Ratio	0.82		0.61			0.72		
Control Delay	58.9		14.3			3.2		
Queue Delay	0.7		0.3			61.8		
Total Delay	59.7		14.6			65.0		
Queue Length 50th (ft)	244		344			27		
Queue Length 95th (ft)	#446		m310			m24		
Internal Link Dist (ft)	821		287			49		
Turn Bay Length (ft)								
Base Capacity (vph)	435		1995			1805		
Starvation Cap Reductn	0		0			649		
Spillback Cap Reductn	9		261			0		
Storage Cap Reductn	0		0			0		
Reduced v/c Ratio	0.84		0.70			1.13		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Auburn St & Mystic Valley Pkwy



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	10	10
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frt	0.96		0.99			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1874		3590			3361
Flt Permitted	0.97		1.00			0.78
Satd. Flow (perm)	1874		3590			2642
Volume (vph)	185	90	1055	40	60	1155
Peak-hour factor, PHF	0.77	0.77	0.90	0.90	0.93	0.93
Adj. Flow (vph)	240	117	1172	44	65	1242
RTOR Reduction (vph)	13	0	2	0	0	0
Lane Group Flow (vph)	344	0	1214	0	0	1307
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type					Perm	
Protected Phases	3		1			1 4
Permitted Phases					1 4	
Actuated Green, G (s)	26.0		63.2			78.6
Effective Green, g (s)	27.0		64.2			79.6
Actuated g/C Ratio	0.22		0.54			0.66
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	4.0		4.0			
Lane Grp Cap (vph)	422		1921			1753
v/s Ratio Prot	c0.18		0.34			
v/s Ratio Perm						c0.49
v/c Ratio	0.81		0.63			0.75
Uniform Delay, d1	44.1		19.6			13.5
Progression Factor	1.00		0.77			0.24
Incremental Delay, d2	12.0		0.1			0.2
Delay (s)	56.2		15.3			3.4
Level of Service	E		B			A
Approach Delay (s)	56.2		15.3			3.4
Approach LOS	E		B			A

Intersection Summary

HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

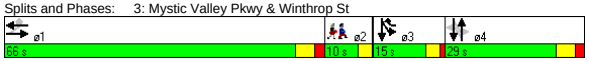
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50			50	50	50	50		50	50		
Trailing Detector (ft)	0	0			0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1256			1017			632			825		
Travel Time (s)		28.5			23.1			14.4			18.8		
Volume (vph)	5	1120	5	0	1135	440	25	425	175	425	520	50	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	1241	0	0	1207	468	0	761	0	0	1157	0	
Turn Type	Perm					pm+ov	Perm			pm+pt			
Protected Phases		1			1	3		4		3	3 4		2
Permitted Phases	1					1	4			3 4			
Detector Phases	1	1			1	3	4	4		3	3 4		
Minimum Initial (s)	12.0	12.0			12.0	8.0	8.0	8.0		8.0			4.0
Minimum Split (s)	18.0	18.0			18.0	12.0	14.0	14.0		12.0			10.0
Total Split (s)	66.0	66.0	0.0	0.0	66.0	15.0	29.0	29.0	0.0	15.0	44.0	0.0	10.0
Total Split (%)	55.0%	55.0%	0.0%	0.0%	55.0%	12.5%	24.2%	24.2%	0.0%	12.5%	36.7%	0.0%	8%
Maximum Green (s)	60.0	60.0			60.0	11.0	23.0	23.0		11.0			7.0
Yellow Time (s)	4.0	4.0			4.0	3.0	4.0	4.0		3.0			3.0
All-Red Time (s)	2.0	2.0			2.0	1.0	2.0	2.0		1.0			0.0
Lead/Lag	Lead	Lead			Lead	Lead	Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes	Yes		Yes			Yes
Vehicle Extension (s)	1.0	1.0			1.0	1.0	1.0	1.0		1.0			1.0
Recall Mode	C-Min	C-Min			C-Min	None	None	None		None			None
Walk Time (s)													4.0
Flash Dont Walk (s)													3.0
Pedestrian Calls (#/hr)													7
v/c Ratio		1.82			1.25	0.39		1.66			1.47dl		
Control Delay		393.7			149.4	3.5		337.4			133.0		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		393.7			149.4	3.5		337.4			133.0		
Queue Length 50th (ft)		~1485			~1167	42		~441			~498		
Queue Length 95th (ft)		#1770			#1427	80		#498			#764		
Internal Link Dist (ft)		1176			937			552			745		
Turn Bay Length (ft)													
Base Capacity (vph)		681			966	1204		458			962		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.82			1.25	0.39		1.66			1.20		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 110 (92%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Mystic Valley Pkwy & Winthrop St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frt		1.00			1.00	0.85		0.96			0.99	
Flt Protected		1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)		2025			1900	1615		3417			3508	
Flt Permitted		0.66			1.00	1.00		0.72			0.60	
Satd. Flow (perm)		1334			1900	1615		2481			2166	
Volume (vph)	5	1120	5	0	1135	440	25	425	175	425	520	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	5	1231	5	0	1207	468	30	518	213	494	605	58
RTOR Reduction (vph)	0	0	0	0	0	101	0	34	0	0	3	0
Lane Group Flow (vph)	0	1241	0	0	1207	367	0	727	0	0	1154	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm					pm+ov	Perm			pm+pt		
Protected Phases		1			1	3		4		3	3 4	
Permitted Phases	1					1	4			3 4		
Actuated Green, G (s)		57.6			57.6	76.6		23.0			42.0	
Effective Green, g (s)		58.6			58.6	76.6		24.0			42.0	
Actuated g/C Ratio		0.49			0.49	0.64		0.20			0.35	
Clearance Time (s)		6.0			6.0	4.0		6.0				
Vehicle Extension (s)		1.0			1.0	1.0		1.0				
Lane Grp Cap (vph)		651			928	1031		496			959	
v/s Ratio Prot					0.64	0.05					c0.18	
v/s Ratio Perm		c0.93				0.17		c0.29			0.24	
v/c Ratio		1.91			1.30	0.36		1.47			1.47dl	
Uniform Delay, d1		30.7			30.7	10.2		48.0			39.0	
Progression Factor		0.59			1.00	1.00		1.00			1.00	
Incremental Delay, d2		411.4			143.2	0.1		220.8			101.7	
Delay (s)		429.5			173.9	10.2		268.8			140.7	
Level of Service		F			F	B		F			F	
Approach Delay (s)		429.5			128.2			268.8			140.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	230.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		

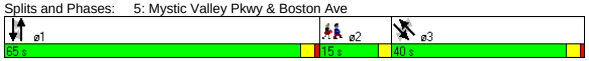
dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		673			497			2678			409		
Travel Time (s)		15.3			11.3			60.9			9.3		
Volume (vph)	85	945	150	50	1230	80	55	235	35	145	350	60	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6	
Lane Group Flow (vph)	0	1268	0	0	1432	0	0	411	0	0	712	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		15.0
Total Split (s)	65.0	65.0	0.0	65.0	65.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0	15.0
Total Split (%)	54.2%	54.2%	0.0%	54.2%	54.2%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%	13%
Maximum Green (s)	61.0	61.0		61.0	61.0		36.0	36.0		36.0	36.0		12.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None		None
Walk Time (s)													8.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													8
v/c Ratio		1.26			1.10			0.73			1.51		
Control Delay		154.9			93.5			40.3			268.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		154.9			93.5			40.3			268.8		
Queue Length 50th (ft)		~650			~682			251			~747		
Queue Length 95th (ft)		#789			#825			#413			#919		
Internal Link Dist (ft)		593			417			2598			329		
Turn Bay Length (ft)													
Base Capacity (vph)		1003			1301			563			472		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.26			1.10			0.73			1.51		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mystic Valley Pkwy & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	14	14	14	14	14	14
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.99			0.99			0.99	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3529			3572			1923			1905	
Flt Permitted		0.54			0.70			0.76			0.68	
Satd. Flow (perm)		1915			2491			1483			1314	
Volume (vph)	85	945	150	50	1230	80	55	235	35	145	350	60
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.78	0.78	0.78
Adj. Flow (vph)	91	1016	161	53	1295	84	70	297	44	186	449	77
RTOR Reduction (vph)	0	10	0	0	4	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	1258	0	0	1428	0	0	408	0	0	709	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		58.6			58.6			48.0			48.0	
Effective Green, g (s)		58.6			58.6			48.0			48.0	
Actuated g/C Ratio		0.49			0.49			0.40			0.40	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		935			1216			593			526	
v/s Ratio Prot												
v/s Ratio Perm		c0.66			0.57			0.28			c0.54	
v/c Ratio		1.35			1.17			0.69			1.35	
Uniform Delay, d1		30.7			30.7			29.8			36.0	
Progression Factor		1.00			1.44			1.00			1.00	
Incremental Delay, d2		162.8			84.8			3.6			168.9	
Delay (s)		193.5			128.8			33.4			204.9	
Level of Service		F			F			C			F	
Approach Delay (s)		193.5			128.8			33.4			204.9	
Approach LOS		F			F			C			F	

Intersection Summary

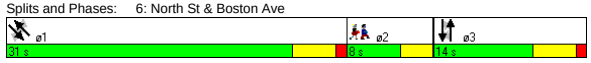
HCM Average Control Delay	154.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	129.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		991			662			936			1456		
Travel Time (s)		22.5			15.0			21.3			33.1		
Volume (vph)	25	5	20	35	55	25	10	395	80	50	440	15	
Peak Hour Factor	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6	
Lane Group Flow (vph)	0	74	0	0	146	0	0	571	0	0	521	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	13.0	13.0		13.0	13.0		15.0	15.0		15.0	15.0		8.0
Total Split (s)	14.0	14.0	0.0	14.0	14.0	0.0	31.0	31.0	0.0	31.0	31.0	0.0	8.0
Total Split (%)	26.4%	26.4%	0.0%	26.4%	26.4%	0.0%	58.5%	58.5%	0.0%	58.5%	58.5%	0.0%	15%
Maximum Green (s)	9.0	9.0		9.0	9.0		26.0	26.0		26.0	26.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.27			0.49			0.49			0.47		
Control Delay		18.9			22.8			8.0			7.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		18.9			22.8			8.0			7.8		
Queue Length 50th (ft)		16			32			71			63		
Queue Length 95th (ft)		36			74			187			188		
Internal Link Dist (ft)		911			582			856			1376		
Turn Bay Length (ft)													
Base Capacity (vph)		279			301			1164			1107		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.27			0.49			0.49			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 53	
Actuated Cycle Length: 61.5	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	

Splits and Phases: 6: North St & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1752			1816			1776			1820	
Flt Permitted		0.80			0.89			0.99			0.92	
Satd. Flow (perm)		1429			1650			1758			1674	
Volume (vph)	25	5	20	35	55	25	10	395	80	50	440	15
Peak-hour factor, PHF	0.67	0.67	0.67	0.79	0.79	0.79	0.85	0.85	0.85	0.97	0.97	0.97
Adj. Flow (vph)	37	7	30	44	70	32	12	465	94	52	454	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	74	0	0	146	0	0	571	0	0	521	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	6	6	6	6	6	6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		9.4			9.4			39.2			39.2	
Effective Green, g (s)		10.4			10.4			40.2			40.2	
Actuated g/C Ratio		0.17			0.17			0.64			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		237			273			1125			1072	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.09			c0.32			0.31	
v/c Ratio		0.31			0.53			0.51			0.49	
Uniform Delay, d1		23.1			24.0			6.0			5.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			2.6			1.6			1.6	
Delay (s)		24.1			26.5			7.7			7.5	
Level of Service		C			C			A			A	
Approach Delay (s)		24.1			26.5			7.7			7.5	
Approach LOS		C			C			A			A	

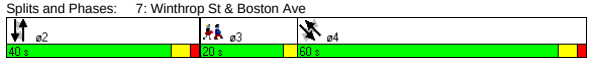
Intersection Summary					
HCM Average Control Delay	10.6	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.51				
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	12.2		
Intersection Capacity Utilization	64.5%	ICU Level of Service	C		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø3
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1296			2357			1456			2216		
Travel Time (s)		29.5			53.6			33.1			50.4		
Volume (vph)	85	115	140	30	385	55	55	370	155	200	360	30	
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	369	0	0	547	0	0	637	0	0	628	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		3
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0		30.0	30.0		4.0
Minimum Split (s)	17.0	17.0		17.0	17.0		44.0	44.0		44.0	44.0		20.0
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	60.0	60.0	0.0	60.0	60.0	0.0	20.0
Total Split (%)	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	17%
Maximum Green (s)	33.9	33.9		33.9	33.9		54.0	54.0		54.0	54.0		17.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.0	2.0		2.0	2.0		0.0
Lead/Lag							Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	None	None		None	None		Max	Max		Max	Max		None
Walk Time (s)													10.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													15
v/c Ratio		1.40			0.90			0.78			1.27		
Control Delay		230.9			55.1			31.4			161.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		230.9			55.1			31.4			161.8		
Queue Length 50th (ft)		~304			317			287			~483		
Queue Length 95th (ft)		#597			#612			#665			#883		
Internal Link Dist (ft)		1216			2277			1376			2136		
Turn Bay Length (ft)													
Base Capacity (vph)		264			610			820			496		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.40			0.90			0.78			1.27		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 145	
Control Type: Semi Act-Uncoord	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Winthrop St & Boston Ave



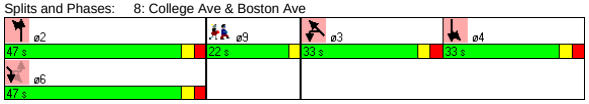
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.94			0.98			0.96			0.99	
Flt Protected		0.99			1.00			1.00			0.98	
Satd. Flow (prot)		1755			1988			1787			1819	
Flt Permitted		0.53			0.95			0.90			0.56	
Satd. Flow (perm)		934			1894			1610			1028	
Volume (vph)	85	115	140	30	385	55	55	370	155	200	360	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	92	125	152	35	448	64	60	407	170	213	383	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	369	0	0	547	0	0	637	0	0	628	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		34.2			34.2			54.4			54.4	
Effective Green, g (s)		35.3			35.3			55.4			55.4	
Actuated g/C Ratio		0.32			0.32			0.50			0.50	
Clearance Time (s)		6.1			6.1			6.0			6.0	
Vehicle Extension (s)		1.0			1.0			4.0			4.0	
Lane Grp Cap (vph)		300			609			812			519	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.29			0.40			c0.61	
v/c Ratio		1.23			0.90			0.78			1.21	
Uniform Delay, d1		37.2			35.5			22.3			27.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		129.2			15.6			7.5			111.5	
Delay (s)		166.5			51.1			29.8			138.7	
Level of Service		F			D			C			F	
Approach Delay (s)		166.5			51.1			29.8			138.7	
Approach LOS		F			D			C			F	

Intersection Summary					
HCM Average Control Delay	89.6	HCM Level of Service	F		
HCM Volume to Capacity ratio	1.22				
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	19.1		
Intersection Capacity Utilization	121.9%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	11	14	14	14	
Grade (%)		0%			0%			0%			2%		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1030			1798			2216			1738		
Travel Time (s)		23.4			40.9			50.4			39.5		
Volume (vph)	160	245	1	35	225	130	115	205	130	10	310	65	
Peak Hour Factor	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%	
Lane Group Flow (vph)	172	267	0	0	428	0	0	359	146	0	432	0	
Turn Type	Split			Split			custom		custom	Split			
Protected Phases	2	2		4	4				6	3	3		9
Permitted Phases							6	6					
Detector Phases	2	2		4	4		6	6	6	3	3		
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0		22.0
Total Split (s)	47.0	47.0	0.0	33.0	33.0	0.0	47.0	47.0	47.0	33.0	33.0	0.0	22.0
Total Split (%)	34.8%	34.8%	0.0%	24.4%	24.4%	0.0%	34.8%	34.8%	34.8%	24.4%	24.4%	0.0%	16%
Maximum Green (s)	41.0	41.0		27.0	27.0		41.0	41.0	41.0	27.0	27.0		19.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		0.0
Lead/Lag				Lag	Lag					Lead	Lead		
Lead-Lag Optimize?				Yes	Yes					Yes	Yes		
Vehicle Extension (s)	3.0	3.0		5.0	5.0		3.0	3.0	3.0	2.0	2.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													12
v/c Ratio	0.29	0.42			0.98			0.97	0.25		0.98		
Control Delay	33.2	35.5			84.9			80.8	11.5		84.8		
Queue Delay	0.0	0.0			0.0			0.0	0.0		0.0		
Total Delay	33.2	35.5			84.9			80.8	11.5		84.8		
Queue Length 50th (ft)	87	143			294			245	18		303		
Queue Length 95th (ft)	182	278			#625			#541	76		#625		
Internal Link Dist (ft)		950			1718			2136			1658		
Turn Bay Length (ft)													
Base Capacity (vph)	600	631			436			370	590		442		
Starvation Cap Reductn	0	0			0			0	0		0		
Spillback Cap Reductn	0	0			0			0	0		0		
Storage Cap Reductn	0	0			0			0	0		0		
Reduced v/c Ratio	0.29	0.42			0.98			0.97	0.25		0.98		

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 121.8	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: College Ave & Boston Ave



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	11	14	14	14
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Frt	1.00	1.00			0.95			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1770	1862			1889			1830	1531		1952	
Flt Permitted	0.95	1.00			1.00			0.61	1.00		1.00	
Satd. Flow (perm)	1770	1862			1889			1129	1531		1952	
Volume (vph)	160	245	1	35	225	130	115	205	130	10	310	65
Peak-hour factor, PHF	0.93	0.92	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	172	266	1	38	247	143	129	230	146	11	348	73
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	72	0	5	0
Lane Group Flow (vph)	172	267	0	0	415	0	0	359	74	0	427	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	2%
Turn Type	Split			Split			custom		custom	Split		
Protected Phases	2	2		4	4				6	3	3	
Permitted Phases							6	6				
Actuated Green, G (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Effective Green, g (s)	41.3	41.3			27.2			41.3	41.3		27.2	
Actuated g/C Ratio	0.33	0.33			0.22			0.33	0.33		0.22	
Clearance Time (s)	6.0	6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			5.0			3.0	3.0		2.0	
Lane Grp Cap (vph)	591	622			416			377	512		430	
v/s Ratio Prot	0.10	0.14			c0.22				0.05		c0.22	
v/s Ratio Perm								c0.32				
v/c Ratio	0.29	0.43			1.00			0.95	0.14		0.99	
Uniform Delay, d1	30.4	32.0			48.2			40.2	28.8		48.1	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.5			43.2			34.0	0.1		41.1	
Delay (s)	30.6	32.5			91.3			74.1	28.9		89.2	
Level of Service	C	C			F			E	C		F	
Approach Delay (s)		31.7			91.3			61.1			89.2	
Approach LOS		C			F			E			F	

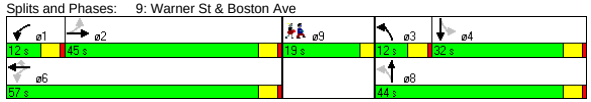
Intersection Summary			
HCM Average Control Delay	67.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	27.9
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		515			1795			1431			1738		
Travel Time (s)		11.7			40.8			32.5			39.5		
Volume (vph)	15	495	10	150	435	85	20	260	35	105	180	5	
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Lane Group Flow (vph)	0	590	0	0	697	101	0	358	0	0	337	0	
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm			
Protected Phases		2		1	6		3	8			4		9
Permitted Phases	2			6		6	8			4			
Detector Phases	2	2		1	6	6	3	8		4	4		
Minimum Initial (s)	10.0	10.0		6.0	10.0	10.0	6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	15.0	15.0		12.0	15.0	15.0	12.0	12.0		12.0	12.0		19.0
Total Split (s)	45.0	45.0	0.0	12.0	57.0	57.0	12.0	44.0	0.0	32.0	32.0	0.0	19.0
Total Split (%)	37.5%	37.5%	0.0%	10.0%	47.5%	47.5%	10.0%	36.7%	0.0%	26.7%	26.7%	0.0%	16%
Maximum Green (s)	40.0	40.0		7.0	52.0	52.0	7.0	39.0		27.0	27.0		16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes		
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0		3.0
Recall Mode	Min	Min		None	Min	Min	None	None		None	None		None
Walk Time (s)													9.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													8
v/c Ratio		0.67			1.62	0.13		0.60			0.75		
Control Delay		20.9			313.2	4.4		32.8			42.1		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		20.9			313.2	4.4		32.8			42.1		
Queue Length 50th (ft)		199			~559	3		165			168		
Queue Length 95th (ft)		#514			#697	31		314			#323		
Internal Link Dist (ft)		435			1715			1351			1658		
Turn Bay Length (ft)													
Base Capacity (vph)		880			429	803		741			452		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.67			1.62	0.13		0.48			0.75		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 93.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Warner St & Boston Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1600	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	14	14	14	14	14	14
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		1.00			1.00	0.85		0.98			1.00	
Flt Protected		1.00			0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1979			1848	1340		1990			1986	
Flt Permitted		0.98			0.67	1.00		0.97			0.56	
Satd. Flow (perm)		1934			1256	1340		1931			1124	
Volume (vph)	15	495	10	150	435	85	20	260	35	105	180	5
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.88	0.88	0.88	0.86	0.86	0.86
Adj. Flow (vph)	17	562	11	179	518	101	23	295	40	122	209	6
RTOR Reduction (vph)	0	0	0	0	0	38	0	4	0	0	0	0
Lane Group Flow (vph)	0	590	0	0	697	63	0	354	0	0	337	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			pm+pt		Perm	pm+pt			Perm		
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		52.5			52.5	52.5		27.9			27.9	
Effective Green, g (s)		53.5			53.5	53.5		28.9			28.9	
Actuated g/C Ratio		0.56			0.56	0.56		0.30			0.30	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		2.0			2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)		1078			700	747		581			338	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.55	0.05		0.18			c0.30	
v/c Ratio		0.55			1.00	0.08		0.61			1.00	
Uniform Delay, d1		13.5			21.1	9.9		28.7			33.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.3			32.7	0.0		1.2			47.8	
Delay (s)		13.8			53.8	9.9		30.0			81.3	
Level of Service		B			D	A		C			F	
Approach Delay (s)		13.8			48.3			30.0			81.3	
Approach LOS		B			D			C			F	

Intersection Summary

HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	13.6
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		

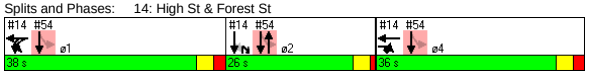
c Critical Lane Group

Lane Group	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	14	14
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
Turning Speed (mph)	9	9	15	15		9	9	15		9
Right Turn on Red		Yes	Yes			Yes	Yes			Yes
Link Speed (mph)					30				30	
Link Distance (ft)					729				1442	
Travel Time (s)					16.6				32.8	
Volume (vph)	350	150	2	895	690	220	245	75	200	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lane Group Flow (vph)	380	163	0	975	989	0	266	0	332	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Minimum Split (s)	26.0	26.0	26.0	26.0			25.0	25.0	25.0	
Total Split (s)	36.0	36.0	38.0	38.0	74.0	0.0	26.0	26.0	26.0	0.0
Total Split (%)	36.0%	36.0%	38.0%	38.0%	74.0%	0.0%	26.0%	26.0%	26.0%	0.0%
Maximum Green (s)	31.0	31.0	33.0	33.0			22.0	22.0	22.0	
Yellow Time (s)	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0			1.0	1.0	1.0	
Lead/Lag			Lead	Lead			Lag	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes			Yes	Yes	Yes	
Walk Time (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0			10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0			0	0	0	
v/c Ratio	0.77	0.34		0.86	0.79		0.30		0.77	
Control Delay	43.7	9.2		40.6	16.1		1.5		49.6	
Queue Delay	0.0	0.0		131.4	0.0		0.0		0.0	
Total Delay	43.7	9.3		172.0	16.1		1.5		49.7	
Queue Length 50th (ft)	219	13		297	365		9		197	
Queue Length 95th (ft)	#360	63		#391	560		16		#326	
Internal Link Dist (ft)					649				1362	
Turn Bay Length (ft)										
Base Capacity (vph)	491	479		1133	1251		873		430	
Starvation Cap Reductn	0	0		0	0		0		0	
Spillback Cap Reductn	0	15		378	0		0		1	
Storage Cap Reductn	0	0		0	0		0		0	
Reduced v/c Ratio	0.77	0.35		1.29	0.79		0.30		0.77	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 33 (33%), Referenced to phase 4:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: High St & Forest St



Movement	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL	SBT	SBR
Lane Configurations										
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00		1.00	
Frt	0.85	0.85		1.00	0.96		0.86		0.99	
Flt Protected	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (prot)	1583	1250		3433	1795		1611		1936	
Flt Permitted	1.00	1.00		0.95	1.00		1.00		0.99	
Satd. Flow (perm)	1583	1250		3433	1795		1611		1936	
Volume (vph)	350	150	2	895	690	220	245	75	200	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	163	2	973	750	239	266	82	217	33
RTOR Reduction (vph)	0	92	0	0	11	0	207	0	4	0
Lane Group Flow (vph)	380	71	0	975	978	0	59	0	328	0
Turn Type	custom	custom	Prot	Prot			custom	Perm		
Protected Phases	4	4	1	1	1 4		2		2	
Permitted Phases								2		
Actuated Green, G (s)	31.0	31.0		33.0	69.0		22.0		22.0	
Effective Green, g (s)	31.0	31.0		33.0	69.0		22.0		22.0	
Actuated g/C Ratio	0.31	0.31		0.33	0.69		0.22		0.22	
Clearance Time (s)	5.0	5.0		5.0			4.0		4.0	
Lane Grp Cap (vph)	491	388		1133	1239		354		426	
v/s Ratio Prot	0.24	0.06		c0.28	c0.54		0.04			
v/s Ratio Perm									0.17	
v/c Ratio	0.77	0.18		0.86	0.79		0.17		0.77	
Uniform Delay, d1	31.3	25.2		31.3	10.5		31.6		36.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	11.3	1.0		8.6	5.2		0.7		12.6	
Delay (s)	42.6	26.3		40.0	15.7		32.3		49.2	
Level of Service	D	C		D	B		C		D	
Approach Delay (s)					27.7				49.2	
Approach LOS					C				D	

Intersection Summary

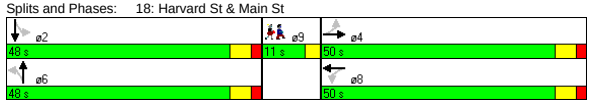
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations		↔			↔			↔			↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			No			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1795			1383			1311			2730		
Travel Time (s)		40.8			31.4			29.8			62.0		
Volume (vph)	95	500	65	90	495	35	50	370	70	70	455	120	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	702	0	0	674	0	0	516	0	0	733	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			6			2		9
Permitted Phases	4			8			6			2			
Detector Phases	4	4		8	8		6	6		2	2		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0		11.0
Total Split (s)	50.0	50.0	0.0	50.0	50.0	0.0	48.0	48.0	0.0	48.0	48.0	0.0	11.0
Total Split (%)	45.9%	45.9%	0.0%	45.9%	45.9%	0.0%	44.0%	44.0%	0.0%	44.0%	44.0%	0.0%	10%
Maximum Green (s)	44.0	44.0		44.0	44.0		42.0	42.0		42.0	42.0		8.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	None		None	None		Max	Max		Min	Min		None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													10
v/c Ratio		1.28			1.24			0.91			1.27		
Control Delay		168.4			152.2			50.3			161.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		168.4			152.2			50.3			161.6		
Queue Length 50th (ft)		~553			~519			289			~572		
Queue Length 95th (ft)		#885			#844			#582			#882		
Internal Link Dist (ft)		1715			1303			1231			2650		
Turn Bay Length (ft)													
Base Capacity (vph)		547			542			565			578		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.28			1.24			0.91			1.27		

Intersection Summary	
Area Type:	CBD
Cycle Length: 109	
Actuated Cycle Length: 100.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 18: Harvard St & Main St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1659			1668			1636			1626	
Flt Permitted		0.75			0.74			0.83			0.85	
Satd. Flow (perm)		1253			1246			1357			1383	
Volume (vph)	95	500	65	90	495	35	50	370	70	70	455	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.88	0.88	0.88
Adj. Flow (vph)	101	532	69	98	538	38	53	389	74	80	517	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	674	0	0	516	0	0	733	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		44.1			44.1			42.1			42.1	
Effective Green, g (s)		45.1			45.1			43.1			43.1	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		550			547			569			580	
v/s Ratio Prot												
v/s Ratio Perm		c0.56			0.54			0.38			c0.53	
v/c Ratio		1.28			1.23			0.91			1.26	
Uniform Delay, d1		28.8			28.8			27.9			29.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		138.0			119.7			20.6			132.1	
Delay (s)		166.8			148.5			48.6			161.9	
Level of Service		F			F			D			F	
Approach Delay (s)		166.8			148.5			48.6			161.9	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	137.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	14.5
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

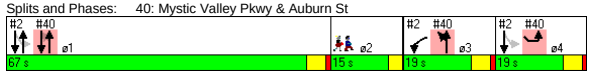
c Critical Lane Group

Lane Group	NBL	NBT	SBT	SBR	SEL	SER	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50		50		
Trailing Detector (ft)	0	0	0		0		
Turning Speed (mph)	15			9	15	9	
Right Turn on Red				Yes		Yes	
Link Speed (mph)		30	30		30		
Link Distance (ft)		129	1158		288		
Travel Time (s)		2.9	26.3		6.5		
Volume (vph)	25	1120	1180	35	10	35	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.71	0.71	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	
Lane Group Flow (vph)	27	1204	1307	0	63	0	
Turn Type	pm+pt						
Protected Phases	3	1 3	1		4		2
Permitted Phases	1 3						
Detector Phases	3	1 3	1		4		
Minimum Initial (s)	8.0		8.0		8.0		4.0
Minimum Split (s)	13.0		13.0		13.0		15.0
Total Split (s)	19.0	86.0	67.0	0.0	19.0	0.0	15.0
Total Split (%)	15.8%	71.7%	55.8%	0.0%	15.8%	0.0%	13%
Maximum Green (s)	14.0		62.0		14.0		12.0
Yellow Time (s)	4.0		4.0		4.0		3.0
All-Red Time (s)	1.0		1.0		1.0		0.0
Lead/Lag	Lead		Lead		Lag		Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes
Vehicle Extension (s)	4.0		4.0		4.0		3.0
Recall Mode	Min		C-Min		Min		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							3
v/c Ratio	0.06	0.79	1.17		0.30		
Control Delay	2.0	16.3	86.0		22.4		
Queue Delay	1.2	9.5	14.1		0.1		
Total Delay	3.2	25.8	100.1		22.4		
Queue Length 50th (ft)	0	450	~1207		10		
Queue Length 95th (ft)	m1	#1165	m61		33		
Internal Link Dist (ft)		49	1078		208		
Turn Bay Length (ft)							
Base Capacity (vph)	473	1532	1121		263		
Starvation Cap Reductn	352	308	0		0		
Spillback Cap Reductn	0	0	30		10		
Storage Cap Reductn	0	0	0		0		
Reduced v/c Ratio	0.22	0.98	1.20		0.25		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Mystic Valley Pkwy & Auburn St



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	14	14	14
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1805	1900	2019		1759	
Flt Permitted	0.06	1.00	1.00		0.99	
Satd. Flow (perm)	118	1900	2019		1759	
Volume (vph)	25	1120	1180	35	10	35
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.71	0.71
Adj. Flow (vph)	27	1204	1269	38	14	49
RTOR Reduction (vph)	0	0	1	0	44	0
Lane Group Flow (vph)	27	1204	1306	0	19	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%
Turn Type	pm+pt					
Protected Phases	3	1 3	1		4	
Permitted Phases	1 3					
Actuated Green, G (s)	89.2	89.2	63.2		10.4	
Effective Green, g (s)	91.2	91.2	64.2		11.4	
Actuated g/C Ratio	0.76	0.76	0.54		0.10	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	4.0		4.0		4.0	
Lane Grp Cap (vph)	469	1444	1080		167	
v/s Ratio Prot	0.01	c0.63	c0.65		c0.01	
v/s Ratio Perm	0.03					
v/c Ratio	0.06	0.83	1.21		0.11	
Uniform Delay, d1	36.6	9.4	27.9		49.7	
Progression Factor	0.47	1.75	0.12		1.00	
Incremental Delay, d2	0.1	3.5	95.1		0.4	
Delay (s)	17.4	20.0	98.5		50.1	
Level of Service	B	C	F		D	
Approach Delay (s)		20.0	98.5		50.1	
Approach LOS		B	F		D	

Intersection Summary

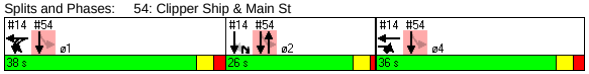
HCM Average Control Delay	60.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø4
Lane Configurations								
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700		
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0	5.0		
Turning Speed (mph)	15	9		9	15			
Right Turn on Red		Yes		Yes				
Link Speed (mph)	30		30			30		
Link Distance (ft)	292		320			61		
Travel Time (s)	6.6		7.3			1.4		
Volume (vph)	0	0	245	945	95	1145		
Peak Hour Factor	0.92	0.92	0.87	0.87	0.87	0.87		
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%		
Lane Group Flow (vph)	0	0	282	1086	0	1425		
Turn Type				Free	Perm			
Protected Phases			2			1 2 4	1	4
Permitted Phases				Free	1 2 4			
Minimum Split (s)			25.0				26.0	26.0
Total Split (s)	0.0	0.0	26.0	0.0	100.0	100.0	38.0	36.0
Total Split (%)	0.0%	0.0%	26.0%	0.0%	100.0%	100.0%	38%	36%
Maximum Green (s)			22.0				33.0	31.0
Yellow Time (s)			3.0				3.0	3.0
All-Red Time (s)			1.0				2.0	2.0
Lead/Lag			Lag				Lead	
Lead-Lag Optimize?			Yes				Yes	
Walk Time (s)			10.0				10.0	10.0
Flash Dont Walk (s)			10.0				10.0	10.0
Pedestrian Calls (#/hr)			0				0	0
v/c Ratio			0.69	0.69		0.64		
Control Delay			45.7	2.4		8.8		
Queue Delay			1.2	0.0		0.0		
Total Delay			46.9	2.4		8.8		
Queue Length 50th (ft)			166	0		214		
Queue Length 95th (ft)			247	0		222		
Internal Link Dist (ft)	212		240			1		
Turn Bay Length (ft)								
Base Capacity (vph)			410	1583		2242		
Starvation Cap Reductn			0	0		0		
Spillback Cap Reductn			32	0		0		
Storage Cap Reductn			0	0		0		
Reduced v/c Ratio			0.75	0.69		0.64		

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 33 (33%), Referenced to phase 4:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 54: Clipper Ship & Main St



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1700	1700
Total Lost time (s)			4.0	4.0		5.0
Lane Util. Factor			1.00	1.00		0.95
Frt			1.00	0.85		1.00
Flt Protected			1.00	1.00		1.00
Satd. Flow (prot)			1863	1583		3186
Flt Permitted			1.00	1.00		0.70
Satd. Flow (perm)			1863	1583		2241
Volume (vph)	0	0	245	945	95	1145
Peak-hour factor, PHF	0.92	0.92	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	282	1086	109	1316
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	282	1086	0	1425
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type				Free	Perm	
Protected Phases			2			1 2 4
Permitted Phases				Free	1 2 4	
Actuated Green, G (s)			22.0	100.0		100.0
Effective Green, g (s)			22.0	100.0		100.0
Actuated g/C Ratio			0.22	1.00		1.00
Clearance Time (s)			4.0			
Lane Grp Cap (vph)			410	1583		2241
v/s Ratio Prot			0.15			
v/s Ratio Perm				c0.69		0.64
v/c Ratio			0.69	0.69		0.64
Uniform Delay, d1			35.8	0.0		0.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			9.1	2.4		0.9
Delay (s)			44.9	2.4		0.9
Level of Service			D	A		A
Approach Delay (s)	0.0		11.2			0.9
Approach LOS	A		B			A

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50	50	50		50	50	50	50		50	50		50
Trailing Detector (ft)	0	0	0	0		0	0	0	0		0	0		0
Turning Speed (mph)	9	15		9	9	9	15	15		9	15		9	15
Right Turn on Red					Yes								Yes	
Link Speed (mph)			30						30			30		
Link Distance (ft)			1253						1176			419		
Travel Time (s)			28.5						26.7			9.5		
Volume (vph)	2	25	455	245	10	1	20	20	680	135	280	155	5	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Lane Group Flow (vph)	0	0	524	277	0	0	0	0	921	0	0	473	0	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Detector Phases	2	2	2	4		6	6	6	6		4	4		8
Minimum Initial (s)	8.0	8.0	8.0	10.0		8.0	8.0	8.0	8.0		10.0	10.0		8.0
Minimum Split (s)	14.0	14.0	14.0	16.0		14.0	14.0	14.0	14.0		16.0	16.0		14.0
Total Split (s)	40.0	40.0	40.0	30.0	0.0	40.0	40.0	40.0	40.0	0.0	30.0	30.0	0.0	19.0
Total Split (%)	33.3%	33.3%	33.3%	25.0%	0.0%	33.3%	33.3%	33.3%	33.3%	0.0%	25.0%	25.0%	0.0%	15.8%
Maximum Green (s)	34.0	34.0	34.0	24.0		34.0	34.0	34.0	34.0		24.0	24.0		13.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0		2.0
Lead/Lag														Lead
Lead-Lag Optimize?														Yes
Vehicle Extension (s)	4.0	4.0	4.0	6.0		4.0	4.0	4.0	4.0		6.0	6.0		2.0
Recall Mode	Min	Min	Min	None		Min	Min	Min	Min		None	None		None
Walk Time (s)														
Flash Dont Walk (s)														
Pedestrian Calls (#/hr)														
v/c Ratio			0.65	0.28					1.00			1.04		
Control Delay			34.8	10.7					66.1			91.2		
Queue Delay			0.0	0.0					0.0			0.0		
Total Delay			34.8	10.7					66.1			91.2		
Queue Length 50th (ft)			144	67					301			~303		
Queue Length 95th (ft)			262	172					#576			#653		
Internal Link Dist (ft)			1173						1096			339		
Turn Bay Length (ft)														
Base Capacity (vph)			807	984					917			457		
Starvation Cap Reductn			0	0					0			0		
Spillback Cap Reductn			0	0					0			0		
Storage Cap Reductn			0	0					0			0		
Reduced v/c Ratio			0.65	0.28					1.00			1.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

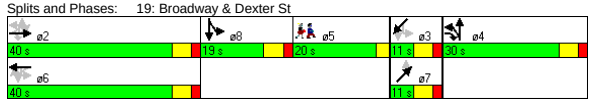
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Green Line Extension
19: Broadway & Dexter St

2030 Build Alt 7 Condition - PM Peak
Lanes, Volumes, Timings

Splits and Phases: 19: Broadway & Dexter St



Lane Group	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2	ø5
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	
Grade (%)	1%			0%				1%			
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50			50		50	50	50			
Trailing Detector (ft)	0			0		0	0	0			
Turning Speed (mph)		9	9		9	15	15		9	9	
Right Turn on Red			Yes							Yes	
Link Speed (mph)	30			30				30			
Link Distance (ft)	1711			342				975			
Travel Time (s)	38.9			7.8				22.2			
Volume (vph)	170	5	60	0	50	5	20	5	35	10	
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	280	0	0	60	0	0	0	89	0	0	
Turn Type						Perm	Perm				
Protected Phases	8			7				3			5
Permitted Phases						3	3				
Detector Phases	8			7		3	3	3			
Minimum Initial (s)	8.0			4.0		4.0	4.0	4.0			4.0
Minimum Split (s)	14.0			10.0		10.0	10.0	10.0			20.0
Total Split (s)	19.0	0.0	0.0	11.0	0.0	11.0	11.0	11.0	0.0	0.0	20.0
Total Split (%)	15.8%	0.0%	0.0%	9.2%	0.0%	9.2%	9.2%	9.2%	0.0%	0.0%	17%
Maximum Green (s)	13.0			5.0		5.0	5.0	5.0			17.0
Yellow Time (s)	4.0			4.0		4.0	4.0	4.0			3.0
All-Red Time (s)	2.0			2.0		2.0	2.0	2.0			0.0
Lead/Lag	Lead										Lag
Lead-Lag Optimize?	Yes										Yes
Vehicle Extension (s)	2.0			2.0		2.0	2.0	2.0			3.0
Recall Mode	None			None		None	None	None			None
Walk Time (s)											5.0
Flash Dont Walk (s)											12.0
Pedestrian Calls (#/hr)											11
v/c Ratio	1.04			0.62				0.98			
Control Delay	110.3			77.9				137.2			
Queue Delay	0.0			0.0				0.0			
Total Delay	110.3			77.9				137.2			
Queue Length 50th (ft)	~177			38				54			
Queue Length 95th (ft)	#435			#108				#173			
Internal Link Dist (ft)	1631			262				895			
Turn Bay Length (ft)											
Base Capacity (vph)	268			96				91			
Starvation Cap Reductn	0			0				0			
Spillback Cap Reductn	0			0				0			
Storage Cap Reductn	0			0				0			
Reduced v/c Ratio	1.04			0.63				0.98			

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\optimize\coordination\2030 Build Alt7 - PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1800	1800	1800	1800	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	14	14	14	14
Grade (%)			0%						0%			1%		
Total Lost time (s)			5.0	5.0					5.0			5.0		
Lane Util. Factor			0.95	1.00					0.95			1.00		
Frt			1.00	0.85					0.98			1.00		
Flt Protected			1.00	1.00					1.00			0.97		
Satd. Flow (prot)			3529	1564					3266			1890		
Flt Permitted			0.74	1.00					0.88			0.97		
Satd. Flow (perm)			2636	1564					2874			1890		
Volume (vph)	2	25	455	245	10	1	20	20	680	135	280	155	5	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	27	495	266	11	1	22	22	731	145	301	167	5	27
RTOR Reduction (vph)	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	524	276	0	0	0	0	921	0	0	473	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	3	3	0	0	0	0	0	3	3	3	0
Turn Type	Perm	Perm		pm+ov		Perm	Perm	Perm			Split			Split
Protected Phases			2	4					6		4	4		8
Permitted Phases	2	2		2		6	6	6						
Actuated Green, G (s)			34.2	58.3					34.2			24.1		
Effective Green, g (s)			35.2	60.3					35.2			25.1		
Actuated g/C Ratio			0.33	0.57					0.33			0.24		
Clearance Time (s)			6.0	6.0					6.0			6.0		
Vehicle Extension (s)			4.0	6.0					4.0			6.0		
Lane Grp Cap (vph)			873	961					952			446		
v/s Ratio Prot				0.07								c0.25		
v/s Ratio Perm			0.20	0.11					c0.32					
v/c Ratio			0.60	0.29					0.97			1.06		
Uniform Delay, d1			29.7	11.9					35.0			40.6		
Progression Factor			1.00	1.00					1.00			1.00		
Incremental Delay, d2			1.4	0.5					21.5			59.6		
Delay (s)			31.0	12.4					56.5			100.2		
Level of Service			C	B					E			F		
Approach Delay (s)			24.6						56.5			100.2		
Approach LOS			C						E			F		

Intersection Summary				
HCM Average Control Delay	64.7	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	25.9	
Intersection Capacity Utilization	109.2%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Green Line Extension
19: Broadway & Dexter St

2030 Build Alt 7 Condition - PM Peak
HCM Signalized Intersection Capacity Analysis

Movement	SBT	SBR	SBR2	NET	NER	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	12	12	12	12	12	12	12
Grade (%)	1%			0%				1%		
Total Lost time (s)	5.0			5.0				5.0		
Lane Util. Factor	1.00			1.00				1.00		
Frt	0.97			0.86				0.92		
Flt Protected	1.00			1.00				0.98		
Satd. Flow (prot)	1920			1644				1693		
Flt Permitted	1.00			1.00				0.86		
Satd. Flow (perm)	1920			1644				1487		
Volume (vph)	170	5	60	0	50	5	20	5	35	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.83	0.83	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	183	5	65	0	60	6	24	6	41	12
RTOR Reduction (vph)	9	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	271	0	0	60	0	0	0	84	0	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm	Perm			
Protected Phases	8			7				3		
Permitted Phases						3	3			
Actuated Green, G (s)	13.1			5.0				5.0		
Effective Green, g (s)	14.1			6.0				6.0		
Actuated g/C Ratio	0.13			0.06				0.06		
Clearance Time (s)	6.0			6.0				6.0		
Vehicle Extension (s)	2.0			2.0				2.0		
Lane Grp Cap (vph)	255			93				84		
v/s Ratio Prot	c0.14			0.04						
v/s Ratio Perm								c0.06		
v/c Ratio	1.06			0.65				1.00		
Uniform Delay, d1	46.1			49.1				50.2		
Progression Factor	1.00			1.00				1.00		
Incremental Delay, d2	74.3			10.9				99.1		
Delay (s)	120.4			60.0				149.3		
Level of Service	F			E				F		
Approach Delay (s)	120.4			60.0				149.3		
Approach LOS	F			E				F		

Intersection Summary

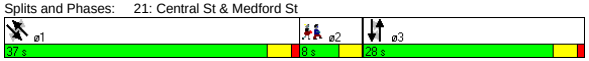
B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\optimize\coordination\2030 Build Alt7 - PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1721			833			1629			1556		
Travel Time (s)		39.1			18.9			37.0			35.4		
Volume (vph)	100	290	100	5	85	2	15	410	65	65	485	25	
Peak Hour Factor	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	528	0	0	113	0	0	570	0	0	639	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3			1			1			
Detector Phases	3	3		3	3		1	1		1	1		
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	14.0		14.0	14.0		8.0
Total Split (s)	28.0	28.0	0.0	28.0	28.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	8.0
Total Split (%)	38.4%	38.4%	0.0%	38.4%	38.4%	0.0%	50.7%	50.7%	0.0%	50.7%	50.7%	0.0%	11%
Maximum Green (s)	24.0	24.0		24.0	24.0		33.0	33.0		33.0	33.0		5.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													9
v/c Ratio		0.86			0.17			0.64			0.78		
Control Delay		36.6			16.1			17.2			23.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		36.6			16.1			17.2			23.6		
Queue Length 50th (ft)		180			29			151			188		
Queue Length 95th (ft)		#414			64			290			#449		
Internal Link Dist (ft)		1641			753			1549			1476		
Turn Bay Length (ft)													
Base Capacity (vph)		613			670			888			815		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.86			0.17			0.64			0.78		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 66.6	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Central St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.98			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1811			1890			1826			1841	
Flt Permitted		0.91			0.98			0.98			0.90	
Satd. Flow (perm)		1661			1849			1789			1660	
Volume (vph)	100	290	100	5	85	2	15	410	65	65	485	25
Peak-hour factor, PHF	0.93	0.93	0.93	0.81	0.81	0.81	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	108	312	108	6	105	2	17	477	76	72	539	28
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	516	0	0	113	0	0	570	0	0	637	0
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		24.1			24.1			33.1			33.1	
Effective Green, g (s)		24.1			24.1			33.1			33.1	
Actuated g/C Ratio		0.35			0.35			0.48			0.48	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		579			645			857			795	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.06			0.32			c0.38	
v/c Ratio		0.89			0.18			0.67			0.80	
Uniform Delay, d1		21.3			15.6			13.8			15.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		18.4			0.6			4.1			8.3	
Delay (s)		39.7			16.2			17.8			23.6	
Level of Service		D			B			B			C	
Approach Delay (s)		39.7			16.2			17.8			23.6	
Approach LOS		D			B			B			C	

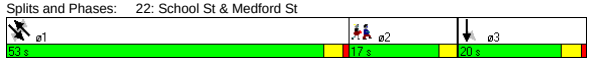
Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)				50	50		50	50		50	50		
Trailing Detector (ft)				0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		953			959			1556			467		
Travel Time (s)		21.7			21.8			35.4			10.6		
Volume (vph)	0	0	0	75	240	25	45	425	100	170	560	155	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%	
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3	
Lane Group Flow (vph)	0	0	0	0	386	0	0	633	0	0	912	0	
Turn Type				Perm			Perm			Perm			
Protected Phases					3			1			1		2
Permitted Phases				3			1			1			
Detector Phases				3	3		1	1		1	1		
Minimum Initial (s)				10.0	10.0		10.0	10.0		10.0	10.0		4.0
Minimum Split (s)				14.0	14.0		14.0	14.0		14.0	14.0		17.0
Total Split (s)	0.0	0.0	0.0	20.0	20.0	0.0	53.0	53.0	0.0	53.0	53.0	0.0	17.0
Total Split (%)	0.0%	0.0%	0.0%	22.2%	22.2%	0.0%	58.9%	58.9%	0.0%	58.9%	58.9%	0.0%	19%
Maximum Green (s)				16.0	16.0		49.0	49.0		49.0	49.0		14.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)				4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode				Max	Max		Max	Max		Max	Max		None
Walk Time (s)													7.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													17
v/c Ratio					0.92			0.57			1.00		
Control Delay					60.9			11.1			47.1		
Queue Delay					0.0			0.0			0.0		
Total Delay					60.9			11.1			47.1		
Queue Length 50th (ft)					168			121			319		
Queue Length 95th (ft)					#412			360			#862		
Internal Link Dist (ft)		873			879			1476			387		
Turn Bay Length (ft)													
Base Capacity (vph)					418			1113			910		
Starvation Cap Reductn					0			0			0		
Spillback Cap Reductn					0			0			0		
Storage Cap Reductn					0			0			0		
Reduced v/c Ratio					0.92			0.57			1.00		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 76.4	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 22: School St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	14	14	14	14	14	14
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			0.98			0.98	
Flt Protected					0.99			1.00			0.99	
Satd. Flow (prot)					1965			1909			1917	
Flt Permitted					0.99			0.89			0.77	
Satd. Flow (perm)					1965			1707			1495	
Volume (vph)	0	0	0	75	240	25	45	425	100	170	560	155
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	85	273	28	50	472	111	175	577	160
RTOR Reduction (vph)	0	0	0	0	3	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	383	0	0	626	0	0	905	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3	3	3	3	3
Turn Type				Perm			Perm			Perm		
Protected Phases					3			1			1	
Permitted Phases				3			1			1		
Actuated Green, G (s)					16.1			49.3			49.3	
Effective Green, g (s)					16.1			49.3			49.3	
Actuated g/C Ratio					0.20			0.63			0.63	
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					4.0			4.0			4.0	
Lane Grp Cap (vph)					401			1068			935	
v/s Ratio Prot												
v/s Ratio Perm					0.19			0.37			c0.61	
v/c Ratio					0.95			0.59			0.97	
Uniform Delay, d1					31.0			8.7			14.0	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					34.9			2.4			22.6	
Delay (s)					65.9			11.1			36.6	
Level of Service					E			B			D	
Approach Delay (s)		0.0			65.9			11.1			36.6	
Approach LOS		A			E			B			D	

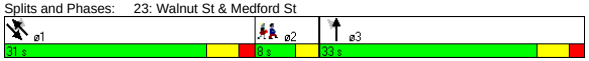
Intersection Summary					
HCM Average Control Delay	34.1	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.96				
Actuated Cycle Length (s)	78.8	Sum of lost time (s)		13.4	
Intersection Capacity Utilization	107.5%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50					50	50			50		
Trailing Detector (ft)	0	0					0	0			0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		779			844			1067			533		
Travel Time (s)		17.7			19.2			24.3			12.1		
Volume (vph)	125	275	10	0	0	0	5	290	0	0	390	15	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	547	0	0	0	0	0	373	0	0	460	0	
Turn Type	Perm						Perm						
Protected Phases		3						1			1		2
Permitted Phases	3						1						
Detector Phases	3	3					1	1			1		
Minimum Initial (s)	25.0	25.0					25.0	25.0			25.0		4.0
Minimum Split (s)	31.0	31.0					31.0	31.0			31.0		8.0
Total Split (s)	33.0	33.0	0.0	0.0	0.0	0.0	31.0	31.0	0.0	0.0	31.0	0.0	8.0
Total Split (%)	45.8%	45.8%	0.0%	0.0%	0.0%	0.0%	43.1%	43.1%	0.0%	0.0%	43.1%	0.0%	11%
Maximum Green (s)	27.0	27.0					25.0	25.0			25.0		5.0
Yellow Time (s)	4.0	4.0					4.0	4.0			4.0		3.0
All-Red Time (s)	2.0	2.0					2.0	2.0			2.0		0.0
Lead/Lag							Lead	Lead			Lead		Lag
Lead-Lag Optimize?							Yes	Yes			Yes		Yes
Vehicle Extension (s)	4.0	4.0					4.0	4.0			4.0		3.0
Recall Mode	Min	Min					Min	Min			Min		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													10
v/c Ratio		0.72						0.49			0.60		
Control Delay		22.9						17.8			19.8		
Queue Delay		0.0						0.0			0.0		
Total Delay		22.9						17.8			19.8		
Queue Length 50th (ft)		162						97			126		
Queue Length 95th (ft)		243						176			258		
Internal Link Dist (ft)		699			764			987			453		
Turn Bay Length (ft)													
Base Capacity (vph)		783						756			767		
Starvation Cap Reductn		0						0			0		
Spillback Cap Reductn		0						0			0		
Storage Cap Reductn		0						0			0		
Reduced v/c Ratio		0.70						0.49			0.60		

Intersection Summary	
Area Type:	Other
Cycle Length: 72	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 23: Walnut St & Medford St



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		1.00						1.00			1.00	
Flt Protected		0.98						1.00			1.00	
Satd. Flow (prot)		1829						1880			1891	
Flt Permitted		0.98						0.99			1.00	
Satd. Flow (perm)		1829						1866			1891	
Volume (vph)	125	275	10	0	0	0	5	290	0	0	390	15
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88
Adj. Flow (vph)	167	367	13	0	0	0	6	367	0	0	443	17
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	546	0	0	0	0	0	373	0	0	458	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm					
Protected Phases		3						1			1	
Permitted Phases	3						1					
Actuated Green, G (s)		25.8						25.1			25.1	
Effective Green, g (s)		26.8						26.1			26.1	
Actuated g/C Ratio		0.40						0.39			0.39	
Clearance Time (s)		6.0						6.0			6.0	
Vehicle Extension (s)		4.0						4.0			4.0	
Lane Grp Cap (vph)		734						729			739	
v/s Ratio Prot											c0.24	
v/s Ratio Perm		0.30						0.20				
v/c Ratio		0.74						0.51			0.62	
Uniform Delay, d1		17.1						15.5			16.4	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		4.4						0.8			1.8	
Delay (s)		21.4						16.3			18.1	
Level of Service		C						B			B	
Approach Delay (s)		21.4			0.0			16.3			18.1	
Approach LOS		C			A			B			B	

Intersection Summary					
HCM Average Control Delay	18.9	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.64				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	51.8%	ICU Level of Service		A	
Analysis Period (min)	15				

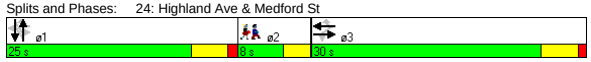
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	14	14	14	12	12	12	12	12	12	
Grade (%)		0%			1%			0%			0%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50	50	50	50		50	50		
Trailing Detector (ft)		0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1836			1794			671			533		
Travel Time (s)		41.7			40.8			15.3			12.1		
Volume (vph)	0	455	20	45	515	370	5	0	15	260	25	15	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%	
Lane Group Flow (vph)	0	552	0	0	615	407	0	27	0	0	345	0	
Turn Type				Perm		custom	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases				3		1 3	1			1			
Detector Phases		3		3	3	1 3	1	1		1	1		
Minimum Initial (s)		8.0		8.0	8.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)		13.0		13.0	13.0		13.0	13.0		13.0	13.0		8.0
Total Split (s)	0.0	30.0	0.0	30.0	30.0	55.0	25.0	25.0	0.0	25.0	25.0	0.0	8.0
Total Split (%)	0.0%	47.6%	0.0%	47.6%	47.6%	87.3%	39.7%	39.7%	0.0%	39.7%	39.7%	0.0%	13%
Maximum Green (s)		25.0		25.0	25.0		20.0	20.0		20.0	20.0		5.0
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode		Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.65			0.89	0.25		0.05			0.68		
Control Delay		17.1			33.6	0.5		7.8			24.6		
Queue Delay		0.0			0.0	0.0		0.0			0.0		
Total Delay		17.1			33.6	0.5		7.8			24.6		
Queue Length 50th (ft)		125			167	0		1			89		
Queue Length 95th (ft)		257			#428	9		13			#224		
Internal Link Dist (ft)		1756			1714			591			453		
Turn Bay Length (ft)													
Base Capacity (vph)		847			691	1632		593			509		
Starvation Cap Reductn		0			0	0		0			0		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.65			0.89	0.25		0.05			0.68		

Intersection Summary

Area Type: Other
Cycle Length: 63
Actuated Cycle Length: 56.6
Natural Cycle: 65
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Highland Ave & Medford St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	14	14	14	12	12	12	12	12	12
Grade (%)		0%			1%			0%			0%	
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frt		0.99			1.00	0.85		0.90			0.99	
Flt Protected		1.00			1.00	1.00		0.99			0.96	
Satd. Flow (prot)		1834			1969	1680		1688			1774	
Flt Permitted		1.00			0.83	1.00		0.91			0.74	
Satd. Flow (perm)		1834			1650	1680		1564			1360	
Volume (vph)	0	455	20	45	515	370	5	0	15	260	25	15
Peak-hour factor, PHF	0.86	0.86	0.86	0.91	0.91	0.91	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	0	529	23	49	566	407	7	0	20	299	29	17
RTOR Reduction (vph)	0	2	0	0	0	54	0	13	0	0	3	0
Lane Group Flow (vph)	0	550	0	0	615	353	0	14	0	0	342	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases				3		1 3	1			1		
Actuated Green, G (s)		25.1			25.1	50.2		20.1			20.1	
Effective Green, g (s)		26.1			26.1	51.2		21.1			21.1	
Actuated g/C Ratio		0.44			0.44	0.87		0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		810			729	1455		558			486	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.37	0.21		0.01			c0.25	
v/c Ratio		0.68			0.84	0.24		0.03			0.70	
Uniform Delay, d1		13.2			14.7	0.7		12.3			16.3	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		4.6			11.5	0.4		0.1			8.3	
Delay (s)		17.7			26.1	1.1		12.4			24.6	
Level of Service		B			C	A		B			C	
Approach Delay (s)		17.7			16.2			12.4			24.6	
Approach LOS		B			B			B			C	

Intersection Summary

HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

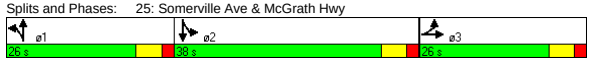
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50					50	50	50	50	50	
Trailing Detector (ft)	0	0					0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			895			890			512	
Travel Time (s)		34.3			20.3			20.2			11.6	
Volume (vph)	185	220	95	0	0	0	100	485	60	205	700	260
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	568	0	0	0	0	0	622	64	220	1033	0
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Detector Phases	3	3					1	1		2	2	
Minimum Initial (s)	20.0	20.0					20.0	20.0		22.0	22.0	
Minimum Split (s)	26.0	26.0					26.0	26.0		28.0	28.0	
Total Split (s)	26.0	26.0	0.0	0.0	0.0	0.0	26.0	26.0	0.0	38.0	38.0	0.0
Total Split (%)	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	28.9%	28.9%	0.0%	42.2%	42.2%	0.0%
Maximum Green (s)	20.0	20.0					20.0	20.0		32.0	32.0	
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					Max	Max		C-Max	C-Max	
v/c Ratio		0.69						0.75	0.04	0.34	0.85	
Control Delay		35.0						38.7	0.0	22.5	32.4	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		35.0						38.7	0.0	22.5	32.4	
Queue Length 50th (ft)		147						173	0	89	263	
Queue Length 95th (ft)		200						235	0	148	#353	
Internal Link Dist (ft)		1429			815			810			432	
Turn Bay Length (ft)												
Base Capacity (vph)		818						827	1706	649	1221	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.69						0.75	0.04	0.34	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Somerville Ave & McGrath Hwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1800	1800
Lane Width	12	12	12	12	12	12	12	12	14	12	12	12
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95						0.95	1.00	1.00	0.95	
Frt		0.97						1.00	0.85	1.00	0.96	
Flt Protected		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (prot)		3409						3544	1706	1770	3217	
Flt Permitted		0.98						0.99	1.00	0.95	1.00	
Satd. Flow (perm)		3409						3544	1706	1770	3217	
Volume (vph)	185	220	95	0	0	0	100	485	60	205	700	260
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	210	250	108	0	0	0	106	516	64	220	753	280
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	545	0	0	0	0	0	622	64	220	991	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Split						Split		Free	Split		
Protected Phases	3	3					1	1		2	2	
Permitted Phases									Free			
Actuated Green, G (s)		20.0						20.0	90.0	32.0	32.0	
Effective Green, g (s)		21.0						21.0	90.0	33.0	33.0	
Actuated g/C Ratio		0.23						0.23	1.00	0.37	0.37	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		795						827	1706	649	1180	
v/s Ratio Prot		c0.16						c0.18		0.12	c0.31	
v/s Ratio Perm									0.04			
v/c Ratio		0.69						0.75	0.04	0.34	0.84	
Uniform Delay, d1		31.5						32.1	0.0	20.6	26.1	
Progression Factor		1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2		4.8						6.3	0.0	1.4	7.2	
Delay (s)		36.3						38.3	0.0	22.0	33.3	
Level of Service		D						D	A	C	C	
Approach Delay (s)		36.3			0.0			34.8			31.3	
Approach LOS		D			A			C			C	

Intersection Summary

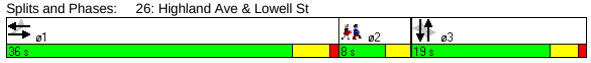
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50		50	50		
Trailing Detector (ft)	0	0			0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			No			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1198			1413			1810			2545		
Travel Time (s)		27.2			32.1			41.1			57.8		
Volume (vph)	50	420	0	0	500	55	50	95	40	55	0	90	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	511	0	0	572	0	0	221	0	0	172	0	
Turn Type	Perm						Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1						3			3			
Detector Phases	1	1			1		3	3		3	3		
Minimum Initial (s)	8.0	8.0			8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	13.0	13.0			13.0		10.0	10.0		10.0	10.0		8.0
Total Split (s)	36.0	36.0	0.0	0.0	36.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0	8.0
Total Split (%)	57.1%	57.1%	0.0%	0.0%	57.1%	0.0%	30.2%	30.2%	0.0%	30.2%	30.2%	0.0%	13%
Maximum Green (s)	31.0	31.0			31.0		15.0	15.0		15.0	15.0		5.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0		0.0
Lead/Lag	Lead	Lead			Lead								Lag
Lead-Lag Optimize?	Yes	Yes			Yes								Yes
Vehicle Extension (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Max	Max			Max		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													18
v/c Ratio		0.52			0.52			0.60			0.43		
Control Delay		10.1			9.8			26.4			12.0		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		10.1			9.8			26.4			12.0		
Queue Length 50th (ft)		78			87			60			16		
Queue Length 95th (ft)		219			237			126			58		
Internal Link Dist (ft)		1118			1333			1730			2465		
Turn Bay Length (ft)													
Base Capacity (vph)		980			1098			432			447		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.52			0.52			0.51			0.38		

Intersection Summary	
Area Type:	Other
Cycle Length: 63	
Actuated Cycle Length: 54	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	

Splits and Phases: 26: Highland Ave & Lowell St



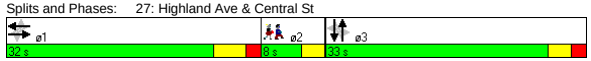
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.92	
Flt Protected		0.99			1.00			0.99			0.98	
Satd. Flow (prot)		1853			1838			1802			1700	
Flt Permitted		0.91			1.00			0.89			0.79	
Satd. Flow (perm)		1693			1838			1616			1363	
Volume (vph)	50	420	0	0	500	55	50	95	40	55	0	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.97	0.97	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	54	457	0	0	515	57	60	113	48	65	0	107
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	84	0
Lane Group Flow (vph)	0	511	0	0	572	0	0	221	0	0	88	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm						Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1						3			3		
Actuated Green, G (s)		31.3			31.3			12.3			12.3	
Effective Green, g (s)		32.3			32.3			12.3			12.3	
Actuated g/C Ratio		0.57			0.57			0.22			0.22	
Clearance Time (s)		5.0			5.0			4.0			4.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		968			1051			352			297	
v/s Ratio Prot					c0.31							
v/s Ratio Perm		0.30						c0.14			0.06	
v/c Ratio		0.53			0.54			0.63			0.30	
Uniform Delay, d1		7.4			7.5			20.0			18.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.1			2.0			3.9			0.8	
Delay (s)		9.5			9.5			24.0			19.3	
Level of Service		A			A			C			B	
Approach Delay (s)		9.5			9.5			24.0			19.3	
Approach LOS		A			A			C			B	

Intersection Summary					
HCM Average Control Delay	12.8	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.52				
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	8.0		
Intersection Capacity Utilization	77.7%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1413			1389			1040			1721		
Travel Time (s)		32.1			31.6			23.6			39.1		
Volume (vph)	45	365	25	30	425	40	55	350	100	15	80	40	
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	
Lane Group Flow (vph)	0	473	0	0	549	0	0	555	0	0	155	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		1			1			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		1	1		3	3		3	3		
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		11.0	11.0		11.0	11.0		8.0
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	33.0	33.0	0.0	33.0	33.0	0.0	8.0
Total Split (%)	43.8%	43.8%	0.0%	43.8%	43.8%	0.0%	45.2%	45.2%	0.0%	45.2%	45.2%	0.0%	11%
Maximum Green (s)	26.0	26.0		26.0	26.0		28.0	28.0		28.0	28.0		5.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lead		Lead	Lead								Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.0
Recall Mode	Min	Min		Min	Min		None	None		None	None		None
Walk Time (s)													3.0
Flash Dont Walk (s)													2.0
Pedestrian Calls (#/hr)													13
v/c Ratio		0.73			0.77			0.80			0.23		
Control Delay		24.9			25.9			26.7			11.5		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		24.9			25.9			26.7			11.5		
Queue Length 50th (ft)		146			173			168			28		
Queue Length 95th (ft)		#340			#393			#383			71		
Internal Link Dist (ft)		1333			1309			960			1641		
Turn Bay Length (ft)													
Base Capacity (vph)		713			785			791			779		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.66			0.70			0.70			0.20		

Intersection Summary	
Area Type:	Other
Cycle Length: 73	
Actuated Cycle Length: 58.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 27: Highland Ave & Central St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1821			1837			1821			1805	
Flt Permitted		0.90			0.96			0.95			0.93	
Satd. Flow (perm)		1648			1766			1739			1693	
Volume (vph)	45	365	25	30	425	40	55	350	100	15	80	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	49	397	27	33	472	44	60	385	110	17	92	46
RTOR Reduction (vph)	0	3	0	0	4	0	0	12	0	0	21	0
Lane Group Flow (vph)	0	470	0	0	545	0	0	543	0	0	134	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)		22.5			22.5			23.0			23.0	
Effective Green, g (s)		23.5			23.5			23.0			23.0	
Actuated g/C Ratio		0.39			0.39			0.38			0.38	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		642			688			663			646	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.31			c0.31			0.08	
v/c Ratio		0.73			0.79			0.82			0.21	
Uniform Delay, d1		15.7			16.2			16.8			12.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.6			6.6			8.2			0.2	
Delay (s)		20.3			22.8			24.9			12.7	
Level of Service		C			C			C			B	
Approach Delay (s)		20.3			22.8			24.9			12.7	
Approach LOS		C			C			C			B	

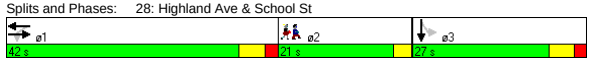
Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			0%			0%			1%		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Leading Detector (ft)		50		50	50					50	50		
Trailing Detector (ft)		0		0	0					0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1389			1836			970			953		
Travel Time (s)		31.6			41.7			22.0			21.7		
Volume (vph)	0	470	15	55	495	0	0	0	0	110	235	120	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%	
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0	
Lane Group Flow (vph)	0	545	0	0	586	0	0	0	0	0	469	0	
Turn Type				Perm						Perm			
Protected Phases		1			1						3		2
Permitted Phases				1						3			
Detector Phases		1		1	1					3	3		
Minimum Initial (s)		8.0		8.0	8.0					6.0	6.0		4.0
Minimum Split (s)		14.0		14.0	14.0					12.0	12.0		21.0
Total Split (s)	0.0	42.0	0.0	42.0	42.0	0.0	0.0	0.0	0.0	27.0	27.0	0.0	21.0
Total Split (%)	0.0%	46.7%	0.0%	46.7%	46.7%	0.0%	0.0%	0.0%	0.0%	30.0%	30.0%	0.0%	23%
Maximum Green (s)		36.0		36.0	36.0					21.0	21.0		18.0
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0		3.0
All-Red Time (s)		2.0		2.0	2.0					2.0	2.0		0.0
Lead/Lag		Lead		Lead	Lead								Lag
Lead-Lag Optimize?		Yes		Yes	Yes								Yes
Vehicle Extension (s)		3.0		3.0	3.0					4.0	4.0		3.0
Recall Mode		Min		Min	Min					Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													12.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.59			0.98						0.88		
Control Delay		17.5			54.8						46.1		
Queue Delay		0.0			0.0						0.0		
Total Delay		17.5			54.8						46.1		
Queue Length 50th (ft)		141			213						183		
Queue Length 95th (ft)		373			#615						#491		
Internal Link Dist (ft)		1309			1756			890			873		
Turn Bay Length (ft)													
Base Capacity (vph)		922			596						532		
Starvation Cap Reductn		0			0						0		
Spillback Cap Reductn		0			0						0		
Storage Cap Reductn		0			0						0		
Reduced v/c Ratio		0.59			0.98						0.88		

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 110
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 28: Highland Ave & School St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			1%	
Total Lost time (s)		5.0			5.0						5.0	
Lane Util. Factor		1.00			1.00						1.00	
Frt		1.00			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1800			1816						1751	
Flt Permitted		1.00			0.84						0.99	
Satd. Flow (perm)		1800			1526						1751	
Volume (vph)	0	470	15	55	495	0	0	0	0	110	235	120
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.92	0.92	0.92	0.99	0.99	0.99
Adj. Flow (vph)	0	528	17	59	527	0	0	0	0	111	237	121
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	544	0	0	586	0	0	0	0	0	469	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	5	5	5	5	5	5	0	0	0	0	0	0
Turn Type				Perm						Perm		
Protected Phases		1			1						3	
Permitted Phases				1						3		
Actuated Green, G (s)		36.4			36.4						21.2	
Effective Green, g (s)		37.4			37.4						22.2	
Actuated g/C Ratio		0.50			0.50						0.29	
Clearance Time (s)		6.0			6.0						6.0	
Vehicle Extension (s)		3.0			3.0						4.0	
Lane Grp Cap (vph)		892			756						515	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.27	
v/c Ratio		0.61			0.78						0.91	
Uniform Delay, d1		13.8			15.6						25.7	
Progression Factor		1.00			1.00						1.00	
Incremental Delay, d2		1.2			5.0						22.8	
Delay (s)		15.0			20.6						48.4	
Level of Service		B			C						D	
Approach Delay (s)		15.0			20.6			0.0			48.4	
Approach LOS		B			C			A			D	

Intersection Summary

HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	15.9
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

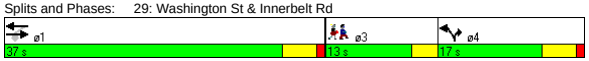
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3
Lane Configurations							
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	79			789	1311		
Travel Time (s)	1.8			17.9	29.8		
Volume (vph)	675	35	80	735	190	160	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%	
Lane Group Flow (vph)	877	45	86	790	279	235	
Turn Type		Perm	Perm			Prot	
Protected Phases	1			1	4	4	3
Permitted Phases		1	1				
Detector Phases	1	1	1	1	4	4	
Minimum Initial (s)	32.0	32.0	32.0	32.0	8.0	8.0	4.0
Minimum Split (s)	37.0	37.0	37.0	37.0	13.0	13.0	13.0
Total Split (s)	37.0	37.0	37.0	37.0	17.0	17.0	13.0
Total Split (%)	55.2%	55.2%	55.2%	55.2%	25.4%	25.4%	19%
Maximum Green (s)	32.0	32.0	32.0	32.0	12.0	12.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Lead/Lag					Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0	3.0
Recall Mode	Min	Min	Min	Min	None	None	None
Walk Time (s)							4.0
Flash Dont Walk (s)							6.0
Pedestrian Calls (#/hr)							10
v/c Ratio	0.80	0.06	0.66	0.73	0.71	0.56	
Control Delay	18.4	3.0	41.1	15.7	34.2	19.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.4	3.0	41.1	15.7	34.2	19.1	
Queue Length 50th (ft)	173	0	15	145	81	40	
Queue Length 95th (ft)	#430	11	#108	#496	134	77	
Internal Link Dist (ft)	1			709	1231		
Turn Bay Length (ft)							
Base Capacity (vph)	1100	805	130	1079	398	423	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.80	0.06	0.66	0.73	0.70	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 56.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 29: Washington St & Innerbelt Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1600	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1333	1736	1827	1719	1538
Flt Permitted	1.00	1.00	0.13	1.00	0.95	1.00
Satd. Flow (perm)	1863	1333	242	1827	1719	1538
Volume (vph)	675	35	80	735	190	160
Peak-hour factor, PHF	0.77	0.77	0.93	0.93	0.68	0.68
Adj. Flow (vph)	877	45	86	790	279	235
RTOR Reduction (vph)	0	20	0	0	0	69
Lane Group Flow (vph)	877	25	86	790	279	166
Heavy Vehicles (%)	2%	2%	4%	4%	5%	5%
Turn Type		Perm	Perm			Prot
Protected Phases	1			1	4	4
Permitted Phases		1	1			
Actuated Green, G (s)	32.3	32.3	32.3	32.3	11.8	11.8
Effective Green, g (s)	33.3	33.3	33.3	33.3	12.8	12.8
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.22	0.22
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1.0	1.0	1.0	1.0	4.0	4.0
Lane Grp Cap (vph)	1055	755	137	1035	374	335
v/s Ratio Prot	c0.47			0.43	c0.16	0.11
v/s Ratio Perm		0.02	0.35			
v/c Ratio	0.83	0.03	0.63	0.76	0.75	0.50
Uniform Delay, d1	10.4	5.6	8.6	9.7	21.5	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	0.0	6.3	3.1	8.4	1.6
Delay (s)	15.9	5.6	14.9	12.8	29.9	21.7
Level of Service	B	A	B	B	C	C
Approach Delay (s)	15.4			13.0	26.1	
Approach LOS	B			B	C	

Intersection Summary

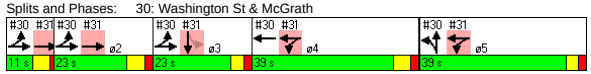
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	58.8	Sum of lost time (s)	12.7
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	14	12	12	14	14	14	12	12	12	12	12	12		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			No			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		86			812			410			438			
Travel Time (s)		2.0			18.5			9.3			10.0			
Volume (vph)	805	450	0	0	1070	165	55	525	675	0	0	0		
Peak Hour Factor	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92		
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%		
Lane Group Flow (vph)	847	464	0	0	1420	0	58	553	711	0	0	0		
Turn Type	Split						Split		Free					
Protected Phases	1 2 3	1 2 3			4		5	5					1	2
Permitted Phases									Free					
Minimum Split (s)					22.0		10.0	10.0					11.0	21.0
Total Split (s)	57.0	57.0	0.0	0.0	39.0	0.0	39.0	39.0	0.0	0.0	0.0	0.0	11.0	23.0
Total Split (%)	42.2%	42.2%	0.0%	0.0%	28.9%	0.0%	28.9%	28.9%	0.0%	0.0%	0.0%	0.0%	8%	17%
Maximum Green (s)					33.0		34.0	34.0					6.0	17.0
Yellow Time (s)					4.0		3.0	3.0					4.0	4.0
All-Red Time (s)					2.0		2.0	2.0					1.0	2.0
Lead/Lag					Lag								Lead	Lag
Lead-Lag Optimize?					Yes								Yes	Yes
Walk Time (s)					5.0									5.0
Flash Dont Walk (s)					11.0									10.0
Pedestrian Calls (#/hr)					0									0
v/c Ratio	0.59	0.24			1.12		0.13	1.20	0.46					
Control Delay	3.8	0.5			110.9		40.2	153.4	1.0					
Queue Delay	0.0	0.0			16.2		0.0	105.1	0.0					
Total Delay	3.8	0.5			127.1		40.2	258.5	1.0					
Queue Length 50th (ft)	61	1			~523		40	~588	0					
Queue Length 95th (ft)	m75	m1			#586		78	#815	0					
Internal Link Dist (ft)		6			732			330			358			
Turn Bay Length (ft)														
Base Capacity (vph)	1424	1921			1268		437	460	1553					
Starvation Cap Reductn	0	0			0		0	76	0					
Spillback Cap Reductn	0	0			41		17	0	0					
Storage Cap Reductn	0	0			0		0	0	0					
Reduced v/c Ratio	0.59	0.24			1.16		0.14	1.44	0.46					

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 30: Washington St & McGrath



Green Line Extension
30: Washington St & McGrath

2030 Build Alt 7 Condition - PM Peak
Lanes, Volumes, Timings

Lane Group	ø3
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Total Lost Time (s)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Peak Hour Factor	
Heavy Vehicles (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Minimum Split (s)	10.0
Total Split (s)	23.0
Total Split (%)	17%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

B:\10303.00\tech\Synchro\EA\2030 Build\Alt 7\optimize\coordination\2030 Build Alt7 - PM.sy7
VHB:: vl
VHB, Inc.
10/28/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1800	1800	1800	1900	1900	1900	1900	1900	1900
Lane Width	14	12	12	14	14	14	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		1.00	1.00	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3698	4988			5036		1736	1827	1553			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3698	4988			5036		1736	1827	1553			
Volume (vph)	805	450	0	0	1070	165	55	525	675	0	0	0
Peak-hour factor, PHF	0.95	0.97	0.97	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	847	464	0	0	1230	190	58	553	711	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	847	464	0	0	1420	0	58	553	711	0	0	0
Heavy Vehicles (%)	1%	4%	4%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split						Split		Free			
Protected Phases	1 2 3	1 2 3			4		5	5				
Permitted Phases									Free			
Actuated Green, G (s)	52.0	52.0			33.0		34.0	34.0	135.0			
Effective Green, g (s)	52.0	52.0			34.0		34.0	34.0	135.0			
Actuated g/C Ratio	0.39	0.39			0.25		0.25	0.25	1.00			
Clearance Time (s)					6.0		5.0	5.0				
Lane Grp Cap (vph)	1424	1921			1268		437	460	1553			
v/s Ratio Prot	c0.23	0.09			c0.28		0.03	c0.30				
v/s Ratio Perm									0.46			
v/c Ratio	0.59	0.24			1.12		0.13	1.20	0.46			
Uniform Delay, d1	33.1	28.1			50.5		39.1	50.5	0.0			
Progression Factor	0.09	0.01			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.1			65.0		0.6	110.2	1.0			
Delay (s)	3.8	0.5			115.5		39.7	160.7	1.0			
Level of Service	A	A			F		D	F	A			
Approach Delay (s)		2.7			115.5			69.5			0.0	
Approach LOS		A			F			E			A	

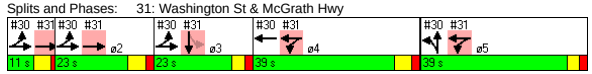
Intersection Summary			
HCM Average Control Delay	64.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø1	ø2
Lane Configurations														
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	14	14	14		
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	5.0	5.0		
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		1125			86			285			1794			
Travel Time (s)		25.6			2.0			6.5			40.8			
Volume (vph)	0	1225	40	420	705	0	0	0	0	30	140	360		
Peak Hour Factor	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92		
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%		
Lane Group Flow (vph)	0	1330	0	467	783	0	0	0	0	0	578	0		
Turn Type				Split						Perm				
Protected Phases		1 2		4 5	4 5						3		1	2
Permitted Phases										3				
Minimum Split (s)										10.0	10.0		11.0	21.0
Total Split (s)	0.0	34.0	0.0	78.0	78.0	0.0	0.0	0.0	0.0	23.0	23.0	0.0	11.0	23.0
Total Split (%)	0.0%	25.2%	0.0%	57.8%	57.8%	0.0%	0.0%	0.0%	0.0%	17.0%	17.0%	0.0%	8%	17%
Maximum Green (s)										18.0	18.0		6.0	17.0
Yellow Time (s)										3.0	3.0		4.0	4.0
All-Red Time (s)										2.0	2.0		1.0	2.0
Lead/Lag										Lead	Lead		Lead	Lag
Lead-Lag Optimize?										Yes	Yes		Yes	Yes
Walk Time (s)														5.0
Flash Dont Walk (s)														10.0
Pedestrian Calls (#/hr)														0
v/c Ratio		0.86		0.50	0.41						1.37dr			
Control Delay		57.5		2.3	0.3						140.3			
Queue Delay		1.9		0.0	0.0						53.9			
Total Delay		59.4		2.3	0.3						194.2			
Queue Length 50th (ft)		279		8	0						~284			
Queue Length 95th (ft)		317		m0	m0						#406			
Internal Link Dist (ft)		1045			6			205			1714			
Turn Bay Length (ft)														
Base Capacity (vph)		1545		939	1914						493			
Starvation Cap Reductn		0		0	0						0			
Spillback Cap Reductn		103		0	0						47			
Storage Cap Reductn		0		0	0						0			
Reduced v/c Ratio		0.92		0.50	0.41						1.30			

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Pretimed	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 31: Washington St & McGrath Hwy



Lane Group	ø4	ø5
Lane Configurations		
Ideal Flow (vphpl)		
Lane Width (ft)		
Total Lost Time (s)		
Turning Speed (mph)		
Right Turn on Red		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Volume (vph)		
Peak Hour Factor		
Heavy Vehicles (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	5
Permitted Phases		
Minimum Split (s)	22.0	10.0
Total Split (s)	39.0	39.0
Total Split (%)	29%	29%
Maximum Green (s)	33.0	34.0
Yellow Time (s)	4.0	3.0
All-Red Time (s)	2.0	2.0
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Walk Time (s)	5.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	14	14	14
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.81		1.00	0.95						0.95	
Frt		1.00		1.00	1.00						0.90	
Flt Protected		1.00		0.95	1.00						1.00	
Satd. Flow (prot)		7178		1736	3539						3171	
Flt Permitted		1.00		0.95	1.00						1.00	
Satd. Flow (perm)		7178		1736	3539						3171	
Volume (vph)	0	1225	40	420	705	0	0	0	0	30	140	360
Peak-hour factor, PHF	0.95	0.95	0.97	0.90	0.90	0.90	0.92	0.92	0.92	0.85	0.92	0.92
Adj. Flow (vph)	0	1289	41	467	783	0	0	0	0	35	152	391
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	0	1326	0	467	783	0	0	0	0	0	508	0
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%	2%	2%	2%	3%	0%	0%
Turn Type				Split						Perm		
Protected Phases		1 2		4 5	4 5						3	
Permitted Phases										3		
Actuated Green, G (s)		28.0		73.0	73.0						18.0	
Effective Green, g (s)		29.0		73.0	73.0						18.0	
Actuated g/C Ratio		0.21		0.54	0.54						0.13	
Clearance Time (s)											5.0	
Lane Grp Cap (vph)		1542		939	1914						423	
v/s Ratio Prot		c0.18		c0.27	0.22							
v/s Ratio Perm											0.16	
v/c Ratio		0.86		0.50	0.41						1.37dr	
Uniform Delay, d1		51.0		19.5	18.3						58.5	
Progression Factor		1.00		0.11	0.01						1.00	
Incremental Delay, d2		6.5		0.2	0.1						110.9	
Delay (s)		57.5		2.2	0.3						169.4	
Level of Service		E		A	A						F	
Approach Delay (s)		57.5			1.0			0.0			169.4	
Approach LOS		E			A			A			F	

Intersection Summary				
HCM Average Control Delay	55.6	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	100.0%	ICU Level of Service	F	
Analysis Period (min)	15			

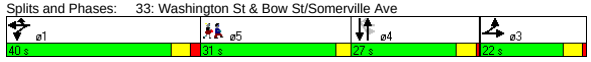
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations													
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800	
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50		50		50	50		
Trailing Detector (ft)	0	0		0	0	0		0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2793			626			1049			820		
Travel Time (s)		63.5			14.2			23.8			18.6		
Volume (vph)	60	330	30	415	375	890	0	0	0	450	255	40	
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	462	0	441	399	947	0	0	0	253	585	0	
Turn Type	Split			Split		custom				Perm			
Protected Phases	3	3		1	1	1		4			4		5
Permitted Phases						4				4			
Detector Phases	3	3		1	1	1		4		4	4		
Minimum Initial (s)	9.0	9.0		9.0	9.0	9.0		9.0		9.0	9.0		4.0
Minimum Split (s)	14.0	14.0		15.0	15.0	15.0		14.0		14.0	14.0		31.0
Total Split (s)	22.0	22.0	0.0	40.0	40.0	40.0	0.0	27.0	0.0	27.0	27.0	0.0	31.0
Total Split (%)	18.3%	18.3%	0.0%	33.3%	33.3%	33.3%	0.0%	22.5%	0.0%	22.5%	22.5%	0.0%	26%
Maximum Green (s)	17.0	17.0		34.0	34.0	34.0		22.0		22.0	22.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		2.0	2.0	2.0		1.0		1.0	1.0		0.0
Lead/Lag								Lag		Lag	Lag		Lead
Lead-Lag Optimize?								Yes		Yes	Yes		Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0		3.0
Recall Mode	Max	Max		C-Max	C-Max	C-Max		None		None	None		None
Walk Time (s)													13.0
Flash Dont Walk (s)													15.0
Pedestrian Calls (#/hr)													17
v/c Ratio		1.05		0.95	0.82	0.76				0.63	0.71		
Control Delay		105.7		41.3	35.2	7.1				45.4	42.1		
Queue Delay		0.0		0.0	0.0	2.1				0.0	0.0		
Total Delay		105.7		41.3	35.2	9.2				45.4	42.1		
Queue Length 50th (ft)		~205		319	268	50				148	175		
Queue Length 95th (ft)		#313		m314	m264	m167				#427	#431		
Internal Link Dist (ft)		2713			546			969			740		
Turn Bay Length (ft)													
Base Capacity (vph)		440		465	489	1249				400	824		
Starvation Cap Reductn		0		0	0	173				0	0		
Spillback Cap Reductn		0		0	0	0				0	0		
Storage Cap Reductn		0		0	0	0				0	0		
Reduced v/c Ratio		1.05		0.95	0.82	0.88				0.63	0.71		

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 15 (13%), Referenced to phase 1:WBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Washington St & Bow St/Somerville Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1800	1800
Total Lost time (s)		4.0		5.0	5.0	5.0				4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00	1.00				0.91	0.91	
Frt		0.99		1.00	1.00	0.85				1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00				0.95	0.98	
Satd. Flow (prot)		2935		1593	1676	1425				1449	2797	
Flt Permitted		0.99		0.95	1.00	1.00				0.76	0.82	
Satd. Flow (perm)		2935		1593	1676	1425				1155	2351	
Volume (vph)	60	330	30	415	375	890	0	0	0	450	255	40
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	66	363	33	441	399	947	0	0	0	506	287	45
RTOR Reduction (vph)	0	0	0	0	0	352	0	0	0	0	4	0
Lane Group Flow (vph)	0	462	0	441	399	595	0	0	0	253	581	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split		custom				Perm		
Protected Phases	3	3		1	1	1		4			4	
Permitted Phases						4				4		
Actuated Green, G (s)		17.0		32.2	32.2	72.8				40.6	40.6	
Effective Green, g (s)		18.0		33.2	33.2	73.8				41.6	41.6	
Actuated g/C Ratio		0.15		0.28	0.28	0.62				0.35	0.35	
Clearance Time (s)		5.0		6.0	6.0	6.0				5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	4.0				4.0	4.0	
Lane Grp Cap (vph)		440		441	464	876				400	815	
v/s Ratio Prot		c0.16		c0.28	0.24	0.19						
v/s Ratio Perm						0.23				0.22	c0.25	
v/c Ratio		1.05		1.00	0.86	0.68				0.63	0.71	
Uniform Delay, d1		51.0		43.4	41.2	15.3				32.8	34.0	
Progression Factor		1.00		0.83	0.83	4.79				1.00	1.00	
Incremental Delay, d2		56.6		12.9	2.1	0.2				3.7	3.2	
Delay (s)		107.6		49.1	36.3	73.4				36.5	37.2	
Level of Service		F		D	D	E				D	D	
Approach Delay (s)		107.6			59.1			0.0			37.0	
Approach LOS		F			E			A			D	

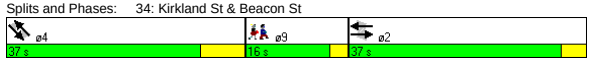
Intersection Summary				
HCM Average Control Delay	60.4	HCM Level of Service		E
HCM Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.2
Intersection Capacity Utilization	82.6%	ICU Level of Service		E
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1033			2793			1241			3010		
Travel Time (s)		23.5			63.5			28.2			68.4		
Volume (vph)	110	305	40	40	265	70	40	360	60	25	460	70	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97	
Lane Group Flow (vph)	0	484	0	0	426	0	0	495	0	0	572	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		2			2			4			4		9
Permitted Phases	2			2			4			4			
Detector Phases	2	2		2	2		4	4		4	4		
Minimum Initial (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0		4.0
Minimum Split (s)	14.0	14.0		14.0	14.0		15.0	15.0		15.0	15.0		16.0
Total Split (s)	37.0	37.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	37.0	37.0	0.0	16.0
Total Split (%)	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	41.1%	41.1%	0.0%	18%
Maximum Green (s)	33.0	33.0		33.0	33.0		30.0	30.0		30.0	30.0		13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0		3.0
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2		0.2	0.2		0.2
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max		None
Walk Time (s)													6.0
Flash Dont Walk (s)													7.0
Pedestrian Calls (#/hr)													14
v/c Ratio		0.87			0.59			0.78			0.80		
Control Delay		39.3			21.6			31.6			31.7		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		39.3			21.6			31.6			31.7		
Queue Length 50th (ft)		186			134			183			214		
Queue Length 95th (ft)		#485			295			#456			#518		
Internal Link Dist (ft)		953			2713			1161			2930		
Turn Bay Length (ft)													
Base Capacity (vph)		559			718			634			715		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.87			0.59			0.78			0.80		

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 77.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 34: Kirkland St & Beacon St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.97			0.98			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1818			1806			1822			1827	
Flt Permitted		0.76			0.93			0.90			0.97	
Satd. Flow (perm)		1401			1679			1648			1770	
Volume (vph)	110	305	40	40	265	70	40	360	60	25	460	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	117	324	43	45	301	80	43	387	65	26	474	72
RTOR Reduction (vph)	0	3	0	0	9	0	0	5	0	0	5	0
Lane Group Flow (vph)	0	481	0	0	417	0	0	490	0	0	567	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		33.2			33.2			30.2			30.2	
Effective Green, g (s)		33.2			33.2			31.2			31.2	
Actuated g/C Ratio		0.42			0.42			0.39			0.39	
Clearance Time (s)		4.0			4.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			0.2			0.2	
Lane Grp Cap (vph)		584			700			646			694	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.25			0.30			c0.32	
v/c Ratio		0.82			0.60			0.76			0.82	
Uniform Delay, d1		20.6			18.0			20.9			21.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.4			3.7			8.1			10.3	
Delay (s)		33.0			21.7			29.0			31.9	
Level of Service		C			C			C			C	
Approach Delay (s)		33.0			21.7			29.0			31.9	
Approach LOS		C			C			C			C	

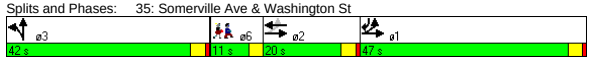
Intersection Summary					
HCM Average Control Delay	29.3	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	79.6	Sum of lost time (s)		15.2	
Intersection Capacity Utilization	91.8%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø6
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50			50		50	50				50	
Trailing Detector (ft)	0	0			0		0	0				0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		626			1509			930			200		
Travel Time (s)		14.2			34.3			21.1			4.5		
Volume (vph)	385	390	0	0	445	40	500	780	95	0	0	880	
Peak Hour Factor	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%	
Lane Group Flow (vph)	0	891	0	0	592	0	469	978	0	0	0	926	
Turn Type	pm+pt						Split					Over	
Protected Phases	1	1 2			2		3	3				1	6
Permitted Phases	1 2												
Detector Phases	1	1 2			2		3	3				1	
Minimum Initial (s)	5.0				5.0		5.0	5.0				5.0	4.0
Minimum Split (s)	9.0				9.0		9.0	9.0				9.0	11.0
Total Split (s)	47.0	67.0	0.0	0.0	20.0	0.0	42.0	42.0	0.0	0.0	0.0	47.0	11.0
Total Split (%)	39.2%	55.8%	0.0%	0.0%	16.7%	0.0%	35.0%	35.0%	0.0%	0.0%	0.0%	39.2%	9%
Maximum Green (s)	43.0				16.0		38.0	38.0				43.0	8.0
Yellow Time (s)	3.0				3.0		3.0	3.0				3.0	3.0
All-Red Time (s)	1.0				1.0		1.0	1.0				1.0	0.0
Lead/Lag	Lag				Lead							Lag	
Lead-Lag Optimize?	Yes				Yes							Yes	
Vehicle Extension (s)	4.0				4.0		4.0	4.0				4.0	3.0
Recall Mode	C-Max				Max		None	None				C-Max	None
Walk Time (s)													4.0
Flash Dont Walk (s)													4.0
Pedestrian Calls (#/hr)													12
v/c Ratio		0.59			0.98		1.01	1.01				1.03	
Control Delay		9.0			80.6		85.8	72.9				76.2	
Queue Delay		0.0			0.0		0.0	0.0				0.0	
Total Delay		9.0			80.6		85.8	72.9				76.2	
Queue Length 50th (ft)		181			228		~407	~423				~436	
Queue Length 95th (ft)		m117			#383		#648	#576				#577	
Internal Link Dist (ft)		546			1429			850			120		
Turn Bay Length (ft)													
Base Capacity (vph)		1513			604		464	965				899	
Starvation Cap Reductn		0			0		0	0				0	
Spillback Cap Reductn		0			0		0	0				0	
Storage Cap Reductn		0			0		0	0				0	
Reduced v/c Ratio		0.59			0.98		1.01	1.01				1.03	

Intersection Summary	
Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 1:EBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Somerville Ave & Washington St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				4.0
Lane Util. Factor		0.95			0.95		0.91	0.91				0.88
Frt		1.00			0.99		1.00	0.98				0.85
Flt Protected		0.98			1.00		0.95	1.00				1.00
Satd. Flow (prot)		3108			3177		1464	3025				2508
Flt Permitted		0.60			1.00		0.95	1.00				1.00
Satd. Flow (perm)		1899			3177		1464	3025				2508
Volume (vph)	385	390	0	0	445	40	500	780	95	0	0	880
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	443	448	0	0	543	49	526	821	100	0	0	926
RTOR Reduction (vph)	0	0	0	0	5	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	587	0	469	971	0	0	0	926
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	2%	2%	2%
Turn Type	pm+pt						Split					Over
Protected Phases	1	1 2			2		3	3				1
Permitted Phases	1 2											
Actuated Green, G (s)		63.8			22.6		38.0	38.0				41.2
Effective Green, g (s)		63.8			22.6		38.0	38.0				41.2
Actuated g/C Ratio		0.53			0.19		0.32	0.32				0.34
Clearance Time (s)					4.0		4.0	4.0				4.0
Vehicle Extension (s)					4.0		4.0	4.0				4.0
Lane Grp Cap (vph)		1425			598		464	958				861
v/s Ratio Prot		0.21			c0.18		0.32	c0.32				c0.37
v/s Ratio Perm		0.12										
v/c Ratio		0.63			0.98		1.01	1.01				1.08
Uniform Delay, d1		19.7			48.5		41.0	41.0				39.4
Progression Factor		0.41			1.00		1.00	1.00				1.00
Incremental Delay, d2		1.2			32.6		44.5	32.5				53.0
Delay (s)		9.3			81.1		85.5	73.5				92.4
Level of Service		A			F		F	E				F
Approach Delay (s)		9.3			81.1			77.4			92.4	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM Average Control Delay	65.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.2
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

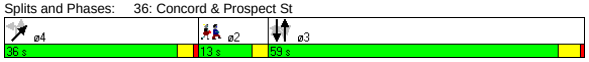
c Critical Lane Group

Lane Group	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER	ø2
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	14	14	14	14	14	14	14	14	14	14	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50			50	50		
Trailing Detector (ft)	0	0		0	0			0	0		
Turning Speed (mph)	15		9	15		9	9	15		9	
Right Turn on Red			Yes				Yes			Yes	
Link Speed (mph)		30			30				30		
Link Distance (ft)		1156			1049				1421		
Travel Time (s)		26.3			23.8				32.3		
Volume (vph)	125	0	670	130	300	260	10	10	620	10	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	
Lane Group Flow (vph)	0	854	0	143	627	0	0	0	675	0	
Turn Type	Perm			Perm				Perm			
Protected Phases		3			3				4		2
Permitted Phases	3			3				4			
Detector Phases	3	3		3	3			4	4		
Minimum Initial (s)	30.0	30.0		30.0	30.0			30.0	30.0		4.0
Minimum Split (s)	35.0	35.0		35.0	35.0			34.0	34.0		13.0
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	0.0	36.0	36.0	0.0	13.0
Total Split (%)	54.6%	54.6%	0.0%	54.6%	54.6%	0.0%	0.0%	33.3%	33.3%	0.0%	12%
Maximum Green (s)	54.0	54.0		54.0	54.0			32.0	32.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0			3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		0.0
Lead/Lag	Lag	Lag		Lag	Lag						Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes
Vehicle Extension (s)	0.2	0.2		0.2	0.2			0.2	0.2		3.0
Recall Mode	Min	Min		Min	Min			Min	Min		None
Walk Time (s)											4.0
Flash Dont Walk (s)											6.0
Pedestrian Calls (#/hr)											10
v/c Ratio		1.60		0.46	0.60				1.02		
Control Delay		301.3		20.0	17.8				75.3		
Queue Delay		0.0		0.0	0.0				0.0		
Total Delay		301.3		20.0	17.8				75.3		
Queue Length 50th (ft)		~724		46	224				~403		
Queue Length 95th (ft)		#794		131	440				#777		
Internal Link Dist (ft)		1076			969				1341		
Turn Bay Length (ft)											
Base Capacity (vph)		533		308	1043				659		
Starvation Cap Reductn		0		0	0				0		
Spillback Cap Reductn		0		0	0				0		
Storage Cap Reductn		0		0	0				0		
Reduced v/c Ratio		1.60		0.46	0.60				1.02		

Intersection Summary

Area Type: Other
Cycle Length: 108
Actuated Cycle Length: 97.6
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: Concord & Prospect St



Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NET	NER
Lane Configurations										
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	14	14	14	14	14	14	14	14
Total Lost time (s)		4.0		4.0	4.0				4.0	
Lane Util. Factor		1.00		1.00	1.00				1.00	
Frt		0.89		1.00	0.93				1.00	
Flt Protected		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1764		1888	1846				2001	
Flt Permitted		0.57		0.29	1.00				1.00	
Satd. Flow (perm)		1020		579	1846				2001	
Volume (vph)	125	0	670	130	300	260	10	10	620	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	134	0	720	143	330	286	11	11	653	11
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	820	0	143	627	0	0	0	674	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm			Perm				Perm		
Protected Phases		3			3				4	
Permitted Phases	3			3				4		
Actuated Green, G (s)		54.1		54.1	54.1				32.1	
Effective Green, g (s)		55.1		55.1	55.1				32.1	
Actuated g/C Ratio		0.55		0.55	0.55				0.32	
Clearance Time (s)		5.0		5.0	5.0				4.0	
Vehicle Extension (s)		0.2		0.2	0.2				0.2	
Lane Grp Cap (vph)		562		319	1017				642	
v/s Ratio Prot					0.34					
v/s Ratio Perm		c0.80		0.25					0.34	
v/c Ratio		1.46		0.45	0.62				1.05	
Uniform Delay, d1		22.4		13.4	15.3				34.0	
Progression Factor		1.00		1.00	1.00				1.00	
Incremental Delay, d2		216.2		0.4	0.8				49.5	
Delay (s)		238.7		13.8	16.0				83.4	
Level of Service		F		B	B				F	
Approach Delay (s)		238.7			15.6				83.4	
Approach LOS		F			B				F	

Intersection Summary

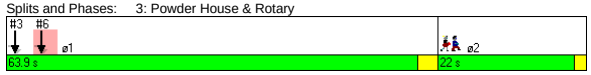
HCM Average Control Delay	118.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	124.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1205			260	1087		
Travel Time (s)	27.4			5.9	24.7		
Volume (vph)	0	470	0	0	1110	480	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	553	0	0	1168	505	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.34			0.66	0.32	
Control Delay		0.6			4.7	0.5	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			4.7	0.5	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			644	0	
Internal Link Dist (ft)	1125			180	1007		
Turn Bay Length (ft)							
Base Capacity (vph)		1620			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		10			12	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.34			0.66	0.32	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.9	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Powder House & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1644			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1644			1863	1583
Volume (vph)	0	470	0	0	1110	480
Peak-hour factor, PHF	0.85	0.85	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	553	0	0	1168	505
RTOR Reduction (vph)	0	45	0	0	0	0
Lane Group Flow (vph)	0	508	0	0	1168	505
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1509			1710	1583
v/s Ratio Prot					c0.63	
v/s Ratio Perm		0.31				c0.32
v/c Ratio		0.34			0.68	0.32
Uniform Delay, d1		0.6			1.1	0.0
Progression Factor		1.00			1.00	1.00
Incremental Delay, d2		0.6			2.2	0.5
Delay (s)		1.2			3.3	0.5
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	2.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		

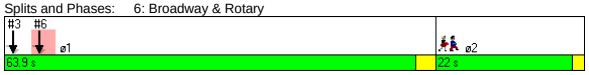
c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50			50	50	
Trailing Detector (ft)		0			0	0	
Turning Speed (mph)	15	9	15			9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	1090			944	260		
Travel Time (s)	24.8			21.5	5.9		
Volume (vph)	0	465	0	0	1110	470	
Peak Hour Factor	0.91	0.91	0.92	0.92	0.95	0.95	
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%	
Lane Group Flow (vph)	0	511	0	0	1168	495	
Turn Type		custom				Free	
Protected Phases					1		2
Permitted Phases		1				Free	
Detector Phases		1			1		
Minimum Initial (s)		60.8			60.8		4.0
Minimum Split (s)		63.9			63.9		22.0
Total Split (s)	0.0	63.9	0.0	0.0	63.9	0.0	22.0
Total Split (%)	0.0%	74.4%	0.0%	0.0%	74.4%	0.0%	26%
Maximum Green (s)		60.8			60.8		20.0
Yellow Time (s)		3.1			3.1		2.0
All-Red Time (s)		0.0			0.0		0.0
Lead/Lag		Lead			Lead		Lag
Lead-Lag Optimize?		Yes			Yes		Yes
Vehicle Extension (s)		3.0			3.0		3.0
Recall Mode		Max			Max		None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							15
v/c Ratio		0.33			0.66	0.31	
Control Delay		0.6			2.5	0.4	
Queue Delay		0.0			0.0	0.0	
Total Delay		0.6			2.5	0.4	
Queue Length 50th (ft)		0			0	0	
Queue Length 95th (ft)		0			125	0	
Internal Link Dist (ft)	1010			864	180		
Turn Bay Length (ft)							
Base Capacity (vph)		1559			1782	1583	
Starvation Cap Reductn		0			0	0	
Spillback Cap Reductn		0			0	0	
Storage Cap Reductn		0			0	0	
Reduced v/c Ratio		0.33			0.66	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 85.9
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 6: Broadway & Rotary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		1.00			1.00	1.00
Frt		0.86			1.00	0.85
Flt Protected		1.00			1.00	1.00
Satd. Flow (prot)		1580			1863	1583
Flt Permitted		1.00			1.00	1.00
Satd. Flow (perm)		1580			1863	1583
Volume (vph)	0	465	0	0	1110	470
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.95	0.95
Adj. Flow (vph)	0	511	0	0	1168	495
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	0	469	0	0	1168	495
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type		custom				Free
Protected Phases					1	
Permitted Phases		1				Free
Actuated Green, G (s)		112.5			112.5	121.6
Effective Green, g (s)		111.6			111.6	121.6
Actuated g/C Ratio		0.92			0.92	1.00
Clearance Time (s)		3.1			3.1	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1450			1710	1583
v/s Ratio Prot					c0.63	
v/s Ratio Perm		0.30				c0.31
v/c Ratio		0.32			0.68	0.31
Uniform Delay, d1		0.6			1.1	0.0
Progression Factor		1.00			0.33	1.00
Incremental Delay, d2		0.6			1.9	0.4
Delay (s)		1.2			2.2	0.4
Level of Service		A			A	A
Approach Delay (s)	1.2			0.0	1.7	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	4.0
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	822		140			863	
Travel Time (s)	18.7		3.2			19.6	
Volume (vph)	0	420	1135	535	0	0	
Peak Hour Factor	0.91	0.91	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	10	10	10	0	0	
Lane Group Flow (vph)	0	462	1275	601	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.30	0.75	0.41			
Control Delay		0.5	5.8	0.7			
Queue Delay		0.0	0.0	0.1			
Total Delay		0.5	5.8	0.8			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	#1173	0			
Internal Link Dist (ft)	742		60			783	
Turn Bay Length (ft)							
Base Capacity (vph)		1542	1694	1466			
Starvation Cap Reductn		0	0	109			
Spillback Cap Reductn		0	0	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.30	0.75	0.44			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 9: Warner & Rotary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1562	1771	1505		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1562	1771	1505		
Volume (vph)	0	420	1135	535	0	0
Peak-hour factor, PHF	0.91	0.91	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	462	1275	601	0	0
RTOR Reduction (vph)	0	38	0	49	0	0
Lane Group Flow (vph)	0	424	1275	552	0	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	10	10	10	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1434	1625	1381		
v/s Ratio Prot			c0.72	0.37		
v/s Ratio Perm		0.27				
v/c Ratio		0.30	0.78	0.40		
Uniform Delay, d1		0.6	1.5	0.6		
Progression Factor		1.00	0.68	0.02		
Incremental Delay, d2		0.5	3.2	0.7		
Delay (s)		1.1	4.2	0.7		
Level of Service		A	A	A		
Approach Delay (s)	1.1		3.1			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50	50	50			
Trailing Detector (ft)		0	0	0			
Turning Speed (mph)	15	9		9	15		
Right Turn on Red		Yes		Yes			
Link Speed (mph)	30		30			30	
Link Distance (ft)	873		916			140	
Travel Time (s)	19.8		20.8			3.2	
Volume (vph)	0	825	845	725	0	0	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.92	0.92	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	
Bus Blockages (#/hr)	0	0	6	6	0	0	
Lane Group Flow (vph)	0	959	949	815	0	0	
Turn Type		custom		Prot			
Protected Phases			1	1			2
Permitted Phases		1					
Detector Phases		1	1	1			
Minimum Initial (s)		50.0	50.0	50.0			4.0
Minimum Split (s)		55.0	55.0	55.0			22.0
Total Split (s)	0.0	55.0	55.0	55.0	0.0	0.0	22.0
Total Split (%)	0.0%	71.4%	71.4%	71.4%	0.0%	0.0%	29%
Maximum Green (s)		50.0	50.0	50.0			20.0
Yellow Time (s)		4.0	4.0	4.0			2.0
All-Red Time (s)		1.0	1.0	1.0			0.0
Lead/Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes
Vehicle Extension (s)		3.0	3.0	3.0			3.0
Recall Mode		Max	Max	Max			None
Walk Time (s)							8.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							20
v/c Ratio		0.60	0.55	0.54			
Control Delay		1.8	3.2	1.6			
Queue Delay		0.1	0.0	0.0			
Total Delay		1.8	3.2	1.6			
Queue Length 50th (ft)		0	0	0			
Queue Length 95th (ft)		0	387	21			
Internal Link Dist (ft)	793		836			60	
Turn Bay Length (ft)							
Base Capacity (vph)		1588	1722	1499			
Starvation Cap Reductn		0	0	0			
Spillback Cap Reductn		42	9	0			
Storage Cap Reductn		0	0	0			
Reduced v/c Ratio		0.62	0.55	0.54			

Intersection Summary	
Area Type:	Other
Cycle Length: 77	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	

Splits and Phases: 11: Broadway & Rotary



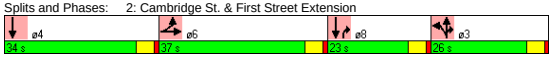
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	1.00		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1611	1800	1530		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1611	1800	1530		
Volume (vph)	0	825	845	725	0	0
Peak-hour factor, PHF	0.86	0.86	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	959	949	815	0	0
RTOR Reduction (vph)	0	79	0	67	0	0
Lane Group Flow (vph)	0	880	949	748	0	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	6	6	0	0
Turn Type		custom		Prot		
Protected Phases			1	1		
Permitted Phases		1				
Actuated Green, G (s)		110.6	110.6	110.6		
Effective Green, g (s)		111.6	111.6	111.6		
Actuated g/C Ratio		0.92	0.92	0.92		
Clearance Time (s)		5.0	5.0	5.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		1479	1652	1404		
v/s Ratio Prot			0.53	0.49		
v/s Ratio Perm		c0.55				
v/c Ratio		0.60	0.57	0.53		
Uniform Delay, d1		0.9	0.9	0.8		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		1.8	1.5	1.5		
Delay (s)		2.7	2.3	2.3		
Level of Service		A	A	A		
Approach Delay (s)	2.7		2.3			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø4	ø8
Lane Configurations														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	11	12	11	12	11	12	12	12		
Storage Length (ft)	130		0	0		0	0		0	0		0		
Storage Lanes	1		0	0		0	0		1	0		0		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Leading Detector (ft)	50	50					50	50	50		50			
Trailing Detector (ft)	0	0					0	0	0		0			
Turning Speed (mph)	15		9	15		9	15		9	15		9		
Right Turn on Red			Yes			Yes			Yes			Yes		
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		181			350			571			169			
Travel Time (s)		4.1			8.0			13.0			3.8			
Volume (vph)	205	210	50	0	0	0	100	230	495	0	340	505		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94		
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%		
Lane Group Flow (vph)	228	289	0	0	0	0	0	367	550	0	899	0		
Turn Type	Split						Split		custom					
Protected Phases	6	6					3	3	3 8		4 8		4	8
Permitted Phases														
Detector Phases	6	6					3	3	3 8		4 8			
Minimum Initial (s)	4.0	4.0					4.0	4.0					4.0	4.0
Minimum Split (s)	23.0	23.0					10.0	10.0					15.0	20.0
Total Split (s)	37.0	37.0	0.0	0.0	0.0	0.0	26.0	26.0	49.0	0.0	57.0	0.0	34.0	23.0
Total Split (%)	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%	21.7%	21.7%	40.8%	0.0%	47.5%	0.0%	28%	19%
Maximum Green (s)	32.0	32.0					21.0	21.0					29.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0					4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0					1.0	1.0
Lead/Lag	Lag	Lag					Lag	Lag					Lead	Lead
Lead-Lag Optimize?							Yes	Yes						Yes
Vehicle Extension (s)	3.0	3.0					3.0	3.0					3.0	3.0
Recall Mode	None	None					None	None					C-Max	Max
Walk Time (s)	7.0	7.0											7.0	7.0
Flash Dont Walk (s)	11.0	11.0											3.0	8.0
Pedestrian Calls (#/hr)	0	0											0	0
v/c Ratio	0.63	0.77						1.11	0.58		0.52			
Control Delay	50.6	56.8						127.4	4.8		10.4			
Queue Delay	18.2	0.0						56.4	0.0		0.9			
Total Delay	68.7	56.8						183.8	4.8		11.4			
Queue Length 50th (ft)	144	182						~285	0		124			
Queue Length 95th (ft)	199	247						#454	70		323			
Internal Link Dist (ft)		101			270			491			89			
Turn Bay Length (ft)	130													
Base Capacity (vph)	487	500						331	955		1739			
Starvation Cap Reductn	0	0						0	0		528			
Spillback Cap Reductn	243	0						36	0		0			
Storage Cap Reductn	0	0						0	0		0			
Reduced v/c Ratio	0.93	0.58						1.24	0.58		0.74			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 2: Cambridge St. & First Street Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0						4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00						1.00	1.00		0.95	
Frt	1.00	0.97						1.00	0.85		0.91	
Flt Protected	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (prot)	1770	1791						1808	1459		3222	
Flt Permitted	0.95	1.00						0.99	1.00		1.00	
Satd. Flow (perm)	1770	1791						1808	1459		3222	
Volume (vph)	205	210	50	0	0	0	100	230	495	0	340	505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	1.00	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	228	233	56	0	0	0	111	256	550	0	362	537
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	305	0	197	0
Lane Group Flow (vph)	228	281	0	0	0	0	0	367	245	0	702	0
Heavy Vehicles (%)	2%	3%	3%	7%	7%	2%	7%	2%	7%	2%	2%	2%
Turn Type	Split						Split		custom			
Protected Phases	6	6					3	3	3 8		4 8	
Permitted Phases												
Actuated Green, G (s)	23.6	23.6						21.0	52.4		55.4	
Effective Green, g (s)	24.6	24.6						22.0	53.4		57.4	
Actuated g/C Ratio	0.20	0.20						0.18	0.44		0.48	
Clearance Time (s)	5.0	5.0						5.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	363	367						331	649		1541	
v/s Ratio Prot	0.13	c0.16						c0.20	0.17		c0.22	
v/s Ratio Perm												
v/c Ratio	0.63	0.77						1.11	0.38		0.46	
Uniform Delay, d1	43.5	45.0						49.0	22.2		20.9	
Progression Factor	1.00	1.00						1.00	1.00		1.51	
Incremental Delay, d2	3.4	9.2						82.0	0.4		0.7	
Delay (s)	46.9	54.2						131.0	22.6		32.1	
Level of Service	D	D						F	C		C	
Approach Delay (s)		51.0			0.0			66.0			32.1	
Approach LOS		D			A			E			C	

Intersection Summary			
HCM Average Control Delay	49.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Green Line Extension
3: O'Brien Hwy & Charlestown Ave

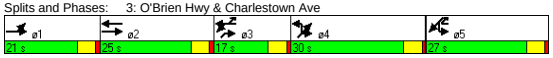
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	13	10	10	10	10	12	11	11	11	12	
Storage Length (ft)	115		110	0		0	0		0	110		0	
Storage Lanes	1		1	1		1	1		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50		
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		415			243			462			1068		
Travel Time (s)		9.4			5.5			10.5			24.3		
Volume (vph)	530	965	325	375	745	415	430	1225	585	295	515	245	
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94	
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%	
Lane Group Flow (vph)	582	1060	357	379	753	419	453	1289	616	314	809	0	
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split			
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		2
Permitted Phases			Free										
Detector Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5		
Minimum Initial (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	21.0			10.0			10.0	10.0		27.0	27.0		18.0
Total Split (s)	21.0	46.0	0.0	17.0	42.0	44.0	30.0	30.0	47.0	27.0	27.0	0.0	25.0
Total Split (%)	17.5%	38.3%	0.0%	14.2%	35.0%	36.7%	25.0%	25.0%	39.2%	22.5%	22.5%	0.0%	21%
Maximum Green (s)	16.0			12.0			25.0	25.0		22.0	22.0		20.0
Yellow Time (s)	4.0			4.0			4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0			1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead			Lead			Lag	Lag					Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes					Yes
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0		3.0
Recall Mode	None			C-Max			None	None		None	None		None
Walk Time (s)										7.0	7.0		0.0
Flash Dont Walk (s)										15.0	15.0		13.0
Pedestrian Calls (#/hr)										0	0		0
v/c Ratio	2.53	0.63	0.22	2.24	0.76	0.63	1.29	1.71	1.07	1.07	1.29		
Control Delay	723.8	34.5	0.3	594.3	31.6	18.6	189.3	357.6	91.6	119.2	177.8		
Queue Delay	0.0	0.0	0.0	0.0	200.7	1.3	0.0	0.0	150.8	0.0	0.0		
Total Delay	723.8	34.5	0.3	594.3	232.3	19.8	189.3	357.6	242.5	119.2	177.8		
Queue Length 50th (ft)	~663	219	0	~428	271	110	~394	~681	~439	~261	~370		
Queue Length 95th (ft)	#857	262	0	m#586	m330	m196	#575	#802	#641	#437	#489		
Internal Link Dist (ft)		335			163			382			988		
Turn Bay Length (ft)	115		110							110			
Base Capacity (vph)	230	1687	1605	169	988	670	351	752	576	293	629		
Starvation Cap Reductn	0	0	0	0	466	101	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	142	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	2.53	0.63	0.22	2.24	1.44	0.74	1.29	1.71	1.42	1.07	1.29		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 67 (56%), Referenced to phase 3:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: O'Brien Hwy & Charlestown Ave



Green Line Extension
3: O'Brien Hwy & Charlestown Ave

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	13	10	10	10	10	12	11	11	11	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3059	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4821	1605	1560	3120	1396	1620	3471	1501	1527	3059	
Volume (vph)	530	965	325	375	745	415	430	1225	585	295	515	245
Peak-hour factor, PHF	0.91	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.95	0.94	0.94	0.94
Adj. Flow (vph)	582	1060	357	379	753	419	453	1289	616	314	548	261
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	38	0	43	0
Lane Group Flow (vph)	582	1060	357	379	753	168	453	1289	578	314	766	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	4%	4%	4%	4%	4%	4%
Turn Type	Prot		Free	Prot		custom	Split		pt+ov	Split		
Protected Phases	1	1 2		3	2 3	3 5	4	4	3 4	5	5	
Permitted Phases			Free									
Actuated Green, G (s)	16.0	41.0	120.0	12.0	37.0	34.0	25.0	25.0	42.0	22.0	22.0	
Effective Green, g (s)	17.0	42.0	120.0	13.0	38.0	36.0	26.0	26.0	43.0	23.0	23.0	
Actuated g/C Ratio	0.14	0.35	1.00	0.11	0.32	0.30	0.22	0.22	0.36	0.19	0.19	
Clearance Time (s)	5.0			5.0			5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1687	1605	169	988	419	351	752	538	293	586	
v/s Ratio Prot	c0.36	0.22		c0.24	c0.24	0.12	0.28	c0.37	0.39	0.21	c0.25	
v/s Ratio Perm			0.22									
v/c Ratio	2.53	0.63	0.22	2.24	0.76	0.40	1.29	1.71	1.07	1.07	1.31	
Uniform Delay, d1	51.5	32.5	0.0	53.5	36.9	33.4	47.0	47.0	38.5	48.5	48.5	
Progression Factor	1.00	1.00	1.00	0.84	0.75	4.84	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	701.4	0.7	0.3	570.5	2.2	0.4	150.6	327.0	60.4	72.9	150.4	
Delay (s)	752.9	33.2	0.3	615.4	30.0	162.0	197.6	374.0	98.9	121.4	198.9	
Level of Service	F	C	A	F	C	F	F	F	F	F	F	
Approach Delay (s)		236.9			208.7			268.2			177.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	231.6	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.64				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	117.6%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

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VHB:: RNR
VHB, Inc.
10/28/2008

Green Line Extension
6: O'Brien Hwy & First Street Extension

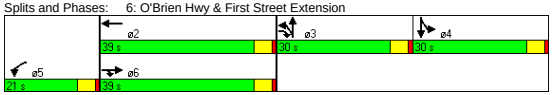
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	230		0	0		0	0		0
Storage Lanes	0		1	2		0	1		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50		50	50	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			334			169			357	
Travel Time (s)		9.4			7.6			3.8			8.1	
Volume (vph)	0	930	120	350	920	55	205	235	0	180	375	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	1033	133	389	1083	0	228	261	0	0	650	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Detector Phases		6	6 3	5	2		3	3		4	4	
Minimum Initial (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)		23.0		21.0	23.0		30.0	30.0		30.0	30.0	
Total Split (s)	0.0	39.0	69.0	21.0	39.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	32.5%	57.5%	17.5%	32.5%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)		34.0		16.0	34.0		25.0	25.0		25.0	25.0	
Yellow Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		9.0	11.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
v/c Ratio		0.69	0.16	0.82	1.04		0.69	0.75			0.76	
Control Delay		23.2	1.1	64.9	81.1		62.0	64.0			49.0	
Queue Delay		0.0	0.0	2.1	0.0		255.9	344.1			38.2	
Total Delay		23.2	1.1	67.0	81.1		317.8	408.1			87.1	
Queue Length 50th (ft)		151	8	134	~424		167	192			218	
Queue Length 95th (ft)		174	0	#195	#544		m193	m218			#309	
Internal Link Dist (ft)		332			254			89			277	
Turn Bay Length (ft)			100	230								
Base Capacity (vph)		1498	891	486	1038		384	404			858	
Starvation Cap Reductn		0	0	0	0		237	255			0	
Spillback Cap Reductn		0	7	31	0		0	0			248	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.69	0.15	0.85	1.04		1.55	1.75			1.07	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: O'Brien Hwy & First Street Extension



Green Line Extension
6: O'Brien Hwy & First Street Extension

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91	1.00	0.97	0.95		1.00	1.00			0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00			0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		5085	1583	3433	3509		1770	1863			3459	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)		5085	1583	3433	3509		1770	1863			3459	
Volume (vph)	0	930	120	350	920	55	205	235	0	180	375	30
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1033	133	389	1022	61	228	261	0	200	417	33
RTOR Reduction (vph)	0	0	30	0	4	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	1033	103	389	1079	0	228	261	0	0	647	0
Turn Type			pt+ov	Prot			Split			Split		
Protected Phases		6	6 3	5	2		3	3		4	4	
Permitted Phases												
Actuated Green, G (s)		34.4	60.7	15.6	34.4		21.3	21.3			28.7	
Effective Green, g (s)		35.4	61.7	16.6	35.4		22.3	22.3			29.7	
Actuated g/C Ratio		0.30	0.51	0.14	0.30		0.19	0.19			0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1500	814	475	1035		329	346			856	
v/s Ratio Prot		0.20	0.06	c0.11	c0.31		0.13	c0.14			c0.19	
v/s Ratio Perm												
v/c Ratio		0.69	0.13	0.82	1.04		0.69	0.75			0.76	
Uniform Delay, d1		37.4	15.1	50.2	42.3		45.7	46.3			41.8	
Progression Factor		0.55	0.09	1.00	1.00		1.25	1.25			1.00	
Incremental Delay, d2		2.5	0.1	10.6	39.8		2.9	4.3			6.2	
Delay (s)		23.0	1.5	60.8	82.1		60.0	62.0			48.0	
Level of Service		C	A	E	F		E	E			D	
Approach Delay (s)		20.5			76.5			61.0			48.0	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

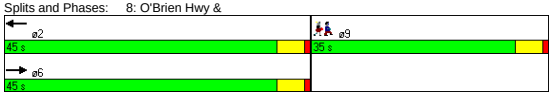
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø9
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50			
Trailing Detector (ft)	0			0			
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	224			259	90		
Travel Time (s)	5.1			5.9	2.0		
Volume (vph)	1815	0	0	1370	0	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Lane Group Flow (vph)	1973	0	0	1489	0	0	
Turn Type							
Protected Phases	6			2			9
Permitted Phases							
Detector Phases	6			2			
Minimum Initial (s)	4.0			4.0			4.0
Minimum Split (s)	21.0			21.0			35.0
Total Split (s)	45.0	0.0	0.0	45.0	0.0	0.0	35.0
Total Split (%)	56.3%	0.0%	0.0%	56.3%	0.0%	0.0%	44%
Maximum Green (s)	40.0			40.0			30.0
Yellow Time (s)	4.0			4.0			4.0
All-Red Time (s)	1.0			1.0			1.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			3.0			3.0
Recall Mode	Max			Max			None
Walk Time (s)							7.0
Flash Dont Walk (s)							23.0
Pedestrian Calls (#/hr)							20
v/c Ratio	0.42			0.45			
Control Delay	2.9			3.4			
Queue Delay	0.0			0.0			
Total Delay	2.9			3.4			
Queue Length 50th (ft)	0			0			
Queue Length 95th (ft)	272			329			
Internal Link Dist (ft)	144			179	10		
Turn Bay Length (ft)							
Base Capacity (vph)	4754			3309			
Starvation Cap Reductn	0			0			
Spillback Cap Reductn	0			0			
Storage Cap Reductn	0			0			
Reduced v/c Ratio	0.42			0.45			

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 120	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: O'Brien Hwy &



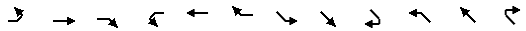
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	0.91			0.95		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	5085			3539		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	5085			3539		
Volume (vph)	1815	0	0	1370	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1973	0	0	1489	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1973	0	0	1489	0	0
Turn Type						
Protected Phases	6			2		
Permitted Phases						
Actuated Green, G (s)	108.0			108.0		
Effective Green, g (s)	109.0			109.0		
Actuated g/C Ratio	0.88			0.88		
Clearance Time (s)	5.0			5.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	4470			3111		
v/s Ratio Prot	0.39			c0.42		
v/s Ratio Perm						
v/c Ratio	0.44			0.48		
Uniform Delay, d1	1.5			1.6		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.3			0.5		
Delay (s)	1.8			2.1		
Level of Service	A			A		
Approach Delay (s)	1.8			2.1	0.0	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Green Line Extension
11: Cambridge St. & O'Brien Hwy

Lanes, Volumes, Timings

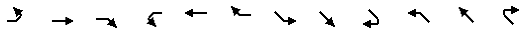


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	12	11	11	11	10	12	12
Storage Length (ft)	0		0	0		0	180		180	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			344			334			224	
Travel Time (s)		8.0			7.8			7.6			5.1	
Volume (vph)	0	0	700	0	0	5	0	1115	0	0	1340	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	22%	22%	22%	13%	13%	13%
Lane Group Flow (vph)	0	0	778	0	0	6	0	1239	0	0	1443	0
Sign Control		Yield			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Green Line Extension
11: Cambridge St. & O'Brien Hwy

HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	700	0	0	5	0	1115	0	0	1340	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	778	0	0	6	0	1239	0	0	1411	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								334			224	
pX, platoon unblocked	0.87	0.87	0.82	0.87	0.87	0.91	0.91			0.82		
vC, conflicting volume	1950	2681	413	2617	2665	721	1442			1239		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1416	2254	0	2181	2236	587	1384			864		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.5			4.4		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.4			2.3		
p0 queue free %	100	100	13	100	100	99	100			100		
cM capacity (veh/h)	83	35	891	3	35	403	361			584		

Direction, Lane #	EB 1	WB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	778	6	413	413	413	940	502
Volume Left	0	0	0	0	0	0	0
Volume Right	778	6	0	0	0	0	32
cSH	891	403	1700	1700	1700	1700	1700
Volume to Capacity	0.87	0.01	0.24	0.24	0.24	0.55	0.30
Queue Length 95th (ft)	251	1	0	0	0	0	0
Control Delay (s)	29.4	14.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B					
Approach Delay (s)	29.4	14.1	0.0			0.0	
Approach LOS	D	B					

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

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VHB:: RNR
VHB, Inc.
10/28/2008

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		259	415		315	
Travel Time (s)		5.9	9.4		7.2	
Volume (vph)	0	1815	1350	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Lane Group Flow (vph)	0	2017	1578	0	0	22
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1815	1350	70	0	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	2017	1500	78	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		259	415			
pX, platoon unblocked	0.79				0.83	0.79
vC, conflicting volume	1578				2211	789
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1468				1868	475
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	362				53	426

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	672	672	672	1000	578	22
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	78	22
cSH	1700	1700	1700	1700	1700	426
Volume to Capacity	0.40	0.40	0.40	0.59	0.34	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.9
Lane LOS						B
Approach Delay (s)	0.0			0.0		13.9
Approach LOS						B

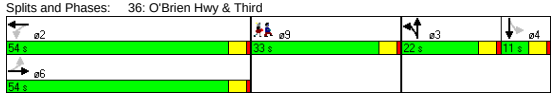
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	10	12	10	12	12	12	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		399			338			1431			198		
Travel Time (s)		9.1			7.7			32.5			4.5		
Volume (vph)	1	1245	340	1	1425	1	875	1	35	1	1	1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92	
Lane Group Flow (vph)	0	1762	0	0	1585	0	513	499	0	0	3	0	
Turn Type	Perm			Perm			Split			Perm			
Protected Phases		6			2		3	3			4		9
Permitted Phases	6			2						4			
Detector Phases	6	6		2	2		3	3		4	4		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		11.0	11.0		33.0
Total Split (s)	54.0	54.0	0.0	54.0	54.0	0.0	22.0	22.0	0.0	11.0	11.0	0.0	33.0
Total Split (%)	45.0%	45.0%	0.0%	45.0%	45.0%	0.0%	18.3%	18.3%	0.0%	9.2%	9.2%	0.0%	28%
Maximum Green (s)	49.0	49.0		49.0	49.0		17.0	17.0		6.0	6.0		28.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lag	Lag		
Lead-Lag Optimize?										Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		None	None		Max
Walk Time (s)													7.0
Flash Dont Walk (s)													21.0
Pedestrian Calls (#/hr)													0
v/c Ratio		0.81			0.96		2.18	1.97			0.04		
Control Delay		29.3			53.6		571.7	479.5			48.3		
Queue Delay		0.1			1.7		0.0	29.0			0.0		
Total Delay		29.4			55.3		571.7	508.5			48.3		
Queue Length 50th (ft)		336			495		~590	~560			1		
Queue Length 95th (ft)		#509			#770		#787	#758			11		
Internal Link Dist (ft)		319			258			1351			118		
Turn Bay Length (ft)													
Base Capacity (vph)		2164			1654		235	253			79		
Starvation Cap Reductn		0			25		0	0			0		
Spillback Cap Reductn		40			0		0	8			0		
Storage Cap Reductn		0			0		0	0			0		
Reduced v/c Ratio		0.83			0.97		2.18	2.04			0.04		

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 36: O'Brien Hwy & Third



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	10	12	10	12	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.95		0.95	0.95			1.00	
Frt		0.97			1.00		1.00	0.99			0.96	
Flt Protected		1.00			1.00		0.95	0.96			0.98	
Satd. Flow (prot)		4922			3539		1569	1672			1750	
Flt Permitted		0.90			0.95		0.95	0.96			1.00	
Satd. Flow (perm)		4431			3377		1569	1672			1779	
Volume (vph)	1	1245	340	1	1425	1	875	1	35	1	1	1
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	1	1383	378	1	1583	1	972	1	39	1	1	1
RTOR Reduction (vph)	0	38	0	0	0	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1724	0	0	1585	0	513	496	0	0	2	0
Turn Type	Perm			Perm			Split			Perm		
Protected Phases		6			2		3	3			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)		53.8			53.8		17.0	17.0			1.2	
Effective Green, g (s)		54.8			54.8		18.0	18.0			2.2	
Actuated g/C Ratio		0.46			0.46		0.15	0.15			0.02	
Clearance Time (s)		5.0			5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2023			1542		235	251			33	
v/s Ratio Prot							c0.33	0.30				
v/s Ratio Perm		0.39			c0.47						c0.00	
v/c Ratio		0.85			1.03		2.18	1.98			0.06	
Uniform Delay, d1		29.0			32.6		51.0	51.0			57.9	
Progression Factor		1.00			1.42		1.00	1.00			1.00	
Incremental Delay, d2		4.8			28.3		546.1	454.1			0.8	
Delay (s)		33.8			74.6		597.1	505.1			58.7	
Level of Service		C			E		F	F			E	
Approach Delay (s)		33.8			74.6			551.7			58.7	
Approach LOS		C			E			F			E	

Intersection Summary

HCM Average Control Delay	168.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	45.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)		9	15		15	9
Link Speed (mph)	30			30	30	
Link Distance (ft)	151			412	150	
Travel Time (s)	3.4			9.4	3.4	
Volume (vph)	955	15	0	1195	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Heavy Vehicles (%)	0%	0%	4%	4%	1%	1%
Parking (#/hr)						0
Lane Group Flow (vph)	1043	0	0	1271	0	106
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	955	15	0	1195	0	95
Peak Hour Factor	0.93	0.93	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	1027	16	0	1271	0	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	151			412		
pX, platoon unblocked			0.92		0.75	0.92
vC, conflicting volume			1043		1671	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			878		1151	127
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			694		145	832

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	411	411	222	636	636	106
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	106
cSH	1700	1700	1700	1700	1700	832
Volume to Capacity	0.24	0.24	0.13	0.37	0.37	0.13
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.0
Lane LOS						A
Approach Delay (s)	0.0			0.0		10.0
Approach LOS						A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		

Green Line Extension
44: O'Brien Hwy & Water St.

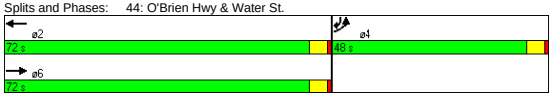
Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50							50
Trailing Detector (ft)	0	0			0							0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			151			196			222	
Travel Time (s)		7.7			3.4			4.5			5.0	
Volume (vph)	310	970	0	0	1115	80	0	0	0	0	0	310
Peak Hour Factor	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Lane Group Flow (vph)	333	1043	0	0	1271	0	0	0	0	0	0	344
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Detector Phases	4	6			2							4
Minimum Initial (s)	4.0	4.0			4.0							4.0
Minimum Split (s)	28.0	28.0			17.0							28.0
Total Split (s)	48.0	72.0	0.0	0.0	72.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Total Split (%)	40.0%	60.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%
Maximum Green (s)	43.0	67.0			67.0							43.0
Yellow Time (s)	4.0	4.0			4.0							4.0
All-Red Time (s)	1.0	1.0			1.0							1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Recall Mode	None	C-Max			C-Max							None
Walk Time (s)	7.0				7.0							7.0
Flash Dont Walk (s)	16.0				5.0							16.0
Pedestrian Calls (#/hr)	0				0							0
v/c Ratio	0.82	0.30			0.53							0.79
Control Delay	74.0	0.6			6.2							47.3
Queue Delay	1.0	0.3			0.6							674.0
Total Delay	75.0	0.9			6.8							721.3
Queue Length 50th (ft)	239	7			70							182
Queue Length 95th (ft)	m288	m12			m80							250
Internal Link Dist (ft)		258			71			116			142	
Turn Bay Length (ft)												
Base Capacity (vph)	630	3447			2378							639
Starvation Cap Reductn	117	1497			205							0
Spillback Cap Reductn	0	0			644							607
Storage Cap Reductn	0	0			0							0
Reduced v/c Ratio	0.65	0.53			0.73							10.75

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 44: O'Brien Hwy & Water St.



Green Line Extension
44: O'Brien Hwy & Water St.

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0							4.0
Lane Util. Factor	1.00	0.91			0.95							1.00
Frt	1.00	1.00			0.99							0.86
Flt Protected	0.95	1.00			1.00							1.00
Satd. Flow (prot)	1719	4940			3404							1627
Flt Permitted	0.95	1.00			1.00							1.00
Satd. Flow (perm)	1719	4940			3404							1627
Volume (vph)	310	970	0	0	1115	80	0	0	0	0	0	310
Peak-hour factor, PHF	0.93	0.93	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.90	0.92	0.90
Adj. Flow (vph)	333	1043	0	0	1186	85	0	0	0	0	0	344
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	51
Lane Group Flow (vph)	333	1043	0	0	1268	0	0	0	0	0	0	293
Heavy Vehicles (%)	5%	5%	2%	2%	5%	5%	2%	2%	2%	1%	2%	1%
Turn Type	Prot											Over
Protected Phases	4	6			2							4
Permitted Phases												
Actuated Green, G (s)	27.3	82.7			82.7							27.3
Effective Green, g (s)	28.3	83.7			83.7							28.3
Actuated g/C Ratio	0.24	0.70			0.70							0.24
Clearance Time (s)	5.0	5.0			5.0							5.0
Vehicle Extension (s)	3.0	3.0			3.0							3.0
Lane Grp Cap (vph)	405	3446			2374							384
v/s Ratio Prot	c0.19	0.21			c0.37							0.18
v/s Ratio Perm												
v/c Ratio	0.82	0.30			0.53							0.76
Uniform Delay, d1	43.5	7.0			8.8							42.7
Progression Factor	1.52	0.06			0.61							1.00
Incremental Delay, d2	6.8	0.1			0.2							8.7
Delay (s)	72.8	0.6			5.6							51.4
Level of Service	E	A			A							D
Approach Delay (s)		18.1			5.6			0.0			51.4	
Approach LOS		B			A			A			D	

Intersection Summary

HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

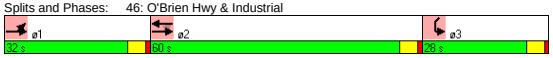
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	11	12	10	11
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		243	610		205	
Travel Time (s)		5.5	13.9		4.7	
Volume (vph)	85	1760	1400	220	370	140
Peak Hour Factor	0.92	0.92	0.95	0.95	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Lane Group Flow (vph)	0	2005	1706	0	567	0
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Detector Phases	1	1 2	2		3	
Minimum Initial (s)	6.0		10.0		6.0	
Minimum Split (s)	20.0		15.0		13.0	
Total Split (s)	32.0	92.0	60.0	0.0	28.0	0.0
Total Split (%)	26.7%	76.7%	50.0%	0.0%	23.3%	0.0%
Maximum Green (s)	27.0		55.0		23.0	
Yellow Time (s)	4.0		4.0		4.0	
All-Red Time (s)	1.0		1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	
Recall Mode	None		C-Max		None	
v/c Ratio		0.77	0.77		0.90	
Control Delay		11.6	28.5		62.5	
Queue Delay		1.4	14.1		3.1	
Total Delay		12.9	42.5		65.7	
Queue Length 50th (ft)		172	343		181	
Queue Length 95th (ft)		m180	399		#268	
Internal Link Dist (ft)		163	530		125	
Turn Bay Length (ft)						
Base Capacity (vph)		2642	2229		641	
Starvation Cap Reductn		409	0		0	
Spillback Cap Reductn		0	542		30	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.90	1.01		0.93	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 46: O'Brien Hwy & Industrial



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	10	11	12	10	11
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		0.91	0.91		0.97	
Frt		1.00	0.98		0.96	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		4689	4634		3031	
Flt Permitted		0.69	1.00		0.97	
Satd. Flow (perm)		3248	4634		3031	
Volume (vph)	85	1760	1400	220	370	140
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.90	0.90
Adj. Flow (vph)	92	1913	1474	232	411	156
RTOR Reduction (vph)	0	0	17	0	35	0
Lane Group Flow (vph)	0	2005	1689	0	532	0
Heavy Vehicles (%)	3%	3%	6%	6%	5%	5%
Turn Type	D.P+P					
Protected Phases	1	1 2	2		3	
Permitted Phases	2		2			
Actuated Green, G (s)		82.5	56.2		22.5	
Effective Green, g (s)		84.5	57.2		23.5	
Actuated g/C Ratio		0.70	0.48		0.20	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		2615	2209		594	
v/s Ratio Prot		c0.17	0.36		c0.18	
v/s Ratio Perm		c0.37				
v/c Ratio		0.77	0.76		0.90	
Uniform Delay, d1		11.4	25.9		47.1	
Progression Factor		1.35	1.00		1.00	
Incremental Delay, d2		0.7	2.6		16.1	
Delay (s)		16.2	28.4		63.1	
Level of Service		B	C		E	
Approach Delay (s)		16.2	28.4		63.1	
Approach LOS		B	C		E	

Intersection Summary

HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1600
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		850			858			735			2678	
Travel Time (s)		19.3			19.5			16.7			60.9	
Volume (vph)	15	685	150	75	445	10	5	5	2	95	15	135
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	0%	0%	0%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	905	0	0	570	0	0	26	0	0	145	178
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	685	150	75	445	10	5	5	2	95	15	135
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.45	0.45	0.45	0.76	0.76	0.76
Hourly flow rate (vph)	16	729	160	81	478	11	11	11	4	125	20	178
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	489			888			1673	1565	484	1496	1491	809
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	489			888			1673	1565	484	1496	1491	809
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	99			89			65	89	99	0	82	53
cM capacity (veh/h)	1069			763			32	99	587	82	107	375

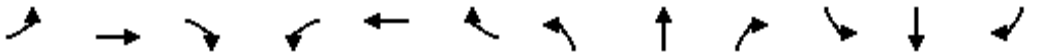
Direction, Lane #	EB 1	WB 1	SE 1	NW 1	NW 2
Volume Total	904	570	27	145	178
Volume Left	16	81	11	125	0
Volume Right	160	11	4	0	178
cSH	1069	763	57	84	375
Volume to Capacity	0.01	0.11	0.47	1.71	0.47
Queue Length 95th (ft)	1	9	45	301	62
Control Delay (s)	0.4	2.8	116.0	450.5	23.0
Lane LOS	A	A	F	F	C
Approach Delay (s)	0.4	2.8	116.0	214.9	
Approach LOS			F	F	

Intersection Summary				
Average Delay	40.8			
Intersection Capacity Utilization	85.7%	ICU Level of Service		E
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	14	14	12	12	12	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		461			467			261			320	
Travel Time (s)		10.5			10.6			5.9			7.3	
Volume (vph)	0	0	0	170	45	100	290	1090	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	2%	2%	2%	2%	2%
Lane Group Flow (vph)	0	0	0	0	349	0	315	1147	0	0	1033	212
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

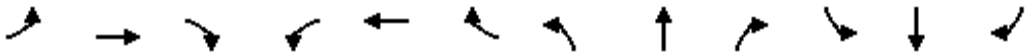
Control Type: Unsignalized



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	170	45	100	290	1090	0	0	950	195
Peak Hour Factor	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	189	49	111	315	1147	0	0	1033	212
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											320	
pX, platoon unblocked	0.09	0.09	0.09	0.09	0.09		0.09					
vC, conflicting volume	2946	2810	1033	2810	3022	1147	1245			1147		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23088	21549	1370	21549	23955	1147	3776			1147		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	54	0			100		
cM capacity (veh/h)	0	0	16	0	0	243	5			609		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	349	315	1147	1033	212
Volume Left	189	315	0	0	0
Volume Right	111	0	0	0	212
cSH	0	5	1700	1700	1700
Volume to Capacity	Err	64.38	0.67	0.61	0.12
Queue Length 95th (ft)	Err	Err	0	0	0
Control Delay (s)	Err	Err	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	Err	2155.0		0.0	
Approach LOS	F				

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	152.0%	ICU Level of Service	H	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		506			516			605			261	
Travel Time (s)		11.5			11.7			13.8			5.9	
Volume (vph)	245	215	210	0	0	0	0	1135	505	80	1040	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Lane Group Flow (vph)	0	744	0	0	0	0	0	1261	561	84	1095	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	245	215	210	0	0	0	0	1135	505	80	1040	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Hourly flow rate (vph)	272	239	233	0	0	0	0	1261	561	84	1095	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											581	
pX, platoon unblocked												
vC, conflicting volume	2524	3085	1095	2877	2524	1261	1095			1822		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2524	3085	1095	2877	2524	1261	1095			1822		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	11	0	100	100	100			75		
cM capacity (veh/h)	15	9	261	0	21	208	638			333		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	392	353	1261	561	84	1095
Volume Left	272	0	0	0	84	0
Volume Right	0	233	0	561	0	0
cSH	13	25	1700	1700	333	1700
Volume to Capacity	31.20	14.18	0.74	0.33	0.25	0.64
Queue Length 95th (ft)	Err	Err	0	0	25	0
Control Delay (s)	Err	Err	0.0	0.0	19.4	0.0
Lane LOS	F	F			C	
Approach Delay (s)	Err		0.0		1.4	
Approach LOS	F					

Intersection Summary				
Average Delay	1987.7			
Intersection Capacity Utilization	152.0%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	14	14	14	14	14	12
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1153			369			1757			605	
Travel Time (s)		26.2			8.4			39.9			13.8	
Volume (vph)	480	5	10	0	1	5	85	1155	1	5	365	880
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	1%	1%	1%	2%	2%	2%
Lane Group Flow (vph)	0	562	0	0	13	0	0	1363	0	0	377	898
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	480	5	10	0	1	5	85	1155	1	5	365	880
Peak Hour Factor	0.88	0.88	0.88	0.44	0.44	0.44	0.91	0.91	0.91	0.98	0.98	0.98
Hourly flow rate (vph)	545	6	11	0	2	11	93	1269	1	5	372	898
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											1186	
pX, platoon unblocked												
vC, conflicting volume	1852	1840	372	1853	1839	1270	372			1270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1852	1840	372	1853	1839	1270	372			1270		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	0	92	98	100	97	94	92			99		
cM capacity (veh/h)	49	69	674	47	67	199	1192			547		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	562	14	1364	378	898
Volume Left	545	0	93	5	0
Volume Right	11	11	1	0	898
cSH	50	150	1192	547	1700
Volume to Capacity	11.29	0.09	0.08	0.01	0.53
Queue Length 95th (ft)	Err	7	6	1	0
Control Delay (s)	Err	31.5	3.0	0.3	0.0
Lane LOS	F	D	A	A	
Approach Delay (s)	Err	31.5	3.0	0.1	
Approach LOS	F	D			

Intersection Summary			
Average Delay	1750.7		
Intersection Capacity Utilization	133.4%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	0%		1%	
Turning Speed (mph)	15			9	15	9
Link Speed (mph)		30	30		30	
Link Distance (ft)		1629	419		2545	
Travel Time (s)		37.0	9.5		57.8	
Volume (vph)	40	455	450	100	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Lane Group Flow (vph)	0	500	605	0	155	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other

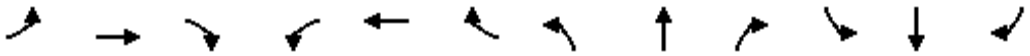
Control Type: Unsignalized



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		1%	
Volume (veh/h)	40	455	450	100	60	75
Peak Hour Factor	0.99	0.99	0.91	0.91	0.87	0.87
Hourly flow rate (vph)	40	460	495	110	69	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			419			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	604				1090	549
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	562				1099	501
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				66	83
cM capacity (veh/h)	912				204	517

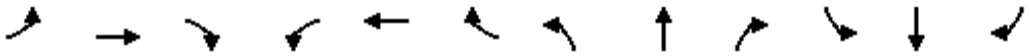
Direction, Lane #	NB 1	SB 1	NE 1
Volume Total	500	604	155
Volume Left	40	0	69
Volume Right	0	110	86
cSH	912	1700	307
Volume to Capacity	0.04	0.36	0.51
Queue Length 95th (ft)	3	0	67
Control Delay (s)	1.2	0.0	28.1
Lane LOS	A		D
Approach Delay (s)	1.2	0.0	28.1
Approach LOS			D

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15		9	15		9	15		9	15		9
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			1347			1798			356	
Travel Time (s)		9.7			30.6			40.9			8.1	
Volume (vph)	10	170	105	245	295	10	85	25	140	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Lane Group Flow (vph)	0	352	0	0	586	0	0	294	0	0	7	0
Sign Control		Stop			Stop			Stop			Stop	

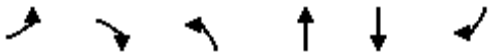
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	170	105	245	295	10	85	25	140	0	5	0
Peak Hour Factor	0.81	0.81	0.81	0.94	0.94	0.94	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	12	210	130	261	314	11	100	29	165	0	7	0

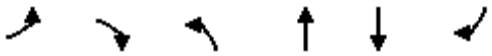
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	352	585	294	7
Volume Left (vph)	12	261	100	0
Volume Right (vph)	130	11	165	0
Hadj (s)	-0.20	0.11	-0.23	0.00
Departure Headway (s)	5.7	5.6	6.2	7.4
Degree Utilization, x	0.55	0.91	0.51	0.01
Capacity (veh/h)	615	585	552	420
Control Delay (s)	15.5	40.4	15.3	10.5
Approach Delay (s)	15.5	40.4	15.3	10.5
Approach LOS	C	E	C	B

Intersection Summary			
Delay	27.2		
HCM Level of Service	D		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15	9	15			9
Link Speed (mph)	30			30	30	
Link Distance (ft)	1347			2730	1153	
Travel Time (s)	30.6			62.0	26.2	
Volume (vph)	235	95	180	585	455	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Bus Blockages (#/hr)	3	3	5	5	0	0
Lane Group Flow (vph)	347	0	0	832	892	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	235	95	180	585	455	375
Peak Hour Factor	0.95	0.95	0.92	0.92	0.93	0.93
Hourly flow rate (vph)	247	100	196	636	489	403
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1718	691	892			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1718	691	892			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	78	74			
cM capacity (veh/h)	73	445	760			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	347	832	892
Volume Left	247	196	0
Volume Right	100	0	403
cSH	96	760	1700
Volume to Capacity	3.60	0.26	0.52
Queue Length 95th (ft)	Err	26	0
Control Delay (s)	Err	6.3	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	6.3	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1679.3		
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	12	12	12	11	11	11	12	12	12
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		888			467			1067		272		
Travel Time (s)		20.2			10.6			24.3		6.2		
Volume (vph)	25	0	375	200	255	45	45	465	10	45	0	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	0%	2%	2%	0%	1%	2%	2%	2%
Lane Group Flow (vph)	0	435	0	0	543	0	0	565	0	98	0	0
Sign Control		Stop			Free			Free		Stop		

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Movement	WBL2	WBL	WBR	SEL	SET	SER	NWL	NWT	NWR	NEL	NER	NER2
Lane Configurations												
Sign Control		Stop			Free			Free		Stop		
Grade		0%			0%			0%		0%		
Volume (veh/h)	25	0	375	200	255	45	45	465	10	45	0	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	408	217	277	49	49	505	11	49	0	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None								None		
Median storage veh)												
Upstream signal (ft)					467			1067				
pX, platoon unblocked	0.92	0.92	0.87	0.87			0.86			0.92	0.92	0.86
vC, conflicting volume	1394	1370	511	516			326			1753	1351	302
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1221	1195	440	446			213			1611	1174	185
tC, single (s)	7.1	6.5	6.2	4.1			4.1			7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	75	100	24	78			96			0	100	93
cM capacity (veh/h)	108	128	539	977			1162			15	131	735

Direction, Lane #	WB 1	SE 1	NW 1	NE 1
Volume Total	435	543	565	98
Volume Left	27	217	49	49
Volume Right	408	49	11	49
cSH	431	977	1162	30
Volume to Capacity	1.01	0.22	0.04	3.30
Queue Length 95th (ft)	325	21	3	Err
Control Delay (s)	76.7	5.5	1.2	Err
Lane LOS	F	A	A	F
Approach Delay (s)	76.7	5.5	1.2	Err
Approach LOS	F			F

Intersection Summary			
Average Delay	618.5		
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

SIDRA INTERSECTION

Movement Summary

Mystic Valley Parkway at Alewife Brook Parkway

2030 - Alt 7 PM

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
Alewife Brook Parkway										
3L	L	462	0.0	0.625	14.5	LOS B	187	0.86	0.94	22.6
8T	T	941	0.0	1.273	140.1	LOS F	2164	1.00	3.52	6.9
Approach		**1403**	**0.0**	**1.273**	**98.8**	**LOS F**	**2164**	**0.95**	**2.67**	**9.0**
Mystic Valley Parkway										
4T	T	828	0.0	0.955	26.8	LOS C	690	1.00	1.56	18.3
4R	R	596	0.0	0.787	15.5	LOS B	325	1.00	1.17	21.8
Approach		**1424**	**0.0**	**0.955**	**22.1**	**LOS C**	**690**	**1.00**	**1.39**	**19.6**
Mystic Valley Parkway										
5L	L	377	0.0	0.744	25.8	LOS C	267	1.00	1.25	18.9
2R	R	321	0.0	0.710	21.4	LOS C	229	1.00	1.22	19.8
Approach		**698**	**0.0**	**0.744**	**23.8**	**LOS C**	**267**	**1.00**	**1.24**	**19.3**
All Vehicles		**3525**	**0.0**	**1.273**	**52.9**	**LOS D**	**2164**	**0.98**	**1.87**	**13.3**

Symbols which may appear in this table:

Following Degree of Saturation
x = 1.00 for Short Lane with resulting Excess Flow
* x = 1.00 due to minimum capacity

Following LOS
- Based on density for continuous movements

Following Queue
- Density for continuous movement

SIDRA SOLUTIONS

Site: 2007 Existing PM
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Appendix G
Transit Access for Environmental Justice and Disability Populations

- Green Line Extension Environmental Justice Analysis
- Green Line Extension Disability Impact Analysis

Green Line Extension Environmental Justice Analysis

Green Line Extension EIR Analysis:
Environmental Justice Analysis for Minority and Low Income Populations

DRAFT Prepared by

Central Transportation Planning Staff

November 26, 2008

As part of the Boston Metropolitan Planning Organization (MPO) regional equity program, an examination was conducted of the impacts of the Green Line Extension, including the distribution of the transportation system's benefits and burdens among environmental justice population zones. (These types of zones are defined in the section below.) The study's performance measures focus on mobility, accessibility, and environmental impact concerns.

Environmental justice areas are geographic regions determined by the demographics of the people living in a transportation analysis zone (TAZ). A TAZ is an aggregation of census geography based on population and estimated trip volumes. According to the definition used for the Boston MPO's regional equity program, "A TAZ will be considered an Environmental Justice Area if it is over 50 percent minority or has a median household income at or below 60 percent of the region's median" (60 percent of the region's median household income of $55,800 is $33,480). The TAZ's total minority population must be at least 200.

The number of environmental justice areas in the Green Line Extension project area was defined using TAZ's based on thresholds developed by the Boston MPO to examine equity in the region. The Boston MPO thresholds were developed for the Regional Transportation Plan and offer a greater inclusion of TAZ's than the Massachusetts Executive Office of Environmental Affairs (EOEA) definition of environmental justice populations. The Boston MPO's thresholds for these environmental justice populations are as follows:

• Low income – The Boston MPO median household income in 2000 was approximately $55,800. A low-income TAZ was defined as having a median household income at or below 80 percent of this level ($44,640).

• Minority – 21.4 percent of the MPO population in 2000 was composed of minorities (nonwhite and Hispanic). A minority TAZ was defined as having a percentage of minority population greater than 21.4 percent.

The resulting environmental justice population zones in the Green Line Extension project area are shown in Figure 1.

The 2030 demographic forecasts used for this study assumed the attributes of the residential populations in the project area TAZs remain the same as they were observed in the 2000 US Census. The Build, Bus Base Line, and No-Build scenarios used the same demographic forecasts.

Performance Measures

Performance measures were used as indicators of benefits and burdens for environmental justice and non–environmental justice population zones' populations. These measures fall into three categories:

- Accessibility to needed services and jobs
- Mobility and congestion
- Environment

Accessibility Analysis

This study analyzed access to needed services and jobs in terms of average transit and highway travel times from environmental justice population zones to industrial, retail, and service employment opportunities; health care; and institutions of higher education. The accessibility analysis featured an examination of the number of destinations within a 40-minute transit trip and a 20-minute auto trip. The analysis of transit travel times included destinations within a 40-minute transit trip, and the analysis of highway travel times included destinations within a 20-minute auto trip.

Differences were calculated between the No-Build, Bus Base Line, and Build scenarios (Scenario 2 – the Riverside Branch is extended to Mystic Valley and the Heath Street Branch is extended to Union Square - and Scenario 7 – the Riverside and Heath Street Branches are extended to Mystic Valley) for environmental justice and non–environmental justice population zone residents. Results are aggregated for each type of population zone, and the reported averages are weighted by the number of residents in each environmental justice or non–environmental justice population zone.

The examined accessibility performance measures were:

- The average number of industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip.
- The average travel time to industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip.
- The average number of hospital beds within a 40-minute transit trip and a 20-minute auto trip.
- The average travel time to a hospital, weighted by the number of hospital beds, within a 40-minute transit trip and a 20-minute auto trip.
- The average number of students at facilities of two- and four-year institutions of higher education within a 40-minute transit trip and a 20-minute auto trip.

• The average travel time to facilities of two- and four-year institutions of higher education, weighted by enrollment, within a 40-minute transit trip and a 20-minute auto trip.

Mobility, Congestion, and Environmental Analysis

The mobility, congestion, and environmental impacts were analyzed by comparing performance measures for environmental justice population zones to those for non–environmental justice population zones. As in the accessibility analysis, differences between the average levels of these performance measures within the two types of zones were calculated for the No-Build, Bus Base Line, and Build scenarios. The results are aggregated in the same manner.

The examined mobility, congestion, and environmental performance measures were:

• VMT per square mile – the number of vehicle-miles traveled per square mile of dry land within a TAZ.
• CO per square mile – the number of kilograms of carbon monoxide emitted per square mile of dry land within a TAZ.
• Transit production time – the average door-to-door travel time for all transit trips produced in the TAZ.
• Highway production time – the average door-to-door travel time for all highway trips produced in the TAZ.
• Transit attraction time – the average door-to-door travel time for all transit trips attracted to the TAZ.
• Highway attraction time – the average door-to-door travel time for all highway trips attracted to the TAZ.

Summary of Green Line Extension Results

The environmental justice analysis determined that while the Green Line Extension Build scenarios improve accessibility, mobility, congestion, and environmental conditions relative to the No-Build and Bus Base Line scenarios for both environmental justice population zones and non–environmental justice population zones, in most cases environmental justice population zones benefit slightly more.

Accessibility Analysis Results

Results from the accessibility analysis show the following for trips from environmental justice population zones to nearby jobs, colleges, and hospitals (Tables 1 and 2):

• People in environmental justice population zones will be able to access more area destinations within a 40-minute transit ride in the Build scenarios than in the No-Build and Bus Base Line scenarios. This change is more pronounced under Scenario 7 than under Scenario 2.
• Travel times to area destinations are less for environmental justice population zones in the Build scenarios when compared to those in the No-Build and Bus Base Line scenarios. This trend is stronger with Scenario 7 than with Scenario 2.

Since the highway impedances were assumed to remain the same for all scenarios, the accessibility by highway travel does not change between the four scenarios.

Mobility, Congestion, and Environmental Analysis Results

Results from the mobility, congestion, and environmental analysis show the following for trips within environmental justice population zones (Tables 3 and 4):

• Travel times are slightly less for environmental justice population zones in the Build scenarios than in the No-Build and Bus Base Line scenarios. Scenario 7 produces more significant changes than does Scenario 2.
• VMT per square mile is less for environmental justice population zones in the Build scenarios compared to the No-Build and Bus Base Line scenarios. This difference is expected to be larger with Scenario 7 than with Scenario 2.
• The Build scenarios yield less CO emissions per square mile for environmental justice population zones when compared to the No-Build and Bus Base Line scenarios. This change is expected to be more pronounced under Scenario 7 than under Scenario 2.

More Detailed Results from the Accessibility, Mobility, Congestion, and Environmental Analyses

MPO staff compared model results for the 2030 No-Build, Bus Base Line, and Build scenarios to see how conditions are estimated to change for environmental justice population zones. The results of these comparisons are summarized below.

Other Accessibility Analysis Results

Figures 2-4 show that the average environmental justice population zone resident has transit access to notably more jobs than the average non–environmental justice population zone resident. These figures also show that

people are estimated to have access to more jobs with the Build scenarios than with the No-Build and Bus Base Line scenarios – more so with Scenario 7 than with Scenario 2.

Figures 5-7 show that while average transit travel times to area jobs are at least 30 minutes, they are notably less for environmental justice population zones than for non–environmental justice population zones. These figures also show that the travel times are expected to become smaller in the Build scenarios compared with the No-Build and Bus Base Line scenarios – to a greater extent with Scenario 7 than with Scenario 2.

Figures 8-9 show that the average environmental-justice population zone resident has transit access to notably more two- and four-year colleges and hospitals than the average non–environmental justice population resident. This pattern is expected to become more evident with the Build scenarios – especially with Scenario 7.

Figures 10-11 show that while average transit travel times to area colleges and hospitals are at least 30 minutes, they are notably less for environmental justice population zones than for non–environmental justice population zones. These figures also show that the travel times are expected to become smaller with the Build scenarios than with the No-Build and Bus Base Line scenarios – to a greater extent with Scenario 7 than with Scenario 2.

Other Mobility, Congestion, and Environmental Analysis Results

Figures 12-13 show that average transit travel times for attractions and productions are shorter for environmental justice population zone residents than for non–environmental justice population zone residents, with reductions (larger for Scenario 7 than for Scenario 2) under the Build scenarios relative to the No-Build and Bus Base Line scenarios.

Figure 14 shows that average VMT per square mile is greater for environmental justice population zone residents than for non–environmental justice population zone residents. However, the difference is less with the Build scenarios (more so with Scenario 7 than with Scenario 2) than the No-Build and Bus Base Line scenarios, meaning that the disparity decreases with the Green Line Extension.

Figure 15 shows that average CO emissions are greater for environmental justice population zone residents than for non–environmental justice population zone residents. However, both of the Build scenarios improve conditions over the No-Build and Bus Base Line scenarios (Scenario 7 to a greater extent than Scenario 2), meaning that the disparity decreases with the Green Line Extension.

Conclusion

The environmental justice analysis indicates that while the 2030 Green Line Extension Build scenarios improve accessibility, mobility, congestion, and environmental conditions relative to the No-Build and Bus Base Line scenarios for both environmental justice-population zones and non–environmental justice-population zones, it benefits environmental-justice population zones slightly more.

Figure 1
Green Line Extension Study Area

Environmental Justice Population TAZs

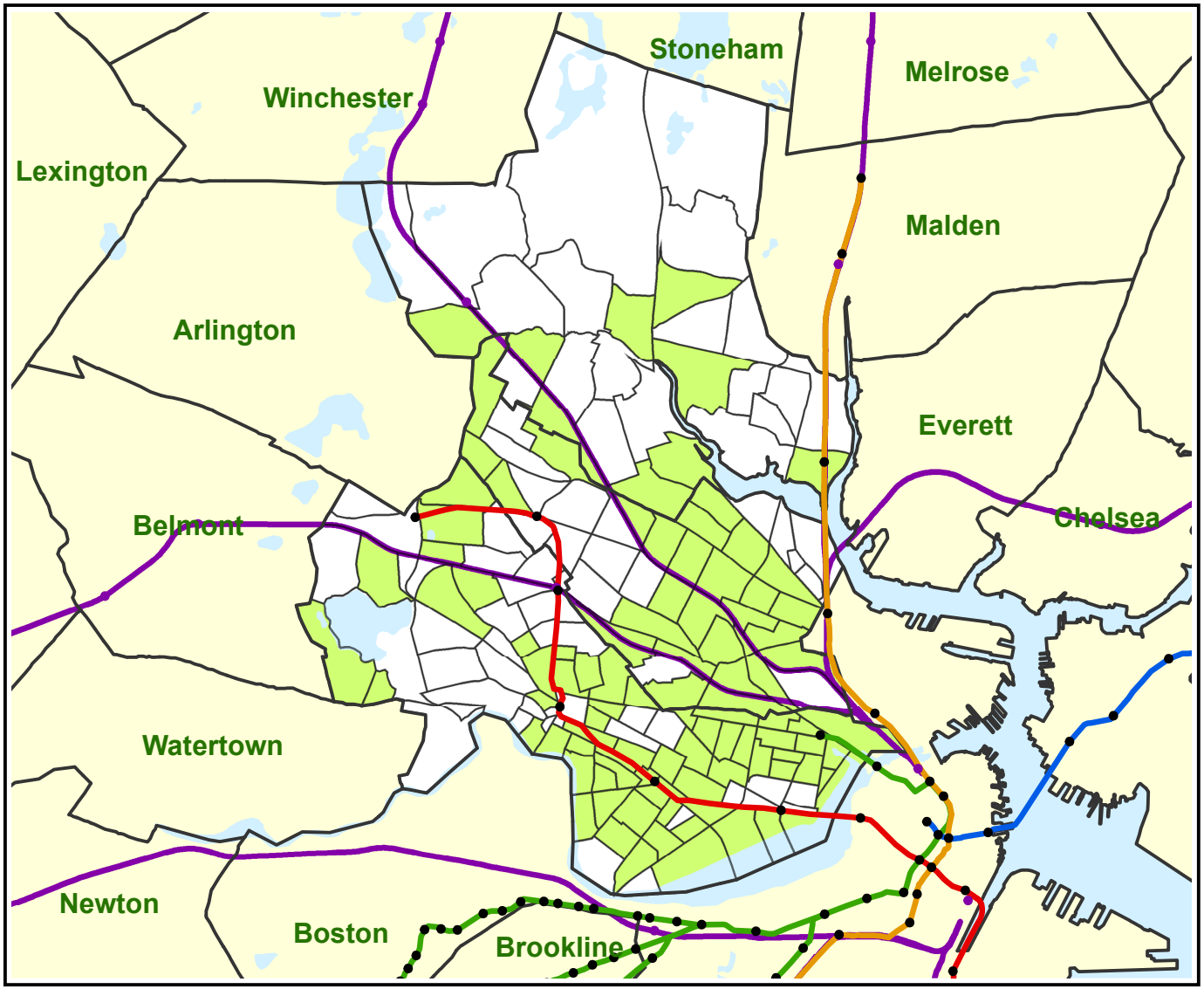


Table 1

	Basic Employment				Retail Employment				Service Employment			
	Transit Access		Transit Time		Transit Access		Transit Time		Transit Access		Transit Time	
	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ
No-Build	57,953	45,652	32.9	34.4	51,617	40,824	32.1	34.0	384,920	301,423	32.0	34.1
Bus Base Line	58,841	46,021	32.7	34.4	52,489	41,233	31.9	34.0	390,084	304,035	31.8	34.1
Scenario 2	61,485	48,140	32.5	34.2	55,085	43,789	31.6	33.8	407,592	320,678	31.3	33.7
Scenario 7	62,791	49,536	32.3	34.1	56,035	45,072	31.4	33.7	414,466	329,839	31.1	33.6
Bus BL vs No-Build	**1.5%**	**0.8%**	**-0.4%**	**-0.1%**	**1.7%**	**1.0%**	**-0.5%**	**-0.1%**	**1.3%**	**0.9%**	**-0.5%**	**0.0%**
Scen 2 vs NB	**6.1%**	**5.5%**	**-1.2%**	**-0.7%**	**6.7%**	**7.3%**	**-1.5%**	**-0.5%**	**5.9%**	**6.4%**	**-2.1%**	**-1.0%**
Scen 7 vs NB	**8.3%**	**8.5%**	**-1.7%**	**-1.0%**	**8.6%**	**10.4%**	**-2.1%**	**-0.9%**	**7.7%**	**9.4%**	**-2.8%**	**-1.5%**
Scen 2 vs Bus BL	**4.5%**	**4.6%**	**-0.9%**	**-0.6%**	**4.9%**	**6.2%**	**-1.0%**	**-0.5%**	**4.5%**	**5.5%**	**-1.6%**	**-1.0%**
Scen 7 vs Bus BL	**6.7%**	**7.6%**	**-1.3%**	**-0.9%**	**6.8%**	**9.3%**	**-1.6%**	**-0.8%**	**6.3%**	**8.5%**	**-2.3%**	**-1.5%**
Scen 7 vs 2	**2.1%**	**2.9%**	**-0.5%**	**-0.3%**	**1.7%**	**2.9%**	**-0.6%**	**-0.4%**	**1.7%**	**2.9%**	**-0.7%**	**-0.5%**
	Highway Access		Highway Time		Highway Access		Highway Time		Highway Access		Highway Time	
	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ
All Scenarios	151,055	155,007	13.1	14.3	116,377	116,692	12.3	13.6	702,381	695,968	12.0	13.7

Table 2

	College Enrollment				Hospital Beds			
	Transit Access		Transit Time		Transit Access		Transit Time	
	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ
No-Build	51,875	34,333	32.1	33.5	3,039	2,337	32.5	34.3
Bus Base Line	52,078	32,942	31.9	33.2	3,120	2,423	32.4	34.3
Scenario 2	55,808	36,450	31.9	33.4	3,337	2,553	32.0	33.9
Scenario 7	57,786	36,701	31.8	33.3	3,548	2,623	31.9	33.7
Bus BL vs No-Build	**0.4%**	**-4.1%**	**-0.4%**	**-0.8%**	**2.7%**	**3.7%**	**-0.4%**	**0.2%**
Scen 2 vs NB	**7.6%**	**6.2%**	**-0.5%**	**-0.2%**	**9.8%**	**9.3%**	**-1.5%**	**-1.0%**
Scen 7 vs NB	**11.4%**	**6.9%**	**-0.6%**	**-0.6%**	**16.8%**	**12.2%**	**-1.9%**	**-1.8%**
Scen 2 vs Bus BL	**7.2%**	**10.7%**	**-0.1%**	**0.6%**	**6.9%**	**5.4%**	**-1.1%**	**-1.1%**
Scen 7 vs Bus BL	**11.0%**	**11.4%**	**-0.3%**	**0.2%**	**13.7%**	**8.3%**	**-1.5%**	**-2.0%**
Scen 7 vs 2	**3.5%**	**0.7%**	**-0.1%**	**-0.4%**	**6.3%**	**2.7%**	**-0.4%**	**-0.8%**

	Highway Access		Highway Time		Highway Access		Highway Time	
	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ	EJ	NonEJ
All Scenarios	98,994	91,081	11.8	13.6	8,957	8,183	12.7	13.2

Table 3

	Production Times Transit		Attraction Times Transit	
	EJ	**NonEJ**	**EJ**	**NonEJ**
No-Build	35.8	38.3	40.5	40.6
Bus Base Line	35.5	38.2	40.2	40.5
Scenario 2	35.1	37.9	40.0	40.4
Scenario 7	34.8	37.6	39.7	40.2
Bus BL vs No-Build	**-0.7%**	**-0.2%**	**-0.6%**	**-0.2%**
Scen 2 vs NB	**-2.0%**	**-1.1%**	**-1.2%**	**-0.5%**
Scen 7 vs NB	**-2.8%**	**-1.7%**	**-1.9%**	**-1.0%**
Scen 2 vs Bus BL	**-1.3%**	**-0.9%**	**-0.6%**	**-0.2%**
Scen 7 vs Bus BL	**-2.1%**	**-1.5%**	**-1.3%**	**-0.8%**
Scen 7 vs 2	**-0.8%**	**-0.7%**	**-0.7%**	**-0.5%**

	Highway		Highway Access	
	EJ	**NonEJ**	**EJ**	**NonEJ**
All Scenarios	11.8	11.5	15.3	12.6

Table 4

	VMTperSqMi		COperSqMi	
	EJ	**NonEJ**	**EJ**	**NonEJ**
No-Build	189,606	142,358	1,623,838	1,225,150
Bus Base Line	189,529	142,250	1,623,216	1,224,133
Scenario 2	188,488	141,870	1,614,202	1,220,942
Scenario 7	188,172	141,715	1,611,340	1,219,541
Bus BL vs No-Build	**0.0%**	**-0.1%**	**0.0%**	**-0.1%**
Scen 2 vs NB	**-0.6%**	**-0.3%**	**-0.6%**	**-0.3%**
Scen 7 vs NB	**-0.8%**	**-0.5%**	**-0.8%**	**-0.5%**
Scen 2 vs Bus BL	**-0.5%**	**-0.3%**	**-0.6%**	**-0.3%**
Scen 7 vs Bus BL	**-0.7%**	**-0.4%**	**-0.7%**	**-0.4%**
Scen 7 vs 2	**-0.2%**	**-0.1%**	**-0.2%**	**-0.1%**

Figure 2: Transit Access to Basic Employment Jobs

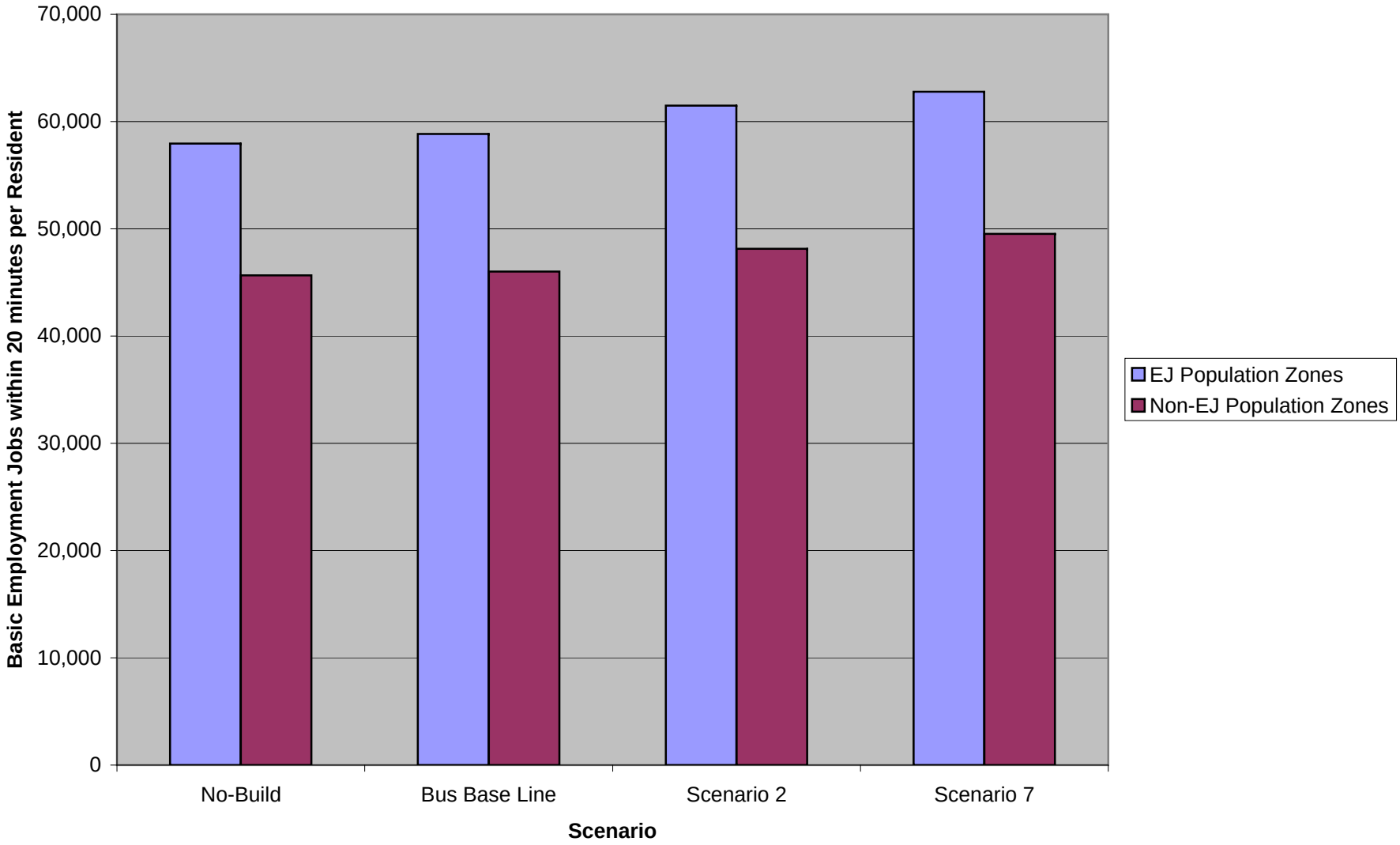


Figure 3: Transit Access to Retail Employment Jobs

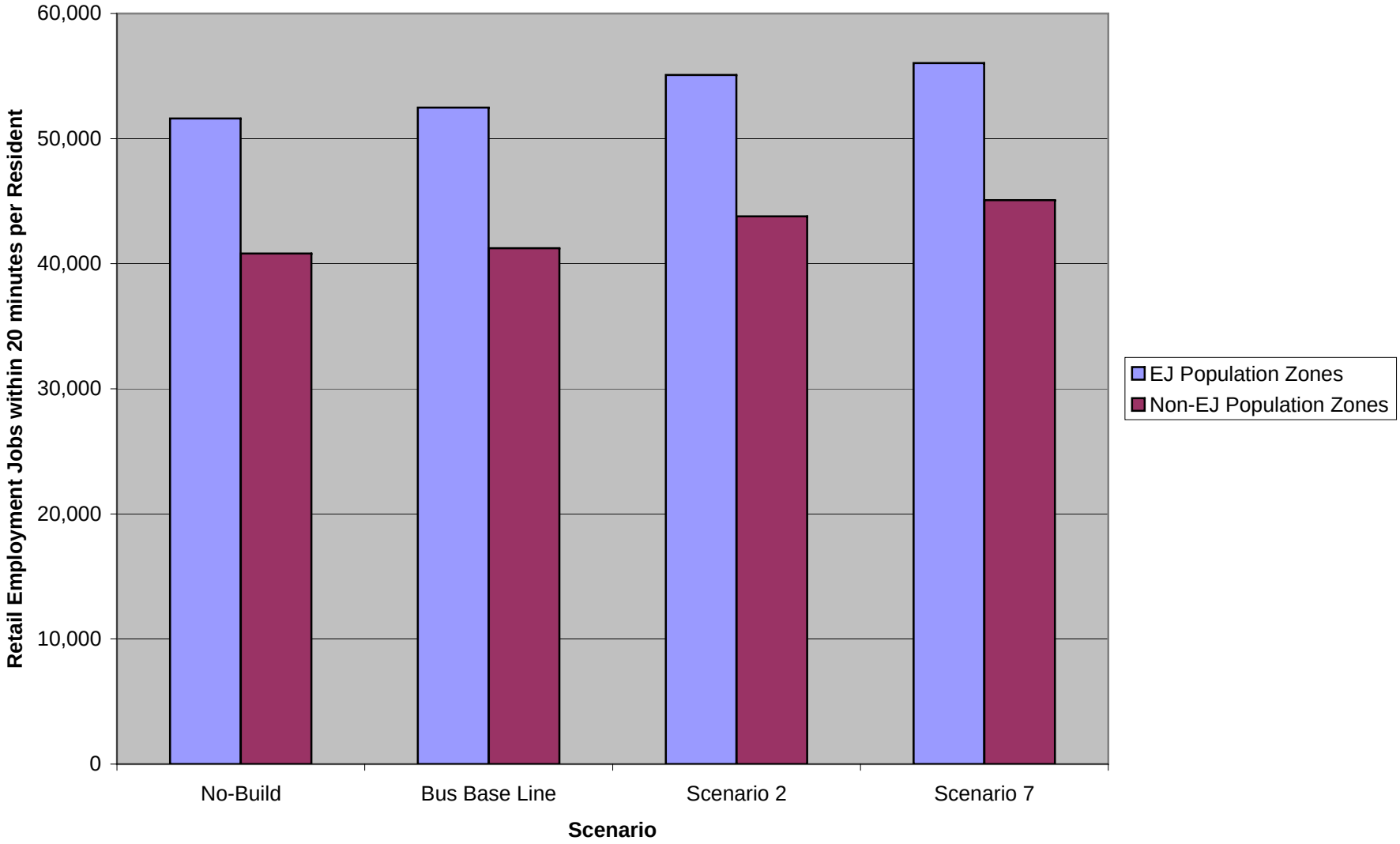


Figure 4: Transit Access to Service Employment Jobs

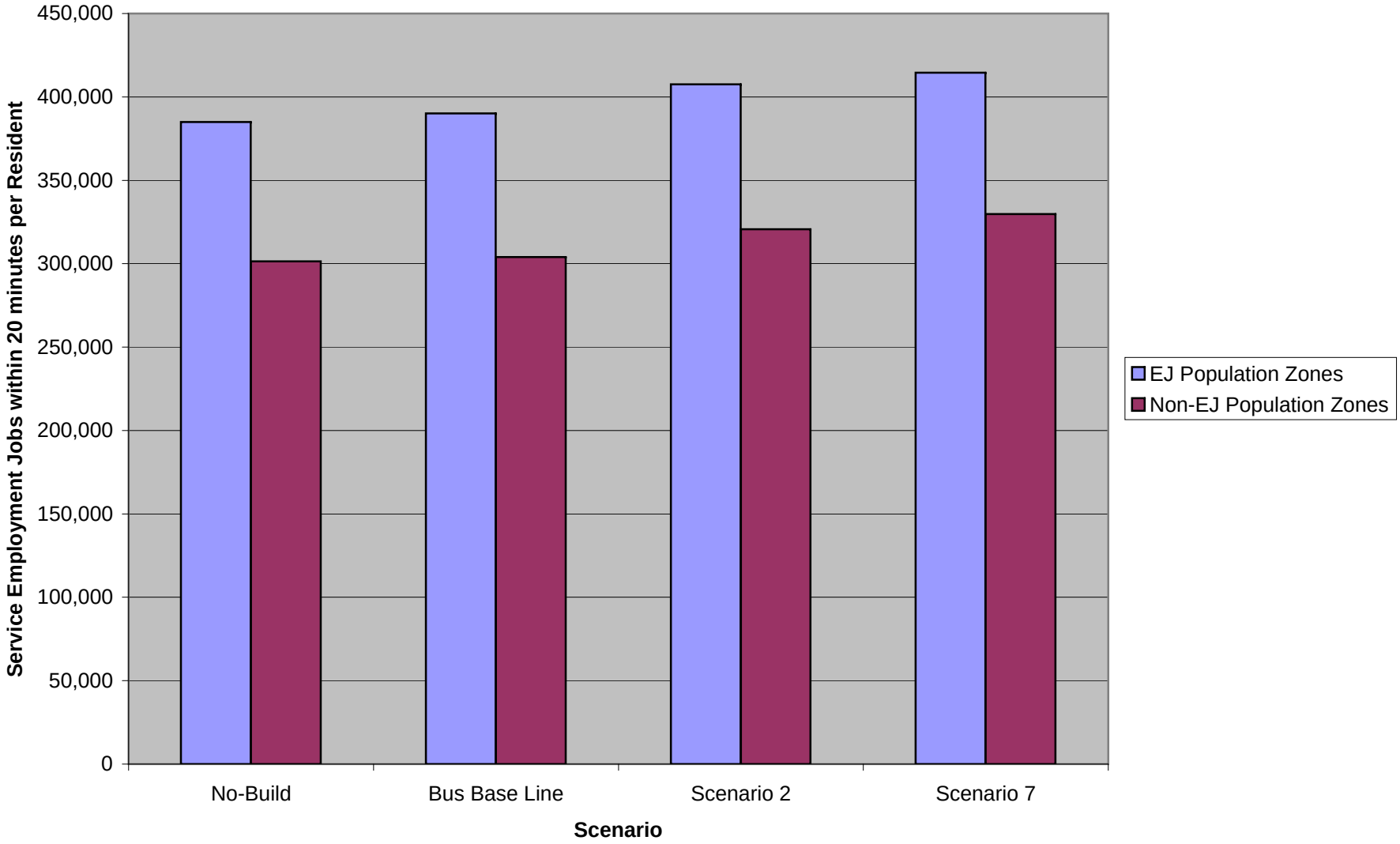


Figure 5: Transit Time to Accessible Basic Employment Jobs

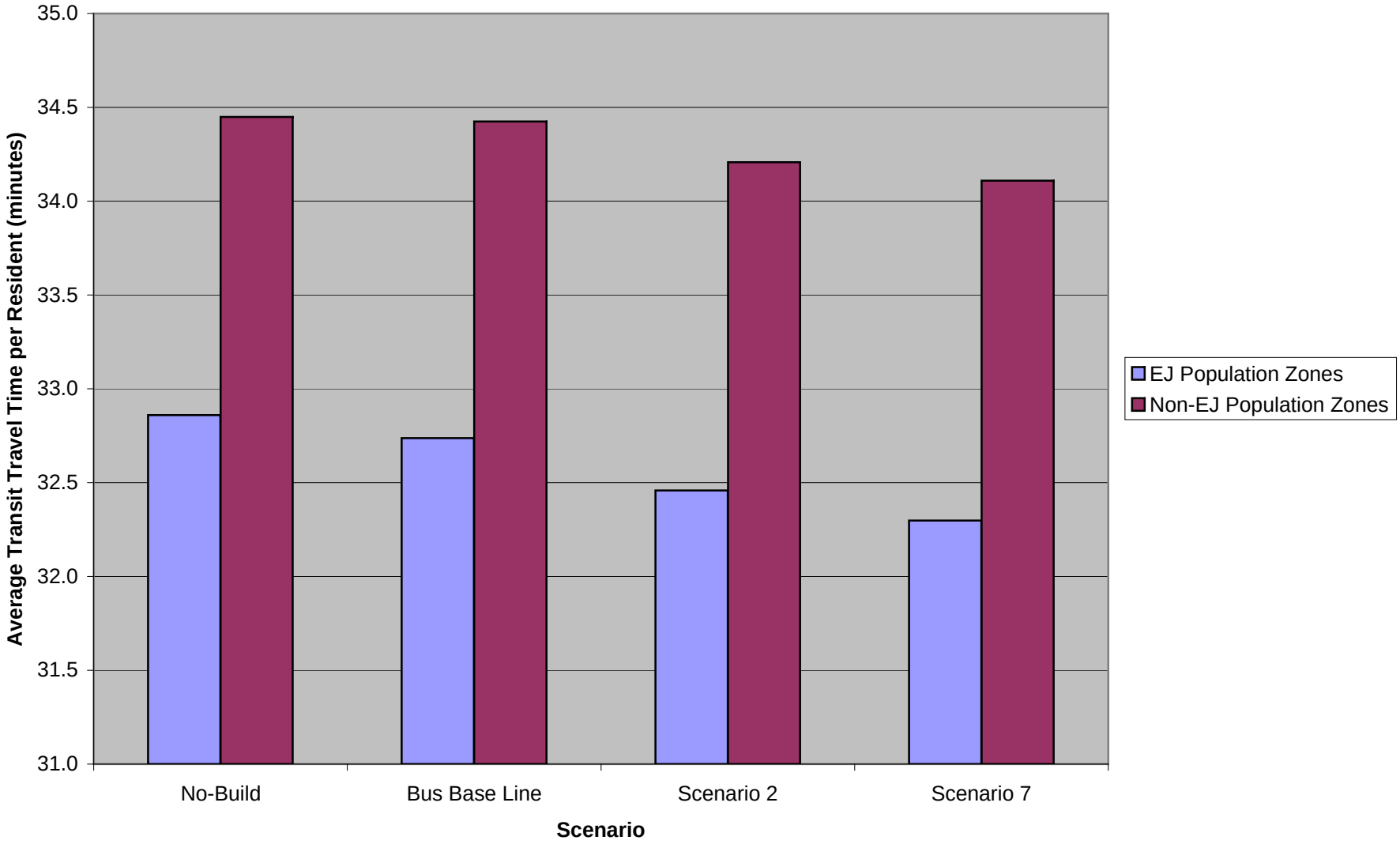


Figure 6: Transit Time to Accessible Retail Employment Jobs

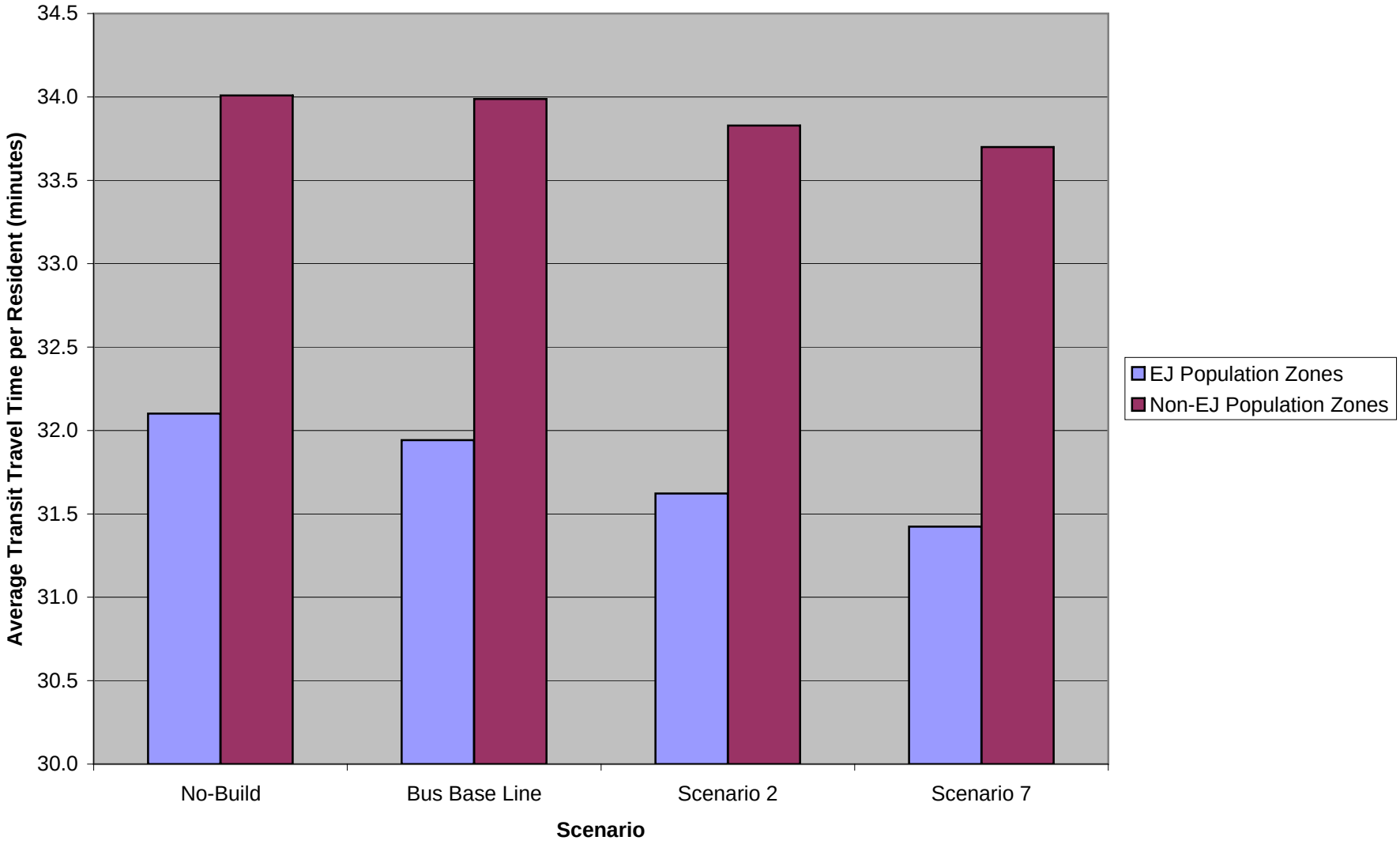


Figure 7: Transit Time to Accessible Service Employment Jobs

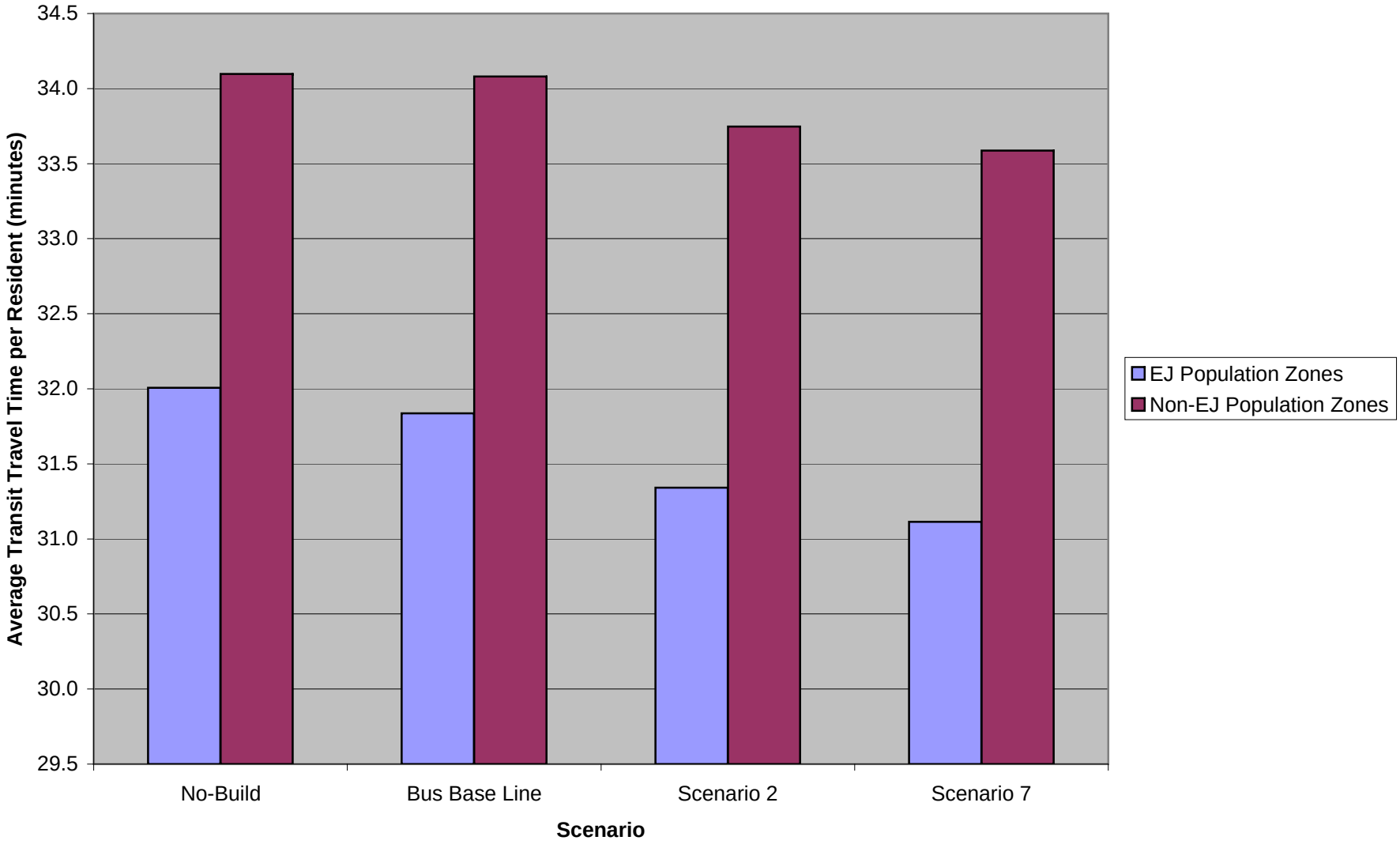


Figure 8: Transit Access to Colleges

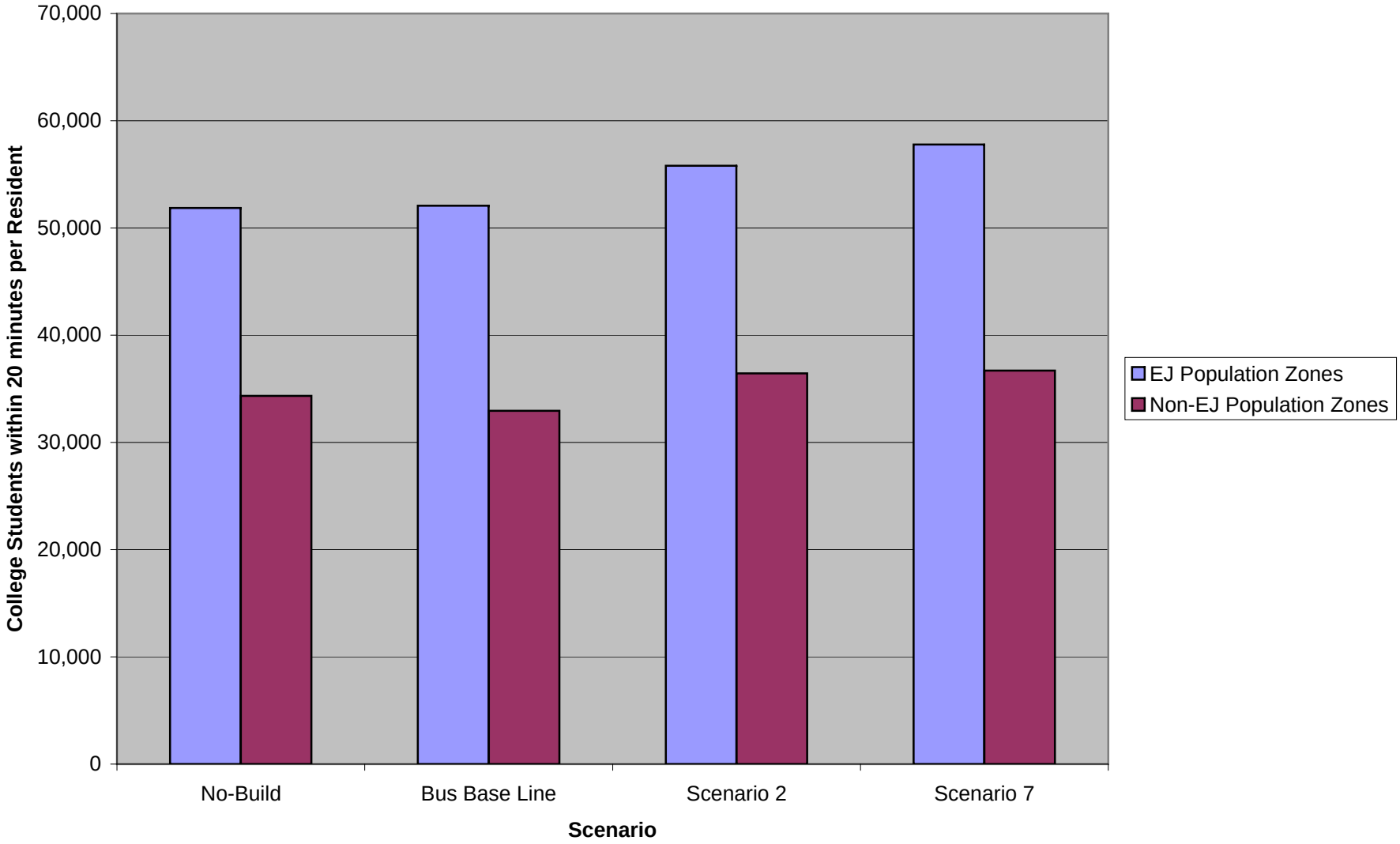


Figure 9: Transit Access to Hospitals

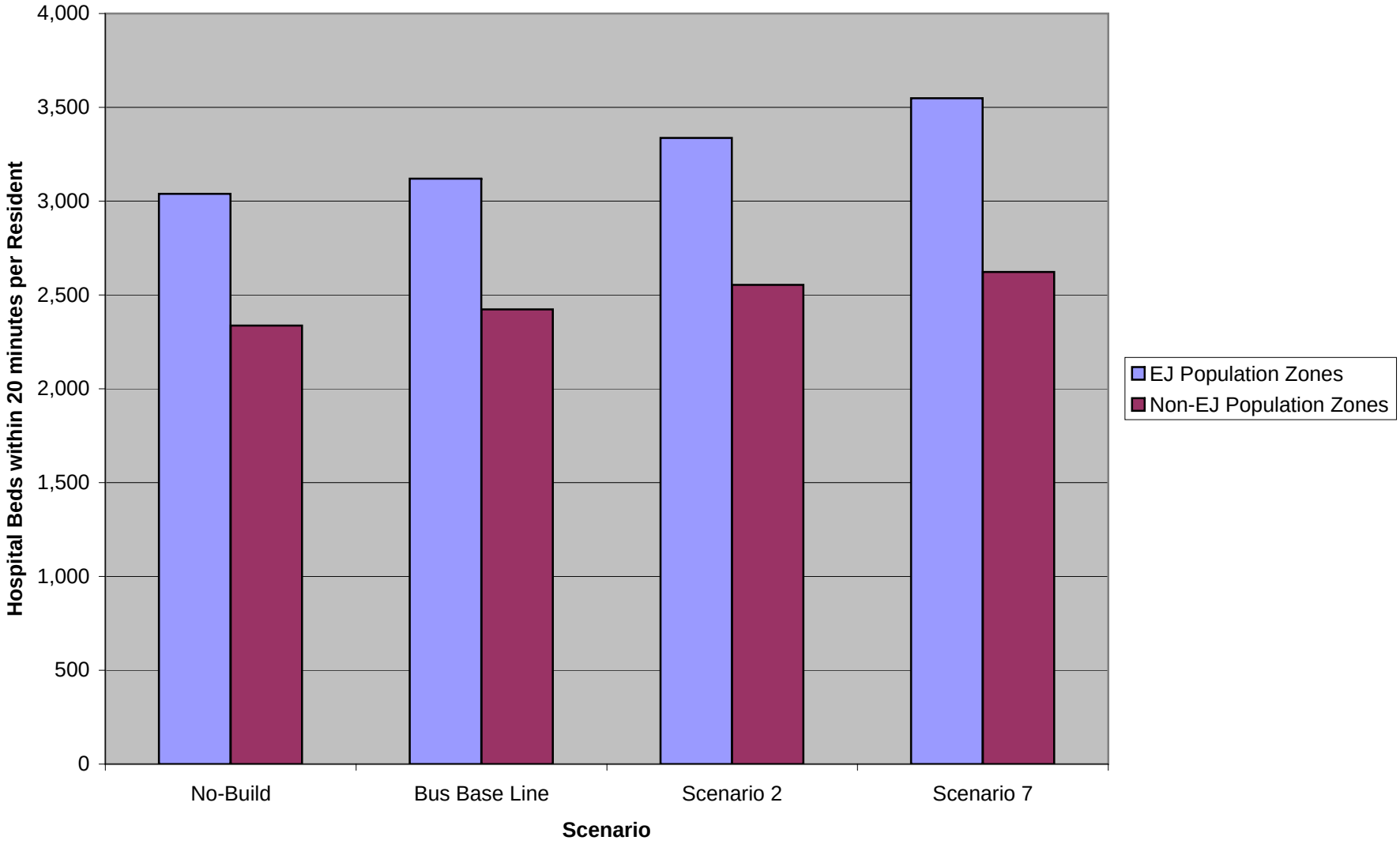


Figure 10: Transit Time to Accessible Colleges

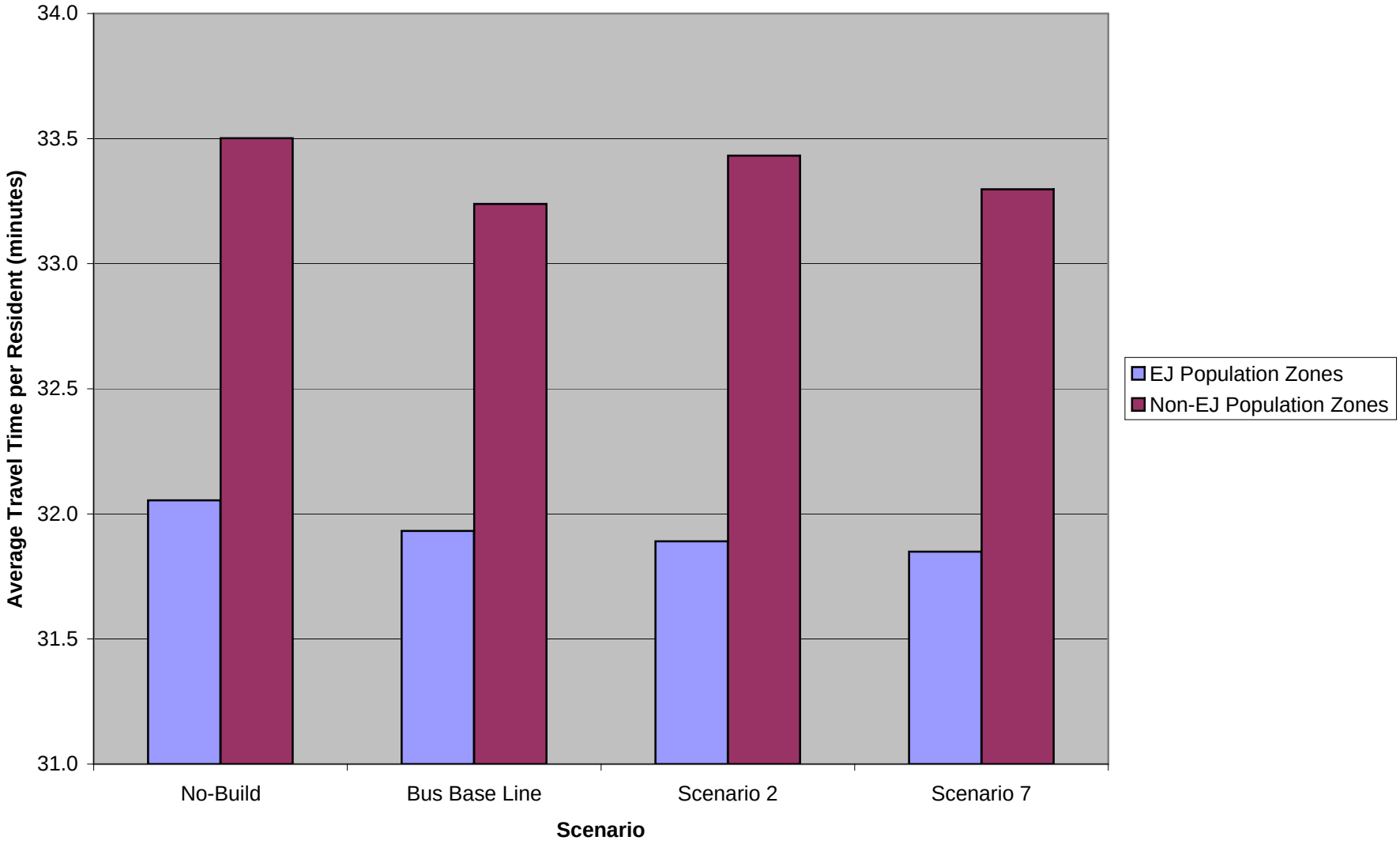


Figure 11: Transit Time to Accessible Hospitals

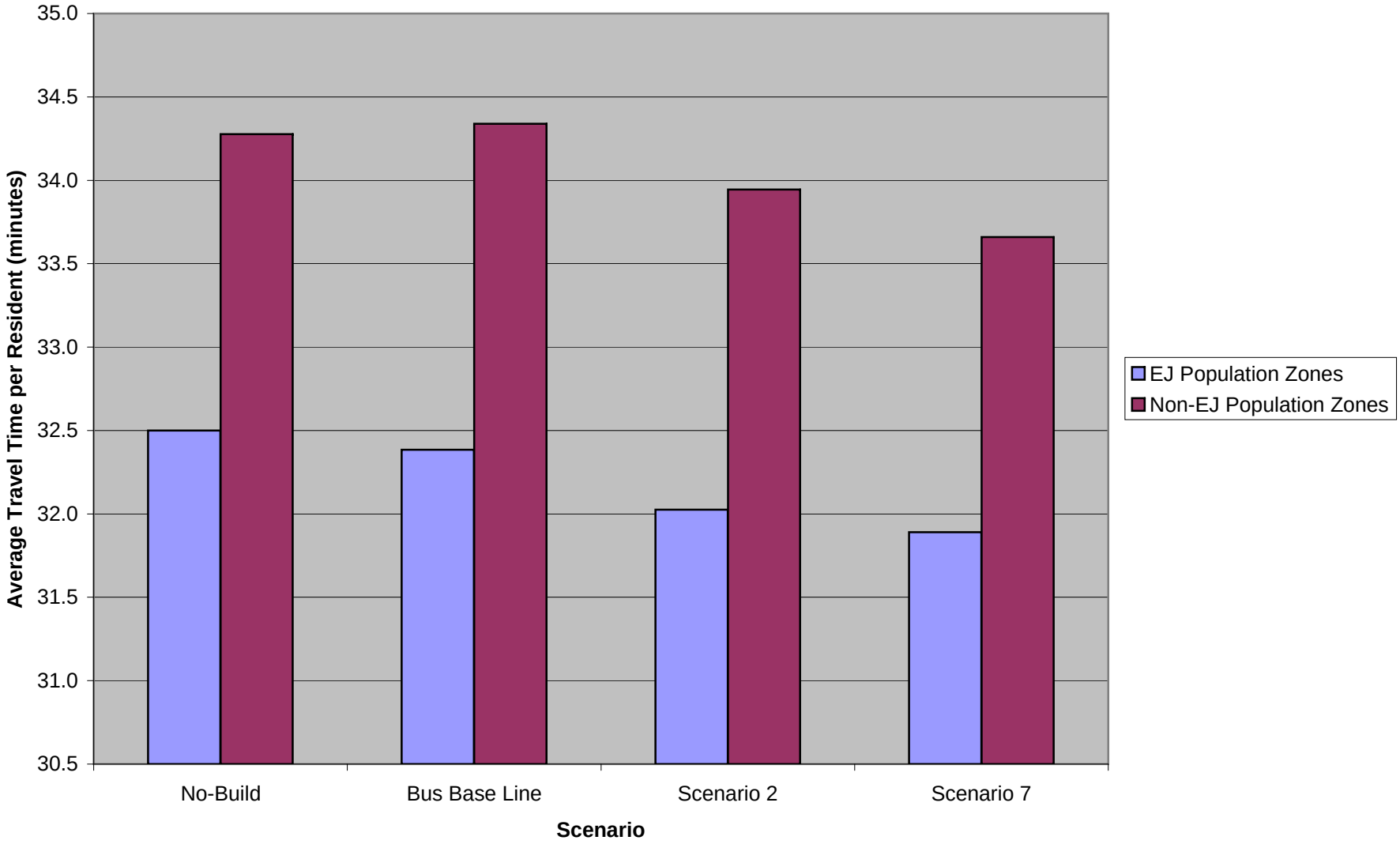


Figure 12: Transit Trip Production Times

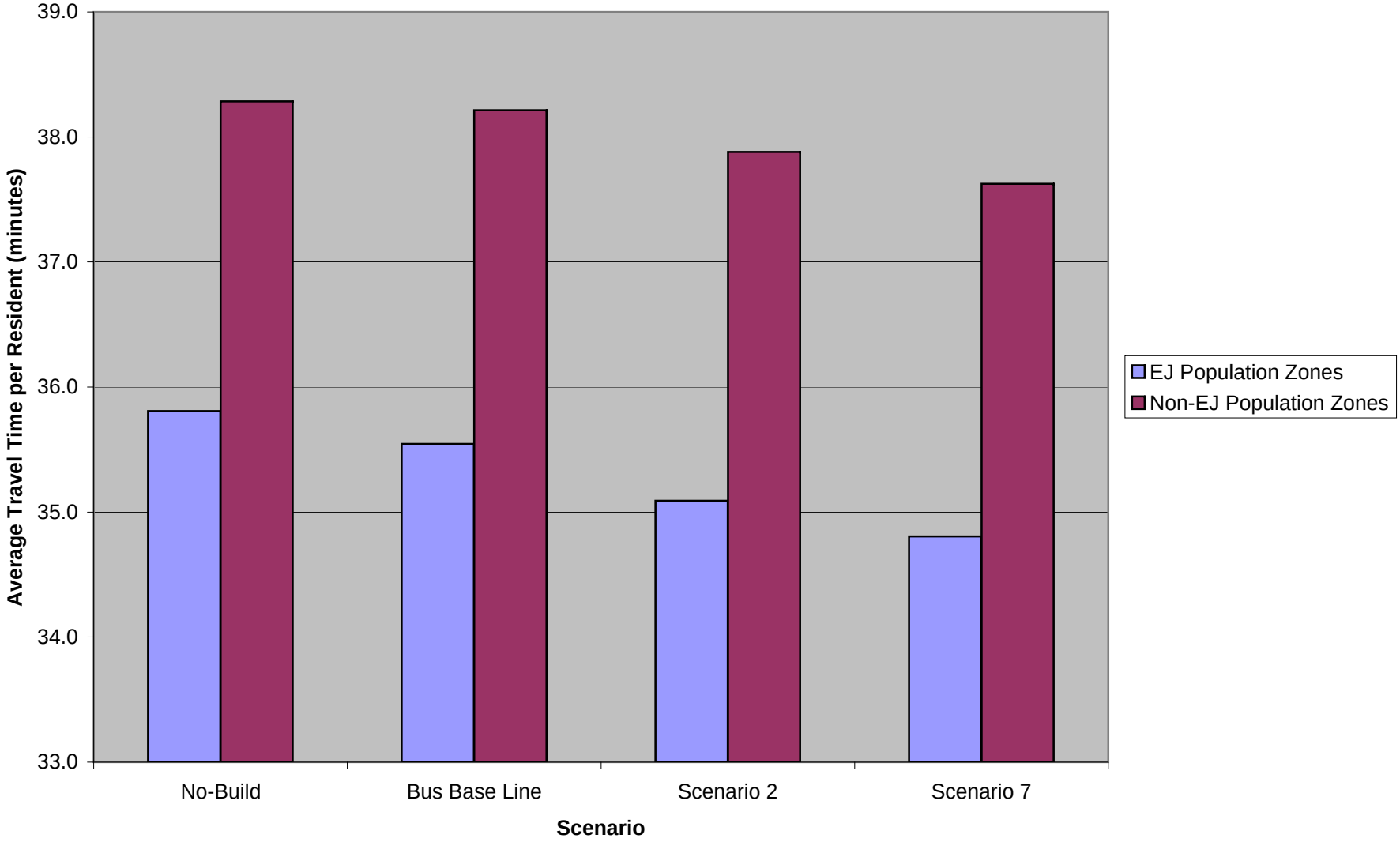


Figure 13: Transit Trip Attraction Times

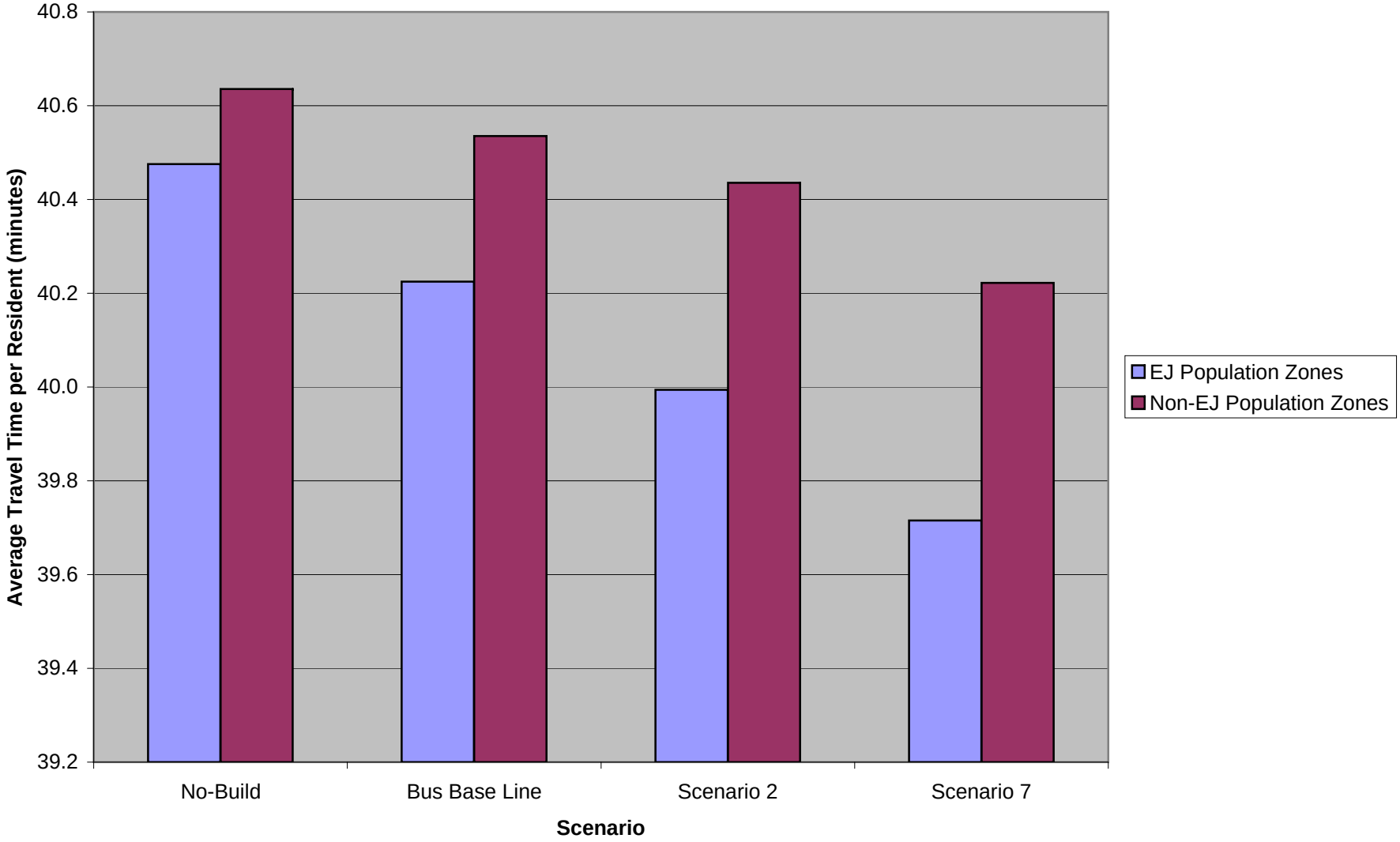


Figure 14: Highway Traffic Density

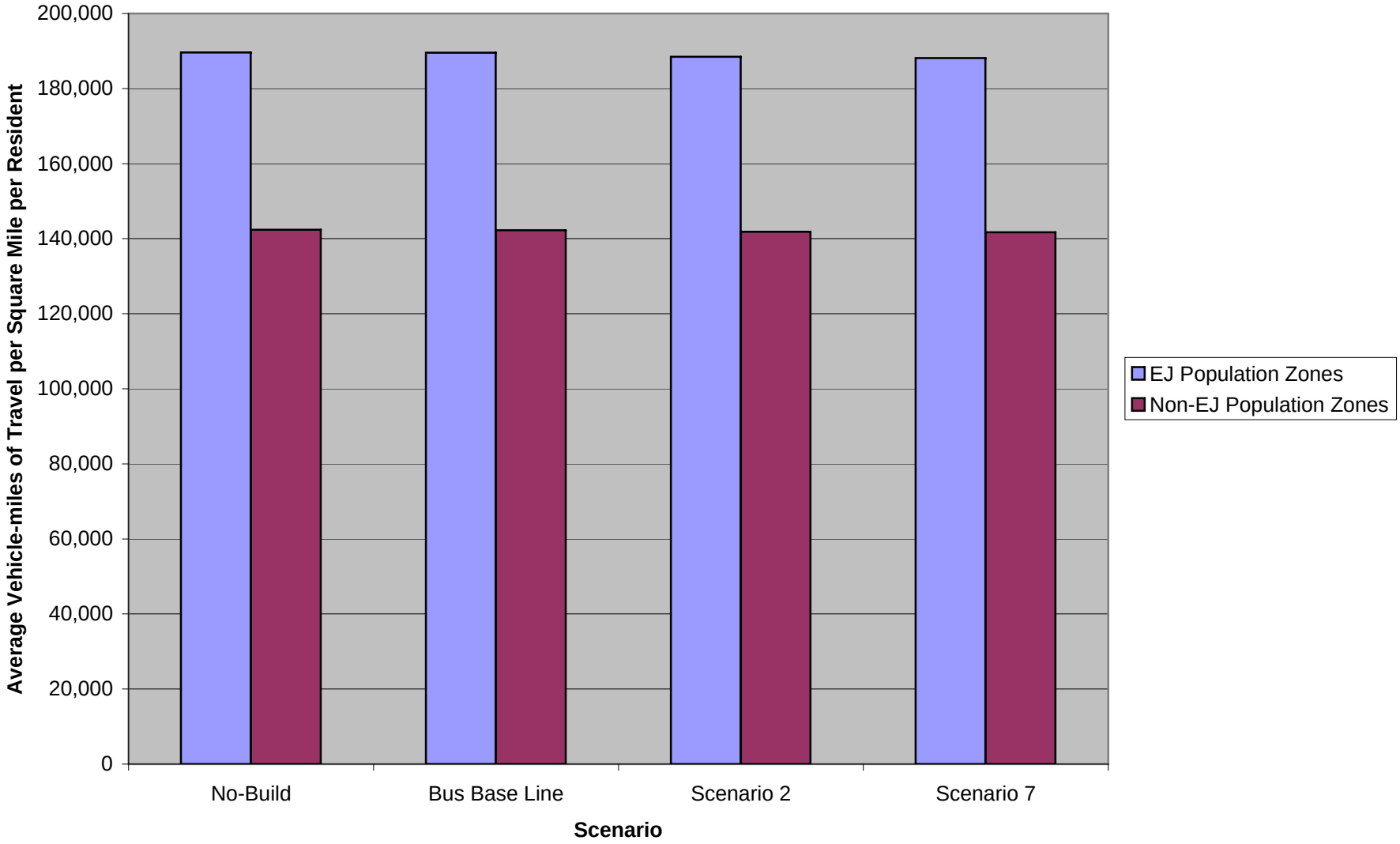
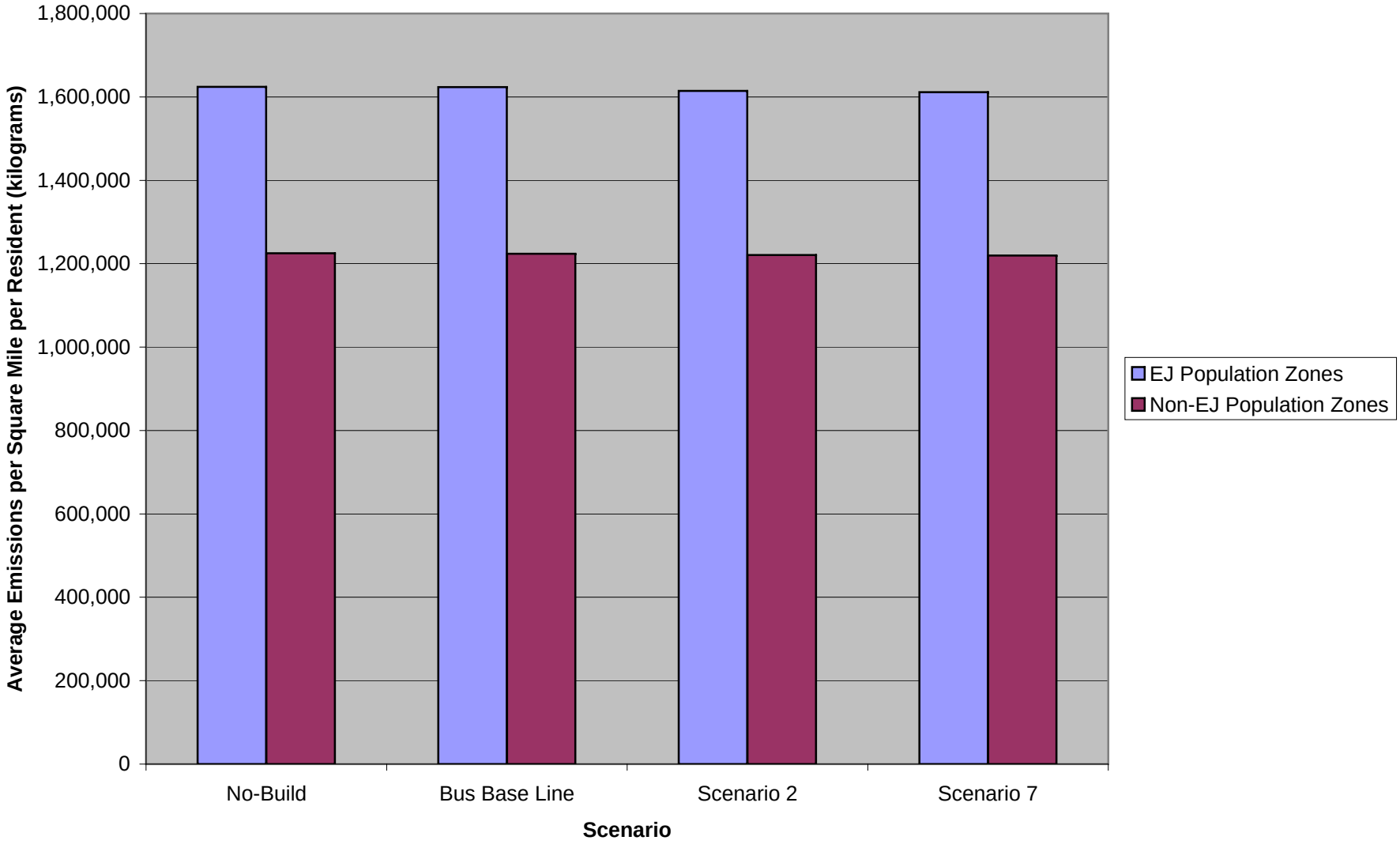


Figure 15: CO Emissions Density



Green Line Extension Disability Impact Analysis

Green Line Extension EIR Analysis:
Environmental Justice Analysis for Disabled Populations

DRAFT Prepared by

Central Transportation Planning Staff

November 26, 2008

As part of the Boston Metropolitan Planning Organization (MPO) regional equity program, an examination was conducted of the impacts of the Green Line Extension, including the distribution of the transportation system's benefits and burdens among environmental justice population zones. (These types of zones are defined in the section below.) The study's performance measures focus on mobility, accessibility, and environmental impact concerns.

Environmental justice areas are geographic regions determined by the demographics of the people living in a transportation analysis zone (TAZ). A TAZ is an aggregation of census geography based on population and estimated trip volumes. According to the definition used for the Boston MPO's regional equity program, "A TAZ will be considered an Environmental Justice Area if it is over 50 percent minority or has a median household income at or below 60 percent of the region's median" (60 percent of the region's median household income of $55,800 is $33,480). The TAZ's total minority population must be at least 200.

This environmental justice analysis does not include an explicit estimate of the relative burdens experienced by the disabled populations within the Green Line Extension project area. In order to provide such information, an analysis of the impacts of the proposed Green Line Extension upon the disabled populations in the project area was performed, using a set of disability population zones and the same tests as used for the Boston MPO environmental justice analysis. The threshold for these disability population zones is as follows:

• Approximately 17.6 percent of all Eastern Massachusetts residents over 5 years old reported themselves as having a disability in the 2000 US Census. A disability TAZ was thus defined as having a portion of its over-five-years-old population reporting themselves as having a physical or sensory disability at or below this level (17.6%).

The resulting disability population zones in the Green Line Extension project area are shown in Figure 1.

The 2030 demographic forecasts used for this study assumed the attributes of the residential populations in the project area TAZs remain the same as they were observed in the 2000 US Census. The Build, Bus Base Line, and No-Build scenarios used the same demographic forecasts.

Performance Measures

Performance measures were used as indicators of benefits and burdens for disability and non–disability population zones' populations. These measures fall into three categories:

- Accessibility to needed services and jobs
- Mobility and congestion
- Environment

Accessibility Analysis

This study analyzed access to needed services and jobs in terms of average transit and highway travel times from disability population zones to industrial, retail, and service employment opportunities; health care; and institutions of higher education. The accessibility analysis featured an examination of the number of destinations within a 40-minute transit trip and a 20-minute auto trip. The analysis of transit travel times included destinations within a 40-minute transit trip, and the analysis of highway travel times included destinations within a 20-minute auto trip.

Differences were calculated between the No-Build, Bus Base Line, and Build scenarios (Scenario 2 – the Riverside Branch is extended to Mystic Valley and the Heath Street Branch is extended to Union Square - and Scenario 7 – the Riverside and Heath Street Branches are extended to Mystic Valley) for disability and non–disability population zone residents. Results are aggregated for each type of population zone, and the reported averages are weighted by the number of residents in each disability or non–disability population zone.

The examined accessibility performance measures were:

- The average number of industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip.
- The average travel time to industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip.
- The average number of hospital beds within a 40-minute transit trip and a 20-minute auto trip.
- The average travel time to a hospital, weighted by the number of hospital beds, within a 40-minute transit trip and a 20-minute auto trip.
- The average number of students at facilities of two- and four-year institutions of higher education within a 40-minute transit trip and a 20-minute auto trip.

• The average travel time to facilities of two- and four-year institutions of higher education, weighted by enrollment, within a 40-minute transit trip and a 20-minute auto trip.

Mobility, Congestion, and Environmental Analysis

The mobility, congestion, and environmental impacts were analyzed by comparing performance measures for disability population zones to those for non–disability population zones. As in the accessibility analysis, differences between the average levels of these performance measures within the two types of zones were calculated for the No-Build, Bus Base Line, and Build scenarios. The results are aggregated in the same manner.

The examined mobility, congestion, and environmental performance measures were:

• VMT per square mile – the number of vehicle-miles traveled (VMT) per square mile of dry land within a TAZ.
• CO per square mile – the number of kilograms of carbon monoxide emitted per square mile of dry land within a TAZ.
• Transit production time – the average door-to-door travel time for all transit trips produced in the TAZ.
• Highway production time – the average door-to-door travel time for all highway trips produced in the TAZ.
• Transit attraction time – the average door-to-door travel time for all transit trips attracted to the TAZ.
• Highway attraction time – the average door-to-door travel time for all highway trips attracted to the TAZ.

Summary of Green Line Extension Results

The disability analysis determined that while the Green Line Extension Build scenarios improve accessibility, mobility, congestion, and environmental conditions relative to the No-Build and Bus Base Line scenarios for both disability population zones and non–disability population zones, in most cases disability population zones benefit significantly more.

Accessibility Analysis Results

Results from the accessibility analysis show the following for trips from disability population zones to nearby jobs, colleges, and hospitals (Tables 1 and 2):

• People in disability population zones will be able to access more area destinations within a 40-minute transit ride in the Build scenarios than in the No-Build and Bus Base Line scenarios. This change is more pronounced under Scenario 7 than under Scenario 2.
• Travel times to area destinations are less for disability population zones in the Build scenarios when compared to those in the No-Build and Bus Base Line scenarios. This trend is stronger with Scenario 7 than with Scenario 2.

Since the highway impedances were assumed to remain the same for all scenarios, the accessibility by highway travel does not change between the four scenarios.

Mobility, Congestion, and Environmental Analysis Results

Results from the mobility, congestion, and environmental analysis show the following for trips within disability population zones (Tables 3 and 4):

• Travel times are slightly less for disability population zones in the Build scenarios than in the No-Build and Bus Base Line scenarios. Scenario 7 produces more significant changes than does Scenario 2.
• VMT per square mile is less for disability population zones in the Build scenarios compared to the No-Build and Bus Base Line scenarios. This difference is expected to be larger with Scenario 7 than with Scenario 2.
• The Build scenarios yield less CO emissions per square mile for disability population zones when compared to the No-Build and Bus Base Line scenarios. This change is expected to be more pronounced under Scenario 7 than under Scenario 2.

More Detailed Results from the Accessibility, Mobility, Congestion, and Environmental Analyses

MPO staff compared model results for the 2030 No-Build, Bus Base Line, and Build scenarios to see how conditions are estimated to change for disability population zones. The results of these comparisons are summarized below.

Other Accessibility Analysis Results

Figures 2-4 show that the average non-disability population zone resident has transit access to notably more jobs than the average disability population zone resident. These figures also show that the Build scenarios bring about a larger increase in accessibility to jobs for residents of the disabled population zones than with the No-Build and Bus Base Line scenarios – more so with Scenario 7 than with Scenario 2.

Figures 5-7 show that average transit travel times to area jobs are notably more for disability population zones than for non–disability population zones. These figures also show that all average travel times are expected to become smaller in the Build scenarios compared with the No-Build and Bus Base Line scenarios – to a greater extent for the disabled population zones and with Scenario 7 than with Scenario 2.

Figures 8-9 show that the average disability population zone resident has transit access to notably fewer two- and four-year colleges and hospital beds than the average non–disability population resident. This pattern is expected to become less evident with the Build scenarios – especially with Scenario 7.

Figures 10-11 show that average transit travel times to area colleges and hospitals are notably more for disability population zones than for non–disability population zones. These figures also show that all average travel times are expected to become smaller with the Build scenarios than with the No-Build and Bus Base Line scenarios – to a greater extent for the disabled population zones and with Scenario 7 than with Scenario 2.

Other Mobility, Congestion, and Environmental Analysis Results

Figures 12-13 show that average transit travel times for attractions and productions are longer for disability population zone residents than for non–disability population zone residents, with reductions (larger for Scenario 7 than for Scenario 2) under the Build scenarios relative to the No-Build and Bus Base Line scenarios.

Figure 14 shows that average VMT per square mile is greater for disability population zone residents than for non–disability population zone residents. However, the difference is less with the Build scenarios (more so with Scenario 7 than with Scenario 2) than the No-Build and Bus Base Line scenarios, meaning that the disparity decreases with the Green Line Extension.

Figure 15 shows that average CO emissions are greater for disability population zone residents than for non–disability population zone residents. However, both of the Build scenarios improve conditions over the No-Build and Bus Base Line scenarios (Scenario 7 to a greater extent than Scenario 2), meaning that the disparity decreases with the Green Line Extension.

Conclusion

The disability analysis indicates that while the 2030 Green Line Extension Build scenarios improve accessibility, mobility, congestion, and environmental conditions relative to the No-Build and Bus Base Line scenarios for both disability population zones and non–disability population zones, it benefits disability population zones slightly more.

Figure 1
Green Line Extension Study Area

Disabled Population TAZs

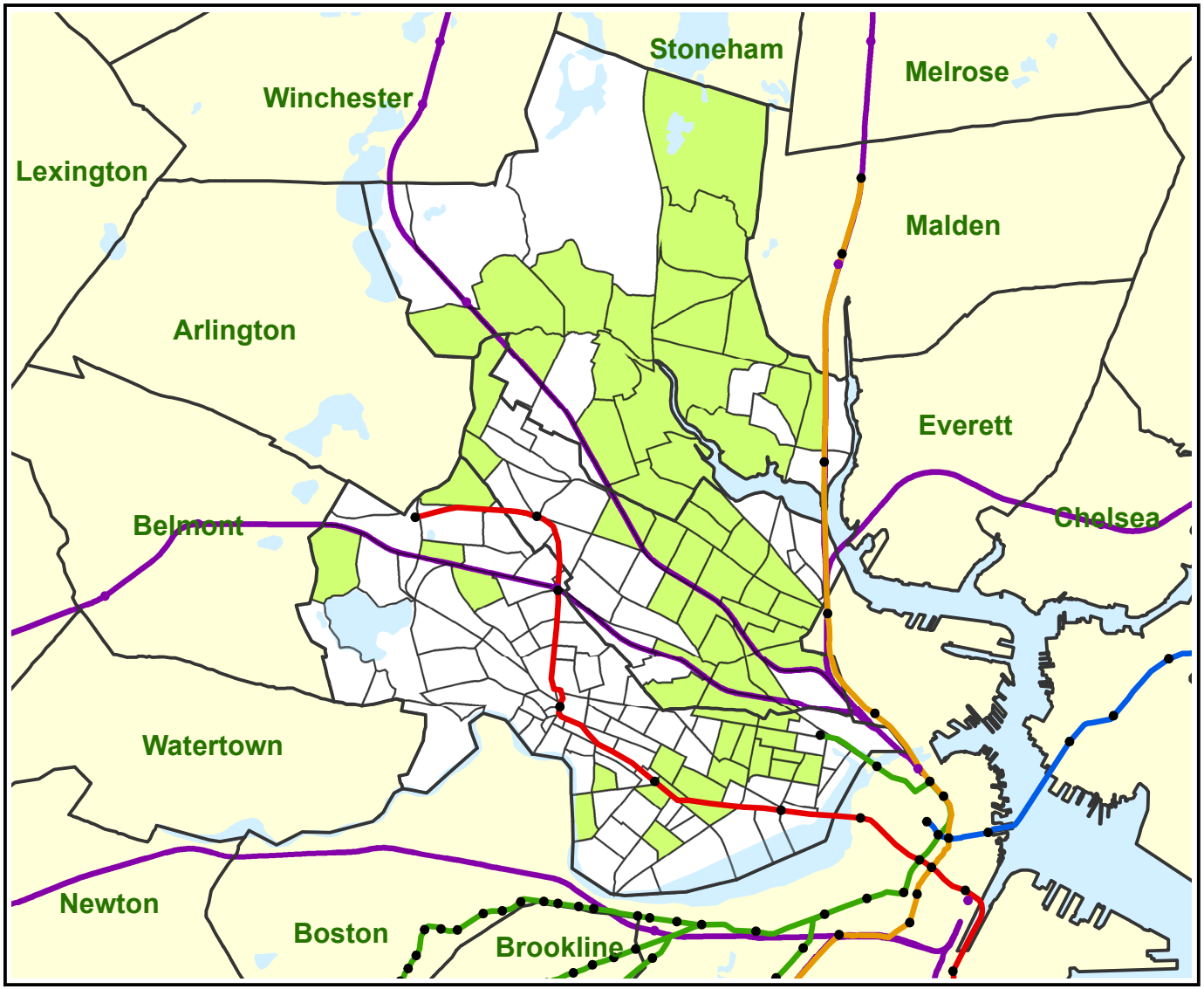


Table 1

	Basic Employment				Retail Employment				Service Employment			
	Transit Access		Transit Time		Transit Access		Transit Time		Transit Access		Transit Time	
	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis
No-Build	44,718	59,788	34.2	33.0	40,259	53,018	33.8	32.1	296,392	396,302	34.0	31.9
Bus Base Line	45,513	60,371	34.0	32.9	41,266	53,441	33.6	32.0	302,516	398,811	33.8	31.8
Scenario 2	49,501	61,530	33.6	32.8	45,026	55,054	33.2	32.0	329,022	408,314	33.1	31.6
Scenario 7	51,449	62,376	33.4	32.7	46,500	55,819	32.9	31.9	340,010	413,492	32.8	31.5
Bus BL vs No-Build	**1.8%**	**1.0%**	**-0.4%**	**-0.2%**	**2.5%**	**0.8%**	**-0.5%**	**-0.2%**	**2.1%**	**0.6%**	**-0.4%**	**-0.3%**
Scen 2 vs NB	**10.7%**	**2.9%**	**-1.5%**	**-0.6%**	**11.8%**	**3.8%**	**-1.9%**	**-0.4%**	**11.0%**	**3.0%**	**-2.5%**	**-0.9%**
Scen 7 vs NB	**15.1%**	**4.3%**	**-2.1%**	**-0.8%**	**15.5%**	**5.3%**	**-2.6%**	**-0.7%**	**14.7%**	**4.3%**	**-3.4%**	**-1.3%**
Scen 2 vs Bus BL	**8.8%**	**1.9%**	**-1.2%**	**-0.4%**	**9.1%**	**3.0%**	**-1.4%**	**-0.2%**	**8.8%**	**2.4%**	**-2.1%**	**-0.7%**
Scen 7 vs Bus BL	**13.0%**	**3.3%**	**-1.8%**	**-0.7%**	**12.7%**	**4.4%**	**-2.2%**	**-0.5%**	**12.4%**	**3.7%**	**-3.0%**	**-1.0%**
Scen 7 vs 2	**3.9%**	**1.4%**	**-0.6%**	**-0.3%**	**3.3%**	**1.4%**	**-0.8%**	**-0.3%**	**3.3%**	**1.3%**	**-0.9%**	**-0.4%**

	Highway Access		Highway Time		Highway Access		Highway Time		Highway Access		Highway Time	
	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis
All Scenarios	159,161	147,308	13.6	13.5	119,085	114,389	12.9	12.7	697,522	701,665	12.7	12.7

Table 2

	College Enrollment				Hospital Beds			
	Transit Access		Transit Time		Transit Access		Transit Time	
	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis
No-Build	36,284	51,802	33.9	31.6	2,284	3,143	34.0	32.5
Bus Base Line	36,584	50,757	33.8	31.3	2,440	3,168	34.0	32.5
Scenario 2	41,481	53,370	33.6	31.6	2,735	3,255	33.4	32.3
Scenario 7	43,943	53,686	33.5	31.5	2,896	3,406	33.1	32.2
Bus BL vs No-Build	**0.8%**	**-2.0%**	**-0.2%**	**-0.9%**	**6.8%**	**0.8%**	**-0.2%**	**-0.1%**
Scen 2 vs NB	**14.3%**	**3.0%**	**-0.8%**	**0.0%**	**19.8%**	**3.6%**	**-1.9%**	**-0.7%**
Scen 7 vs NB	**21.1%**	**3.6%**	**-1.0%**	**-0.3%**	**26.8%**	**8.3%**	**-2.9%**	**-1.0%**
Scen 2 vs Bus BL	**13.4%**	**5.1%**	**-0.6%**	**0.9%**	**12.1%**	**2.8%**	**-1.7%**	**-0.6%**
Scen 7 vs Bus BL	**20.1%**	**5.8%**	**-0.8%**	**0.6%**	**18.7%**	**7.5%**	**-2.7%**	**-0.9%**
Scen 7 vs 2	**5.9%**	**0.6%**	**-0.2%**	**-0.3%**	**5.9%**	**4.6%**	**-1.0%**	**-0.2%**
	Highway Access		Highway Time		Highway Access		Highway Time	
	Dis	NonDis	Dis	NonDis	Dis	NonDis	Dis	NonDis
All Scenarios	91,767	99,120	13.0	12.1	8,439	8,814	12.6	13.1

Table 3

	Production Times Transit		Attraction Times Transit	
	Dis	**NonDis**	**Dis**	**NonDis**
No-Build	39.2	34.9	41.6	39.7
Bus Base Line	38.9	34.7	41.3	39.6
Scenario 2	38.2	34.6	41.0	39.5
Scenario 7	37.7	34.5	40.6	39.3
Bus BL vs No-Build	**-0.7%**	**-0.4%**	**-0.6%**	**-0.3%**
Scen 2 vs NB	**-2.6%**	**-0.7%**	**-1.4%**	**-0.5%**
Scen 7 vs NB	**-3.6%**	**-1.2%**	**-2.3%**	**-0.9%**
Scen 2 vs Bus BL	**-1.9%**	**-0.4%**	**-0.8%**	**-0.1%**
Scen 7 vs Bus BL	**-3.0%**	**-0.8%**	**-1.7%**	**-0.6%**
Scen 7 vs 2	**-1.1%**	**-0.5%**	**-0.9%**	**-0.4%**

	Highway		Highway	
	Dis	**NonDis**	**Dis**	**NonDis**
All Scenarios	12.0	11.5	14.0	14.5

Table 4

	VMTperSqMi		COperSqMi	
	Dis	**NonDis**	**Dis**	**NonDis**
No-Build	185,946	158,003	1,598,700	1,352,455
Bus Base Line	185,836	157,930	1,597,629	1,351,912
Scenario 2	184,891	157,294	1,589,598	1,346,358
Scenario 7	184,530	157,133	1,586,447	1,344,802
Bus BL vs No-Build	**-0.1%**	**0.0%**	**-0.1%**	**0.0%**
Scen 2 vs NB	**-0.6%**	**-0.4%**	**-0.6%**	**-0.5%**
Scen 7 vs NB	**-0.8%**	**-0.6%**	**-0.8%**	**-0.6%**
Scen 2 vs Bus BL	**-0.5%**	**-0.4%**	**-0.5%**	**-0.4%**
Scen 7 vs Bus BL	**-0.7%**	**-0.5%**	**-0.7%**	**-0.5%**
Scen 7 vs 2	**-0.2%**	**-0.1%**	**-0.2%**	**-0.1%**

Figure 2: Transit Access to Basic Employment Jobs

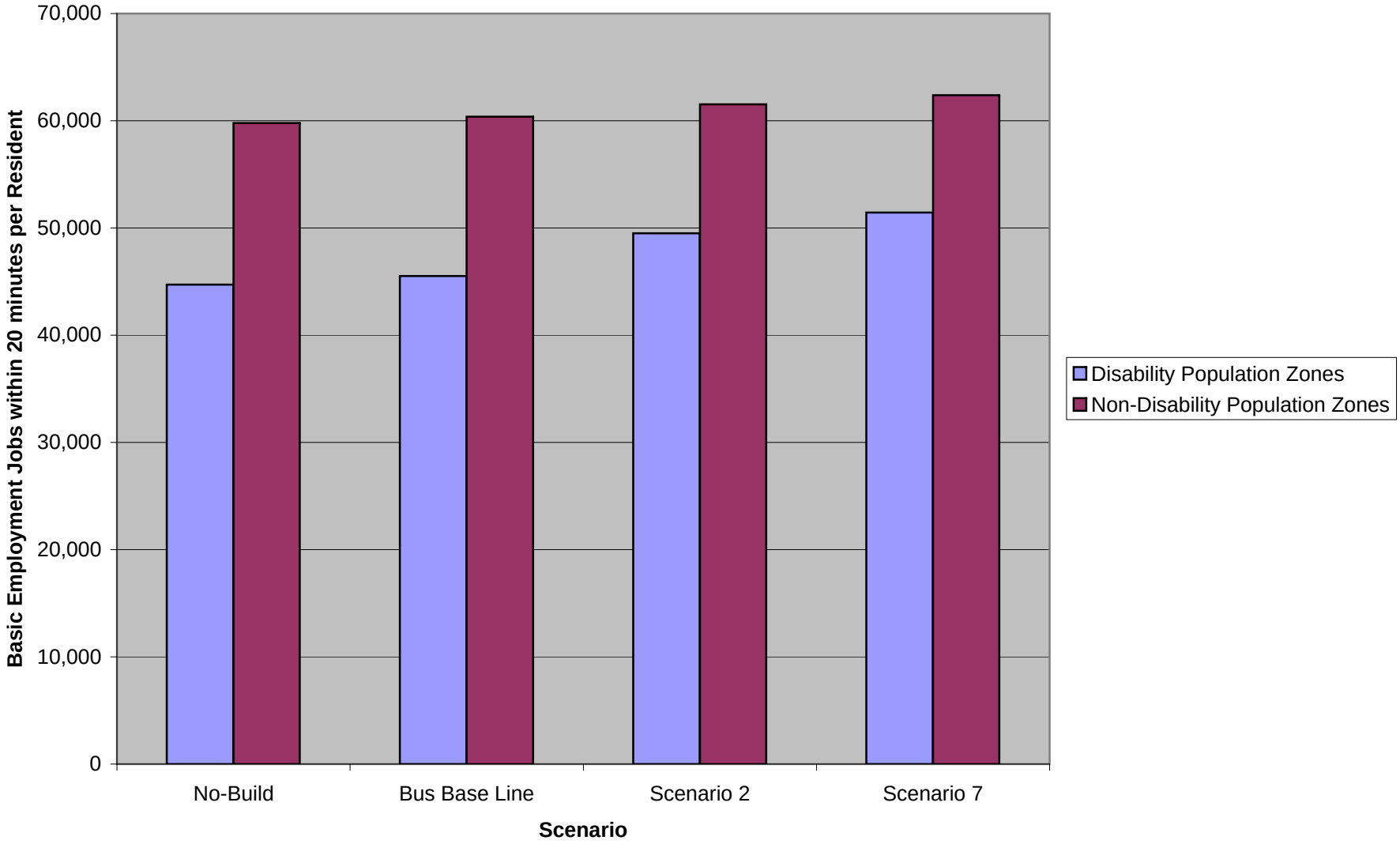


Figure 3: Transit Access to Retail Employment Jobs

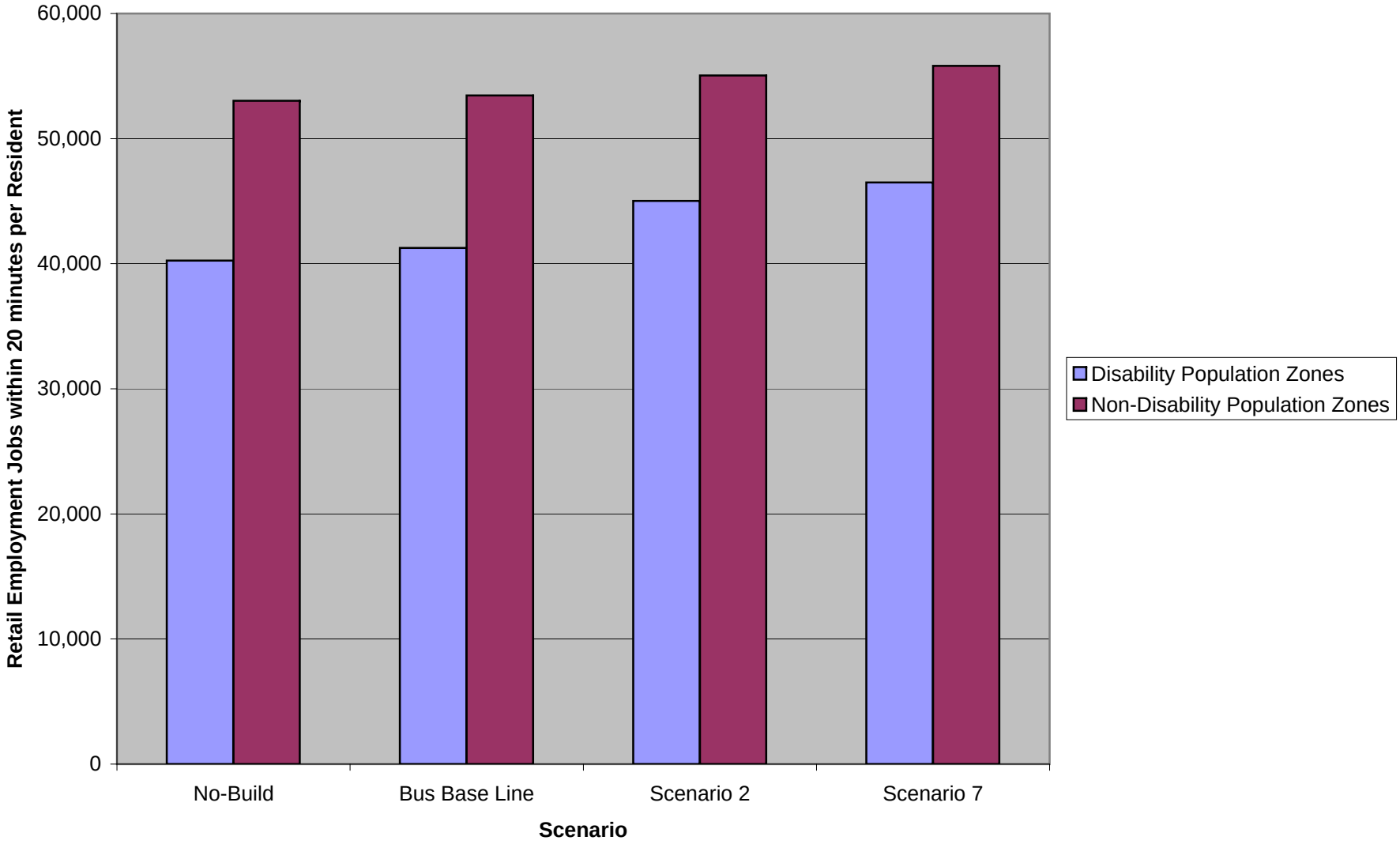


Figure 4: Transit Access to Service Employment Jobs

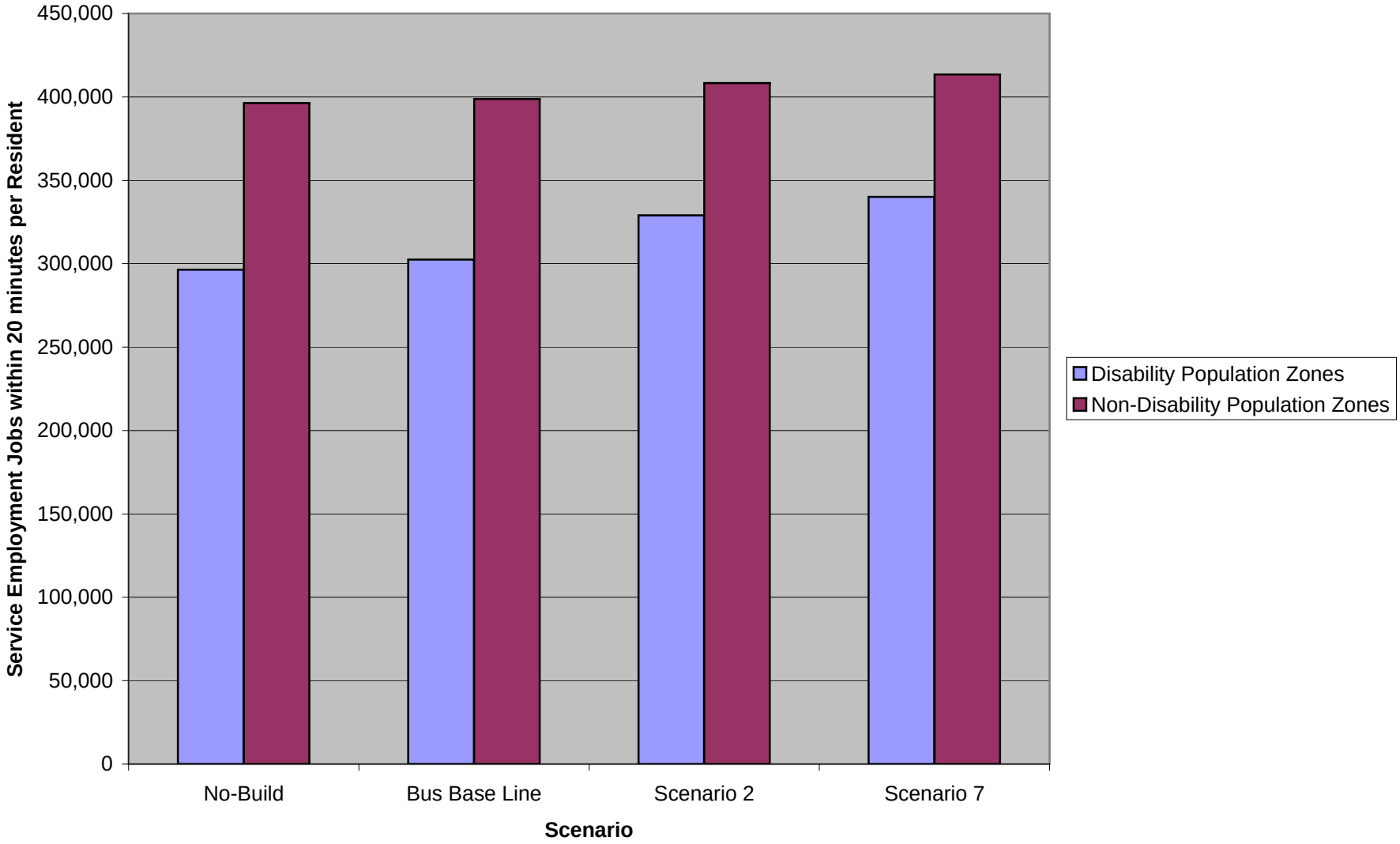


Figure 5: Transit Time to Accessible Basic Employment Jobs

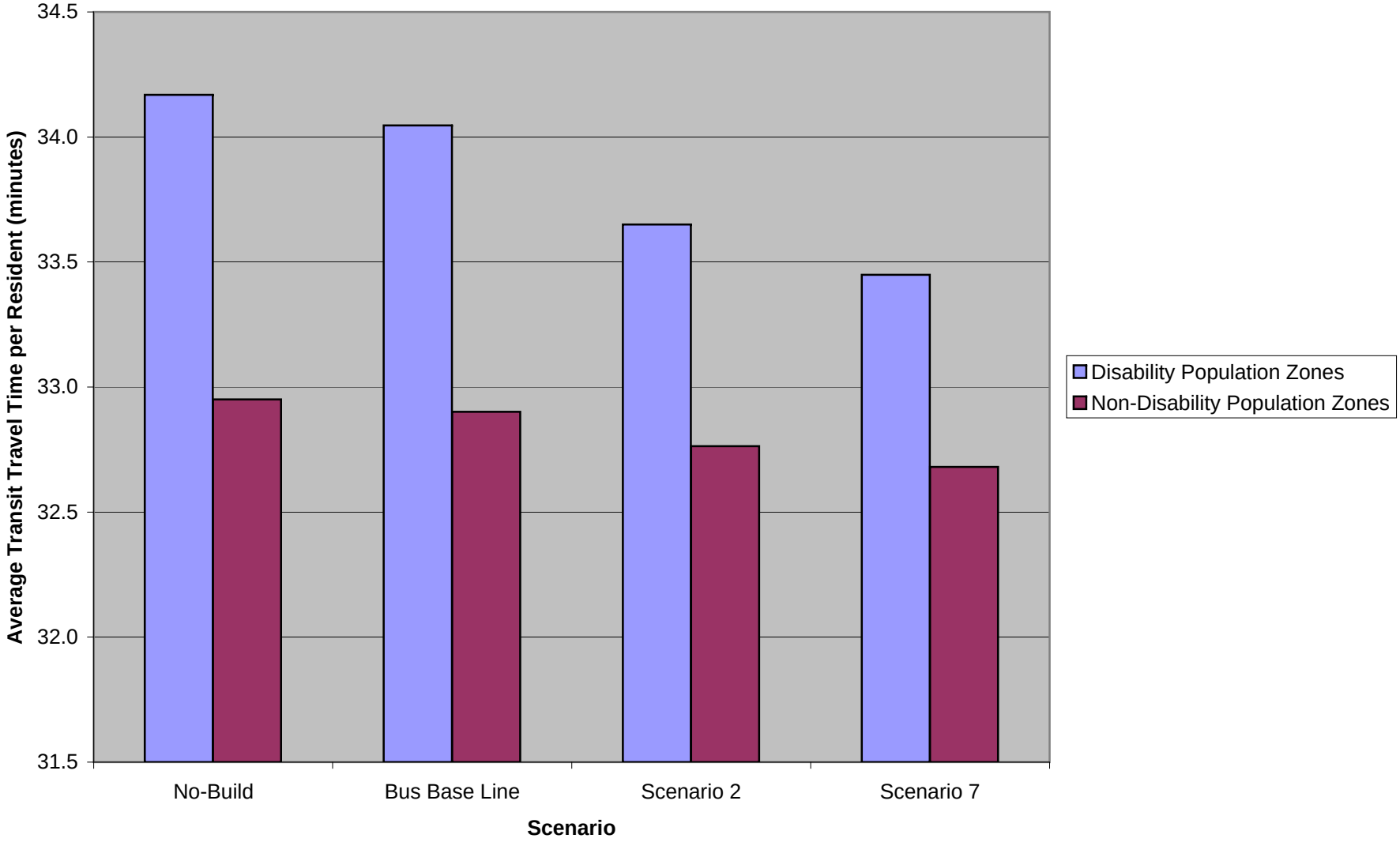


Figure 6: Transit Time to Accessible Retail Employment Jobs

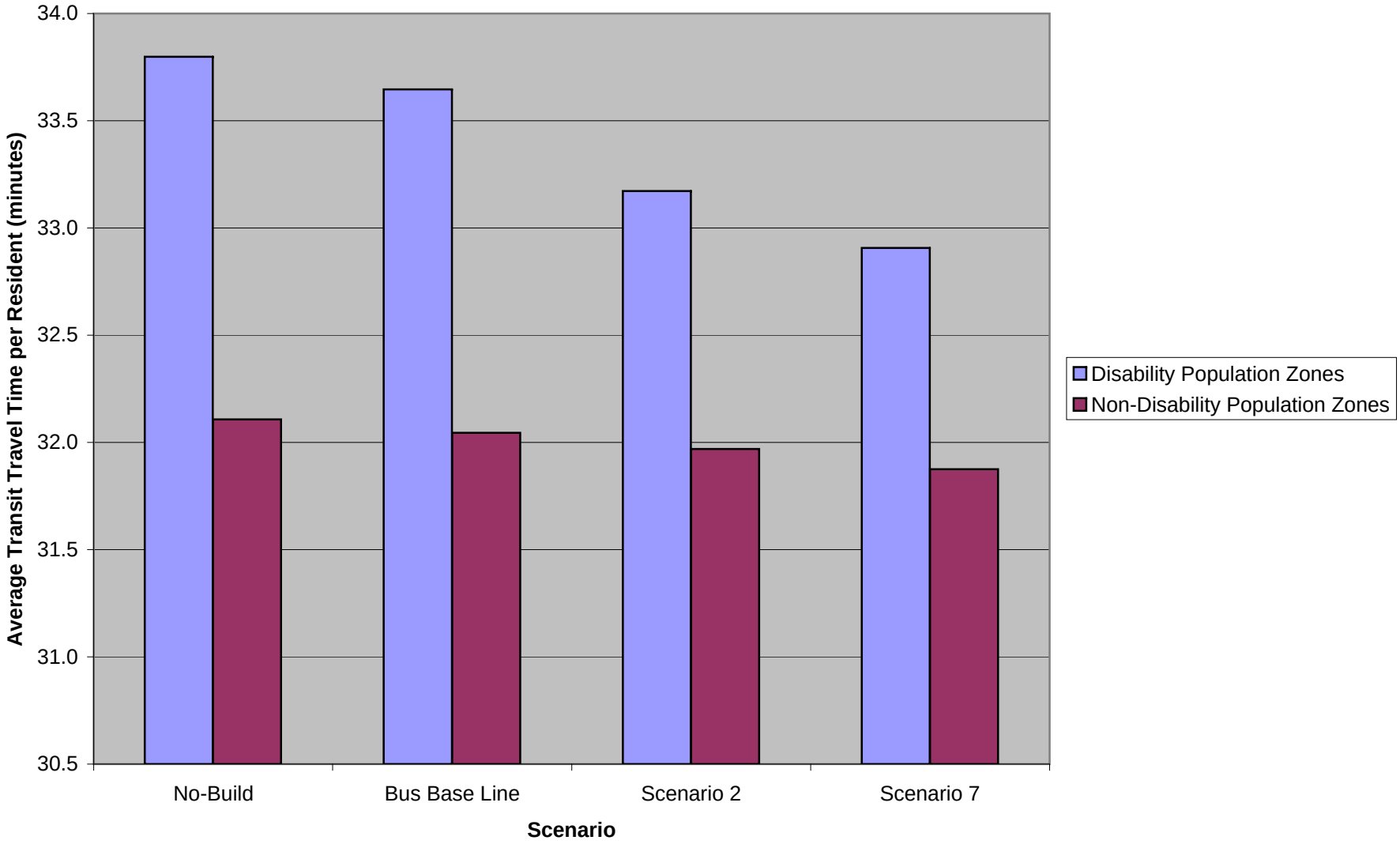


Figure 7: Transit Time to Accessible Service Employment Jobs

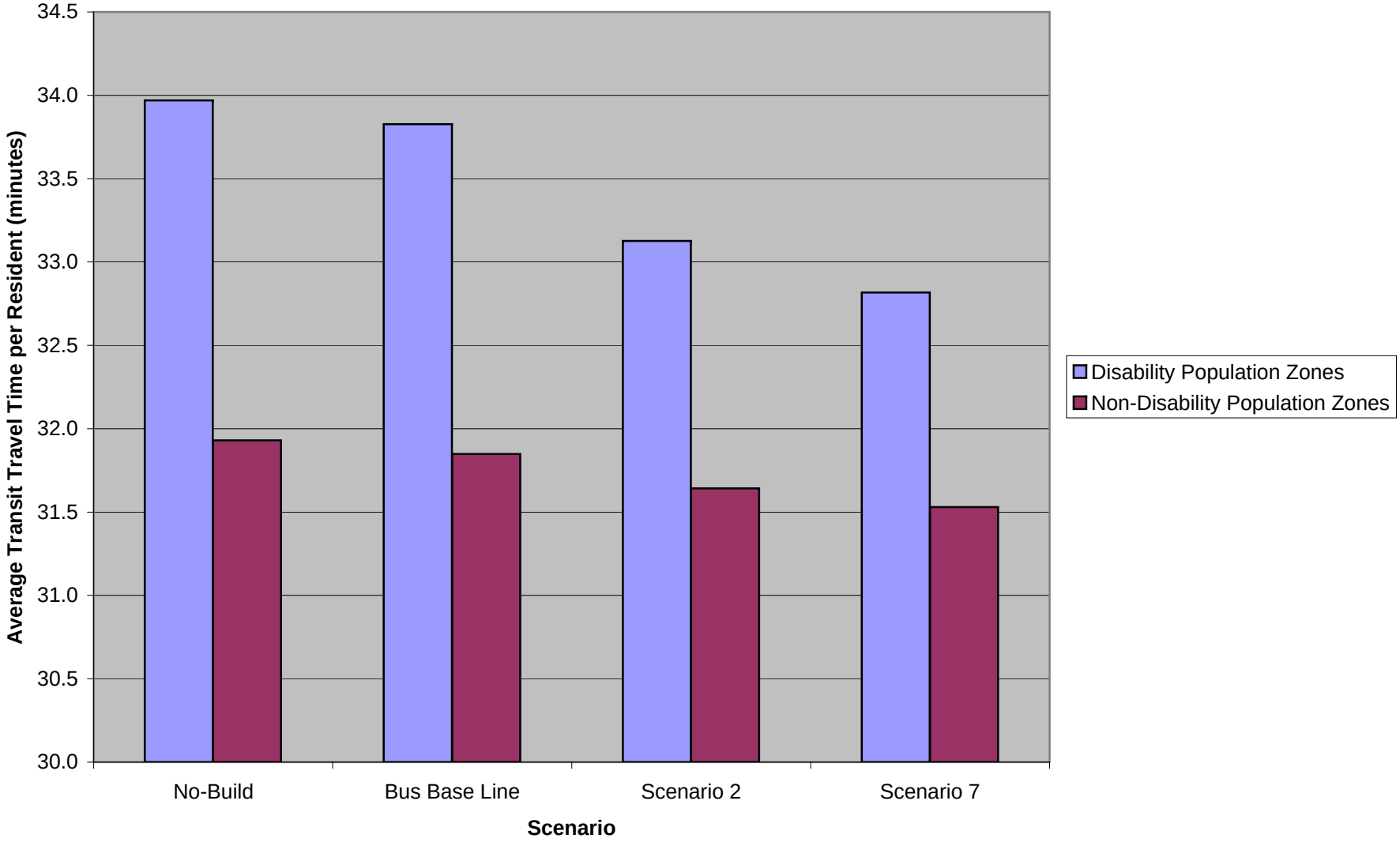


Figure 8: Transit Access to Colleges

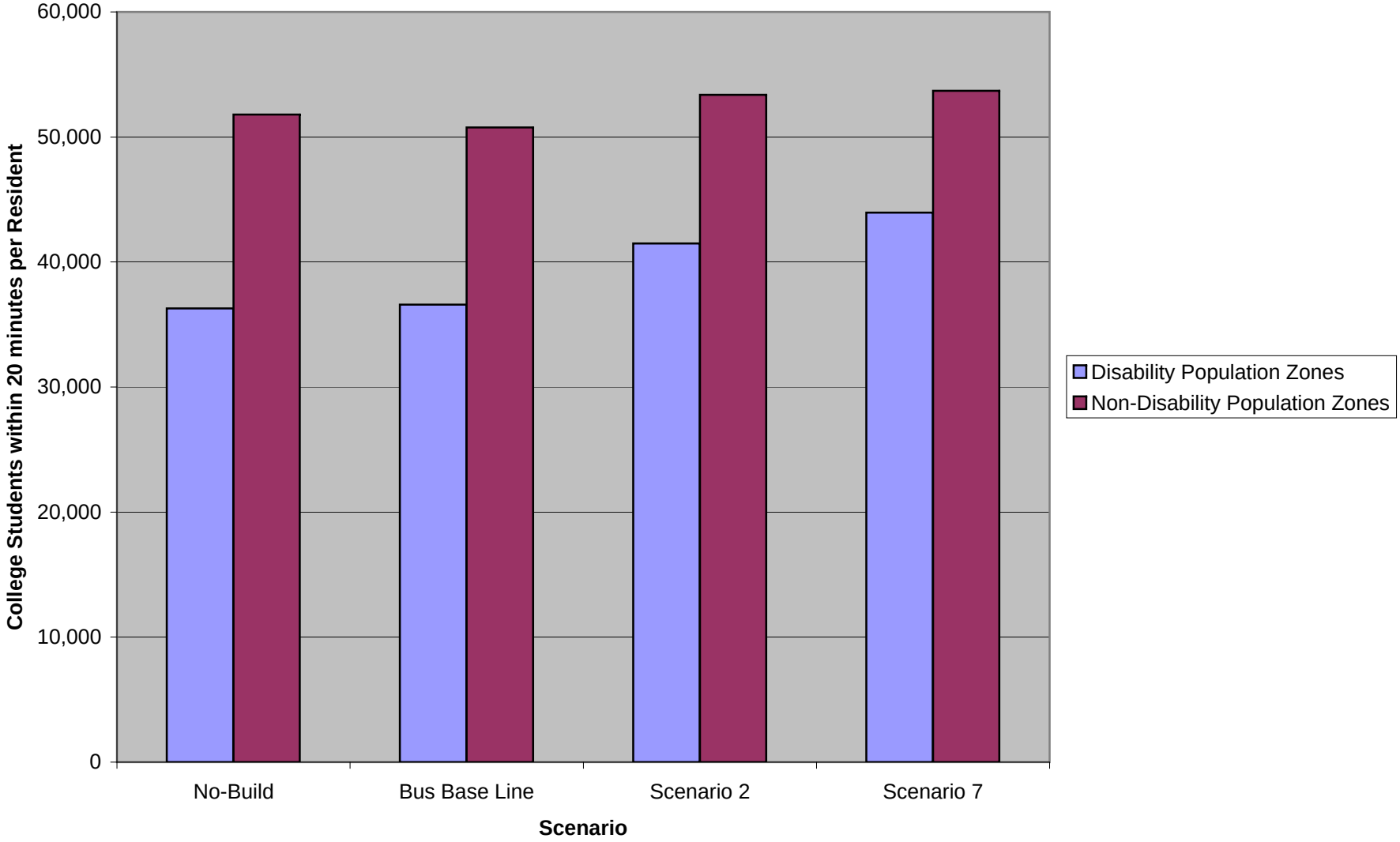


Figure 9: Transit Access to Hospitals

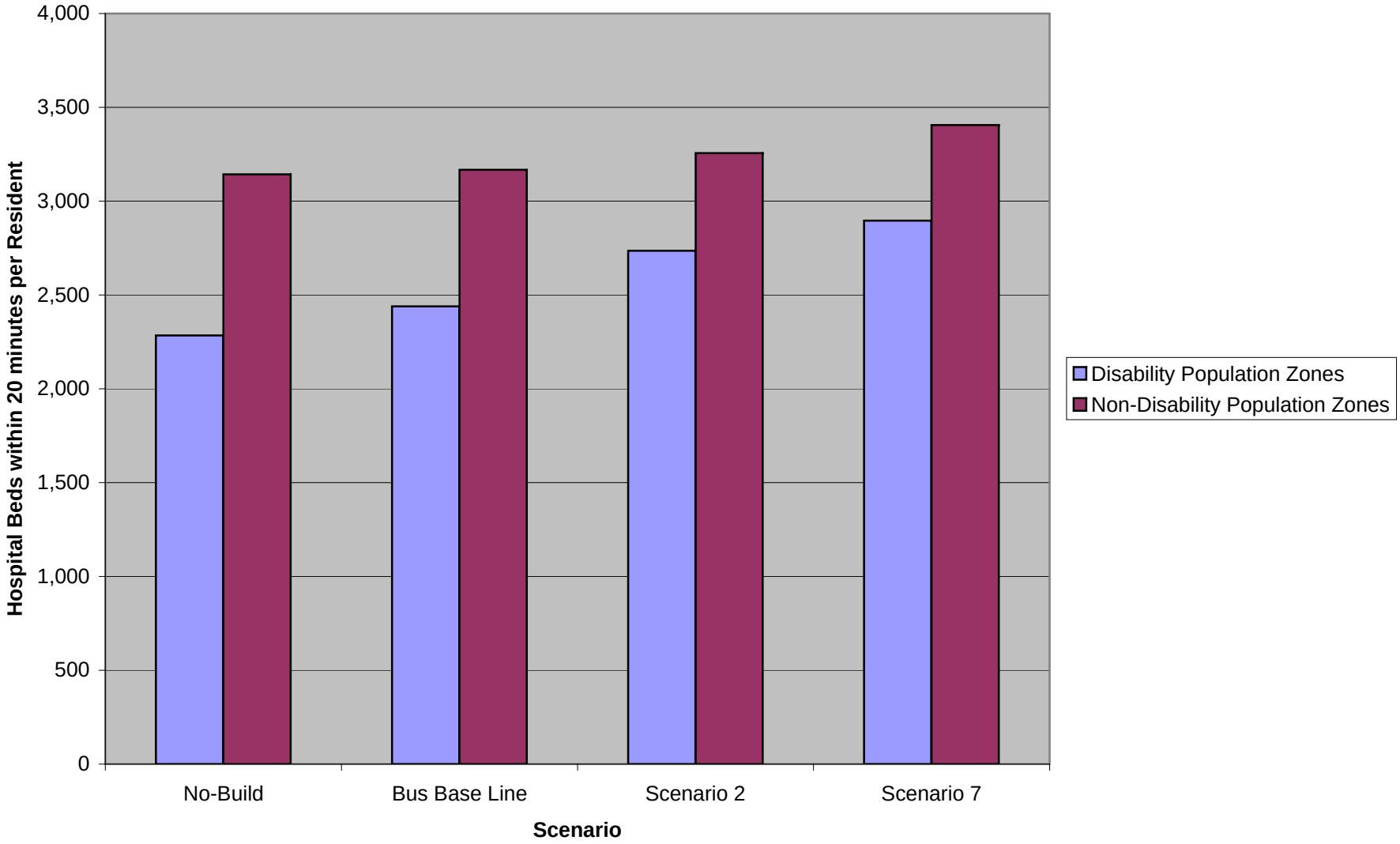


Figure 10: Transit Time to Accessible Colleges

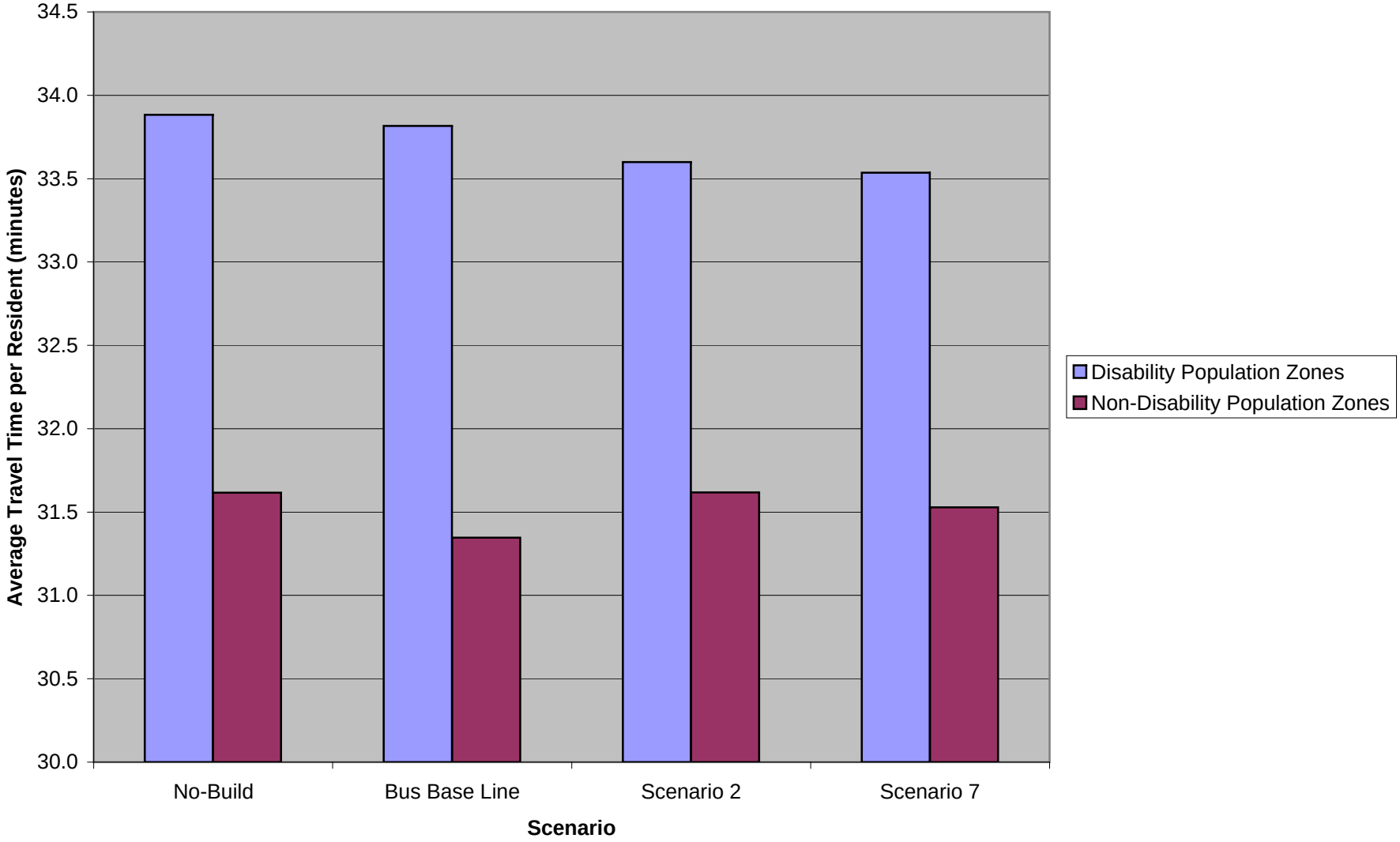


Figure 11: Transit Time to Accessible Hospitals

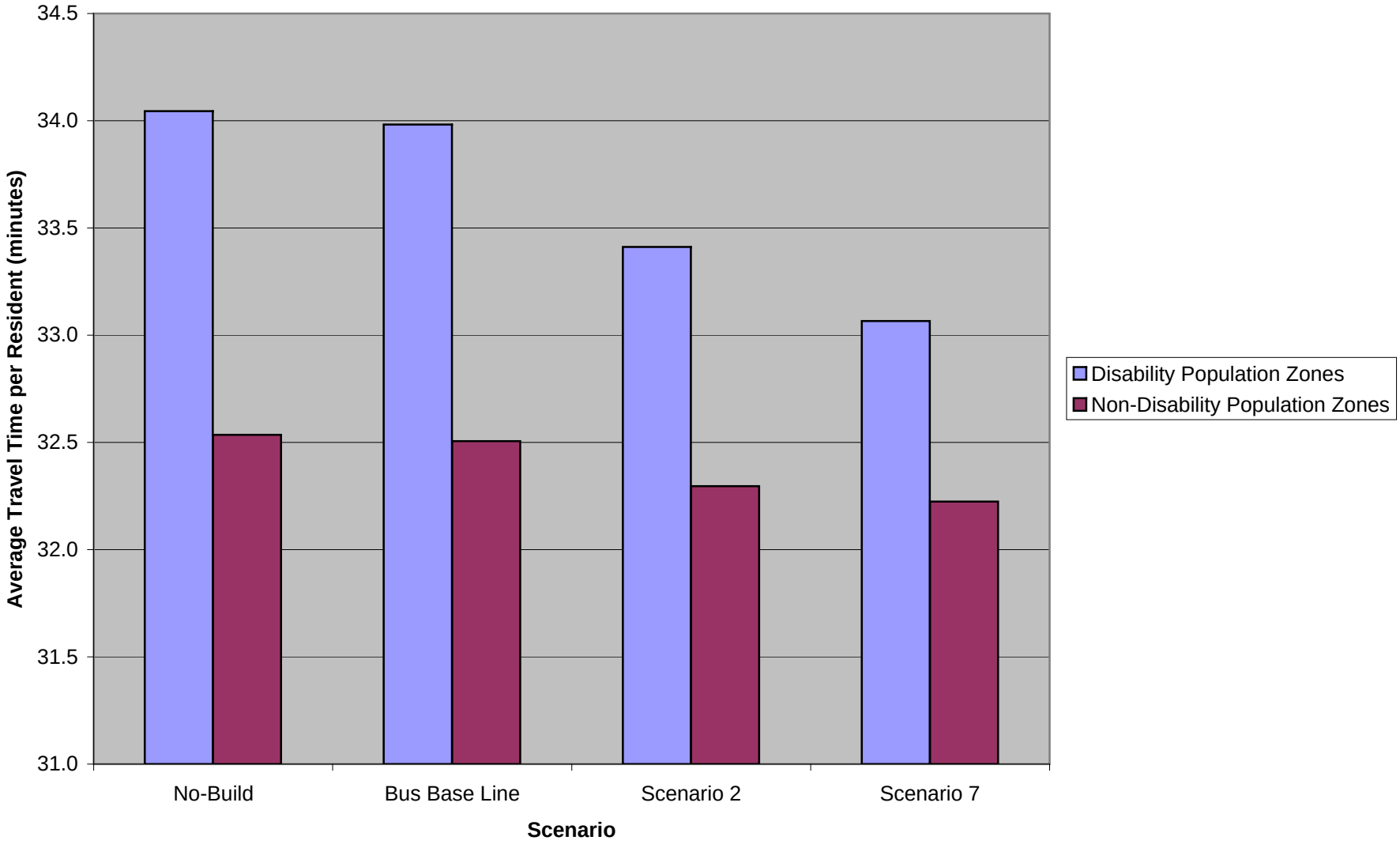


Figure 12: Transit Trip Production Times

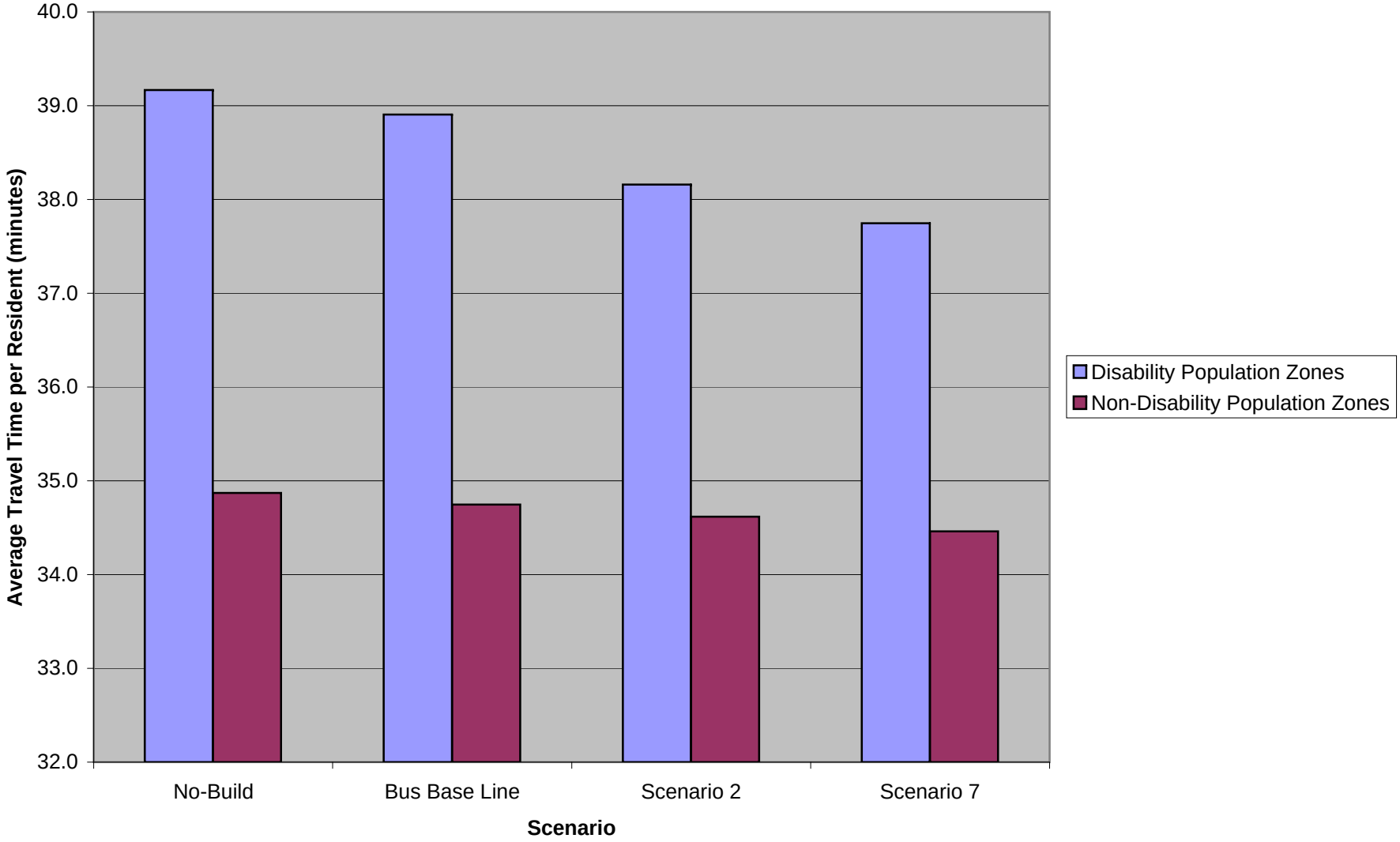


Figure 13: Transit Trip Attraction Times

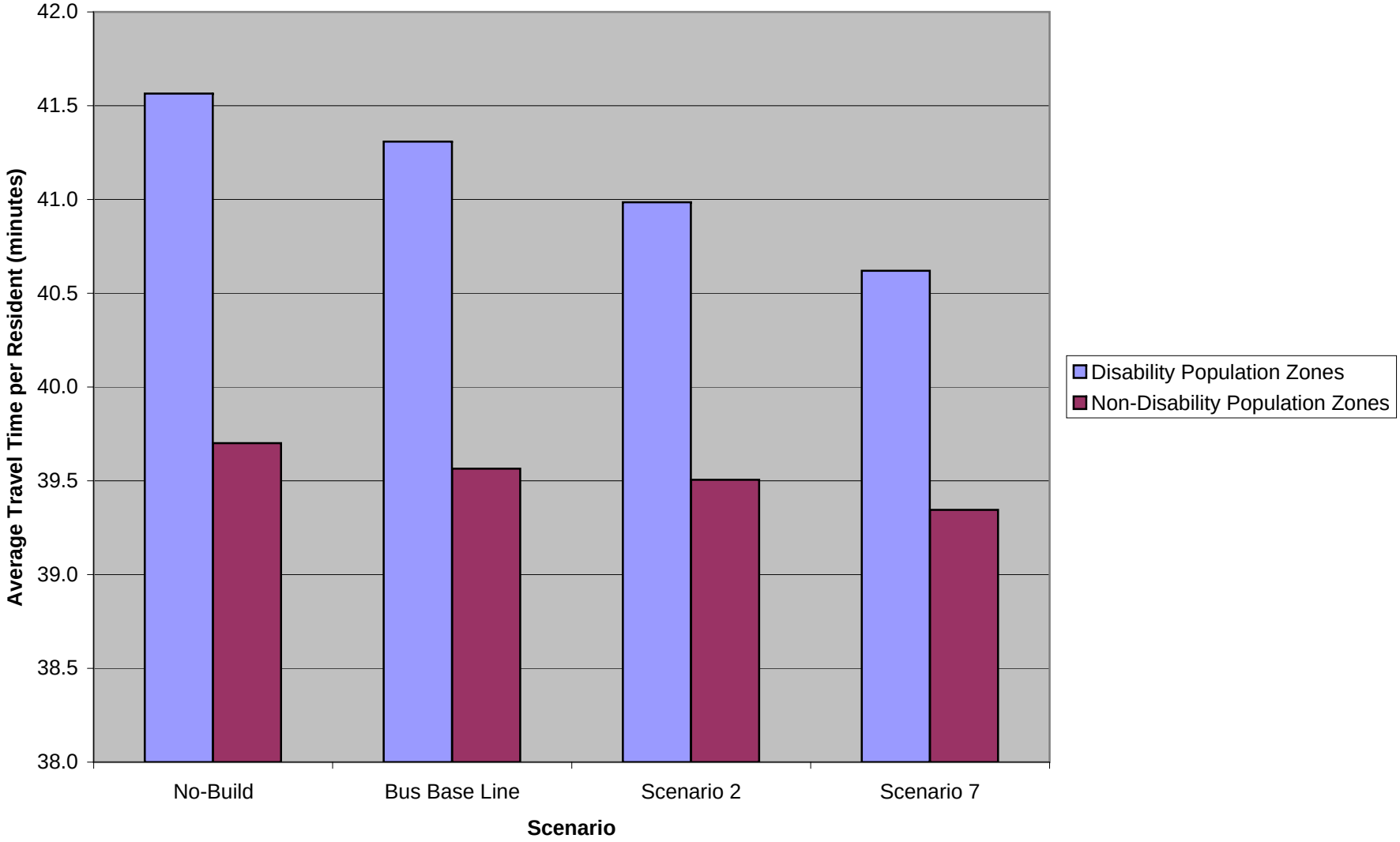


Figure 14: Highway Traffic Density

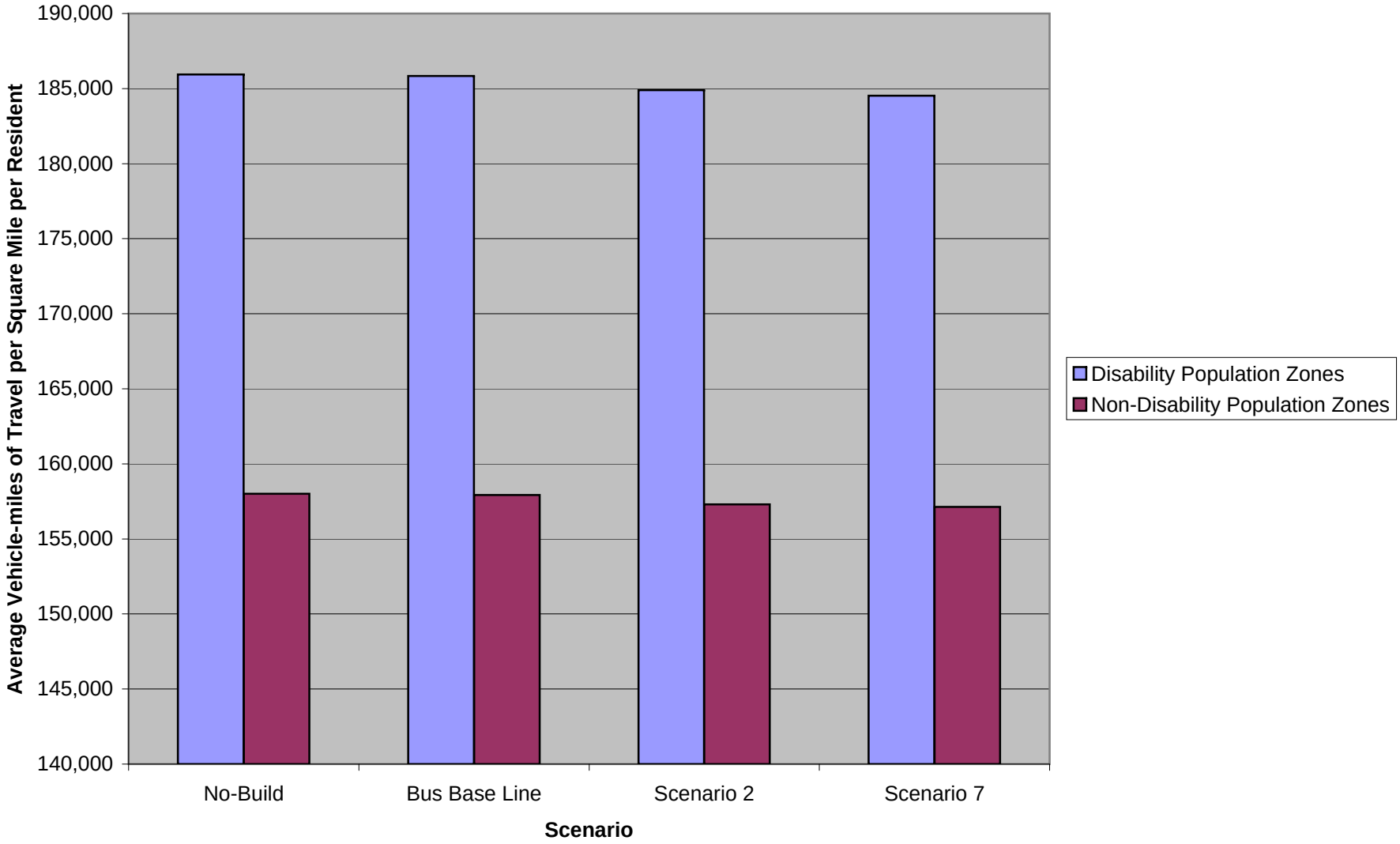
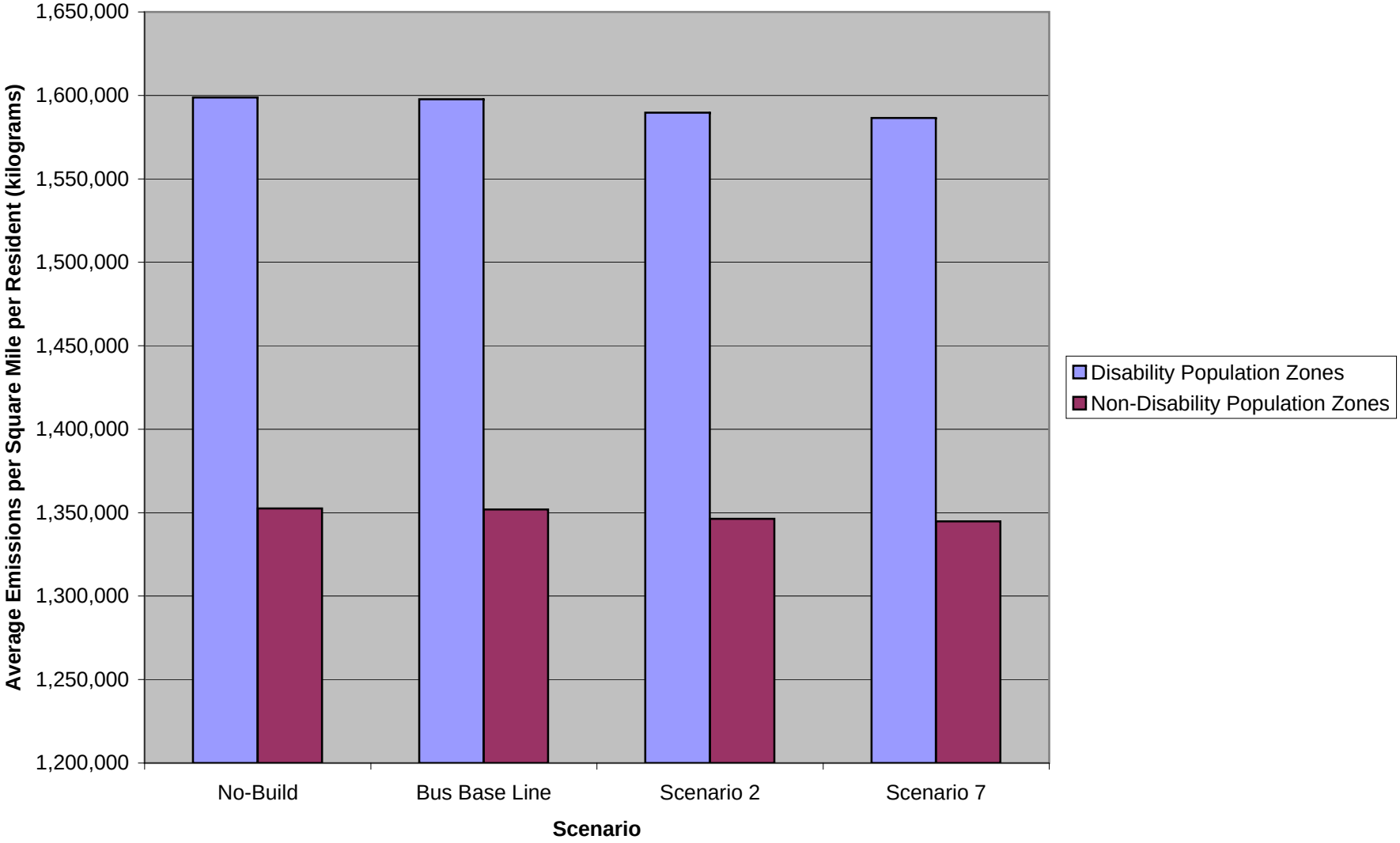


Figure 15: CO Emissions Density



Appendix H
Air Quality Analysis

- MOBILE6.2 Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter (PM)
- MOBILE6.2 Output Files
  - Carbon Monoxide (CO)
  - Particulate Matter (PM)
- Hot Spot: Microscale (Local) Analysis
  - Study Area
  - Intersection Receptor Maps
  - CAL3QHC Input Files
    - Carbon Monoxide (CO)
    - Particulate Matter (PM)
  - CAL3QHC Output Files
    - Carbon Monoxide (CO)
    - Particulate Matter (PM)
  - Microscale Results
- Mesoscale (Regional) Analysis
  - CTPS Model Data

MOBILE6.2 Input Files

- Carbon Monoxide (CO)
- Particulate Matter (PM)

MOBILE6.2 Input Files

- Carbon Monoxide (CO)

```
* Calendar Year 2003 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA03_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us
*
***************     Header Section     ***************
MOBILE6 INPUT FILE

POLLUTANTS         : HC CO NOX
SPREADSHEET        :
REPORT FILE        : MA07CO.txt REPLACE

RUN DATA
***************     Run Section #1    ***************

> ***************************************************
> ********************** WINTER ***********************
> ***************************************************

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST           : MA_REG03.D
I/M DESC FILE      : MA_IM03.D

ANTI-TAMP PROG     :
00 84 50 11111 12222222 2 12 098. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP        : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT            : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP       : 35. 45.

* Fuel Inputs
FUEL RVP           : 13.5
FUEL PROGRAM       : 2 N

***************     Scenario Section #1    ***************

***************      Winter Freeway     ***************

SCENARIO RECORD    : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR      : 2007
```

EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 3.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 3.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 4.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 4.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 5.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 5.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 6.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 6.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 7.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 7.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 8.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 8.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 9.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 9.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 10.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 10.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 11.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 11.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 12.0 mph
CALENDAR YEAR : 2007

EVALUATION MONTH : 1
AVERAGE SPEED : 12.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 13.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 13.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 14.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 14.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 15.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 15.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 16.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 16.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 11.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 17.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 18.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 18.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 19.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 19.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 20.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 20.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 21.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 21.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 22.0 mph
CALENDAR YEAR : 2007

EVALUATION MONTH : 1
AVERAGE SPEED : 22.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 23.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 23.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 24.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 24.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 25.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 25.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 26.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 26.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 27.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 27.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 28.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 28.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 29.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 29.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 30.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 30.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 31.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 31.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 32.0 mph
CALENDAR YEAR : 2007

EVALUATION MONTH : 1
AVERAGE SPEED : 32.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 33.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 33.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 34.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 34.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 35.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 35.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 36.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 36.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 37.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 37.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 38.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 38.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 39.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 39.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 40.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 40.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 41.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 41.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 42.0 mph
CALENDAR YEAR : 2007

EVALUATION MONTH : 1
AVERAGE SPEED : 42.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 43.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 43.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 44.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 44.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 45.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 45.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 46.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 46.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 47.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 47.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 48.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 48.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 49.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 49.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 50.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 50.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 51.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 51.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 52.0 mph
CALENDAR YEAR : 2007

EVALUATION MONTH : 1
AVERAGE SPEED : 52.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 53.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 53.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 54.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 54.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 55.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 55.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 56.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 56.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 57.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 57.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 58.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 58.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 59.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 59.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 60.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.7 mph (= maximum allowed freeway speed)
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0

********** Scenario Section #2 **********
********** Winter Arterial **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 3.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 4.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 5.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 6.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 7.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 8.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 9.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 10.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 11.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 12.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 13.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 14.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 15.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 16.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 17.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 18.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 19.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 20.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 21.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 22.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 23.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 24.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 25.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 26.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 27.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 28.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 29.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 30.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 31.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 32.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 33.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 34.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 35.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 36.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 37.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 38.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 39.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 40.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 41.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 42.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 43.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 44.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 45.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 46.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 47.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 48.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 49.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 50.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 51.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 52.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 53.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 54.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 55.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 56.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 57.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 58.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 59.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 60.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 61.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 62.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 63.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 64.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 65.0 mph (= maximum allowed arterial speed)
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

```
* Calendar Year 2003 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA03_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us
*
***************     Header Section     ***************
MOBILE6 INPUT FILE

POLLUTANTS         : HC CO NOX
SPREADSHEET        :
REPORT FILE        : MA30CO.txt REPLACE

RUN DATA
***************     Run Section #1    ***************

> ***************************************************
> ********************** WINTER ***********************
> ***************************************************

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST           : MA_REG03.D
I/M DESC FILE      : MA_IM03.D

ANTI-TAMP PROG     :
00 84 50 11111 12222222 2 12 098. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP        : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT            : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP       : 35. 45.

* Fuel Inputs
FUEL RVP           : 13.5
FUEL PROGRAM       : 2 N

***************     Scenario Section #1    ***************

***************      Winter Freeway     ***************

SCENARIO RECORD    : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR      : 2030
```

EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 3.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 3.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 4.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 4.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 5.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 5.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 6.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 6.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 7.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 7.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 8.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 8.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 9.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 9.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 10.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 10.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 11.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 11.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 12.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
AVERAGE SPEED : 12.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 13.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 13.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 14.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 14.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 15.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 15.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 16.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 16.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 11.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 17.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 18.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 18.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 19.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 19.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 20.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 20.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 21.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 21.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 22.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
AVERAGE SPEED : 22.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 23.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 23.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 24.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 24.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 25.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 25.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 26.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 26.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 27.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 27.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 28.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 28.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 29.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 29.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 30.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 30.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 31.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 31.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 32.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
AVERAGE SPEED : 32.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 33.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 33.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 34.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 34.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 35.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 35.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 36.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 36.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 37.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 37.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 38.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 38.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 39.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 39.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 40.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 40.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 41.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 41.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 42.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
AVERAGE SPEED : 42.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 43.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 43.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 44.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 44.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 45.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 45.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 46.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 46.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 47.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 47.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 48.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 48.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 49.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 49.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 50.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 50.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 51.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 51.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 52.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
AVERAGE SPEED : 52.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 53.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 53.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 54.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 54.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 55.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 55.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 56.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 56.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 57.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 57.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 58.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 58.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 59.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 59.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.7 mph (= maximum allowed freeway speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0

********** Scenario Section #2 **********
********** Winter Arterial **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 3.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 4.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 5.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 6.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 7.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 8.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 9.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 10.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 11.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 12.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 13.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 14.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 15.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 16.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 17.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 18.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 19.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 20.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 21.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 22.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 23.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 24.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 25.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 26.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 27.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 28.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 29.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 30.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 31.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 32.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 33.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 34.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 35.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 36.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 37.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 38.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 39.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 40.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 41.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 42.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 43.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 44.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 45.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 46.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 47.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 48.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 49.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 50.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 51.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 52.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 53.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 54.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 55.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 56.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 57.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 58.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 59.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 60.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 61.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 62.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 63.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 64.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 65.0 mph (= maximum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

MOBILE6.2 Input Files

- Particulate Matter (PM)

```
* Calendar Year 2003 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA03_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us* Generic Input File for Summer/Winter Ozone and CO Build/No-Build
Analyses for Calendar Year 2004
*
***************     Header Section     ***************
MOBILE6 INPUT FILE

POLLUTANTS        : HC CO NOX
PARTICULATES      :
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
REPORT FILE       : MA07COPM.txt REPLACE

RUN DATA
***************     Run Section #1    ***************

>***************     Scenario Section #2    ***************

***************      Summer Arterial      ***************

SCENARIO RECORD   : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR     : 2007
EVALUATION MONTH  : 1
ALTITUDE          : 1
PARTICLE SIZE     : 10.0
DIESEL SULFUR     : 15.00
PARTICULATE EF    : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
AVERAGE SPEED     : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD   : MA Arterial 3.0 mph
CALENDAR YEAR     : 2007
EVALUATION MONTH  : 1
ALTITUDE          : 1
PARTICLE SIZE     : 10.0
DIESEL SULFUR     : 15.00
PARTICULATE EF    : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
AVERAGE SPEED     : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD   : MA Arterial 4.0 mph
CALENDAR YEAR     : 2007
EVALUATION MONTH  : 1
ALTITUDE          : 1
PARTICLE SIZE     : 10.0
DIESEL SULFUR     : 15.00
PARTICULATE EF    : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
```

AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 5.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 6.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 7.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 8.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 9.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 10.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 11.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 12.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 13.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 14.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 15.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 16.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 17.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 18.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 19.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 20.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 21.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 22.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 23.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 24.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 25.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 26.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 27.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 28.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 29.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 30.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 31.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 32.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 33.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 34.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 35.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 36.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 37.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 38.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 39.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 40.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 41.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 42.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 43.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 44.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 45.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 46.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 47.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 48.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 49.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 50.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 51.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 52.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 53.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 54.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 55.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 56.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 57.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 58.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 59.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 60.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 61.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 62.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 63.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 64.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 65.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

```
* Calendar Year 2003 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA03_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us* Generic Input File for Summer/Winter Ozone and CO Build/No-Build
Analyses for Calendar Year 2004
*
**********     Header Section     **********
MOBILE6 INPUT FILE

POLLUTANTS        : HC CO NOX
PARTICULATES      :
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
REPORT FILE       : MA30COPM10.txt REPLACE

RUN DATA
**********     Run Section #1    **********

> ***************************************************
> ********************** WINTER ***********************
> ***************************************************

* Pollutant output format
EXPRESS HC AS VOC  :
EXPAND EVAPORATIVE :

* Mass. specific user inputs -- require external data file
REG DIST          : MA_REG08.D
I/M DESC FILE     : MA_IM08.D

ANTI-TAMP PROG    :
00 84 50 11111 12222222 2 12 098. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 68. 94.
IDLE PM EMISSIONS :

* Fuel Inputs
FUEL RVP          : 6.8
FUEL PROGRAM      : 2 N
```

********** Scenario Section #1 **********

********** Winter Freeway **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 3.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 3.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 4.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 4.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 5.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 5.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 6.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 6.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 7.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 7.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 8.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 8.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 9.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 9.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 10.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 10.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 11.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 11.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 12.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 12.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 13.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 13.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 14.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 14.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 15.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 15.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 16.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 16.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 17.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 17.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 18.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 18.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 19.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 19.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 20.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 20.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 21.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 21.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 22.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 22.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 23.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 23.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 24.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 24.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 25.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 25.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 26.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 26.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 27.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 27.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 28.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 28.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 29.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 29.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 30.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 30.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 31.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 31.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 32.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 32.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 33.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 33.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 34.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 34.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 35.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 35.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 36.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 36.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 37.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 37.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 38.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 38.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 39.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 39.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 40.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 40.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 41.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 41.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 42.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 42.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 43.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 43.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 44.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 44.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 45.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 45.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 46.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 46.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 47.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 47.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 48.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 48.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 49.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 49.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 50.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 50.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 51.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 51.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 52.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 52.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 53.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 53.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 54.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 54.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 55.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 55.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 56.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 56.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 57.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 57.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 58.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 58.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 59.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 59.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.7 mph (= maximum allowed freeway speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0

********** Scenario Section #2 **********

********** Summer Arterial **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 3.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 4.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 5.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 6.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 7.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 8.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 9.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 10.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 11.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 12.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 13.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 14.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 15.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 16.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 17.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 18.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 19.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 20.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 21.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 22.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 23.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 24.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 25.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 26.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 27.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 28.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 29.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 30.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 31.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 32.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 33.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 34.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 35.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 36.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 37.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 38.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 39.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 40.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 41.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 42.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 43.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 44.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 45.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 46.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 47.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 48.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 49.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 50.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 51.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 52.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 53.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 54.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 55.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 56.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 57.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 58.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 59.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 60.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 61.0 mph
CALENDAR YEAR : 2030

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 62.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 63.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 64.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 65.0 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 10.0
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

```
* Calendar Year 2003 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA03_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us* Generic Input File for Summer/Winter Ozone and CO Build/No-Build
Analyses for Calendar Year 2004
*
**********     Header Section     **********
MOBILE6 INPUT FILE

POLLUTANTS        : PM
PARTICULATES      :
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
REPORT FILE       : MA07COPM25.txt REPLACE

AVERAGE SPEED     : 60.7 Freeway 92.0 0.0 0.0 8.0

**********     Scenario Section #2    **********

**********      Summer Arterial      **********

SCENARIO RECORD   : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR     : 2007
EVALUATION MONTH  : 1
ALTITUDE          : 1
PARTICLE SIZE     : 2.5
DIESEL SULFUR     : 15.00
PARTICULATE EF    : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
AVERAGE SPEED     : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD   : MA Arterial 3.0 mph
CALENDAR YEAR     : 2007
EVALUATION MONTH  : 1
ALTITUDE          : 1
PARTICLE SIZE     : 2.5
DIESEL SULFUR     : 15.00
PARTICULATE EF    : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
AVERAGE SPEED     : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD   : MA Arterial 4.0 mph
CALENDAR YEAR     : 2007
EVALUATION MONTH  : 1
ALTITUDE          : 1
PARTICLE SIZE     : 2.5
DIESEL SULFUR     : 15.00
PARTICULATE EF    : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV
PMDDR2.CSV
AVERAGE SPEED     : 4.0 Arterial 0.0 100.0 0.0 0.0
```

SCENARIO RECORD : MA Arterial 5.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 6.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 7.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 8.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 9.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 10.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 11.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 12.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 13.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 14.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 15.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 16.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 17.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 18.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 19.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 20.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 21.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 22.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 23.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 24.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 25.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 26.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 27.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 28.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 29.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 30.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 31.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 32.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 33.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 34.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 35.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 36.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 37.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 38.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 39.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 40.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 41.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 42.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 43.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 44.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 45.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 46.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 47.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 48.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 49.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 50.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 51.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 52.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 53.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 54.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 55.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 56.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 57.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 58.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 59.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 60.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 61.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 62.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 63.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 64.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 65.0 mph
CALENDAR YEAR : 2007
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

```
* Calendar Year 2003 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA03_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us* Generic Input File for Summer/Winter Ozone and CO Build/No-Build
Analyses for Calendar Year 2004
*
***************     Header Section     ***************
MOBILE6 INPUT FILE

POLLUTANTS        : HC CO NOX
PARTICULATES      :
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
REPORT FILE       : MA14PM25.txt REPLACE

RUN DATA
***************     Run Section #1    ***************

> ***************************************************
> ********************** WINTER ***********************
> ***************************************************

* Pollutant output format
EXPRESS HC AS VOC  :
EXPAND EVAPORATIVE :

* Mass. specific user inputs -- require external data file
REG DIST          : MA_REG08.D
I/M DESC FILE     : MA_IM08.D

ANTI-TAMP PROG    :
00 84 50 11111 12222222 2 12 098. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 68. 94.
IDLE PM EMISSIONS :

* Fuel Inputs
FUEL RVP          : 6.8
FUEL PROGRAM      : 2 N
```

********** Scenario Section #1 **********

********** Winter Freeway **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 3.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 3.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 4.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 4.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 5.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 5.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 6.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 6.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 7.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 7.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 8.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 8.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 9.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 9.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 10.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 10.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 11.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 11.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 12.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 12.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 13.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 13.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 14.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 14.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 15.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 15.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 16.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 16.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 17.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 17.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 18.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 18.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 19.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 19.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 20.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 20.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 21.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 21.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 22.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 22.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 23.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 23.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 24.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 24.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 25.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 25.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 26.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 26.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 27.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 27.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 28.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 28.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 29.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 29.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 30.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 30.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 31.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 31.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 32.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 32.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 33.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 33.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 34.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 34.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 35.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 35.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 36.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 36.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 37.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 37.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 38.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 38.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 39.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 39.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 40.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 40.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 41.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 41.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 42.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 42.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 43.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 43.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 44.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 44.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 45.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 45.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 46.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 46.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 47.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 47.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 48.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 48.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 49.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 49.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 50.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 50.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 51.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 51.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 52.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 52.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 53.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 53.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 54.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 54.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 55.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 55.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 56.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 56.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 57.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 57.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 58.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 58.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 59.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 59.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.0 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway 60.7 mph (= maximum allowed freeway speed)
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0

********** Scenario Section #2 **********

********** Summer Arterial **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 3.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 3.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 4.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 4.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 5.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 5.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 6.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 6.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 7.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 7.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 8.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 8.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 9.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 9.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 10.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 10.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 11.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 11.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 12.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 12.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 13.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 13.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 14.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 14.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 15.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 15.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 16.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 16.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 17.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 17.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 18.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 18.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 19.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 19.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 20.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 20.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 21.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 21.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 22.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 22.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 23.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 23.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 24.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 24.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 25.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 25.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 26.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 26.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 27.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 27.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 28.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 28.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 29.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 29.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 30.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 30.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 31.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 31.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 32.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 32.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 33.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 33.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 34.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 34.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 35.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 35.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 36.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 36.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 37.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 37.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 38.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 38.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 39.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 39.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 40.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 40.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 41.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 41.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 42.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 42.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 43.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 43.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 44.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 44.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 45.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 45.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 46.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 46.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 47.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 47.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 48.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 48.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 49.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 49.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 50.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 50.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 51.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 51.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 52.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 52.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 53.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 53.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 54.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 54.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 55.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 55.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 56.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 56.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 57.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 57.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 58.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 58.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 59.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 59.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 60.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 60.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 61.0 mph
CALENDAR YEAR : 2014

EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 61.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 62.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 62.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 63.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 63.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 64.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 64.0 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial 65.0 mph
CALENDAR YEAR : 2014
EVALUATION MONTH : 1
ALTITUDE : 1
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15.00
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED : 65.0 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

MOBILE6.2 Output Files

- Carbon Monoxide (CO)
- Particulate Matter (PM)

MOBILE6.2 Output Files

- Carbon Monoxide (CO)

2007 MA
Mobile 6.2 Emission Factors

Arterial		Freeway	
Vehicle Speed (mph)	**CO** Emission Factor (g/veh-mile)	Vehicle Speed (mph)	**CO** Emission Factor (g/veh-mile)
2.5	32.68	2.5	31.37
3	29.06	3	29.43
4	24.53	4	24.90
5	21.82	5	22.19
6	19.99	6	20.25
7	18.69	7	18.81
8	17.71	8	17.73
9	16.95	9	16.89
10	16.34	10	16.21
11	15.84	11	15.67
12	15.43	12	15.24
13	15.08	13	14.88
14	14.79	14	14.56
15	14.53	15	14.29
16	14.29	16	14.09
17	14.08	17	13.97
18	13.89	18	13.86
19	13.72	19	13.77
20	13.57	20	13.69
21	13.44	21	13.61
22	13.33	22	13.54
23	13.22	23	13.48
24	13.13	24	13.42
25	13.04	25	13.36
26	12.98	26	13.31
27	12.93	27	13.27
28	12.88	28	13.22
29	12.84	29	13.18
30	12.79	30	13.15
31	12.80	31	13.14
32	12.80	32	13.15
33	12.81	33	13.15
34	12.81	34	13.16
35	12.81	35	13.16
36	12.90	36	13.25
37	12.98	37	13.33
38	13.05	38	13.40
39	13.12	39	13.47
40	13.19	40	13.55
41	13.28	41	13.64
42	13.36	42	13.72
43	13.44	43	13.80
44	13.52	44	13.88
45	13.59	45	13.98
46	13.68	46	14.07
47	13.77	47	14.16
48	13.86	48	14.24
49	13.94	49	14.34
50	14.02	50	14.44
51	14.11	51	14.54
52	14.21	52	14.63
53	14.30	53	14.74
54	14.38	54	14.85
55	14.46	55	14.96
56	14.57	56	15.07
57	14.67	57	15.18
58	14.77	58	15.31
59	14.87	59	15.43
60	14.96	60	15.55
61	15.08	61	15.63
62	15.19	62	15.63
63	15.30	63	15.63
64	15.40	64	15.63
65	15.50	65	15.63

2030 MA
Mobile 6.2 Emission Factors

Arterial		Freeway	
Vehicle Speed (mph)	**CO** Emission Factor (g/veh-mile)	Vehicle Speed (mph)	**CO** Emission Factor (g/veh-mile)
2.5	18.49	2.5	17.74
3	16.57	3	16.72
4	14.18	4	14.33
5	12.74	5	12.89
6	11.76	6	11.85
7	11.05	7	11.06
8	10.53	8	10.47
9	10.12	9	10.02
10	9.79	10	9.65
11	9.52	11	9.35
12	9.29	12	9.12
13	9.10	13	8.91
14	8.94	14	8.74
15	8.79	15	8.59
16	8.66	16	8.48
17	8.55	17	8.42
18	8.45	18	8.37
19	8.36	19	8.32
20	8.28	20	8.28
21	8.21	21	8.24
22	8.14	22	8.20
23	8.08	23	8.17
24	8.03	24	8.14
25	7.98	25	8.11
26	7.95	26	8.09
27	7.93	27	8.07
28	7.90	28	8.04
29	7.88	29	8.02
30	7.86	30	8.01
31	7.86	31	8.00
32	7.86	32	8.01
33	7.87	33	8.01
34	7.87	34	8.01
35	7.87	35	8.02
36	7.92	36	8.07
37	7.97	37	8.12
38	8.01	38	8.16
39	8.06	39	8.20
40	8.10	40	8.25
41	8.15	41	8.30
42	8.20	42	8.35
43	8.25	43	8.40
44	8.29	44	8.45
45	8.34	45	8.50
46	8.39	46	8.56
47	8.44	47	8.61
48	8.49	48	8.66
49	8.54	49	8.72
50	8.59	50	8.78
51	8.64	51	8.84
52	8.70	52	8.89
53	8.75	53	8.95
54	8.80	54	9.02
55	8.85	55	9.09
56	8.92	56	9.15
57	8.98	57	9.22
58	9.04	58	9.29
59	9.09	59	9.37
60	9.15	60	9.44
61	9.22	61	9.48
62	9.28	62	9.48
63	9.35	63	9.48
64	9.41	64	9.48
65	9.47	65	9.48

MOBILE6.2 Output Files

- Particulate Matter (PM)

2007 MA
Mobile 6.2 Emission Factors

Arterial		Freeway	
Vehicle Speed (mph)	**PM 10** Emission Factor (g/veh-mile)	Vehicle Speed (mph)	**PM 10** Emission Factor (g/veh-mile)
2.5	0.0498	2.5	0.0498
3	0.0498	3	0.0498
4	0.0498	4	0.0498
5	0.0498	5	0.0498
6	0.0498	6	0.0498
7	0.0498	7	0.0498
8	0.0498	8	0.0498
9	0.0498	9	0.0498
10	0.0498	10	0.0498
11	0.0498	11	0.0498
12	0.0498	12	0.0498
13	0.0498	13	0.0498
14	0.0498	14	0.0498
15	0.0498	15	0.0498
16	0.0498	16	0.0498
17	0.0498	17	0.0498
18	0.0498	18	0.0498
19	0.0498	19	0.0498
20	0.0498	20	0.0498
21	0.0498	21	0.0498
22	0.0498	22	0.0498
23	0.0498	23	0.0498
24	0.0498	24	0.0498
25	0.0498	25	0.0498
26	0.0498	26	0.0498
27	0.0498	27	0.0498
28	0.0498	28	0.0498
29	0.0498	29	0.0498
30	0.0498	30	0.0498
31	0.0498	31	0.0498
32	0.0498	32	0.0498
33	0.0498	33	0.0498
34	0.0498	34	0.0498
35	0.0498	35	0.0498
36	0.0498	36	0.0498
37	0.0498	37	0.0498
38	0.0498	38	0.0498
39	0.0498	39	0.0498
40	0.0498	40	0.0498
41	0.0498	41	0.0498
42	0.0498	42	0.0498
43	0.0498	43	0.0498
44	0.0498	44	0.0498
45	0.0498	45	0.0498
46	0.0498	46	0.0498
47	0.0498	47	0.0498
48	0.0498	48	0.0498
49	0.0498	49	0.0498
50	0.0498	50	0.0498
51	0.0498	51	0.0498
52	0.0498	52	0.0498
53	0.0498	53	0.0498
54	0.0498	54	0.0498
55	0.0498	55	0.0498
56	0.0498	56	0.0498
57	0.0498	57	0.0498
58	0.0498	58	0.0498
59	0.0498	59	0.0498
60	0.0498	60	0.0498
61	0.0498	61	0.0498
62	0.0498	62	0.0498
63	0.0498	63	0.0498
64	0.0498	64	0.0498
65	0.0498	65	0.0498

2030 MA
Mobile 6.2 Emission Factors

Arterial		Freeway	
Vehicle Speed (mph)	**PM 10** Emission Factor (g/veh-mile)	Vehicle Speed (mph)	**PM 10** Emission Factor (g/veh-mile)
2.5	0.0276	2.5	0.0276
3	0.0276	3	0.0276
4	0.0276	4	0.0276
5	0.0276	5	0.0276
6	0.0276	6	0.0276
7	0.0276	7	0.0276
8	0.0276	8	0.0276
9	0.0276	9	0.0276
10	0.0276	10	0.0276
11	0.0276	11	0.0276
12	0.0276	12	0.0276
13	0.0276	13	0.0276
14	0.0276	14	0.0276
15	0.0276	15	0.0276
16	0.0276	16	0.0276
17	0.0276	17	0.0276
18	0.0276	18	0.0276
19	0.0276	19	0.0276
20	0.0276	20	0.0276
21	0.0276	21	0.0276
22	0.0276	22	0.0276
23	0.0276	23	0.0276
24	0.0276	24	0.0276
25	0.0276	25	0.0276
26	0.0276	26	0.0276
27	0.0276	27	0.0276
28	0.0276	28	0.0276
29	0.0276	29	0.0276
30	0.0276	30	0.0276
31	0.0276	31	0.0276
32	0.0276	32	0.0276
33	0.0276	33	0.0276
34	0.0276	34	0.0276
35	0.0276	35	0.0276
36	0.0276	36	0.0276
37	0.0276	37	0.0276
38	0.0276	38	0.0276
39	0.0276	39	0.0276
40	0.0276	40	0.0276
41	0.0276	41	0.0276
42	0.0276	42	0.0276
43	0.0276	43	0.0276
44	0.0276	44	0.0276
45	0.0276	45	0.0276
46	0.0276	46	0.0276
47	0.0276	47	0.0276
48	0.0276	48	0.0276
49	0.0276	49	0.0276
50	0.0276	50	0.0276
51	0.0276	51	0.0276
52	0.0276	52	0.0276
53	0.0276	53	0.0276
54	0.0276	54	0.0276
55	0.0276	55	0.0276
56	0.0276	56	0.0276
57	0.0276	57	0.0276
58	0.0276	58	0.0276
59	0.0276	59	0.0276
60	0.0276	60	0.0276
61	0.0276	61	0.0276
62	0.0276	62	0.0276
63	0.0276	63	0.0276
64	0.0276	64	0.0276
65	0.0276	65	0.0276

2007 MA
Mobile 6.2 Emission Factors

Arterial		Freeway	
Vehicle Speed (mph)	**PM 2.5** Emission Factor (g/veh-mile)	Vehicle Speed (mph)	**PM 2.5** Emission Factor (g/veh-mile)
2.5	0.0331	2.5	0.0331
3	0.0331	3	0.0331
4	0.0331	4	0.0331
5	0.0331	5	0.0331
6	0.0331	6	0.0331
7	0.0331	7	0.0331
8	0.0331	8	0.0331
9	0.0331	9	0.0331
10	0.0331	10	0.0331
11	0.0331	11	0.0331
12	0.0331	12	0.0331
13	0.0331	13	0.0331
14	0.0331	14	0.0331
15	0.0331	15	0.0331
16	0.0331	16	0.0331
17	0.0331	17	0.0331
18	0.0331	18	0.0331
19	0.0331	19	0.0331
20	0.0331	20	0.0331
21	0.0331	21	0.0331
22	0.0331	22	0.0331
23	0.0331	23	0.0331
24	0.0331	24	0.0331
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26	0.0331	26	0.0331
27	0.0331	27	0.0331
28	0.0331	28	0.0331
29	0.0331	29	0.0331
30	0.0331	30	0.0331
31	0.0331	31	0.0331
32	0.0331	32	0.0331
33	0.0331	33	0.0331
34	0.0331	34	0.0331
35	0.0331	35	0.0331
36	0.0331	36	0.0331
37	0.0331	37	0.0331
38	0.0331	38	0.0331
39	0.0331	39	0.0331
40	0.0331	40	0.0331
41	0.0331	41	0.0331
42	0.0331	42	0.0331
43	0.0331	43	0.0331
44	0.0331	44	0.0331
45	0.0331	45	0.0331
46	0.0331	46	0.0331
47	0.0331	47	0.0331
48	0.0331	48	0.0331
49	0.0331	49	0.0331
50	0.0331	50	0.0331
51	0.0331	51	0.0331
52	0.0331	52	0.0331
53	0.0331	53	0.0331
54	0.0331	54	0.0331
55	0.0331	55	0.0331
56	0.0331	56	0.0331
57	0.0331	57	0.0331
58	0.0331	58	0.0331
59	0.0331	59	0.0331
60	0.0331	60	0.0331
61	0.0331	61	0.0331
62	0.0331	62	0.0331
63	0.0331	63	0.0331
64	0.0331	64	0.0331
65	0.0331	65	0.0331

2014 MA
Mobile 6.2 Emission Factors

Arterial		Freeway	
Vehicle Speed (mph)	**PM 2.5** Emission Factor (g/veh-mile)	Vehicle Speed (mph)	**PM 2.5** Emission Factor (g/veh-mile)
2.5	0.0172	2.5	0.0172
3	0.0172	3	0.0172
4	0.0172	4	0.0172
5	0.0172	5	0.0172
6	0.0172	6	0.0172
7	0.0172	7	0.0172
8	0.0172	8	0.0172
9	0.0172	9	0.0172
10	0.0172	10	0.0172
11	0.0172	11	0.0172
12	0.0172	12	0.0172
13	0.0172	13	0.0172
14	0.0172	14	0.0172
15	0.0172	15	0.0172
16	0.0172	16	0.0172
17	0.0172	17	0.0172
18	0.0172	18	0.0172
19	0.0172	19	0.0172
20	0.0172	20	0.0172
21	0.0172	21	0.0172
22	0.0172	22	0.0172
23	0.0172	23	0.0172
24	0.0172	24	0.0172
25	0.0172	25	0.0172
26	0.0172	26	0.0172
27	0.0172	27	0.0172
28	0.0172	28	0.0172
29	0.0172	29	0.0172
30	0.0172	30	0.0172
31	0.0172	31	0.0172
32	0.0172	32	0.0172
33	0.0172	33	0.0172
34	0.0172	34	0.0172
35	0.0172	35	0.0172
36	0.0172	36	0.0172
37	0.0172	37	0.0172
38	0.0172	38	0.0172
39	0.0172	39	0.0172
40	0.0172	40	0.0172
41	0.0172	41	0.0172
42	0.0172	42	0.0172
43	0.0172	43	0.0172
44	0.0172	44	0.0172
45	0.0172	45	0.0172
46	0.0172	46	0.0172
47	0.0172	47	0.0172
48	0.0172	48	0.0172
49	0.0172	49	0.0172
50	0.0172	50	0.0172
51	0.0172	51	0.0172
52	0.0172	52	0.0172
53	0.0172	53	0.0172
54	0.0172	54	0.0172
55	0.0172	55	0.0172
56	0.0172	56	0.0172
57	0.0172	57	0.0172
58	0.0172	58	0.0172
59	0.0172	59	0.0172
60	0.0172	60	0.0172
61	0.0172	61	0.0172
62	0.0172	62	0.0172
63	0.0172	63	0.0172
64	0.0172	64	0.0172
65	0.0172	65	0.0172

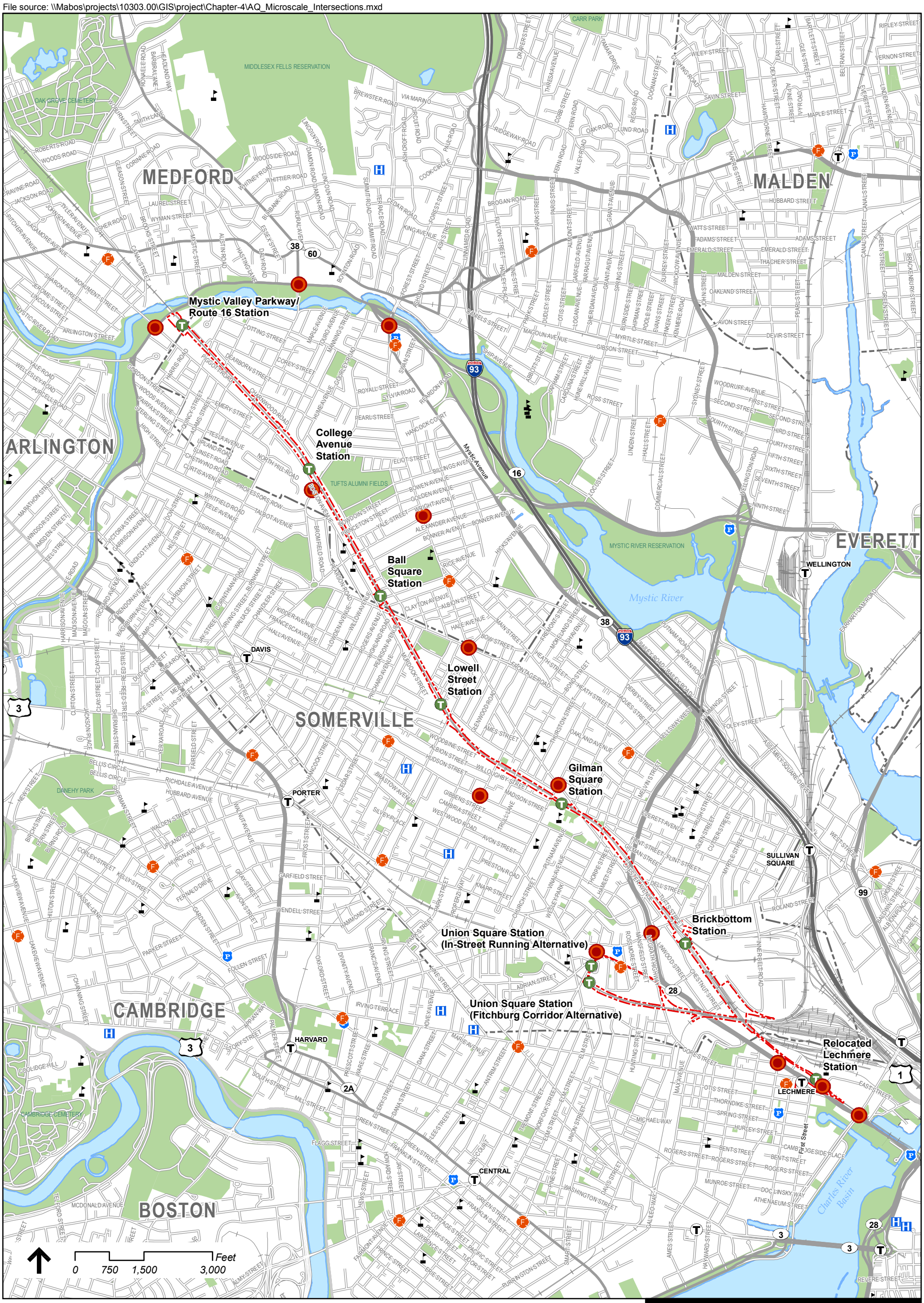
Hot Spot: Microscale (Local) Analysis

- Study Area
- Intersection Receptor Maps
- CAL3QHC Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter (PM)
- CAL3QHC Output Files
  - Carbon Monoxide (CO)
  - Particulate Matter (PM)
- Microscale Results

Hot Spot: Microscale (Local) Analysis

- Study Area

File source: \\Mabos\projects\10303.00\GIS\project\Chapter-4\AQ_Microscale_Intersections.mxd



Legend

- Proposed Stations
- Existing MBTA Station
- Schools
- Hospitals
- Fire Stations
- Police Stations
- Project Area
- Municipal Boundaries
- Protected and Recreational Open Space
- Study Intersections

Green Line Extension Project

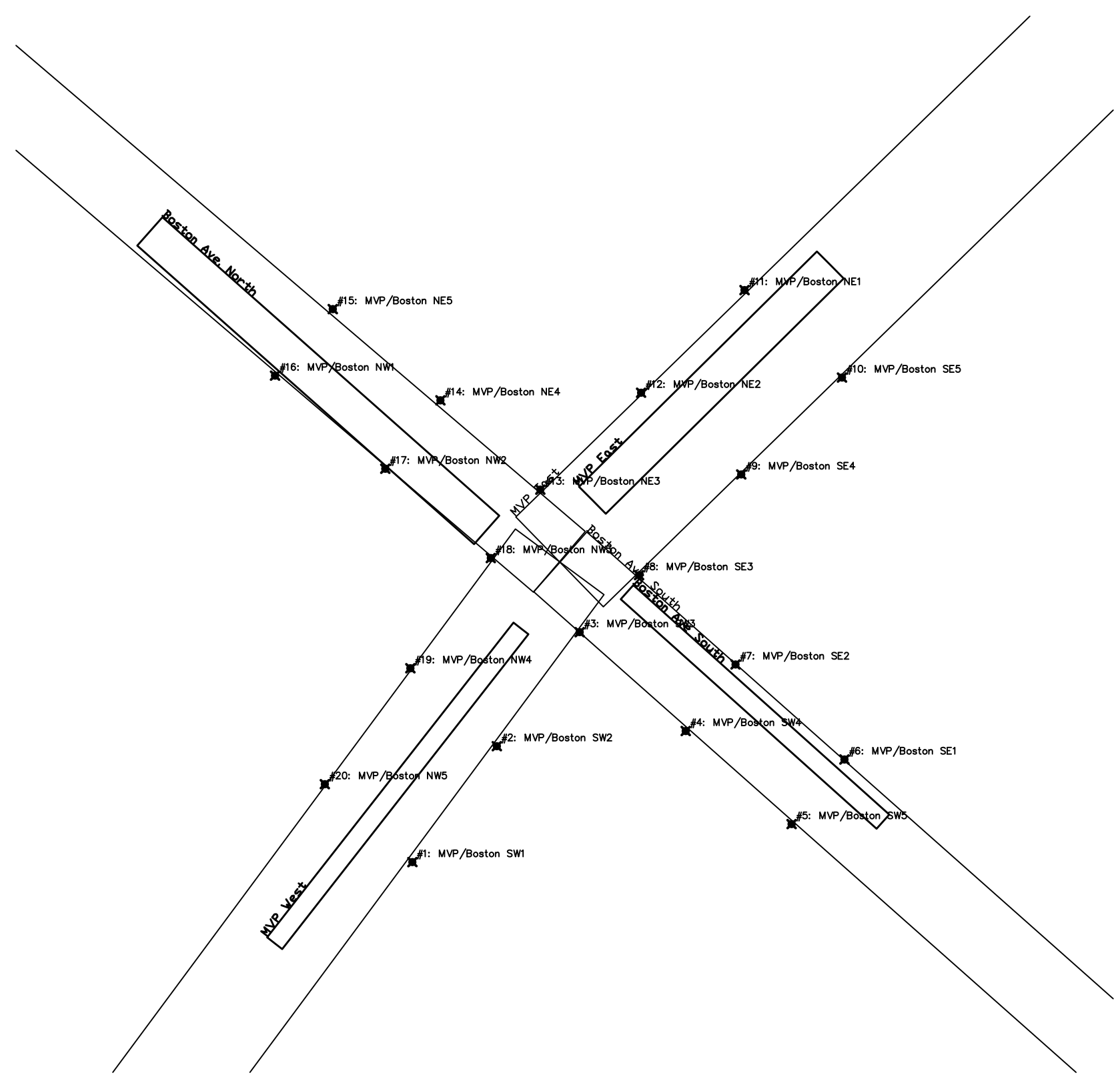
Figure 4.7-1

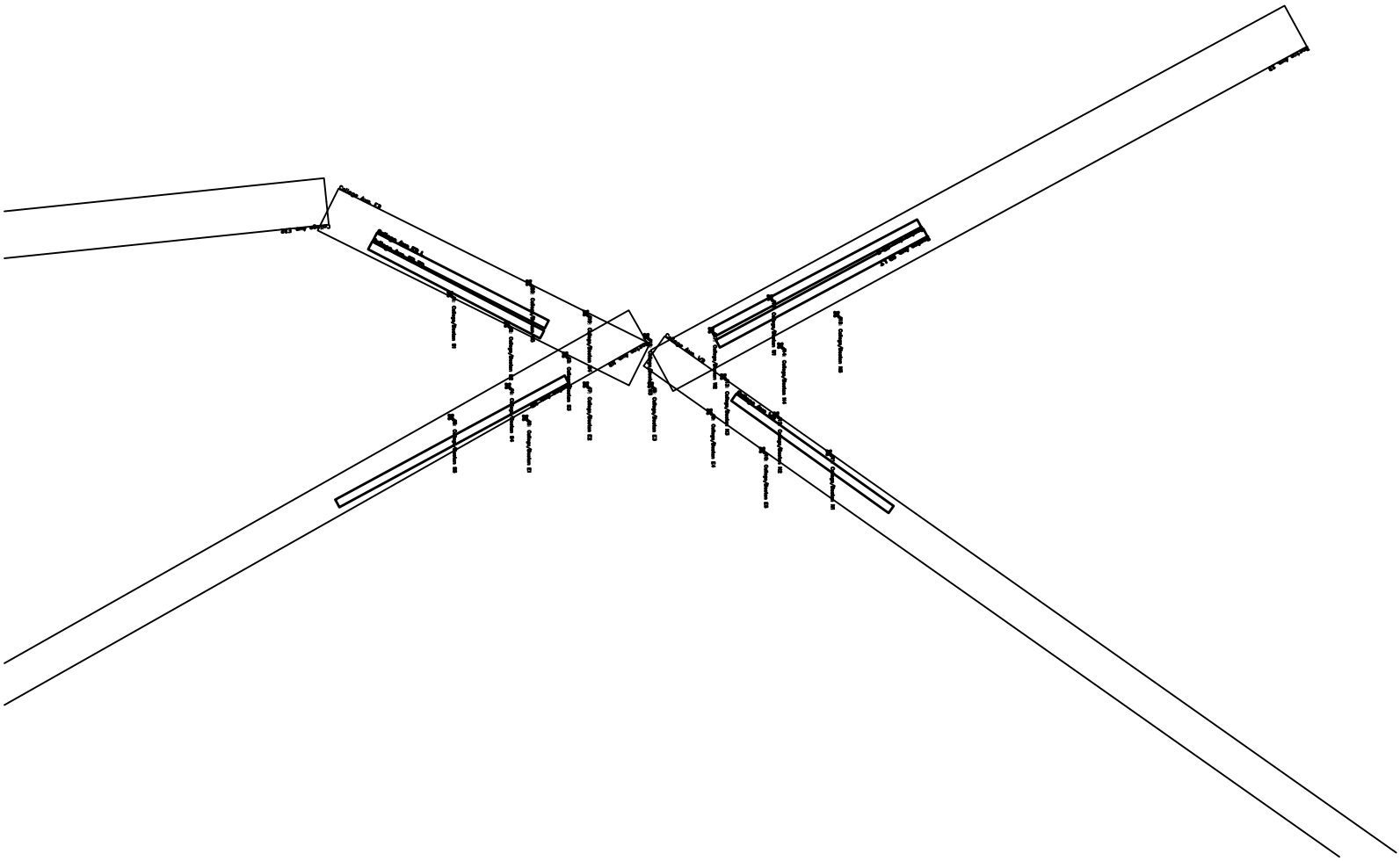
Microscale Air Quality Study Intersections

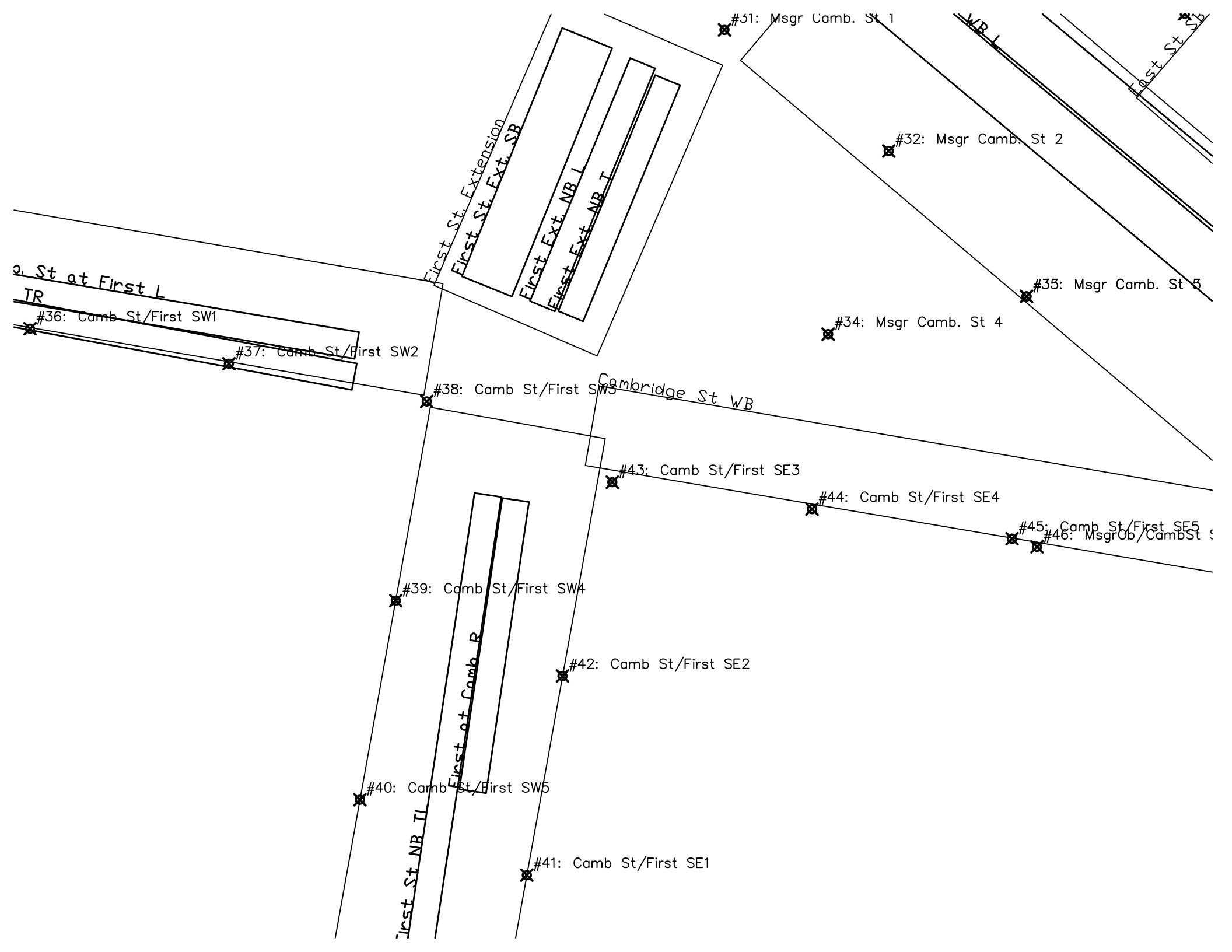
Source:
Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

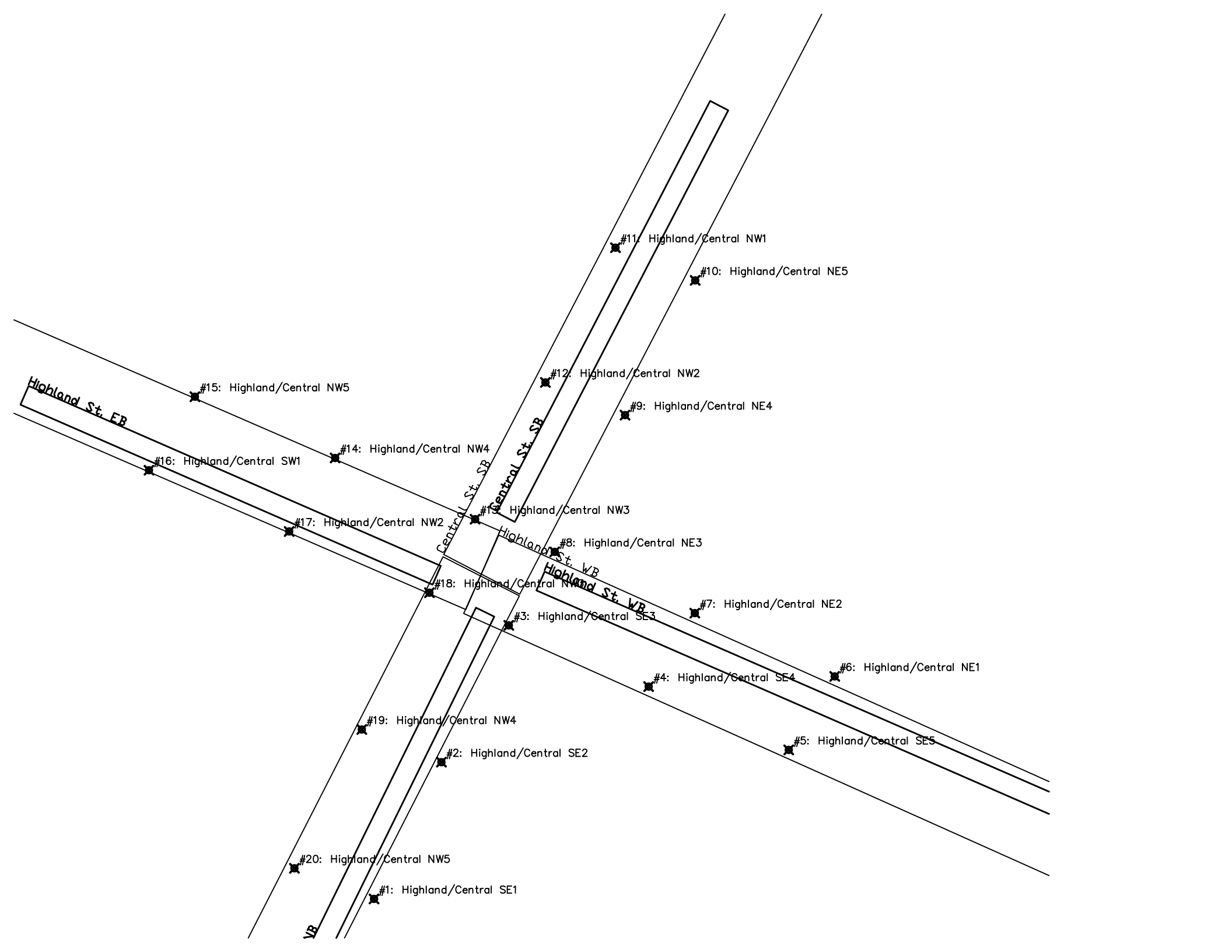
Hot Spot: Microscale (Local) Analysis

- Intersection Receptor Maps

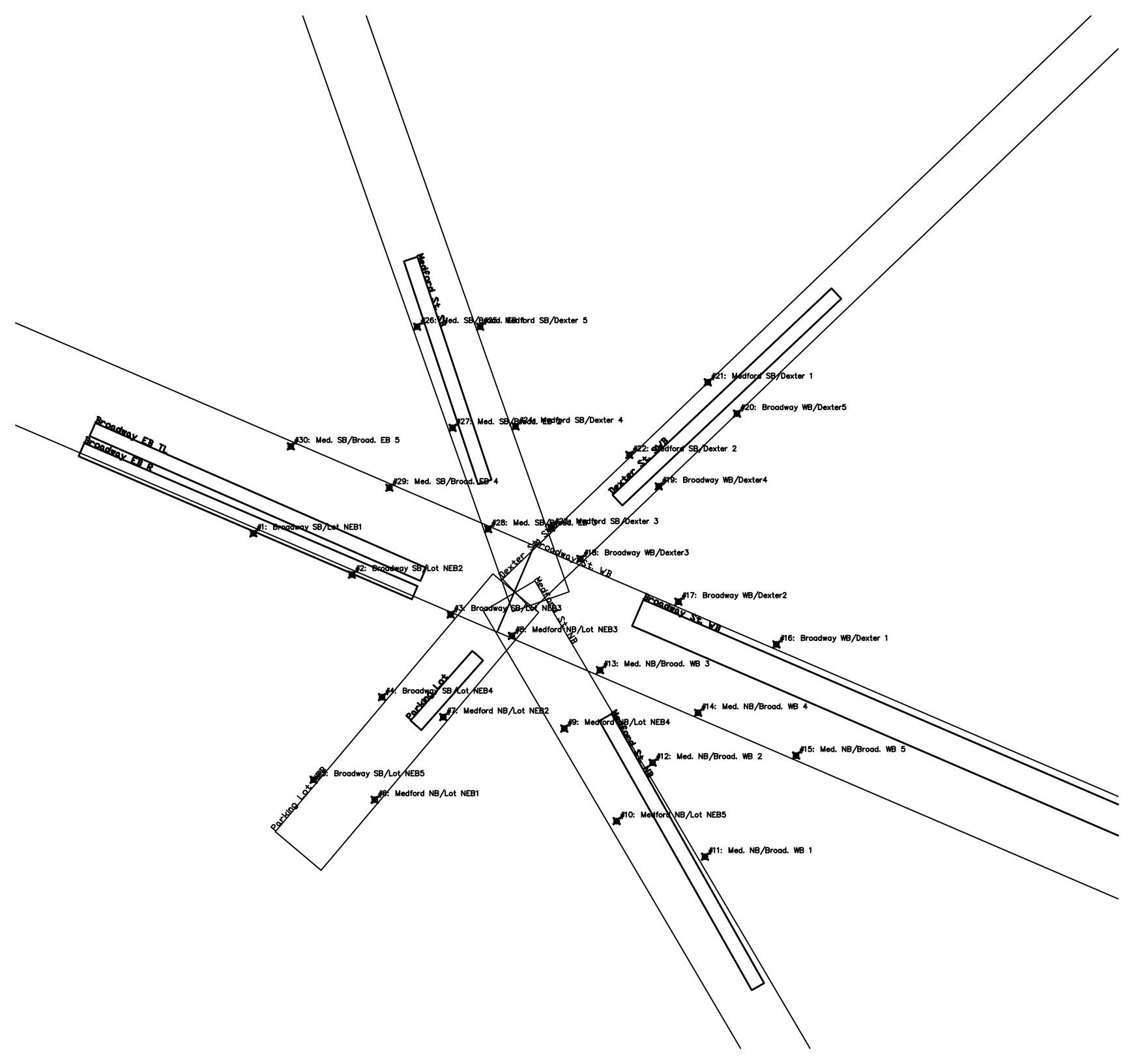

Boston Ave. North
Boston Ave. South
MVP East
MVP East
MVP West
#1: MVP/Boston SW1
#2: MVP/Boston SW2
#3: MVP/Boston SW3
#4: MVP/Boston SW4
#5: MVP/Boston SW5
#6: MVP/Boston SE1
#7: MVP/Boston SE2
#8: MVP/Boston SE3
#9: MVP/Boston SE4
#10: MVP/Boston SE5
#11: MVP/Boston NE1
#12: MVP/Boston NE2
#13: MVP/Boston NE3
#14: MVP/Boston NE4
#15: MVP/Boston NE5
#16: MVP/Boston NW1
#17: MVP/Boston NW2
#18: MVP/Boston NW3
#19: MVP/Boston NW4
#20: MVP/Boston NW5



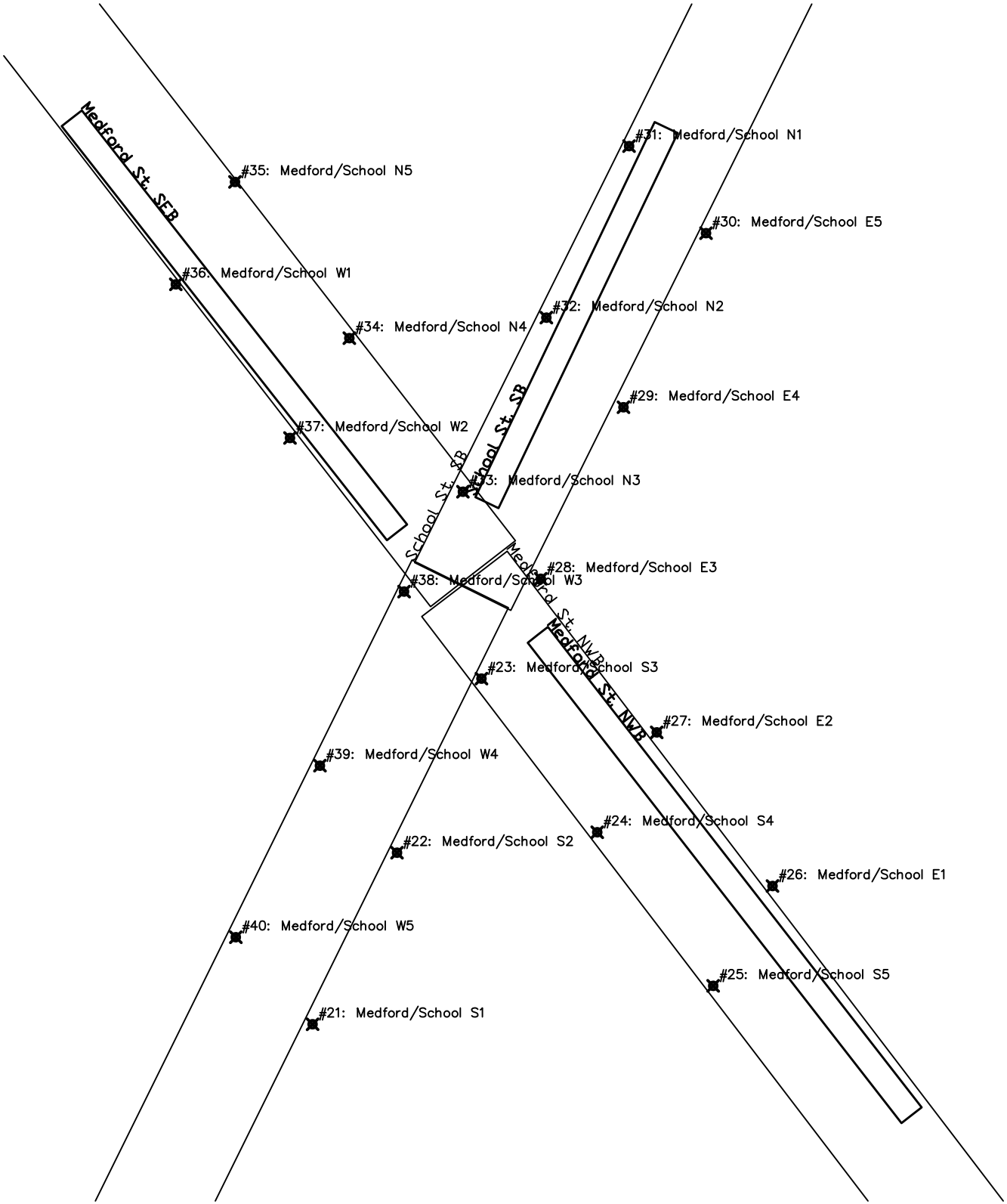

#31: Msgr Camb. St 1
WB L
East St Ext
#32: Msgr Camb. St 2
First St Extension
First St Ext SB
First Ext NB L
First Ext NB T
#33: Msgr Camb. St 5
#34: Msgr Camb. St 4
St at First L
TR
#36: Camb St/First SW1
#37: Camb St/First SW2
#38: Camb St/First SW3
Cambridge St WB
#43: Camb St/First SE3
#44: Camb St/First SE4
#45: Camb St/First SE5
#46: MsgrOb/CambSt
#39: Camb St/First SW4
First at Camb R
#42: Camb St/First SE2
#40: Camb St/First SW5
First St NB TL
#41: Camb St/First SE1

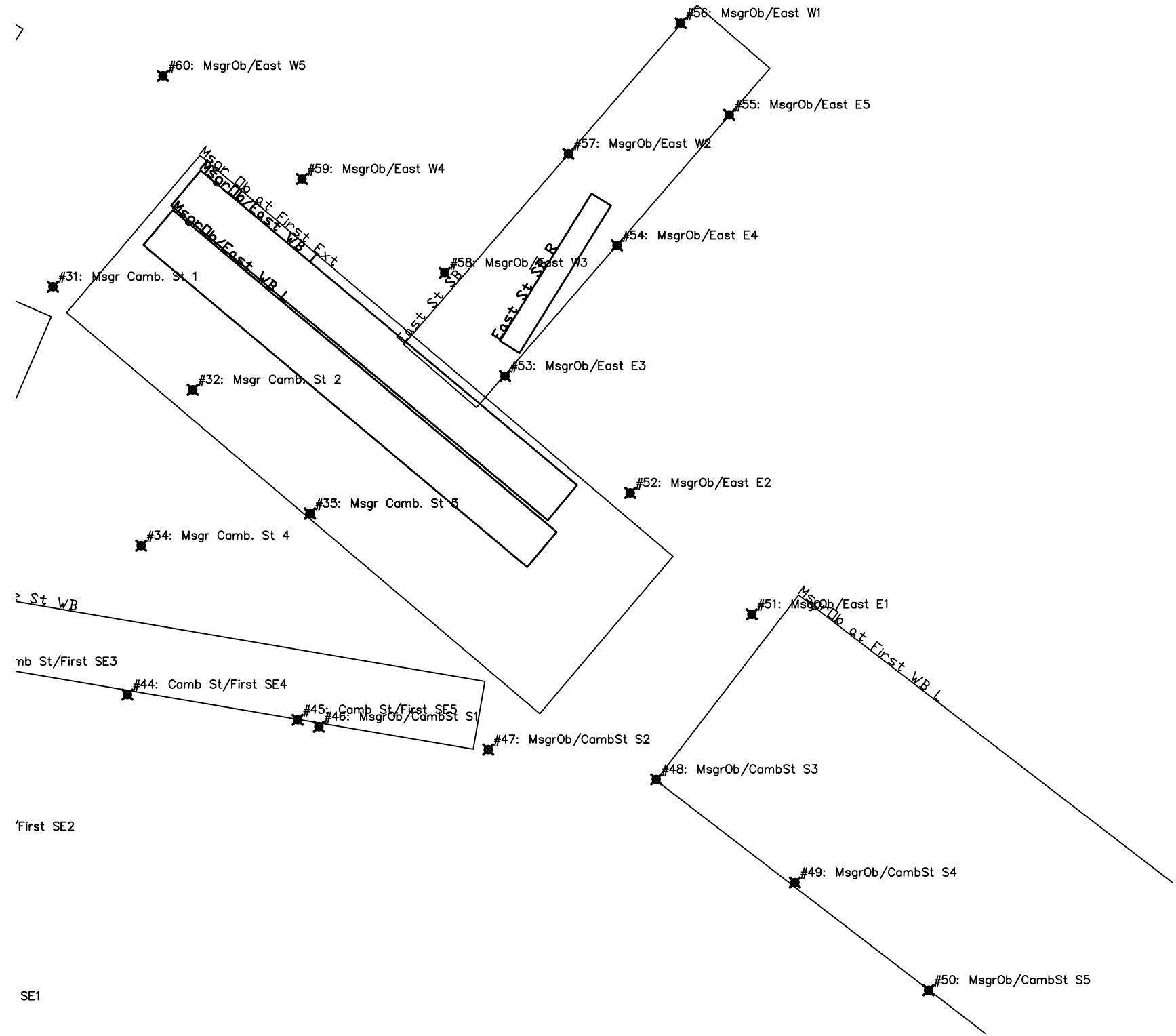

#11: Highland/Central NW1
#10: Highland/Central NE5
#12: Highland/Central NW2
#9: Highland/Central NE4
#15: Highland/Central NW5
Highland St. EB
#14: Highland/Central NW4
#16: Highland/Central SW1
Central St. SB
Central St. SB
#13: Highland/Central NW3
#17: Highland/Central NW2
Highland St. WB
#8: Highland/Central NE3
Highland St. WB
#18: Highland/Central NW1
#7: Highland/Central NE2
#3: Highland/Central SE3
#6: Highland/Central NE1
#4: Highland/Central SE4
#19: Highland/Central NW4
#5: Highland/Central SE5
#2: Highland/Central SE2
#20: Highland/Central NW5
#1: Highland/Central SE1

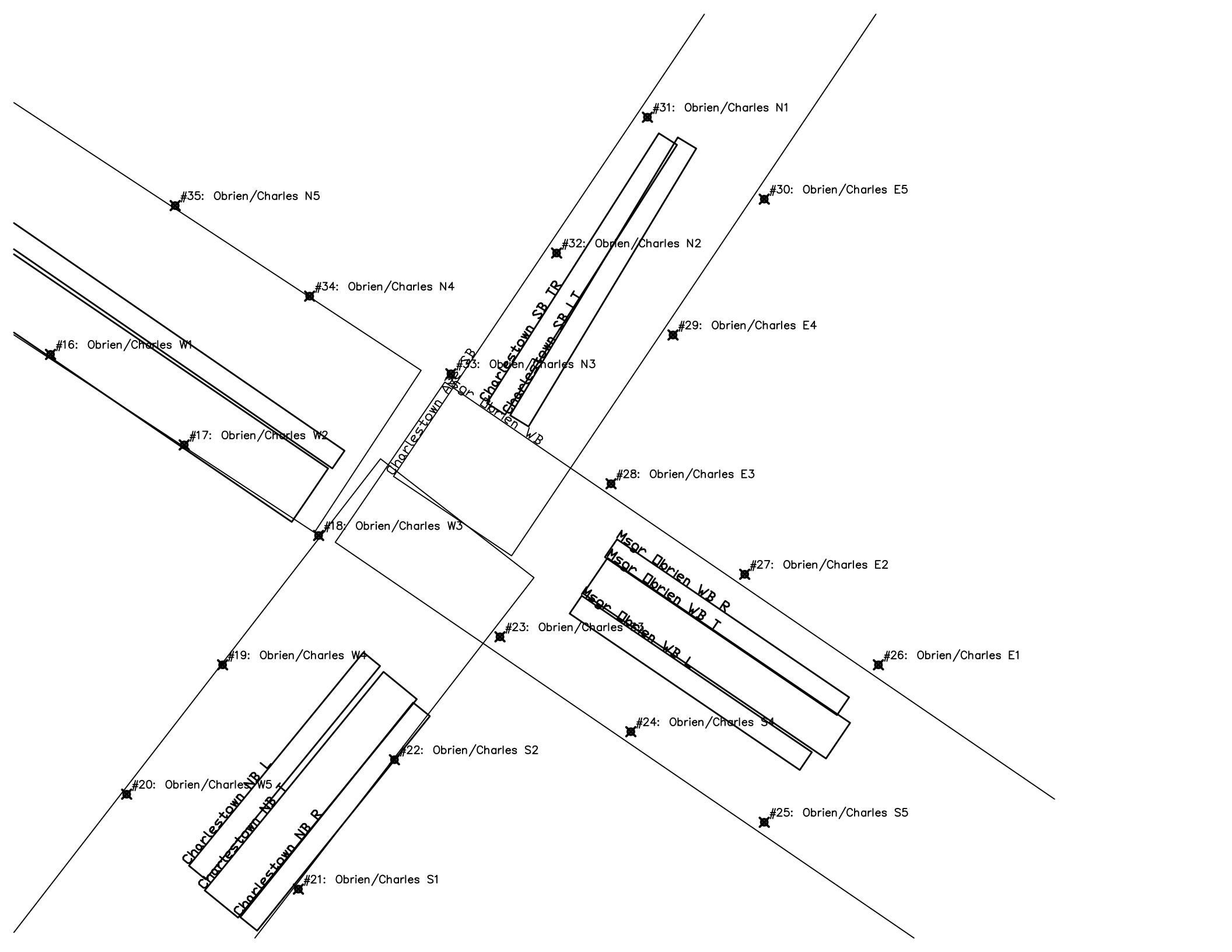
Harvard Ave EB
Harvard/Main NW5
Harvard/Main NW4
Harvard/Main SW1
Harvard/Main SW2
Harvard/Main NW3
Harvard/Main NW2
Harvard/Main NW1
Harvard/Main NE4
Harvard/Main NE3
Harvard/Main SW3
Harvard/Main SW4
Harvard/Main SW5
Harvard/Main SE1
Harvard/Main SE2
Harvard/Main SE3
Harvard/Main SE4
Harvard/Main NE2
Harvard/Main NE1

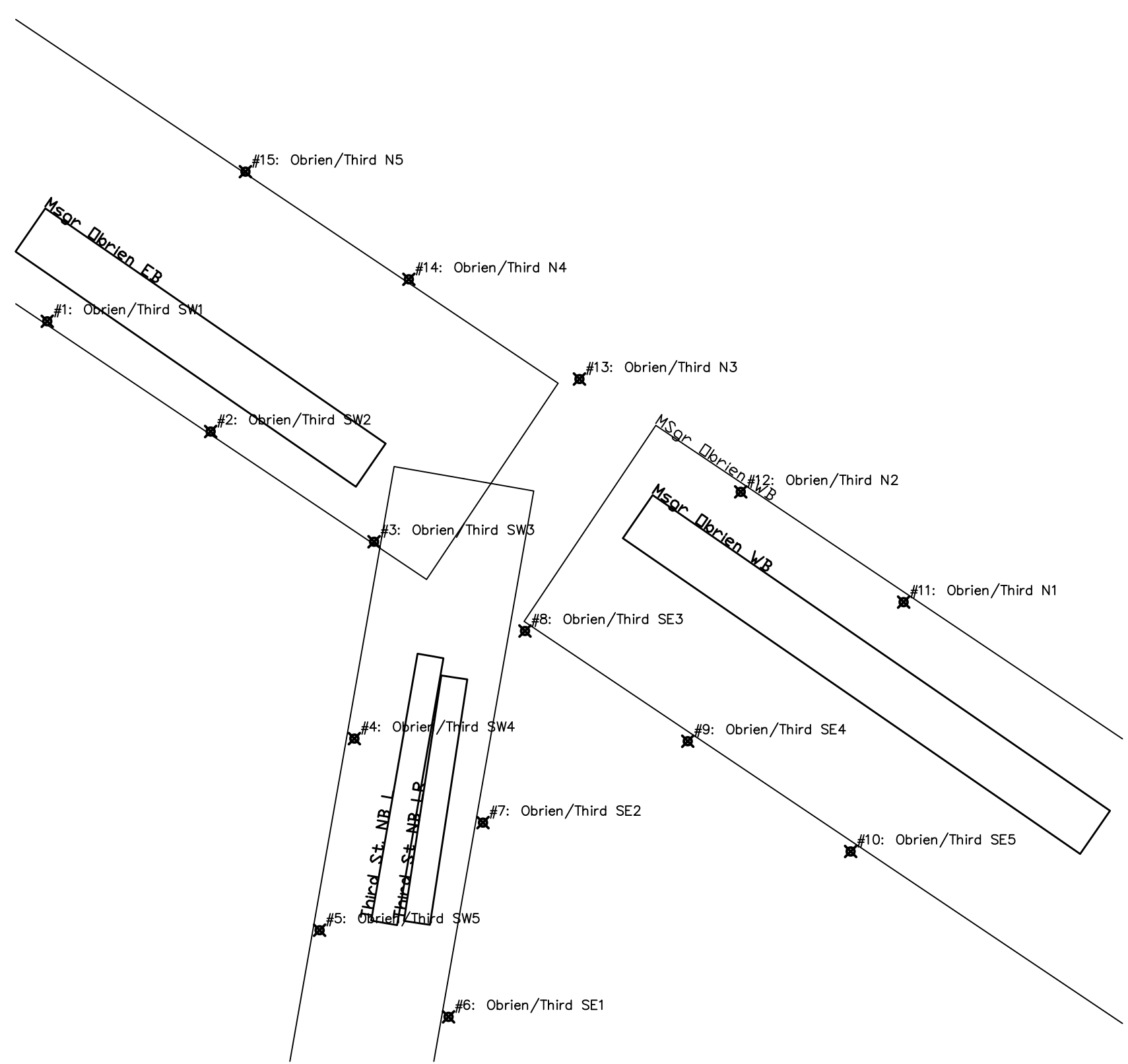


Medford St. SB
#26: Med. SB/Broad. EB 2
#25: Med. SB/Broad. EB 1
Medford SB/Dexter 5
#21: Medford SB/Dexter 1
#20: Broadway WB/Dexter5
#27: Med. SB/Broad. EB 3
#24: Medford SB/Dexter 4
#30: Med. SB/Broad. EB 5
Broadway EB TL
Broadway EB R
#22: Medford SB/Dexter 2
Dexter St. WB
#19: Broadway WB/Dexter4
#29: Med. SB/Broad. EB 4
#28: Med. SB/Broad. EB 3
#23: Medford SB/Dexter 3
#1: Broadway SB/Lot NEB1
#18: Broadway WB/Dexter3
Dexter St. SB
Broadway St. WB
#2: Broadway SB/Lot NEB2
Medford St. NB
#17: Broadway WB/Dexter2
Broadway St. WB
#3: Broadway SB/Lot NEB3
#8: Medford NB/Lot NEB3
#16: Broadway WB/Dexter 1
#13: Med. NB/Broad. WB 3
Parking Lot
#4: Broadway SB/Lot NEB4
#7: Medford NB/Lot NEB2
#14: Med. NB/Broad. WB 4
#9: Medford NB/Lot NEB4
Medford St. NB
#15: Med. NB/Broad. WB 5
#12: Med. NB/Broad. WB 2
#5: Broadway SB/Lot NEB5
Parking Lot WB
#6: Medford NB/Lot NEB1
#10: Medford NB/Lot NEB5
#11: Med. NB/Broad. WB 1

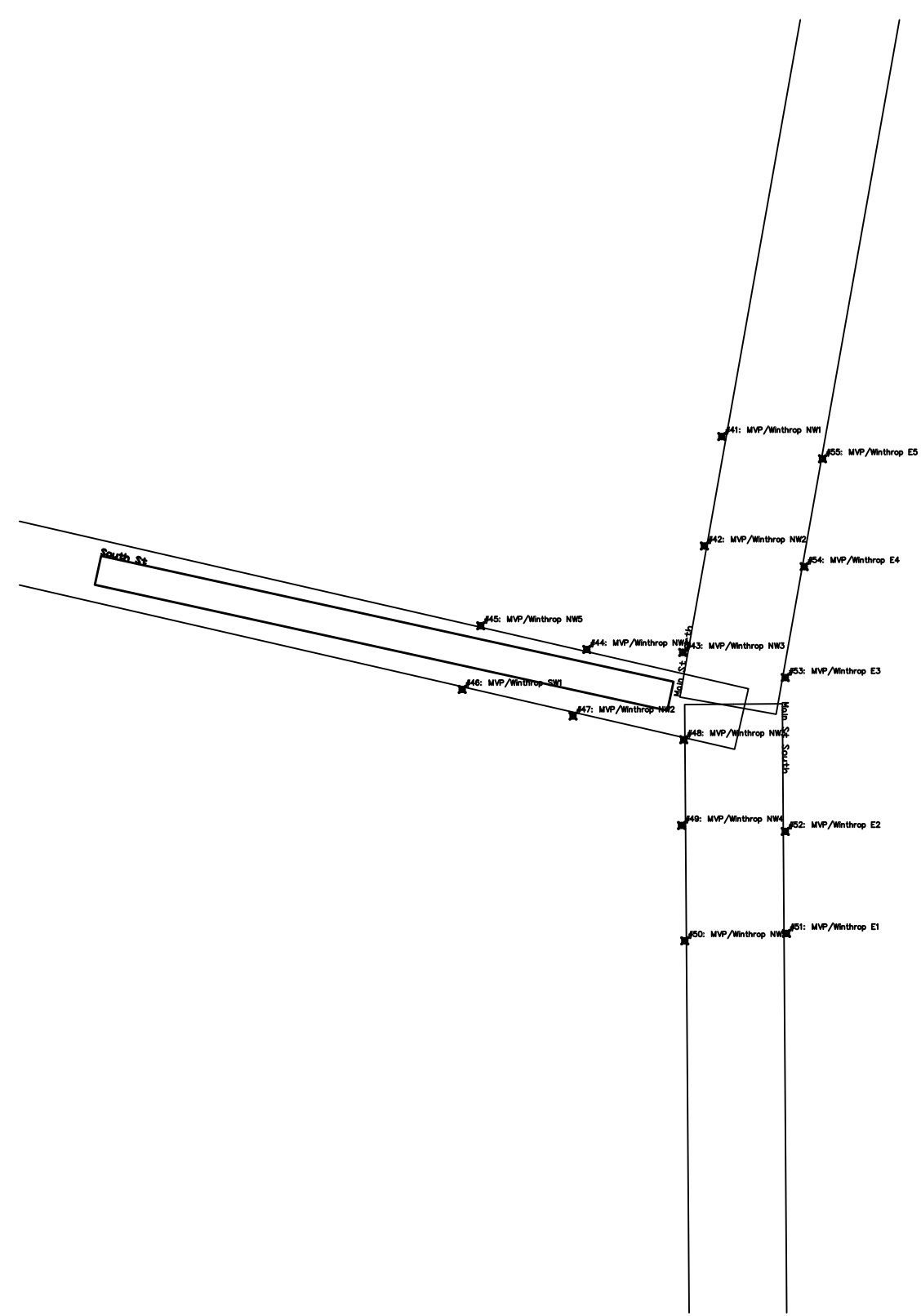

Medford St. SEB
School St. SB
School St. SB
Medford St. NWB
Medford St. NWB
#31: Medford/School N1
#35: Medford/School N5
#30: Medford/School E5
#36: Medford/School W1
#32: Medford/School N2
#34: Medford/School N4
#29: Medford/School E4
#37: Medford/School W2
#33: Medford/School N3
#28: Medford/School E3
#38: Medford/School W3
#23: Medford/School S3
#27: Medford/School E2
#39: Medford/School W4
#24: Medford/School S4
#22: Medford/School S2
#26: Medford/School E1
#40: Medford/School W5
#25: Medford/School S5
#21: Medford/School S1

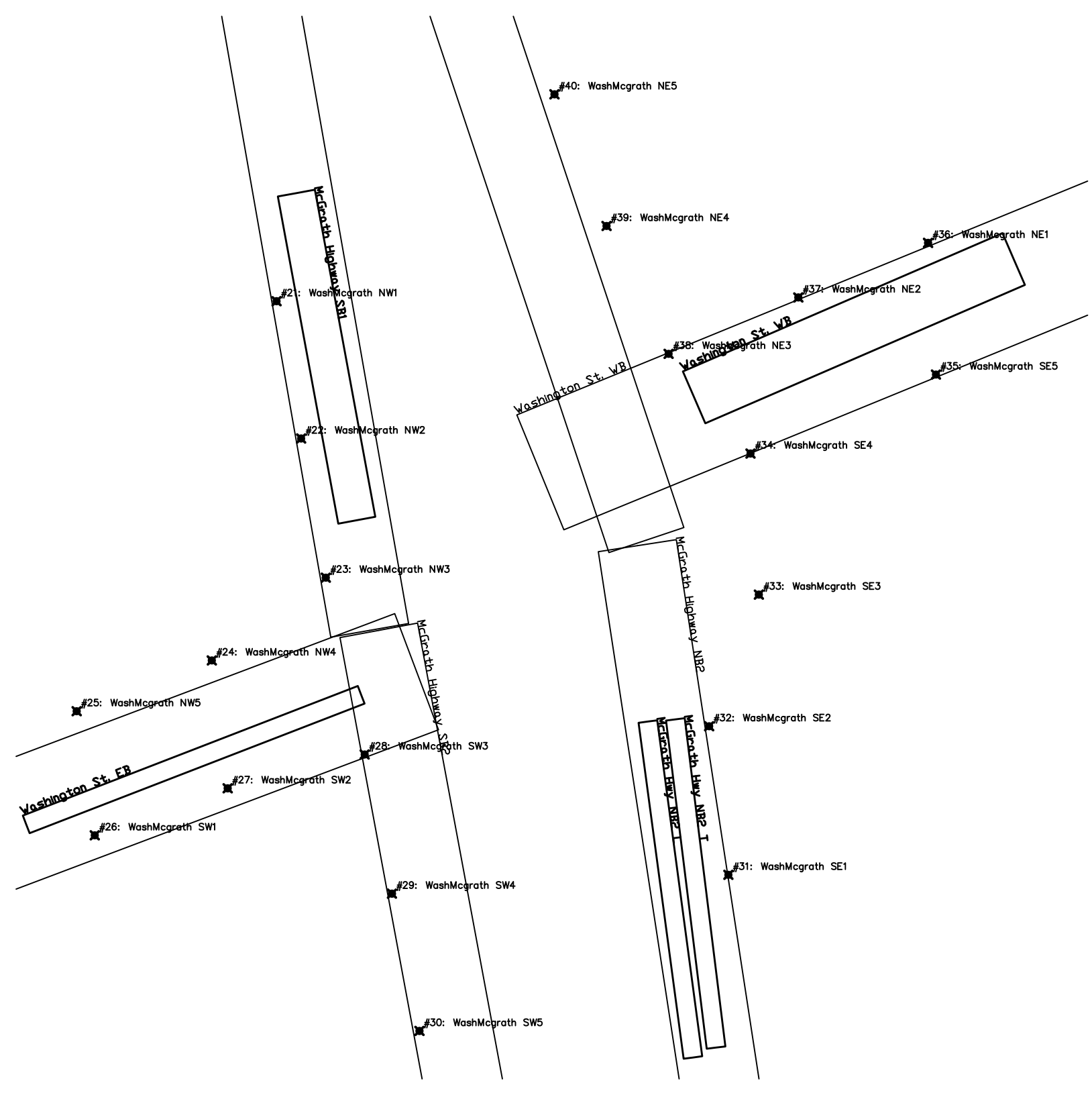

#56: MsgrOb/East W1
#60: MsgrOb/East W5
#55: MsgrOb/East E5
#57: MsgrOb/East W2
#59: MsgrOb/East W4
Msgr Ob at First Ext
MsgrOb/East WB 1
MsgrOb/East WB L
East St SB
East St SB R
#54: MsgrOb/East E4
#58: MsgrOb/East W3
#31: Msgr Camb. St 1
#53: MsgrOb/East E3
#32: Msgr Camb. St 2
#52: MsgrOb/East E2
#33: Msgr Camb. St 3
#34: Msgr Camb. St 4
St WB
#51: MsgrOb/East E1
Msgr Ob at First WB L
nb St/First SE3
#44: Camb St/First SE4
#45: Camb St/First SE5
#46: MsgrOb/CambSt S1
#47: MsgrOb/CambSt S2
#48: MsgrOb/CambSt S3
'First SE2
#49: MsgrOb/CambSt S4
#50: MsgrOb/CambSt S5
SE1


#31: Obrien/Charles N1
#35: Obrien/Charles N5
#30: Obrien/Charles E5
#32: Obrien/Charles N2
#34: Obrien/Charles N4
#29: Obrien/Charles E4
#16: Obrien/Charles W1
#33: Obrien/Charles N3
Charlestown SB TR
Charlestown SB LT
Charlestown AM EB
Msgr Obrien WB
#17: Obrien/Charles W2
#28: Obrien/Charles E3
#18: Obrien/Charles W3
Msgr Obrien WB R
Msgr Obrien WB T
#27: Obrien/Charles E2
#23: Obrien/Charles S3
Msgr Obrien WB L
#19: Obrien/Charles W4
#26: Obrien/Charles E1
#24: Obrien/Charles S4
#22: Obrien/Charles S2
#20: Obrien/Charles W5
Charlestown NB L
Charlestown NB T
Charlestown NB R
#25: Obrien/Charles S5
#21: Obrien/Charles S1


#15: Obrien/Third N5
Msgr Obrien EB
#14: Obrien/Third N4
#1: Obrien/Third SW1
#13: Obrien/Third N3
#2: Obrien/Third SW2
MSgr Obrien WB
#12: Obrien/Third N2
#3: Obrien/Third SW3
Msgr Obrien WB
#11: Obrien/Third N1
#8: Obrien/Third SE3
#4: Obrien/Third SW4
#9: Obrien/Third SE4
Third St NB L
Third St NB LR
#7: Obrien/Third SE2
#10: Obrien/Third SE5
#5: Obrien/Third SW5
#6: Obrien/Third SE1

MVP West
#21: MVP/Winthrop SW1
#22: MVP/Winthrop SW2
#40: MVP/Winthrop NW5
#39: MVP/Winthrop NW4
#38: MVP/Winthrop NW3
#37: MVP/Winthrop NW2
#36: MVP/Winthrop NW1
#25: MVP/Winthrop SW5
#24: MVP/Winthrop SW4
#23: MVP/Winthrop SW3
#26: MVP/Winthrop SE1
#27: MVP/Winthrop SE2
#28: MVP/Winthrop SE3
#29: MVP/Winthrop SE4
#30: MVP/Winthrop SE5
#31: MVP/Winthrop NE1
#32: MVP/Winthrop NE2
#33: MVP/Winthrop NE3
#34: MVP/Winthrop NE4
#35: MVP/Winthrop NE5
MVP East RT
MVP East I


South St
Main St South
Main St South
#41: MVP/Winthrop NW1
#55: MVP/Winthrop E5
#42: MVP/Winthrop NW2
#54: MVP/Winthrop E4
#45: MVP/Winthrop NW5
#44: MVP/Winthrop NW4
#43: MVP/Winthrop NW3
#53: MVP/Winthrop E3
#46: MVP/Winthrop SW1
#47: MVP/Winthrop NW2
#48: MVP/Winthrop NW1
#49: MVP/Winthrop NW4
#52: MVP/Winthrop E2
#50: MVP/Winthrop NW5
#51: MVP/Winthrop E1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#36: WashMcgrath NE1
#37: WashMcgrath NE2
#38: WashMcgrath NE3
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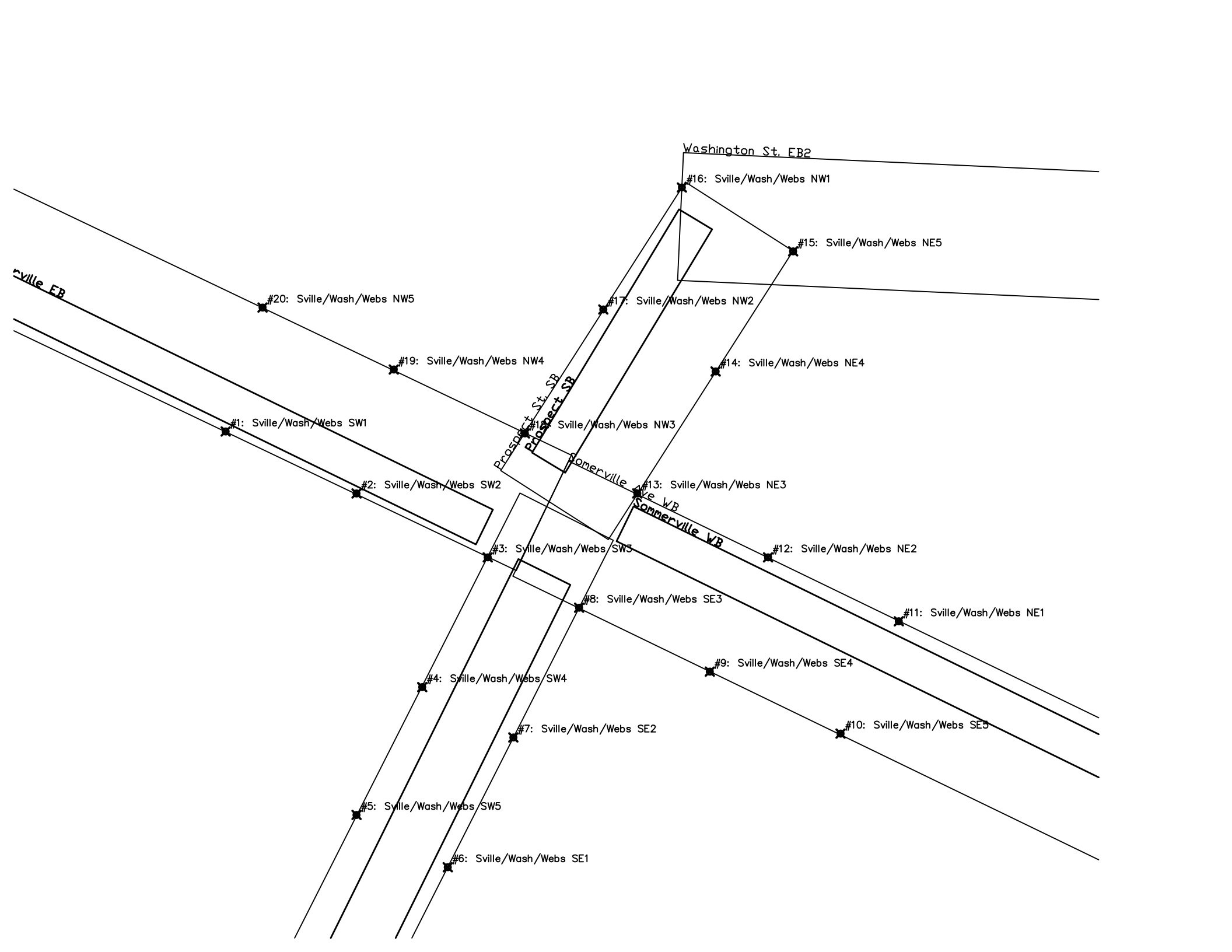
#34: WashMcgrath SE4
#33: WashMcgrath SE3
#32: WashMcgrath SE2
#31: WashMcgrath SE1
#21: WashMcgrath NW1
#22: WashMcgrath NW2
#23: WashMcgrath NW3
#24: WashMcgrath NW4
#25: WashMcgrath NW5
#26: WashMcgrath SW1
#27: WashMcgrath SW2
#28: WashMcgrath SW3
#29: WashMcgrath SW4
#30: WashMcgrath SW5
McGrath Highway SB1
McGrath Highway SB2
McGrath Highway NB2
McGrath Hwy NB2 1
McGrath Hwy NB2 T
Washington St. WB
Washington St. EB


Washington St. EB2
#16: Sville/Wash/Webs NW1
#15: Sville/Wash/Webs NE5
#20: Sville/Wash/Webs NW5
#17: Sville/Wash/Webs NW2
#19: Sville/Wash/Webs NW4
#14: Sville/Wash/Webs NE4
#1: Sville/Wash/Webs SW1
#18: Sville/Wash/Webs NW3
Prospect St. SB
Prospect SB
Somerville Ave WB
Somerville WB
#2: Sville/Wash/Webs SW2
#13: Sville/Wash/Webs NE3
#3: Sville/Wash/Webs SW3
#12: Sville/Wash/Webs NE2
#8: Sville/Wash/Webs SE3
#11: Sville/Wash/Webs NE1
#9: Sville/Wash/Webs SE4
#4: Sville/Wash/Webs SW4
#10: Sville/Wash/Webs SE5
#7: Sville/Wash/Webs SE2
#5: Sville/Wash/Webs SW5
#6: Sville/Wash/Webs SE1

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter (PM)

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Input Files
  - Carbon Monoxide (CO)

Ex1a.inp

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'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
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'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
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'MVP/Boston NE3' 756226.2 2977099 6
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'MVP/Boston NW1' 756086.6 2977159 6
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 13.1 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 12.8 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 12.8 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 50 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 12.8 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 12.8 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 12.8 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 12.8 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 12.8 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 13.1 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 12.8 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 13.1 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 12.8 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 13.1 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 12.8 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 13.1 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 13 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 12.8 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 13 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 12.8 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 12.8 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 12.8 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 12.8 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 12.8 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 12.8 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 12.8 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 12.8 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 12.8 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 12.8 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 13.1 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 12.8 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 12.8 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 12.8 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 12.8 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex2a.inp

```
'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   107   1   0   'C'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
113   83   3   310   81.7   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
113   53   3   1058   81.7   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
113   83   3   483   81.7   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
113   53   3   1197   81.7   1600   1   3
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 95 3 961 81.7 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 402 81.7 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1036 81.7 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 572 81.7 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 81.7 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 81.7 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 81.7 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 81.7 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 81.7 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 81.7 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 81.7 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 81.7 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 81.7 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 81.7 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 407 81.7 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 81.7 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 81.7 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 81.7 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 81.7 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 81.7 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 81.7 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 81.7 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 81.7 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 81.7 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 81.7 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 81.7 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 81.7 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 723 81.7 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 81.7 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 81.7 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 81.7 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 418 81.7 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 81.7 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 81.7 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 81.7 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1079 81.7 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

133 118 3 49 81.7 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 469 81.7 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 81.7 1600 1 3
2
'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
111 93 3 260 81.7 1600 1 3
2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
111 47 3 106 81.7 1600 1 3
2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
111 47 3 224 81.7 1600 1 3
2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
111 98 3 91 81.7 1600 1 3
2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
111 29 3 507 81.7 1600 1 3
2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
111 93 3 83 81.7 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
111 88 3 91 81.7 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3
111 88 3 750 81.7 1600 1 3
2
'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
111 88 3 24 81.7 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
111 47 3 807 81.7 1600 1 3
2
'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
111 47 3 5 81.7 1600 1 3
2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
111 75 3 265 81.7 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 534 12.8 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2303 12.8 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2149 12.8 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 883 12.8 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 13.1 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 13.1 1 42

1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 12.8 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 12.8 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 12.8 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 13.1 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 13.1 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 903 12.8 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 12.8 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 12.8 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 12.8 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 12.8 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 13.1 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 12.8 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 13.1 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 12.8 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 12.8 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 50 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 12.8 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 12.8 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 12.8 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 12.8 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 12.8 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 13.1 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 12.8 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 13.1 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 12.8 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 13.1 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 12.8 1 42
1

'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 13.1 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 13 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 12.8 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 13 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 12.8 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 12.8 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 12.8 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 12.8 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 12.8 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 12.8 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 12.8 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 12.8 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 12.8 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 12.8 1 66
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 13.1 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 12.8 1 42
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'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 12.8 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 12.8 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 12.8 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex3a.inp

'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
'MsgrOb/CambSt S3' 770842.1 2960284 6
'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 107 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 310 81.7 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1058 81.7 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 483 81.7 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1197 81.7 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 95 3 961 81.7 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 402 81.7 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1036 81.7 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 572 81.7 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 81.7 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 81.7 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 81.7 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 81.7 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 81.7 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 81.7 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 81.7 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 100 3 360 81.7 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 81.7 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 81.7 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 407 81.7 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 81.7 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 81.7 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 81.7 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 81.7 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 81.7 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 81.7 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 81.7 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 81.7 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 81.7 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 81.7 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 81.7 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 81.7 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 723 81.7 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 81.7 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 81.7 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 81.7 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 418 81.7 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 81.7 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 81.7 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 81.7 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1079 81.7 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 49 81.7 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 469 81.7 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 81.7 1600 1 3
2
'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
111 93 3 260 81.7 1600 1 3
2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
111 47 3 106 81.7 1600 1 3
2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
111 47 3 224 81.7 1600 1 3
2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
111 98 3 91 81.7 1600 1 3
2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
111 29 3 507 81.7 1600 1 3
2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
111 93 3 83 81.7 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
111 88 3 91 81.7 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3
111 88 3 750 81.7 1600 1 3
2
'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
111 88 3 24 81.7 1600 1 3
2

'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
111 47 3 807 81.7 1600 1 3
2
'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
111 47 3 5 81.7 1600 1 3
2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
111 75 3 265 81.7 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 534 12.8 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2303 12.8 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2149 12.8 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 883 12.8 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 13.1 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 13.1 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 12.8 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 12.8 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 12.8 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 13.1 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 13.1 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 903 12.8 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 12.8 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 12.8 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 12.8 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 12.8 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 13.1 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 12.8 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 13.1 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 12.8 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 12.8 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 50 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 12.8 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 12.8 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 12.8 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 12.8 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 12.8 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 13.1 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 12.8 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 13.1 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 12.8 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 13.1 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 12.8 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 13.1 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 13 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 12.8 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 13 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 12.8 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 12.8 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 12.8 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 12.8 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 12.8 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 12.8 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 12.8 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 12.8 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 12.8 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 12.8 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 13.1 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 12.8 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 12.8 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 12.8 1 66

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 12.8 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex4a.inp

```
'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'Highland/Central SE1'   763246.9   2966669   6
'Highland/Central SE2'   763279.9   2966736   6
'Highland/Central SE3'   763312.9   2966803   6
'Highland/Central SE4'   763381.4   2966773   6
'Highland/Central SE5'   763450   2966742   6
'Highland/Central NE1'   763472.5   2966778   6
'Highland/Central NE2'   763404   2966809   6
'Highland/Central NE3'   763335.4   2966839   6
'Highland/Central NE4'   763369.8   2966906   6
'Highland/Central NE5'   763404.2   2966972   6
'Highland/Central NW1'   763365.1   2966988   6
'Highland/Central NW2'   763330.8   2966922   6
'Highland/Central NW3'   763296.4   2966855   6
'Highland/Central NW4'   763227.8   2966885   6
'Highland/Central NW5'   763159.1   2966915   6
'Highland/Central SW1'   763136.6   2966879   6
'Highland/Central NW2'   763205.3   2966849   6
'Highland/Central NW3'   763274   2966819   6
'Highland/Central NW4'   763240.9   2966752   6
'Highland/Central NW5'   763207.9   2966684   6
'Medford/School S1'   764934.1   2966923   6
'Medford/School S2'   764967.1   2966990   6
'Medford/School S3'   765000.1   2967058   6
'Medford/School S4'   765045.4   2966998   6
'Medford/School S5'   765090.7   2966938   6
'Medford/School E1'   765113.9   2966977   6
'Medford/School E2'   765068.6   2967037   6
'Medford/School E3'   765023.3   2967097   6
'Medford/School E4'   765055.6   2967164   6
'Medford/School E5'   765087.9   2967232   6
'Medford/School N1'   765057.8   2967266   6
'Medford/School N2'   765025.5   2967199   6
'Medford/School N3'   764992.9   2967131   6
'Medford/School N4'   764948.5   2967191   6
'Medford/School N5'   764903.8   2967252   6
'Medford/School W1'   764880.7   2967212   6
'Medford/School W2'   764925.3   2967152   6
'Medford/School W3'   764969.9   2967092   6
'Medford/School W4'   764937   2967024   6
'Medford/School W5'   764904.1   2966957   6
'Existing'   120   1   0   'C'
 2
'Winthrop North'   'AG'   759327.19   2978019.48   759322.31   2978191.97   1   20   2
135   95   3   961   81.7   1600   1   3
 2
'MVP East RT'   'AG'   759381.68   2977996.34   759619.21   2977985.88   1   10   1
135   55   3   402   81.7   1600   1   3
 2
'MVP East T'   'AG'   759381.73   2977983.26   759617.25   2977975.42   1   10   1
135   75   3   1036   81.7   1600   1   3
 2
'Winthrop South'   'AG'   759345.1   2977932.27   759340.5   2977752.76   1   20   2
135   115   3   572   81.7   1600   1   3
```

2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 81.7 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 81.7 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 81.7 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 81.7 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 81.7 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 81.7 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 81.7 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 81.7 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 81.7 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 81.7 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 407 81.7 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 81.7 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 81.7 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 81.7 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 81.7 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 81.7 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 81.7 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 81.7 1600 1 3
2

'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 81.7 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 81.7 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 81.7 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 81.7 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 81.7 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 723 81.7 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 81.7 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 81.7 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 81.7 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 418 81.7 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 81.7 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 81.7 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 49 81.7 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 469 81.7 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 81.7 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.44 2961033.55 769446.34 2961246.61 1 30 3
120 46 3 1090 81.7 1600 1 3
2
'Third St. NB L' 'AG' 769790.35 2960973.02 769754.01 2960743.02 1 10 1

120 86 3 785 81.7 1600 1 3
2
'Third St NB R' 'AG' 769802.46 2960968.18 769766.13 2960735.76 1 10 1
120 86 3 15 81.7 1600 1 3
2
'Msgr Obrien WB' 'AG' 769887.25 2961004.5 770144.05 2960830.18 1 30 3
120 59 3 987 81.7 1600 1 3
2
'Msgr Obrien L' 'AG' 771466.33 2959893.67 771299.49 2960002.52 1 10 1
120 100 3 365 81.7 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771457.35 2959876.14 771288.89 2959985.8 1 30 3
120 100 3 723 81.7 1600 1 3
2
'Charlestown NB L' 'AG' 771481.83 2959820.29 771409.22 2959726.53 1 10 1
120 103 3 368 81.7 1600 1 3
2
'Charlestown NB T' 'AG' 771497.74 2959808.88 771424.72 2959713.49 1 20 2
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2
'Charlestown NB R' 'AG' 771512.83 2959796.65 771438.79 2959703.92 1 10 1
120 103 3 557 81.7 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771569.24 2959836.37 771749.78 2959719.56 1 10 1
120 95 3 309 81.7 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771577.54 2959851.18 771758.26 2959734.18 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771587.3 2959864.22 771766.57 2959748.02 1 10 1
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'Charlestown SB LT' 'AG' 771543.48 2959917.42 771652.78 2960076.78 1 10 1
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'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 13.1 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 13.1 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 12.8 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 12.8 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 13.1 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 903 12.8 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 12.8 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 12.8 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 12.8 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 12.8 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 12.8 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 12.8 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 50 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 12.8 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 13.1 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 12.8 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 13.1 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 13 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 12.8 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 13 1 54
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 12.8 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 12.8 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 12.8 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 12.8 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 12.8 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 12.8 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 12.8 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1095 12.8 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 2844 12.8 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 1815 12.8 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 2375 12.8 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 2918 12.8 1 90

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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 2800 12.8 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 2545 12.8 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 12.8 1 42
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'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 12.8 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 13.1 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 12.8 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 12.8 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 12.8 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 12.8 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex5a.inp

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'Sville/Wash/Webs SW1'   765663.8   2963488   0
'Sville/Wash/Webs SW2'   765731.4   2963456   6
'Sville/Wash/Webs SW3'   765799.1   2963423   6
'Sville/Wash/Webs SW4'   765765.3   2963356   6
'Sville/Wash/Webs SW5'   765731.4   2963290   6
'Sville/Wash/Webs SE1'   765778.5   2963263   6
'Sville/Wash/Webs SE2'   765812.4   2963330   6
'Sville/Wash/Webs SE3'   765846.3   2963397   6
'Sville/Wash/Webs SE4'   765913.8   2963364   6
'Sville/Wash/Webs SE5'   765981.3   2963332   6
'Sville/Wash/Webs NE1'   766011.4   2963390   6
'Sville/Wash/Webs NE2'   765943.9   2963423   6
'Sville/Wash/Webs NE3'   765876.4   2963456   6
'Sville/Wash/Webs NE4'   765916.8   2963519   6
'Sville/Wash/Webs NE5'   765956.8   2963581   6
'Sville/Wash/Webs NW1'   765899.4   2963614   6
'Sville/Wash/Webs NW2'   765858.8   2963551   6
'Sville/Wash/Webs NW3'   765818.3   2963487   6
'Sville/Wash/Webs NW4'   765750.6   2963520   6
'Sville/Wash/Webs NW5'   765682.9   2963552   6
'WashMcgrath NW1'   766907.8   2963995   6
'WashMcgrath NW2'   766920.9   2963922   6
'WashMcgrath NW3'   766934   2963848   6
'WashMcgrath NW4'   766873.4   2963804   6
'WashMcgrath NW5'   766801.5   2963777   6
'WashMcgrath SW1'   766811.1   2963711   6
'WashMcgrath SW2'   766881.8   2963736   6
'WashMcgrath SW3'   766954.7   2963754   6
'WashMcgrath SW4'   766969.2   2963680   6
'WashMcgrath SW5'   766983.8   2963607   6
'WashMcgrath SE1'   767148.1   2963690   6
'WashMcgrath SE2'   767137.9   2963769   6
'WashMcgrath SE3'   767164.3   2963839   6
'WashMcgrath SE4'   767159.9   2963914   6
'WashMcgrath SE5'   767258.5   2963956   6
'WashMcgrath NE1'   767254.3   2964026   6
'WashMcgrath NE2'   767185.3   2963997   6
'WashMcgrath NE3'   767116.3   2963967   6
'WashMcgrath NE4'   767083.3   2964035   6
'WashMcgrath NE5'   767055.6   2964105   6
'Existing'   120   1   0   'C'
 2
'Winthrop North'   'AG'   759327.19   2978019.48   759322.31   2978191.97   1   20   2
135   95   3   961   81.7   1600   1   3
 2
'MVP East RT'   'AG'   759381.68   2977996.34   759619.21   2977985.88   1   10   1
135   55   3   402   81.7   1600   1   3
 2
'MVP East T'   'AG'   759381.73   2977983.26   759617.25   2977975.42   1   10   1
135   75   3   1036   81.7   1600   1   3
 2
'Winthrop South'   'AG'   759345.1   2977932.27   759340.5   2977752.76   1   20   2
135   115   3   572   81.7   1600   1   3
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 81.7 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 81.7 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 81.7 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 81.7 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 81.7 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 81.7 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 81.7 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 81.7 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 81.7 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 81.7 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 81.7 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 81.7 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 81.7 1600 1 3
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 81.7 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 81.7 1600 1 3
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.44 2961033.55 769446.34 2961246.61 1 30 3
120 46 3 1090 81.7 1600 1 3
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'Third St. NB L' 'AG' 769790.35 2960973.02 769754.01 2960743.02 1 10 1

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2
'Third St NB R' 'AG' 769802.46 2960968.18 769766.13 2960735.76 1 10 1
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 13.1 1 42
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 12.8 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 12.8 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 12.8 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 12.8 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 13.1 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 12.8 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 13.1 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 12.8 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 13.1 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 13 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 12.8 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 13 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 12.8 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 12.8 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 12.8 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 12.8 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 12.8 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 12.8 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 12.8 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 12.8 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1095 12.8 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 2844 12.8 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 1815 12.8 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 2375 12.8 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 2918 12.8 1 90

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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 2800 12.8 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 2545 12.8 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 12.8 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 12.8 1 66
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 13.1 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 12.8 1 42
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'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 12.8 1 102
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'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 12.8 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 12.8 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex6a.inp

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'Obrien/Third SW2'  769695.4  2961048  6
'Obrien/Third SW3'  769757.6  2961006  6
'Obrien/Third SW4'  769750.1  2960931  6
'Obrien/Third SW5'  769736.9  2960858  6
'Obrien/Third SE1'  769786  2960825  6
'Obrien/Third SE2'  769799.1  2960899  6
'Obrien/Third SE3'  769815.1  2960972  6
'Obrien/Third SE4'  769877.1  2960930  6
'Obrien/Third SE5'  769939.2  2960888  6
'Obrien/Third N1'  769959.4  2960983  6
'Obrien/Third N2'  769897.3  2961025  6
'Obrien/Third N3'  769835.9  2961068  6
'Obrien/Third N4'  769770.9  2961106  6
'Obrien/Third N5'  769708.6  2961147  6
'Obrien/Charles W1'  771328.7  2959942  6
'Obrien/Charles W2'  771390.7  2959900  6
'Obrien/Charles W3'  771453  2959858  6
'Obrien/Charles W4'  771408.5  2959798  6
'Obrien/Charles W5'  771364  2959738  6
'Obrien/Charles S1'  771443.6  2959694  6
'Obrien/Charles S2'  771488.2  2959754  6
'Obrien/Charles S3'  771537.1  2959811  6
'Obrien/Charles S4'  771597.8  2959767  6
'Obrien/Charles S5'  771659.7  2959725  6
'Obrien/Charles E1'  771712.6  2959798  6
'Obrien/Charles E2'  771650.6  2959840  6
'Obrien/Charles E3'  771588.6  2959882  6
'Obrien/Charles E4'  771617.4  2959951  6
'Obrien/Charles E5'  771659.7  2960014  6
'Obrien/Charles N1'  771605.5  2960052  6
'Obrien/Charles N2'  771563.4  2959989  6
'Obrien/Charles N3'  771514.4  2959933  6
'Obrien/Charles N4'  771448.9  2959969  6
'Obrien/Charles N5'  771386.5  2960011  6
'Existing'  120  1  0  'C'
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'Winthrop North'  'AG'  759327.19  2978019.48  759322.31  2978191.97  1  20  2
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 2
'MVP East RT'  'AG'  759381.68  2977996.34  759619.21  2977985.88  1  10  1
135  55  3  402  81.7  1600  1  3
 2
'MVP East T'  'AG'  759381.73  2977983.26  759617.25  2977975.42  1  10  1
135  75  3  1036  81.7  1600  1  3
 2
'Winthrop South'  'AG'  759345.1  2977932.27  759340.5  2977752.76  1  20  2
135  115  3  572  81.7  1600  1  3
 2
'MVP West'  'AG'  759293.51  2977972.79  759036.06  2977984.52  1  10  1
135  75  3  989  81.7  1600  1  3
 2
'South St'  'AG'  761297.67  2977091.41  760910.63  2977176.49  1  20  2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 81.7 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 81.7 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 81.7 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 81.7 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 81.7 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 81.7 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 81.7 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 81.7 1600 1 3
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 81.7 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 81.7 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 81.7 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 81.7 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 81.7 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 81.7 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 81.7 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 81.7 1600 1 3

2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 81.7 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 81.7 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 81.7 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 81.7 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 81.7 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 81.7 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 81.7 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 81.7 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.44 2961033.55 769446.34 2961246.61 1 30 3
120 46 3 1090 81.7 1600 1 3
2
'Third St. NB L' 'AG' 769790.35 2960973.02 769754.01 2960743.02 1 10 1
120 86 3 785 81.7 1600 1 3
2
'Third St NB R' 'AG' 769802.46 2960968.18 769766.13 2960735.76 1 10 1
120 86 3 15 81.7 1600 1 3
2

'Msgr Obrien WB' 'AG' 769887.25 2961004.5 770144.05 2960830.18 1 30 3
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'Msgr Obrien L' 'AG' 771466.33 2959893.67 771299.49 2960002.52 1 10 1
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'Msgr Obrien WB T' 'AG' 771457.35 2959876.14 771288.89 2959985.8 1 30 3
120 100 3 723 81.7 1600 1 3
2
'Charlestown NB L' 'AG' 771481.83 2959820.29 771409.22 2959726.53 1 10 1
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'Charlestown NB T' 'AG' 771497.74 2959808.88 771424.72 2959713.49 1 20 2
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'Charlestown NB R' 'AG' 771512.83 2959796.65 771438.79 2959703.92 1 10 1
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'Msgr Obrien WB T' 'AG' 771577.54 2959851.18 771758.26 2959734.18 1 20 2
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'Charlestown SB LT' 'AG' 771543.48 2959917.42 771652.78 2960076.78 1 10 1
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'Charlestown SB TR' 'AG' 771531.66 2959928.52 771639.52 2960085.02 1 10 1
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'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
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'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
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'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
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'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
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'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
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'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3

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2
'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
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'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
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'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
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2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 13.1 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 13.1 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 12.8 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 12.8 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 12.8 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 13.1 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 13.1 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 12.8 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 12.8 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 12.8 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 12.8 1 30

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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 13.1 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 13 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 12.8 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 13 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 12.8 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 12.8 1 42
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 13.1 1 66
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2030NB1a.inp

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'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
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'MVP/Boston SE5' 756384.9 2977158 6
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'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 122 46.2 1600 1 3
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2297 7.86 1 66
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 7.86 1 42
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 7.86 1 42

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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 7.86 1 42
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 7.87 1 90
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2030NB2a.inp

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'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
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'College/Boston N5' 759624.6 2973775 6
'College/Boston W1' 759605.4 2973698 6
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
106 76 3 526 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
106 46 3 1258 46.2 1600 1 3

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2461 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2297 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 958 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1857 7.98 1 42

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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3177 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 7.86 1 42
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 7.87 1 42
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 7.86 1 66
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2030NB3a.inp

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'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
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'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
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'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
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'MsgrOb/East W5' 770626.8 2960591 6
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
106 76 3 526 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
81 54 3 642 46.2 1600 1 3
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
81 50 3 660 46.2 1600 1 3
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
79 49 3 426 46.2 1600 1 3
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2461 7.86 1 58
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 7.98 1 42
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3177 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 7.98 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 7.98 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 7.98 1 66
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 7.87 1 42
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 7.87 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 7.87 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

2030NB4a.inp

```
'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'Highland/Central SE1'   763246.9   2966669   6
'Highland/Central SE2'   763279.9   2966736   6
'Highland/Central SE3'   763312.9   2966803   6
'Highland/Central SE4'   763381.4   2966773   6
'Highland/Central SE5'   763450   2966742   6
'Highland/Central NE1'   763472.5   2966778   6
'Highland/Central NE2'   763404   2966809   6
'Highland/Central NE3'   763335.4   2966839   6
'Highland/Central NE4'   763369.8   2966906   6
'Highland/Central NE5'   763404.2   2966972   6
'Highland/Central NW1'   763365.1   2966988   6
'Highland/Central NW2'   763330.8   2966922   6
'Highland/Central NW3'   763296.4   2966855   6
'Highland/Central NW4'   763227.8   2966885   6
'Highland/Central NW5'   763159.1   2966915   6
'Highland/Central SW1'   763136.6   2966879   6
'Highland/Central NW2'   763205.3   2966849   6
'Highland/Central NW3'   763274   2966819   6
'Highland/Central NW4'   763240.9   2966752   6
'Highland/Central NW5'   763207.9   2966684   6
'Medford/School S1'   764934.1   2966923   6
'Medford/School S2'   764967.1   2966990   6
'Medford/School S3'   765000.1   2967058   6
'Medford/School S4'   765045.4   2966998   6
'Medford/School S5'   765090.7   2966938   6
'Medford/School E1'   765113.9   2966977   6
'Medford/School E2'   765068.6   2967037   6
'Medford/School E3'   765023.3   2967097   6
'Medford/School E4'   765055.6   2967164   6
'Medford/School E5'   765087.9   2967232   6
'Medford/School N1'   765057.8   2967266   6
'Medford/School N2'   765025.5   2967199   6
'Medford/School N3'   764992.9   2967131   6
'Medford/School N4'   764948.5   2967191   6
'Medford/School N5'   764903.8   2967252   6
'Medford/School W1'   764880.7   2967212   6
'Medford/School W2'   764925.3   2967152   6
'Medford/School W3'   764969.9   2967092   6
'Medford/School W4'   764937   2967024   6
'Medford/School W5'   764904.1   2966957   6
'Existing'   112   1   0   'C'
 2
'South St'   'AG'   761297.67   2977091.41   760910.63   2977176.49   1   20   2
120   90   3   667   46.2   1600   1   3
 2
'Boston Ave. SB LT'   'AG'   759658.78   2973637.72   759530.2   2973877.66   1   10   1
135   105   3   300   46.2   1600   1   3
 2
'Boston Ave. SB R'   'AG'   759646   2973631.49   759519.38   2973870.53   1   10   1
135   105   3   122   46.2   1600   1   3
 2
'College Ave EB L'   'AG'   759636.36   2973439.82   759535.12   2973241.07   1   10   1
135   105   3   154   46.2   1600   1   3
```

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 244 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 352 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 386 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
81 54 3 642 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
81 50 3 660 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
81 54 3 477 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
81 50 3 641 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 258 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 450 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 52 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 404 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 839 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 74 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 256 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
79 49 3 426 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
79 50 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
79 49 3 496 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
79 50 3 159 46.2 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
62 34 3 861 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
62 45 3 325 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
62 34 3 528 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
99 69 3 855 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
99 86 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
99 66 3 1373 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
99 56 3 762 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 539 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1231 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 58 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 554 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1198 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 49 3 1655 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 79 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 79 3 30 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 49 3 1430 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 100 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 95 3 980 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1230 46.2 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 95 3 590 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 100 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 95 3 750 46.2 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 95 3 425 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 95 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 95 3 765 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 89 3 200 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 89 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 63 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 83 3 970 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 92 3 930 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 92 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 72 3 715 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 105 3 565 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 100 3 210 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 100 3 220 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 597 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1306 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2308 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1285 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3960 7.87 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2735 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3275 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3485 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3430 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

2030NB5a.inp

'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 667 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 122 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 154 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 244 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 352 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 386 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
81 54 3 642 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
81 50 3 660 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
81 54 3 477 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
81 50 3 641 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 258 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 450 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 52 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 404 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 839 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 74 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 256 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
79 49 3 426 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
79 50 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
79 49 3 496 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
79 50 3 159 46.2 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
62 34 3 861 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
99 56 3 762 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
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2
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2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 7.86 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 7.86 1 66
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 7.87 1 42
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1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1285 7.86 1 54
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2735 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3275 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3485 7.86 1 90
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1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

2030NB6a.inp

'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
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'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
1
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1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 7.98 1 42
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'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
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'MVP/Winthrop SE5' 759507.6 2977948 6
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'MVP/Winthrop NW2' 761320.6 2977193 6
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'MVP/Winthrop E1' 761376.1 2976931 6
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'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2222 7.86 1 66
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 7.86 1 66
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'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
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'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'C'
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'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   336   46.2   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1153   46.2   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   536   46.2   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1288   46.2   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 92 3 1000 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 427 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 618 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 667 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 244 46.2 1600 1 3
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 57 3 248 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 87 3 435 46.2 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 52 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 98 3 404 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 87 3 839 46.2 1600 1 3
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 860 46.2 1600 1 3
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2501 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2327 7.86 1 66
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 7.98 1 42
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3207 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 7.98 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1296 7.86 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1229 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1697 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 843 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1339 7.86 1 66
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2222 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 7.86 1 66
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 7.87 1 42
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 711 7.86 1 30
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2546 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 7.87 1 90
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 7.86 1 66
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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
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'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
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'Broadway WB/Dexter4' 763130.4 2970156 6
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'Med. SB/Broad. EB 1' 762960.8 2970268 6
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'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 667 46.2 1600 1 3
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 300 46.2 1600 1 3
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 87 3 435 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 426 46.2 1600 1 3
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 75 3 325 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 41 3 528 46.2 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 860 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2501 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2327 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 968 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 7.98 1 42
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 7.87 1 42
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 7.86 1 42
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 7.87 1 90

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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 7.86 1 66
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'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
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'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 568 7.86 1 42
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2546 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2526 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 7.86 1 66
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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
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'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
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'WashMcgrath NE5' 767055.6 2964105 6
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 122 46.2 1600 1 3
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 87 3 435 46.2 1600 1 3
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 535 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2869 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1296 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1697 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1339 7.86 1 66
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 568 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2057 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 979 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1324 7.87 1 42
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 7.86 1 42
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2526 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
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'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
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'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
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'Obrien/Third N2' 769897.3 2961025 6
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'Obrien/Third N4' 769770.9 2961106 6
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'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
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'Obrien/Charles W4' 771408.5 2959798 6
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'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
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'Obrien/Charles N3' 771514.4 2959933 6
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'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 300 46.2 1600 1 3
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 122 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 87 3 435 46.2 1600 1 3
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 98 3 404 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 860 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 782 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 535 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1222 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 58 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 554 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1208 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1697 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 778 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 206 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 258 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 844 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 233 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2869 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1296 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1078 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1229 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1697 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 843 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1339 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 568 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 597 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1306 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2057 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 7.86 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 979 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1324 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2222 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 535 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2318 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1291 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 4028 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2807 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3337 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3504 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3475 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3294 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 711 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2546 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2526 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 330 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 560 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 445 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1085 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 46.2 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 39 3 545 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 100 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 100 3 555 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 940 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 7.86 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2520 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 995 7.86 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1875 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2265 7.86 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 7.86 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
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'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'C'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   330   46.2   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1155   46.2   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   560   46.2   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1290   46.2   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 445 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1085 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 46.2 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 495 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 39 3 870 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 67 3 330 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 39 3 545 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 915 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1425 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

135 100 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 100 3 555 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 335 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 940 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2520 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 995 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1875 7.98 1 42

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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 7.86 1 42
1

'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
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'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
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'Medford SB/Dexter 1' 763164.8 2970229 6
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'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
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'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
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'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 560 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1085 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 106 3 370 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2520 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 995 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 7.86 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90

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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
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'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
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'Highland/Central SW1' 763136.6 2966879 6
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'Highland/Central NW3' 763274 2966819 6
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'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
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'Medford/School W1' 764880.7 2967212 6
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'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 7.86 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 7.87 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3235 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3470 7.86 1 90
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 46.2 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 915 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 7.98 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 7.86 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 7.87 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3470 7.86 1 90
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2

'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 495 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 39 3 870 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1

80 67 3 330 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 39 3 545 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 915 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1425 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 100 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 100 3 555 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1646 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1397 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 980 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 46.2 1600 1 3

2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 380 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 46.2 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 420 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 765 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 335 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 940 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1

'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 7.86 1 66

1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3235 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3470 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3250 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 340 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1185 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 545 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1345 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1100 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1150 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 103 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2415 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 7.86 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2320 7.86 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3270 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'College/Boston S1' 759601.3 2973328 6
'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
'College/Boston N3' 759696.9 2973644 6
'College/Boston N4' 759660.8 2973710 6
'College/Boston N5' 759624.6 2973775 6
'College/Boston W1' 759605.4 2973698 6
'College/Boston W2' 759643.1 2973630 6
'College/Boston W3' 759650.2 2973555 6
'College/Boston W4' 759623.4 2973485 6
'College/Boston W5' 759588.2 2973419 6
'Harvard/Main SW1' 761916.4 2972806 6
'Harvard/Main SW2' 761982.9 2972841 6
'Harvard/Main SW3' 762049.3 2972875 6
'Harvard/Main SW4' 762072.9 2972804 6
'Harvard/Main SW5' 762096.4 2972733 6
'Harvard/Main SE1' 762133.9 2972753 6
'Harvard/Main SE2' 762110.4 2972824 6
'Harvard/Main SE3' 762086.9 2972896 6
'Harvard/Main SE4' 762158.4 2972918 6
'Harvard/Main SE5' 762229.9 2972941 6
'Harvard/Main NE1' 762214 2972980 6
'Harvard/Main NE2' 762142.5 2972957 6
'Harvard/Main NE3' 762070.9 2972935 6
'Harvard/Main NE4' 762048.6 2973006 6
'Harvard/Main NE5' 762026.3 2973078 6
'Harvard/Main NW1' 761988.6 2973058 6
'Harvard/Main NW2' 762010.9 2972986 6
'Harvard/Main NW3' 762033.3 2972914 6
'Harvard/Main NW4' 761966.9 2972880 6
'Harvard/Main NW5' 761900.4 2972845 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1185 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 545 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1345 46.2 1600 1 3

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1100 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1150 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2415 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 7.98 1 42

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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 7.86 1 66
1
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1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
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'Broadway SB/Lot NEB2' 762915 2970094 6
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'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
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'Med. NB/Broad. WB 2' 763126.1 2969962 6
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'Msgr Camb. St 1' 770578.8 2960499 6
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'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
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'Camb St/First SE1' 770505.4 2960185 6
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'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
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'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
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'MsgrOb/East W5' 770626.8 2960591 6
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1185 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 545 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1345 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1150 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 46.2 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 7.86 1 58
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 7.87 1 102
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
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'Highland/Central SE4' 763381.4 2966773 6
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'Highland/Central NE1' 763472.5 2966778 6
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'Highland/Central NE3' 763335.4 2966839 6
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'Highland/Central NE5' 763404.2 2966972 6
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'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
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'Highland/Central NW3' 763274 2966819 6
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'Highland/Central NW5' 763207.9 2966684 6
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'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
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'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
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'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3912 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2693 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3465 7.86 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
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'Sville/Wash/Webs NE2' 765943.9 2963423 6
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'Sville/Wash/Webs NW1' 765899.4 2963614 6
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'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
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'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
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'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
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'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 215 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3912 7.87 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2693 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3465 7.86 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 108 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 59 3 505 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 875 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 46.2 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 103 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1382 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 980 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 425 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1215 46.2 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
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2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3465 7.86 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 67 3 1180 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 77 3 545 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 67 3 1325 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1095 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1110 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 59 3 505 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 875 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 103 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 955 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3

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'First Ext. NB T'  'AG'  770557.7  2960480.35  770521.67  2960392.65  1  10  1
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 1
'Boston Ave. North'  'AG'  756236.2  2977061  754979.9  2978134  855  7.86  1  42
 1
'MVP West'  'AG'  756236.4  2977061  755664.5  2976289  2545  7.86  1  58
 1
'MVP East'  'AG'  756236.3  2977061  756857.2  2977666  2390  7.86  1  66
 1
'Boston Ave. South'  'AG'  756236.7  2977061  757224.6  2976185  990  7.86  1  42
 1
'Winthrop South'  'AG'  759337.5  2977992  759326.8  2977329  1145  7.98  1  42
 1
'Winthrop North'  'AG'  759337.5  2977992  759313.4  2978847  1865  7.98  1  42
 1
'MVP West'  'AG'  759335.1  2977994  758131.8  2978045  2275  7.86  1  66
 1
'MVP East'  'AG'  759335.6  2977992  760246.6  2977938  3225  7.86  1  66
 1
'South Street'  'AG'  761345.7  2977076  760087.5  2977365  665  7.86  1  42
 1
'Main St North'  'AG'  761336.6  2977085  761454.9  2977751  2500  7.98  1  66
 1
'Main St South'  'AG'  761340.3  2977086  761346.3  2976244  2880  7.98  1  66
 1
'Boston Ave. SB'  'AG'  759689.9  2973573  759291.3  2974306  1055  7.86  1  54
 1
'College Ave. EB'  'AG'  759682.8  2973547  759503.5  2973187  761  7.86  1  54
 1
'College Ave. EB2'  'AG'  759494.1  2973185  759662.7  2971560  761  7.86  1  54
 1
'Boston Ave. NB'  'AG'  759638.3  2973545  760480.3  2972056  636  7.86  1  42
 1
'College Ave. WB'  'AG'  759667.3  2973564  760588.5  2974869  810  7.86  1  42
 1
'Main St. SB'  'AG'  762056.3  2972910  761788.3  2973767  1135  7.98  1  42
 1
'Harvard St. EB'  'AG'  762057.6  2972905  760514.6  2972076  1255  7.86  1  42
 1
'Main St. NB'  'AG'  762056.8  2972911  762406.1  2971899  1090  7.98  1  42
 1
'Harvard St. WB'  'AG'  762057.1  2972911  763589.6  2973380  1190  7.86  1  42
 1
'Broadway St. EB'  'AG'  763029.8  2970084  761172.6  2970882  1747  7.86  1  66
 1
'Parking Lot NEB'  'AG'  763030  2970081  762877.3  2969900  90  9.79  1  42
 1
'Medford St. NB'  'AG'  763025.4  2970079  764069.8  2968304  892  7.86  1  42
 1
'Broadway St. WB'  'AG'  763030.1  2970084  764419.9  2969487  1361  7.86  1  66
 1
'Dexter St. SWB'  'AG'  763031.1  2970080  764132.1  2971134  74  7.86  1  30
 1
'Medford St. SB'  'AG'  763047.7  2970075  762503.6  2971619  569  7.86  1  42
```

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'C'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   77   3   340   46.2   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   67   3   1180   46.2   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   77   3   545   46.2   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   67   3   1325   46.2   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1095 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1110 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 46.2 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 46.2 1600 1 3
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2545 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2390 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 7.98 1 42

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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
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'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 77 3 545 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2545 7.86 1 58
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 7.98 1 42
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
1
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 46.2 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 103 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1392 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 980 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 46.2 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 955 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3922 7.87 1 90
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
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'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
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'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
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'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
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'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42

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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
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'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
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'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
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'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
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'No Build' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 7.86 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3922 7.87 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2703 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 7.86 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3365 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
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'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1285 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 985 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 61 3 480 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 110 3 625 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1075 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 46.2 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 55 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2510 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2320 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42

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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 7.86 1 66
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'C'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   345   46.2   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1155   46.2   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   570   46.2   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1285   46.2   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 985 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 61 3 480 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 110 3 625 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1075 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 46.2 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 500 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

135 99 3 55 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 340 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 945 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 210 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 7.86 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2510 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2320 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 7.86 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1900 7.98 1 42

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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2260 7.86 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3245 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 7.86 1 42
1

'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
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'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
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'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/CambSt S3' 770842.1 2960284 6
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'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 345 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1285 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 985 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 61 3 480 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 110 3 625 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1075 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2510 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2320 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 7.86 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1900 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2260 7.86 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3245 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 7.86 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 7.86 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
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'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3230 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 500 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 46.2 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 55 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1646 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1397 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 975 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1220 46.2 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 46.2 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 340 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 945 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 910 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 210 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3230 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 107 3 390 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 46.2 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 55 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1646 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 7.86 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3230 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
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'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
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'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
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'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
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'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
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'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
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'MVP/Winthrop E1' 761376.1 2976931 6
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'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 555 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1345 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 435 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 615 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1150 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 87 3 851 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 505 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 540 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 7.86 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2405 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1005 7.86 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1140 7.98 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1860 7.98 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2330 7.86 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3280 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 7.86 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'C'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   350   46.2   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1170   46.2   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   555   46.2   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1345   46.2   1600   1   3
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 435 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 615 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1150 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 385 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 390 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 46.2 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 87 3 851 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 505 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 46.2 1600 1 3
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 150 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1410 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1250 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 540 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2405 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1005 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1140 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1860 7.98 1 42

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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
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'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1170 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 555 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1345 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 435 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 615 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1150 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 150 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 575 46.2 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1410 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1250 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 540 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 930 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 7.86 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2405 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1005 7.86 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1140 7.98 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1860 7.98 1 42
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 7.86 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90

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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
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'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
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'Medford/School E3' 765023.3 2967097 6
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'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
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'Medford/School W1' 764880.7 2967212 6
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'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1

135 94 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 385 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2

'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1

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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 7.86 1 42
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1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3916 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3225 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 385 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 390 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 87 3 851 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 505 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1651 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3916 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3225 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 108 3 385 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 390 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 87 3 851 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 505 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 150 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 880 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 575 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1410 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1250 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 540 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1651 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1392 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 985 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1220 46.2 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 695 46.2 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 930 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3916 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3225 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
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'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 325 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1180 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 555 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1360 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 91 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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2
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'MVP West'  'AG'  756236.4  2977061  755664.5  2976289  2590  7.86  1  58
 1
'MVP East'  'AG'  756236.3  2977061  756857.2  2977666  2420  7.86  1  66
 1
'Boston Ave. South'  'AG'  756236.7  2977061  757224.6  2976185  990  7.86  1  42
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'Winthrop South'  'AG'  759337.5  2977992  759326.8  2977329  1150  7.98  1  42
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'Winthrop North'  'AG'  759337.5  2977992  759313.4  2978847  1865  7.98  1  42
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'MVP West'  'AG'  759335.1  2977994  758131.8  2978045  2340  7.86  1  66
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'MVP East'  'AG'  759335.6  2977992  760246.6  2977938  2395  7.86  1  66
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'South Street'  'AG'  761345.7  2977076  760087.5  2977365  670  7.86  1  42
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'Main St North'  'AG'  761336.6  2977085  761454.9  2977751  2500  7.98  1  66
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'Main St South'  'AG'  761340.3  2977086  761346.3  2976244  2890  7.98  1  66
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'Boston Ave. SB'  'AG'  759689.9  2973573  759291.3  2974306  1050  7.86  1  54
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'College Ave. EB'  'AG'  759682.8  2973547  759503.5  2973187  771  7.86  1  54
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'College Ave. EB2'  'AG'  759494.1  2973185  759662.7  2971560  771  7.86  1  54
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'Boston Ave. NB'  'AG'  759638.3  2973545  760480.3  2972056  626  7.86  1  42
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'College Ave. WB'  'AG'  759667.3  2973564  760588.5  2974869  815  7.86  1  42
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'Main St. SB'  'AG'  762056.3  2972910  761788.3  2973767  1145  7.98  1  42
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'Harvard St. EB'  'AG'  762057.6  2972905  760514.6  2972076  1325  7.86  1  42
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'Harvard St. WB'  'AG'  762057.1  2972911  763589.6  2973380  1260  7.86  1  42
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'Broadway St. EB'  'AG'  763029.8  2970084  761172.6  2970882  1794  7.86  1  66
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'Parking Lot NEB'  'AG'  763030  2970081  762877.3  2969900  90  9.79  1  42
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'Medford St. NB'  'AG'  763025.4  2970079  764069.8  2968304  895  7.86  1  42
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'Broadway St. WB'  'AG'  763030.1  2970084  764419.9  2969487  1391  7.86  1  66
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'Dexter St. SWB'  'AG'  763031.1  2970080  764132.1  2971134  75  7.86  1  30
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'Medford St. SB'  'AG'  763047.7  2970075  762503.6  2971619  585  7.86  1  42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1155 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 510 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 7.98 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
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'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
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'Harvard/Main SW1' 761916.4 2972806 6
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'Harvard/Main SE1' 762133.9 2972753 6
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 555 46.2 1600 1 3
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 840 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2590 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2420 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 7.98 1 42

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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 7.86 1 54
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1145 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1325 7.86 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1794 7.86 1 66
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1391 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
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'Broadway SB/Lot NEB4' 762936.1 2970008 6
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'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
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'Msgr Camb. St 1' 770578.8 2960499 6
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'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
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'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
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'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/East E2' 770830.8 2960409 6
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'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
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'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1180 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 555 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1360 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 91 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1135 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 625 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1130 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 385 46.2 1600 1 3
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 645 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 660 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 490 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 620 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 72 3 255 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 482 46.2 1600 1 3
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 440 46.2 1600 1 3
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 880 46.2 1600 1 3
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 840 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2590 7.86 1 58
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 7.98 1 42
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 7.86 1 54
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1145 7.98 1 42
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90

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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
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'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
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'Medford/School S1' 764934.1 2966923 6
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 7.98 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 7.86 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 815 7.86 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1325 7.86 1 42
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1155 7.86 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1253 7.86 1 54
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1235 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 815 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1145 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1794 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 895 7.86 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1253 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3887 7.87 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2708 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3225 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 320 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 130 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 246 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 390 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 645 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 660 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 620 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 72 3 255 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 440 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 856 46.2 1600 1 3
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 435 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
86 56 3 135 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 7.86 1 42

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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 815 7.86 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1325 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1794 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 895 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1391 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1155 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 510 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 7.86 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1253 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3887 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2708 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3455 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3225 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
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'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
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'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
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'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 350 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 1005 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 450 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1080 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 615 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 226 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 46.2 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 500 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 600 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 445 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 430 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 265 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 505 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 150 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
90 42 3 890 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 74 3 350 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 42 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 895 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1380 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1285 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1240 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 960 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 945 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 7.86 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2515 7.86 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1890 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2360 7.86 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3230 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 7.86 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'College/Boston S1' 759601.3 2973328 6
'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
'College/Boston N3' 759696.9 2973644 6
'College/Boston N4' 759660.8 2973710 6
'College/Boston N5' 759624.6 2973775 6
'College/Boston W1' 759605.4 2973698 6
'College/Boston W2' 759643.1 2973630 6
'College/Boston W3' 759650.2 2973555 6
'College/Boston W4' 759623.4 2973485 6
'College/Boston W5' 759588.2 2973419 6
'Harvard/Main SW1' 761916.4 2972806 6
'Harvard/Main SW2' 761982.9 2972841 6
'Harvard/Main SW3' 762049.3 2972875 6
'Harvard/Main SW4' 762072.9 2972804 6
'Harvard/Main SW5' 762096.4 2972733 6
'Harvard/Main SE1' 762133.9 2972753 6
'Harvard/Main SE2' 762110.4 2972824 6
'Harvard/Main SE3' 762086.9 2972896 6
'Harvard/Main SE4' 762158.4 2972918 6
'Harvard/Main SE5' 762229.9 2972941 6
'Harvard/Main NE1' 762214 2972980 6
'Harvard/Main NE2' 762142.5 2972957 6
'Harvard/Main NE3' 762070.9 2972935 6
'Harvard/Main NE4' 762048.6 2973006 6
'Harvard/Main NE5' 762026.3 2973078 6
'Harvard/Main NW1' 761988.6 2973058 6
'Harvard/Main NW2' 762010.9 2972986 6
'Harvard/Main NW3' 762033.3 2972914 6
'Harvard/Main NW4' 761966.9 2972880 6
'Harvard/Main NW5' 761900.4 2972845 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 350 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 46.2 1600 1 3

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 1005 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 450 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1080 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 615 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2515 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 7.86 1 66
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 7.98 1 42
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 7.98 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 7.86 1 54
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 7.86 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 7.98 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
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'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
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'Medford SB/Dexter 5' 763005 2970268 6
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'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
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'Msgr Camb. St 4' 770617.3 2960386 6
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'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
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'Camb St/First SE5' 770685.6 2960310 6
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'MsgrOb/East W1' 770852.8 2960614 6
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 7.86 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2515 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 7.86 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1890 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2360 7.86 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3230 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 7.86 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 7.87 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 226 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 500 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 600 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 270 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 445 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 430 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 265 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 74 3 350 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 42 3 550 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 895 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1380 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 775 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1285 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1240 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1412 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 985 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 305 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
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1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 7.98 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3942 7.87 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3395 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3265 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
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'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 775 46.2 1600 1 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 7.98 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3942 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2722 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3395 7.87 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3265 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 7.87 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
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'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
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'Obrien/Charles W4' 771408.5 2959798 6
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'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
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'Obrien/Charles S5' 771659.7 2959725 6
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'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
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'Obrien/Charles N3' 771514.4 2959933 6
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'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 305 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 775 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 7.86 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 7.98 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 7.86 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 7.86 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3942 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2722 7.87 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 7.87 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3395 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3265 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'C'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1175 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 575 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1305 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 460 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1140 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 109 3 670 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1100 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 375 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 46.2 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 220 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2540 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2360 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1010 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1195 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1925 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2310 7.86 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3300 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 7.86 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 7.98 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 7.86 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
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'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'C'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   335   46.2   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1175   46.2   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   575   46.2   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1305   46.2   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 460 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1140 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 109 3 670 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1100 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 375 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 46.2 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 160 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 865 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 980 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 7.86 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2540 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2360 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1010 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1195 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1925 7.98 1 42

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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2310 7.86 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3300 7.86 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 7.86 1 42
1

'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
'MsgrOb/CambSt S3' 770842.1 2960284 6
'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'C'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 335 46.2 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1175 46.2 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 575 46.2 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1305 46.2 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 46.2 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 460 46.2 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1140 46.2 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 109 3 670 46.2 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1100 46.2 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2540 7.86 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2360 7.86 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1010 7.86 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1195 7.98 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1925 7.98 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2310 7.86 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3300 7.86 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 7.86 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 7.86 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 7.86 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 7.86 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 7.86 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 7.86 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 7.86 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 7.98 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 7.98 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 7.86 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 7.87 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 7.86 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 7.87 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 7.86 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 7.87 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 7.87 1 90

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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 7.87 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
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'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
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'Medford/School S1' 764934.1 2966923 6
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'Medford/School E1' 765113.9 2966977 6
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'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'C'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 7.86 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1293 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3997 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2778 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3305 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3435 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 46.2 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 375 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 160 46.2 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 865 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1676 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 36 46.2 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1447 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 550 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 995 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 46.2 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 590 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 380 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 750 46.2 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 420 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 765 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 980 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 220 46.2 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 7.86 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 7.86 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 7.86 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1293 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3997 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2778 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3305 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3435 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'C'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 46.2 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 46.2 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 46.2 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 46.2 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 46.2 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 108 3 375 46.2 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 46.2 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 46.2 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 46.2 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 46.2 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 46.2 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 46.2 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 46.2 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 46.2 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 46.2 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 46.2 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 46.2 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 46.2 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 46.2 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 46.2 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 46.2 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 160 46.2 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 865 46.2 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 46.2 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 46.2 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 46.2 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 46.2 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 46.2 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 46.2 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 46.2 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 46.2 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 46.2 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 46.2 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 46.2 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1676 46.2 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 46.2 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1447 46.2 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 550 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 995 46.2 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 46.2 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 46.2 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 590 46.2 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 380 46.2 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 750 46.2 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 420 46.2 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 46.2 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 765 46.2 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 46.2 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 46.2 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 46.2 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 46.2 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 46.2 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 46.2 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 980 46.2 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 46.2 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 46.2 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 46.2 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 220 46.2 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 46.2 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 7.86 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 7.98 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 7.98 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 7.86 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 7.86 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 7.86 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 7.86 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 7.86 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 7.98 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 7.86 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 7.98 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 7.86 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 7.86 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 9.79 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 7.86 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 7.86 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 7.86 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 7.86 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 7.86 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 7.98 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 7.86 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 7.98 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 7.86 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 7.98 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 7.86 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 7.98 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 7.98 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 7.86 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 7.98 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 7.86 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 7.87 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 7.87 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 7.86 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 7.86 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 7.87 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 7.87 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 7.86 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1293 7.86 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3997 7.87 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2778 7.87 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3305 7.87 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 7.86 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3435 7.87 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 7.86 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 7.86 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 7.86 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 7.86 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 7.86 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 7.87 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 7.87 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 7.87 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 7.86 1 66
1 0 4 1000 5 'Y' 10 0 36

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Input Files
  - Particulate Matter (PM)

CAL3QHC PM Input Files

Ex1a.inp

'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
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'MVP/Winthrop NW2' 759312.3 2978091 6
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'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 107 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 310 0.125 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1058 0.125 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 483 0.125 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1197 0.125 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 95 3 961 0.125 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 402 0.125 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1036 0.125 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 572 0.125 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 0.125 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 0.125 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 0.125 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 0.125 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 0.125 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 0.125 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 0.125 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 0.125 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 0.125 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 0.125 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 0.125 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 0.125 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.125 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 0.125 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 0.125 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 0.125 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 0.125 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 0.125 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 0.125 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 0.125 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 0.125 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 723 0.125 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 0.125 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 0.125 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 0.125 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

109 96 3 418 0.125 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 0.125 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 0.125 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 0.125 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1079 0.125 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 49 0.125 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 469 0.125 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 0.125 1600 1 3
2
'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
111 93 3 260 0.125 1600 1 3
2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
111 47 3 106 0.125 1600 1 3
2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
111 47 3 224 0.125 1600 1 3
2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
111 98 3 91 0.125 1600 1 3
2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
111 29 3 507 0.125 1600 1 3
2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3
111 88 3 750 0.125 1600 1 3
2
'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
111 88 3 24 0.125 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
111 47 3 807 0.125 1600 1 3
2
'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
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2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
111 75 3 265 0.125 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 534 0.05 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2303 0.05 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2149 0.05 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 883 0.05 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 0.05 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 0.05 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 0.05 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 0.05 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 0.05 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 0.05 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 0.05 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 903 0.05 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 0.05 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 0.05 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 0.05 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 0.05 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 0.05 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 0.05 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 0.05 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 0.05 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 0.05 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 0.05 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 0.05 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 0.05 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 0.05 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 0.05 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 0.05 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 0.05 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 0.05 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 0.05 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 0.05 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 0.05 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 0.05 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 0.05 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 0.05 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 0.05 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 0.05 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 0.05 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.05 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 0.05 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 0.05 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 0.05 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 0.05 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 0.05 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 0.05 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 0.05 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 0.05 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 0.05 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 0.05 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 0.05 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 0.05 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex2a.inp

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   107   1   0   'P'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
113   83   3   310   0.125   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
113   53   3   1058   0.125   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
113   83   3   483   0.125   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
113   53   3   1197   0.125   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 95 3 961 0.125 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 402 0.125 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1036 0.125 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 572 0.125 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 0.125 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 0.125 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 0.125 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 0.125 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 0.125 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 0.125 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 0.125 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 0.125 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 0.125 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 0.125 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 407 0.125 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 0.125 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 0.125 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 0.125 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.125 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 0.125 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 0.125 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 0.125 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 0.125 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 0.125 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 0.125 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 0.125 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

133 118 3 49 0.125 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 469 0.125 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 0.125 1600 1 3
2
'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
111 93 3 260 0.125 1600 1 3
2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
111 47 3 106 0.125 1600 1 3
2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
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2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
111 98 3 91 0.125 1600 1 3
2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
111 29 3 507 0.125 1600 1 3
2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
111 93 3 83 0.125 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
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'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3
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'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
111 88 3 24 0.125 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
111 47 3 807 0.125 1600 1 3
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'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
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2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 534 0.05 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2303 0.05 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2149 0.05 1 66
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 0.05 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 0.05 1 42

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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 0.05 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 0.05 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 0.05 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 0.05 1 66
1
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1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 0.05 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 0.05 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 0.05 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 0.05 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 0.05 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 0.05 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 0.05 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 0.05 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 0.05 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 0.05 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 0.05 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 0.05 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 0.05 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 0.05 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 0.05 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 0.05 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 0.05 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 0.05 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 0.05 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 0.05 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 0.05 1 42
1

'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 0.05 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 0.05 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 0.05 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 0.05 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 0.05 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.05 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 0.05 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 0.05 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 0.05 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 0.05 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 0.05 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 0.05 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 0.05 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 0.05 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 0.05 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 0.05 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 0.05 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 0.05 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex3a.inp

'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
'MsgrOb/CambSt S3' 770842.1 2960284 6
'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 107 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 310 0.125 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1058 0.125 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 483 0.125 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1197 0.125 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 95 3 961 0.125 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 402 0.125 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1036 0.125 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 572 0.125 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 0.125 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 0.125 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 0.125 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 0.125 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 0.125 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 0.125 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 0.125 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 100 3 360 0.125 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 0.125 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 0.125 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 407 0.125 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 0.125 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 0.125 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 0.125 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.125 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 0.125 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 0.125 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 0.125 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 0.125 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 0.125 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 0.125 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 0.125 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 0.125 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 723 0.125 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 0.125 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 0.125 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 0.125 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 418 0.125 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 0.125 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 0.125 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 0.125 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1079 0.125 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 49 0.125 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 469 0.125 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 0.125 1600 1 3
2
'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
111 93 3 260 0.125 1600 1 3
2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
111 47 3 106 0.125 1600 1 3
2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
111 47 3 224 0.125 1600 1 3
2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
111 98 3 91 0.125 1600 1 3
2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
111 29 3 507 0.125 1600 1 3
2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
111 93 3 83 0.125 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
111 88 3 91 0.125 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3
111 88 3 750 0.125 1600 1 3
2
'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
111 88 3 24 0.125 1600 1 3
2

'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
111 47 3 807 0.125 1600 1 3
2
'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
111 47 3 5 0.125 1600 1 3
2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
111 75 3 265 0.125 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 534 0.05 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2303 0.05 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2149 0.05 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 883 0.05 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 0.05 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 0.05 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 0.05 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 0.05 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 0.05 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 0.05 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 0.05 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 903 0.05 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 0.05 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 0.05 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 0.05 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 0.05 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 0.05 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 0.05 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 0.05 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 0.05 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 0.05 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 0.05 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 0.05 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 0.05 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 0.05 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 0.05 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 0.05 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 0.05 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 0.05 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 0.05 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 0.05 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 0.05 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 0.05 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 0.05 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 0.05 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 0.05 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 0.05 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 0.05 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 0.05 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.05 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 0.05 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 0.05 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 0.05 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 0.05 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 0.05 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 0.05 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 0.05 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 0.05 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 0.05 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 0.05 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 0.05 1 66

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 0.05 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex4a.inp

```
'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'Highland/Central SE1'   763246.9   2966669   6
'Highland/Central SE2'   763279.9   2966736   6
'Highland/Central SE3'   763312.9   2966803   6
'Highland/Central SE4'   763381.4   2966773   6
'Highland/Central SE5'   763450   2966742   6
'Highland/Central NE1'   763472.5   2966778   6
'Highland/Central NE2'   763404   2966809   6
'Highland/Central NE3'   763335.4   2966839   6
'Highland/Central NE4'   763369.8   2966906   6
'Highland/Central NE5'   763404.2   2966972   6
'Highland/Central NW1'   763365.1   2966988   6
'Highland/Central NW2'   763330.8   2966922   6
'Highland/Central NW3'   763296.4   2966855   6
'Highland/Central NW4'   763227.8   2966885   6
'Highland/Central NW5'   763159.1   2966915   6
'Highland/Central SW1'   763136.6   2966879   6
'Highland/Central NW2'   763205.3   2966849   6
'Highland/Central NW3'   763274   2966819   6
'Highland/Central NW4'   763240.9   2966752   6
'Highland/Central NW5'   763207.9   2966684   6
'Medford/School S1'   764934.1   2966923   6
'Medford/School S2'   764967.1   2966990   6
'Medford/School S3'   765000.1   2967058   6
'Medford/School S4'   765045.4   2966998   6
'Medford/School S5'   765090.7   2966938   6
'Medford/School E1'   765113.9   2966977   6
'Medford/School E2'   765068.6   2967037   6
'Medford/School E3'   765023.3   2967097   6
'Medford/School E4'   765055.6   2967164   6
'Medford/School E5'   765087.9   2967232   6
'Medford/School N1'   765057.8   2967266   6
'Medford/School N2'   765025.5   2967199   6
'Medford/School N3'   764992.9   2967131   6
'Medford/School N4'   764948.5   2967191   6
'Medford/School N5'   764903.8   2967252   6
'Medford/School W1'   764880.7   2967212   6
'Medford/School W2'   764925.3   2967152   6
'Medford/School W3'   764969.9   2967092   6
'Medford/School W4'   764937   2967024   6
'Medford/School W5'   764904.1   2966957   6
'Existing'   120   1   0   'P'
 2
'Winthrop North'   'AG'   759327.19   2978019.48   759322.31   2978191.97   1   20   2
135   95   3   961   0.125   1600   1   3
 2
'MVP East RT'   'AG'   759381.68   2977996.34   759619.21   2977985.88   1   10   1
135   55   3   402   0.125   1600   1   3
 2
'MVP East T'   'AG'   759381.73   2977983.26   759617.25   2977975.42   1   10   1
135   75   3   1036   0.125   1600   1   3
 2
'Winthrop South'   'AG'   759345.1   2977932.27   759340.5   2977752.76   1   20   2
135   115   3   572   0.125   1600   1   3
```

2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 0.125 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 0.125 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 0.125 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 0.125 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 0.125 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 0.125 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 0.125 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 0.125 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 0.125 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 0.125 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 407 0.125 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 0.125 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 0.125 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 0.125 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.125 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 0.125 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 0.125 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 0.125 1600 1 3
2

'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 0.125 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 0.125 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 0.125 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
82 56 3 150 0.125 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 723 0.125 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 0.125 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 0.125 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 0.125 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 418 0.125 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 0.125 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 66 3 670 0.125 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 460 0.125 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1079 0.125 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.44 2961033.55 769446.34 2961246.61 1 30 3
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2
'Third St. NB L' 'AG' 769790.35 2960973.02 769754.01 2960743.02 1 10 1

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'Third St NB R' 'AG' 769802.46 2960968.18 769766.13 2960735.76 1 10 1
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'Msgr Obrien WB' 'AG' 769887.25 2961004.5 770144.05 2960830.18 1 30 3
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'Msgr Obrien L' 'AG' 771466.33 2959893.67 771299.49 2960002.52 1 10 1
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'Msgr Obrien WB T' 'AG' 771457.35 2959876.14 771288.89 2959985.8 1 30 3
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2
'Charlestown NB L' 'AG' 771481.83 2959820.29 771409.22 2959726.53 1 10 1
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'Charlestown NB T' 'AG' 771497.74 2959808.88 771424.72 2959713.49 1 20 2
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'Charlestown NB R' 'AG' 771512.83 2959796.65 771438.79 2959703.92 1 10 1
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'Msgr Obrien WB L' 'AG' 771569.24 2959836.37 771749.78 2959719.56 1 10 1
120 95 3 309 0.125 1600 1 3
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'Msgr Obrien WB T' 'AG' 771577.54 2959851.18 771758.26 2959734.18 1 20 2
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'Msgr Obrien WB R' 'AG' 771587.3 2959864.22 771766.57 2959748.02 1 10 1
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'Charlestown SB LT' 'AG' 771543.48 2959917.42 771652.78 2960076.78 1 10 1
120 82 3 254 0.125 1600 1 3
2
'Charlestown SB TR' 'AG' 771531.66 2959928.52 771639.52 2960085.02 1 10 1
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2
'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
111 93 3 260 0.125 1600 1 3
2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
111 47 3 106 0.125 1600 1 3
2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
111 47 3 224 0.125 1600 1 3
2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
111 98 3 91 0.125 1600 1 3
2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
111 29 3 507 0.125 1600 1 3
2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
111 93 3 83 0.125 1600 1 3

2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
111 88 3 91 0.125 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770650.15 2960487.78 770494.85 2960606.57 1 30 3
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'MsgrOb/East EB L' 'AG' 770662.79 2960510.79 770513.43 2960627.36 1 10 1
111 88 3 24 0.125 1600 1 3
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'MsgrOb/East WB T' 'AG' 770764.59 2960432.84 770841.13 2960362.31 1 10 1
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'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
111 47 3 5 0.125 1600 1 3
2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
111 75 3 265 0.125 1600 1 3
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 0.05 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 0.05 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 0.05 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 0.05 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 0.05 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2127 0.05 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 0.05 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 903 0.05 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 0.05 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 0.05 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 0.05 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 0.05 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 0.05 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 0.05 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 949 0.05 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 0.05 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1484 0.05 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 0.05 1 42
1

'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 0.05 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 0.05 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 0.05 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 0.05 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 881 0.05 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 581 0.05 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 896 0.05 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 534 0.05 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1133 0.05 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 0.05 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 960 0.05 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 0.05 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 1857 0.05 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 0.05 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 0.05 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 0.05 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 0.05 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.05 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 0.05 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 0.05 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 0.05 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 0.05 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 0.05 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1095 0.05 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 2844 0.05 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 1815 0.05 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 2375 0.05 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 2918 0.05 1 90

1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 2800 0.05 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 2545 0.05 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 0.05 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 0.05 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 0.05 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 0.05 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 0.05 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 0.05 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 0.05 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex5a.inp

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'Sville/Wash/Webs SW1'   765663.8   2963488   0
'Sville/Wash/Webs SW2'   765731.4   2963456   6
'Sville/Wash/Webs SW3'   765799.1   2963423   6
'Sville/Wash/Webs SW4'   765765.3   2963356   6
'Sville/Wash/Webs SW5'   765731.4   2963290   6
'Sville/Wash/Webs SE1'   765778.5   2963263   6
'Sville/Wash/Webs SE2'   765812.4   2963330   6
'Sville/Wash/Webs SE3'   765846.3   2963397   6
'Sville/Wash/Webs SE4'   765913.8   2963364   6
'Sville/Wash/Webs SE5'   765981.3   2963332   6
'Sville/Wash/Webs NE1'   766011.4   2963390   6
'Sville/Wash/Webs NE2'   765943.9   2963423   6
'Sville/Wash/Webs NE3'   765876.4   2963456   6
'Sville/Wash/Webs NE4'   765916.8   2963519   6
'Sville/Wash/Webs NE5'   765956.8   2963581   6
'Sville/Wash/Webs NW1'   765899.4   2963614   6
'Sville/Wash/Webs NW2'   765858.8   2963551   6
'Sville/Wash/Webs NW3'   765818.3   2963487   6
'Sville/Wash/Webs NW4'   765750.6   2963520   6
'Sville/Wash/Webs NW5'   765682.9   2963552   6
'WashMcgrath NW1'   766907.8   2963995   6
'WashMcgrath NW2'   766920.9   2963922   6
'WashMcgrath NW3'   766934   2963848   6
'WashMcgrath NW4'   766873.4   2963804   6
'WashMcgrath NW5'   766801.5   2963777   6
'WashMcgrath SW1'   766811.1   2963711   6
'WashMcgrath SW2'   766881.8   2963736   6
'WashMcgrath SW3'   766954.7   2963754   6
'WashMcgrath SW4'   766969.2   2963680   6
'WashMcgrath SW5'   766983.8   2963607   6
'WashMcgrath SE1'   767148.1   2963690   6
'WashMcgrath SE2'   767137.9   2963769   6
'WashMcgrath SE3'   767164.3   2963839   6
'WashMcgrath SE4'   767159.9   2963914   6
'WashMcgrath SE5'   767258.5   2963956   6
'WashMcgrath NE1'   767254.3   2964026   6
'WashMcgrath NE2'   767185.3   2963997   6
'WashMcgrath NE3'   767116.3   2963967   6
'WashMcgrath NE4'   767083.3   2964035   6
'WashMcgrath NE5'   767055.6   2964105   6
'Existing'   120   1   0   'P'
 2
'Winthrop North'   'AG'   759327.19   2978019.48   759322.31   2978191.97   1   20   2
135   95   3   961   0.125   1600   1   3
 2
'MVP East RT'   'AG'   759381.68   2977996.34   759619.21   2977985.88   1   10   1
135   55   3   402   0.125   1600   1   3
 2
'MVP East T'   'AG'   759381.73   2977983.26   759617.25   2977975.42   1   10   1
135   75   3   1036   0.125   1600   1   3
 2
'Winthrop South'   'AG'   759345.1   2977932.27   759340.5   2977752.76   1   20   2
135   115   3   572   0.125   1600   1   3
```

2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 989 0.125 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 571 0.125 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 0.125 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 0.125 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 144 0.125 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 228 0.125 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 321 0.125 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 360 0.125 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 573 0.125 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 559 0.125 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 0.125 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 0.125 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.125 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 0.125 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 0.125 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 0.125 1600 1 3
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 0.125 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 0.125 1600 1 3
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 463 0.125 1600 1 3
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82 56 3 150 0.125 1600 1 3
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 295 0.125 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 488 0.125 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 821 0.125 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 418 0.125 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1193 0.125 1600 1 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 997 0.125 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.44 2961033.55 769446.34 2961246.61 1 30 3
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'Third St. NB L' 'AG' 769790.35 2960973.02 769754.01 2960743.02 1 10 1

120 86 3 785 0.125 1600 1 3
2
'Third St NB R' 'AG' 769802.46 2960968.18 769766.13 2960735.76 1 10 1
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2
'Msgr Obrien WB' 'AG' 769887.25 2961004.5 770144.05 2960830.18 1 30 3
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'Msgr Obrien L' 'AG' 771466.33 2959893.67 771299.49 2960002.52 1 10 1
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'Msgr Obrien WB T' 'AG' 771457.35 2959876.14 771288.89 2959985.8 1 30 3
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'Charlestown NB L' 'AG' 771481.83 2959820.29 771409.22 2959726.53 1 10 1
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'Charlestown NB T' 'AG' 771497.74 2959808.88 771424.72 2959713.49 1 20 2
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'Charlestown NB R' 'AG' 771512.83 2959796.65 771438.79 2959703.92 1 10 1
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'Msgr Obrien WB L' 'AG' 771569.24 2959836.37 771749.78 2959719.56 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771577.54 2959851.18 771758.26 2959734.18 1 20 2
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'Msgr Obrien WB R' 'AG' 771587.3 2959864.22 771766.57 2959748.02 1 10 1
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2
'Charlestown SB LT' 'AG' 771543.48 2959917.42 771652.78 2960076.78 1 10 1
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'Charlestown SB TR' 'AG' 771531.66 2959928.52 771639.52 2960085.02 1 10 1
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'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
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2
'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
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2
'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
111 47 3 224 0.125 1600 1 3
2
'First St NB L' 'AG' 770507.16 2960347.58 770476.58 2960155.59 1 10 1
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2
'First St NB R' 'AG' 770523.28 2960343.47 770491.45 2960152.67 1 10 1
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2
'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770637.14 2960466.07 770475.35 2960589.69 1 10 1
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'MsgrOb/East WB R' 'AG' 770777.96 2960446.2 770852.27 2960376.41 1 10 1
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2
'MsgrOb at First WB L' 'AG' 770904.35 2960280.55 771078.13 2960164.36 1 20 2
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1080 0.05 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1761 0.05 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2092 0.05 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 0.05 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 0.05 1 42
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 0.05 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 0.05 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 0.05 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 0.05 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 0.05 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 0.05 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1111 0.05 1 42
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 85 0.05 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 748 0.05 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1164 0.05 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 71 0.05 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 499 0.05 1 42
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 0.05 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 0.05 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 0.05 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 0.05 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 0.05 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1095 0.05 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 2844 0.05 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 1815 0.05 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 2375 0.05 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 2918 0.05 1 90

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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 2800 0.05 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 2545 0.05 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 0.05 1 42
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'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 0.05 1 66
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 0.05 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 0.05 1 42
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'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 0.05 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 0.05 1 66
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 0.05 1 102
1 0 4 1000 5 'Y' 10 0 36

Ex6a.inp

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'Greenline Extension'  60  175  0  0  35  0.3048  1  0
'Obrien/Third SW1'  769633.1  2961090  6
'Obrien/Third SW2'  769695.4  2961048  6
'Obrien/Third SW3'  769757.6  2961006  6
'Obrien/Third SW4'  769750.1  2960931  6
'Obrien/Third SW5'  769736.9  2960858  6
'Obrien/Third SE1'  769786  2960825  6
'Obrien/Third SE2'  769799.1  2960899  6
'Obrien/Third SE3'  769815.1  2960972  6
'Obrien/Third SE4'  769877.1  2960930  6
'Obrien/Third SE5'  769939.2  2960888  6
'Obrien/Third N1'  769959.4  2960983  6
'Obrien/Third N2'  769897.3  2961025  6
'Obrien/Third N3'  769835.9  2961068  6
'Obrien/Third N4'  769770.9  2961106  6
'Obrien/Third N5'  769708.6  2961147  6
'Obrien/Charles W1'  771328.7  2959942  6
'Obrien/Charles W2'  771390.7  2959900  6
'Obrien/Charles W3'  771453  2959858  6
'Obrien/Charles W4'  771408.5  2959798  6
'Obrien/Charles W5'  771364  2959738  6
'Obrien/Charles S1'  771443.6  2959694  6
'Obrien/Charles S2'  771488.2  2959754  6
'Obrien/Charles S3'  771537.1  2959811  6
'Obrien/Charles S4'  771597.8  2959767  6
'Obrien/Charles S5'  771659.7  2959725  6
'Obrien/Charles E1'  771712.6  2959798  6
'Obrien/Charles E2'  771650.6  2959840  6
'Obrien/Charles E3'  771588.6  2959882  6
'Obrien/Charles E4'  771617.4  2959951  6
'Obrien/Charles E5'  771659.7  2960014  6
'Obrien/Charles N1'  771605.5  2960052  6
'Obrien/Charles N2'  771563.4  2959989  6
'Obrien/Charles N3'  771514.4  2959933  6
'Obrien/Charles N4'  771448.9  2959969  6
'Obrien/Charles N5'  771386.5  2960011  6
'Existing'  120  1  0  'P'
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'Winthrop North'  'AG'  759327.19  2978019.48  759322.31  2978191.97  1  20  2
135  95  3  961  0.125  1600  1  3
 2
'MVP East RT'  'AG'  759381.68  2977996.34  759619.21  2977985.88  1  10  1
135  55  3  402  0.125  1600  1  3
 2
'MVP East T'  'AG'  759381.73  2977983.26  759617.25  2977975.42  1  10  1
135  75  3  1036  0.125  1600  1  3
 2
'Winthrop South'  'AG'  759345.1  2977932.27  759340.5  2977752.76  1  20  2
135  115  3  572  0.125  1600  1  3
 2
'MVP West'  'AG'  759293.51  2977972.79  759036.06  2977984.52  1  10  1
135  75  3  989  0.125  1600  1  3
 2
'South St'  'AG'  761297.67  2977091.41  760910.63  2977176.49  1  20  2
```

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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 272 0.125 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 111 0.125 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 567 0.125 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 224 0.125 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 391 0.125 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.125 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 345 0.125 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 710 0.125 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 71 0.125 1600 1 3
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 241 0.125 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 390 0.125 1600 1 3

2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 443 0.125 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.44 2961033.55 769446.34 2961246.61 1 30 3
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'Third St. NB L' 'AG' 769790.35 2960973.02 769754.01 2960743.02 1 10 1
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'Third St NB R' 'AG' 769802.46 2960968.18 769766.13 2960735.76 1 10 1
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'Charlestown NB L' 'AG' 771481.83 2959820.29 771409.22 2959726.53 1 10 1
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'Charlestown NB T' 'AG' 771497.74 2959808.88 771424.72 2959713.49 1 20 2
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'Charlestown NB R' 'AG' 771512.83 2959796.65 771438.79 2959703.92 1 10 1
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'Msgr Obrien WB T' 'AG' 771577.54 2959851.18 771758.26 2959734.18 1 20 2
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'Charlestown SB TR' 'AG' 771531.66 2959928.52 771639.52 2960085.02 1 10 1
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'Cambridge St EB TR' 'AG' 770464.88 2960375.05 770225.29 2960412.61 1 10 1
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'Cambridge St WB L' 'AG' 770550.59 2960375.38 770668.32 2960358.05 1 10 1
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'Cambridge St WB T' 'AG' 770554.31 2960390.24 770672.45 2960372.08 1 10 1
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'East St SB' 'AG' 770754.38 2960480.35 770839.09 2960578.3 1 10 1
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2987 0.05 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 571 0.05 1 42
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2457 0.05 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 702 0.05 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 702 0.05 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 528 0.05 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 739 0.05 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 996 0.05 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1156 0.05 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 461 0.05 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 458 0.05 1 42
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2312 0.05 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1193 0.05 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 842 0.05 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 460 0.05 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.05 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 1963 0.05 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 1963 0.05 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 494 0.05 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1121 0.05 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 1976 0.05 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1095 0.05 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 2844 0.05 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 1815 0.05 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 2375 0.05 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 2918 0.05 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 2800 0.05 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 2545 0.05 1 66
1

'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 575 0.05 1 42
1
'Cambridge St WB' 'AG' 770547 2960363 770686.5 2960343 1074 0.05 1 66
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 742 0.05 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 115 0.05 1 42
1
'Msgr. Ob at East EB ' 'AG' 770698.6 2960475 770379.1 2960709 1890 0.05 1 102
1
'Msgr Ob btw East&1st' 'AG' 770757.3 2960433 770862.9 2960334 2414 0.05 1 66
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2174 0.05 1 102
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
106 76 3 336 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
106 46 3 1153 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
106 76 3 526 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
106 46 3 1258 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
126 86 3 1000 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
126 46 3 427 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
126 64 3 1070 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
126 106 3 618 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
126 64 3 1090 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 667 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 122 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 154 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 244 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 352 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 386 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
81 54 3 642 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
81 50 3 660 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
81 54 3 477 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
81 50 3 641 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 258 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 450 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 52 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 404 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 839 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 256 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
79 49 3 426 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
79 50 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
79 49 3 496 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
79 50 3 159 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
62 34 3 861 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
62 45 3 325 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
62 34 3 528 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
99 69 3 855 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

99 86 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
99 66 3 1373 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
99 56 3 762 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 539 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1231 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 58 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 554 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1198 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 89 3 200 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 89 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 63 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 83 3 970 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 92 3 930 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 92 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 72 3 715 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 105 3 565 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 100 3 210 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 100 3 220 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2461 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2297 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 958 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1857 0.028 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2230 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3177 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 597 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1306 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2308 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'College/Boston S1' 759601.3 2973328 6
'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
'College/Boston N3' 759696.9 2973644 6
'College/Boston N4' 759660.8 2973710 6
'College/Boston N5' 759624.6 2973775 6
'College/Boston W1' 759605.4 2973698 6
'College/Boston W2' 759643.1 2973630 6
'College/Boston W3' 759650.2 2973555 6
'College/Boston W4' 759623.4 2973485 6
'College/Boston W5' 759588.2 2973419 6
'Harvard/Main SW1' 761916.4 2972806 6
'Harvard/Main SW2' 761982.9 2972841 6
'Harvard/Main SW3' 762049.3 2972875 6
'Harvard/Main SW4' 762072.9 2972804 6
'Harvard/Main SW5' 762096.4 2972733 6
'Harvard/Main SE1' 762133.9 2972753 6
'Harvard/Main SE2' 762110.4 2972824 6
'Harvard/Main SE3' 762086.9 2972896 6
'Harvard/Main SE4' 762158.4 2972918 6
'Harvard/Main SE5' 762229.9 2972941 6
'Harvard/Main NE1' 762214 2972980 6
'Harvard/Main NE2' 762142.5 2972957 6
'Harvard/Main NE3' 762070.9 2972935 6
'Harvard/Main NE4' 762048.6 2973006 6
'Harvard/Main NE5' 762026.3 2973078 6
'Harvard/Main NW1' 761988.6 2973058 6
'Harvard/Main NW2' 762010.9 2972986 6
'Harvard/Main NW3' 762033.3 2972914 6
'Harvard/Main NW4' 761966.9 2972880 6
'Harvard/Main NW5' 761900.4 2972845 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
106 76 3 336 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
106 46 3 1153 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
106 76 3 526 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
106 46 3 1258 0.069 1600 1 3

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
126 86 3 1000 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
126 46 3 427 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
126 64 3 1070 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
126 106 3 618 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
126 64 3 1090 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 667 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 122 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 154 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 244 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 352 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 450 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2297 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 958 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2230 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3177 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 0.028 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 0.028 1 42
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 0.028 1 66
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2308 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 0.028 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 0.028 1 66
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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
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'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
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'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
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'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
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'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 958 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1857 0.028 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2230 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3177 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 0.028 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 597 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1306 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2308 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
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'Highland/Central SE2'   763279.9   2966736   6
'Highland/Central SE3'   763312.9   2966803   6
'Highland/Central SE4'   763381.4   2966773   6
'Highland/Central SE5'   763450   2966742   6
'Highland/Central NE1'   763472.5   2966778   6
'Highland/Central NE2'   763404   2966809   6
'Highland/Central NE3'   763335.4   2966839   6
'Highland/Central NE4'   763369.8   2966906   6
'Highland/Central NE5'   763404.2   2966972   6
'Highland/Central NW1'   763365.1   2966988   6
'Highland/Central NW2'   763330.8   2966922   6
'Highland/Central NW3'   763296.4   2966855   6
'Highland/Central NW4'   763227.8   2966885   6
'Highland/Central NW5'   763159.1   2966915   6
'Highland/Central SW1'   763136.6   2966879   6
'Highland/Central NW2'   763205.3   2966849   6
'Highland/Central NW3'   763274   2966819   6
'Highland/Central NW4'   763240.9   2966752   6
'Highland/Central NW5'   763207.9   2966684   6
'Medford/School S1'   764934.1   2966923   6
'Medford/School S2'   764967.1   2966990   6
'Medford/School S3'   765000.1   2967058   6
'Medford/School S4'   765045.4   2966998   6
'Medford/School S5'   765090.7   2966938   6
'Medford/School E1'   765113.9   2966977   6
'Medford/School E2'   765068.6   2967037   6
'Medford/School E3'   765023.3   2967097   6
'Medford/School E4'   765055.6   2967164   6
'Medford/School E5'   765087.9   2967232   6
'Medford/School N1'   765057.8   2967266   6
'Medford/School N2'   765025.5   2967199   6
'Medford/School N3'   764992.9   2967131   6
'Medford/School N4'   764948.5   2967191   6
'Medford/School N5'   764903.8   2967252   6
'Medford/School W1'   764880.7   2967212   6
'Medford/School W2'   764925.3   2967152   6
'Medford/School W3'   764969.9   2967092   6
'Medford/School W4'   764937   2967024   6
'Medford/School W5'   764904.1   2966957   6
'Existing'   112   1   0   'P'
 2
'South St'   'AG'   761297.67   2977091.41   760910.63   2977176.49   1   20   2
120   90   3   667   0.069   1600   1   3
 2
'Boston Ave. SB LT'   'AG'   759658.78   2973637.72   759530.2   2973877.66   1   10   1
135   105   3   300   0.069   1600   1   3
 2
'Boston Ave. SB R'   'AG'   759646   2973631.49   759519.38   2973870.53   1   10   1
135   105   3   122   0.069   1600   1   3
 2
'College Ave EB L'   'AG'   759636.36   2973439.82   759535.12   2973241.07   1   10   1
135   105   3   154   0.069   1600   1   3
```

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 244 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 352 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 386 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
81 54 3 642 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
81 50 3 660 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
81 54 3 477 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
81 50 3 641 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 97 3 258 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 450 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 52 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 404 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 839 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 256 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
79 49 3 426 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
79 50 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
79 49 3 496 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
79 50 3 159 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
62 34 3 861 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
62 45 3 325 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
62 34 3 528 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
99 69 3 855 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
99 86 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
99 66 3 1373 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
99 56 3 762 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 539 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 102 3 1231 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 58 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 554 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1198 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 49 3 1655 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 79 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 79 3 30 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 49 3 1430 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 100 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 95 3 980 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1230 0.069 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 95 3 590 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 100 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 0.028 1 42
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1306 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 0.028 1 66
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2308 0.028 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1285 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3960 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2735 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3275 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3485 0.028 1 90
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
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'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 154 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 244 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 352 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 450 0.069 1600 1 3
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
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2
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 539 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 554 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1198 0.069 1600 1 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 95 3 750 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 95 3 300 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 89 3 200 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 89 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 63 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 0.028 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1336 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1088 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1279 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1722 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 853 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1347 0.028 1 66
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 733 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2042 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1510 0.028 1 42
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1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 588 0.028 1 42
1
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2308 0.028 1 66
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2735 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3275 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3485 0.028 1 90
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 0.028 1 42
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1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 0.028 1 90
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 0.028 1 66
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2030NB6a.inp

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'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
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'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
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'Obrien/Third SE5' 769939.2 2960888 6
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'Obrien/Third N2' 769897.3 2961025 6
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'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
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'Obrien/Charles N3' 771514.4 2959933 6
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'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42

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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2462 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2844 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2566 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 969 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 539 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2225 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2225 0.028 1 66
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3960 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3430 0.028 1 90
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 985 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1160 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2260 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2475 0.028 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 835 0.028 1 66
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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
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'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
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'MVP/Winthrop SW3' 759314.4 2977959 6
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'MVP/Winthrop SE1' 759355.9 2977815 6
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'MVP/Winthrop SE5' 759507.6 2977948 6
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'MVP/Winthrop NE3' 759358.6 2978025 6
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'MVP/Winthrop NW1' 759311.4 2978167 6
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'MVP/Winthrop NW3' 759314.4 2978030 6
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'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
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'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
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'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 427 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1100 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 618 0.069 1600 1 3
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 642 0.069 1600 1 3
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 0.028 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 568 0.028 1 42

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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2057 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 979 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1324 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2222 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 535 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2318 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 711 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2546 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2526 0.028 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 0.028 1 66
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'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
'College/Boston N3' 759696.9 2973644 6
'College/Boston N4' 759660.8 2973710 6
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'College/Boston W1' 759605.4 2973698 6
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'Harvard/Main SW1' 761916.4 2972806 6
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'Harvard/Main SW3' 762049.3 2972875 6
'Harvard/Main SW4' 762072.9 2972804 6
'Harvard/Main SW5' 762096.4 2972733 6
'Harvard/Main SE1' 762133.9 2972753 6
'Harvard/Main SE2' 762110.4 2972824 6
'Harvard/Main SE3' 762086.9 2972896 6
'Harvard/Main SE4' 762158.4 2972918 6
'Harvard/Main SE5' 762229.9 2972941 6
'Harvard/Main NE1' 762214 2972980 6
'Harvard/Main NE2' 762142.5 2972957 6
'Harvard/Main NE3' 762070.9 2972935 6
'Harvard/Main NE4' 762048.6 2973006 6
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'Harvard/Main NW1' 761988.6 2973058 6
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 57 3 248 0.069 1600 1 3
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2057 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 979 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1324 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2222 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 535 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2318 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 711 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2546 0.028 1 102
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'Broadway SB/Lot NEB2' 762915 2970094 6
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'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
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'Broadway WB/Dexter2' 763144.2 2970075 6
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'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
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'Medford SB/Dexter 5' 763005 2970268 6
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'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
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'Camb St/First SW2' 770394.7 2960375 6
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'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
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'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

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'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1153 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 536 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2501 0.028 1 58
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 968 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1146 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2260 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3207 0.028 1 66
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 0.028 1 66
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 843 0.028 1 42
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 979 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 0.028 1 42
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 0.028 1 90

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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 0.028 1 66
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'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
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'Medford/School S1' 764934.1 2966923 6
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'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
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'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
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'Medford/School W5' 764904.1 2966957 6
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 154 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 244 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2869 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1296 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1078 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1229 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1697 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 0.028 1 42
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 0.028 1 42
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 4028 0.028 1 90
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 0.028 1 66
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'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
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'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 122 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 154 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 642 0.069 1600 1 3
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 57 3 248 0.069 1600 1 3
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1373 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 782 0.069 1600 1 3
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 535 0.069 1600 1 3
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1222 0.069 1600 1 3
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1296 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2057 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 0.028 1 66
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2318 0.028 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1291 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 4028 0.028 1 90
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 711 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 0.028 1 66
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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
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'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
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'Obrien/Third N5' 769708.6 2961147 6
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'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 667 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 122 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 154 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 244 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 109 3 352 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 386 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 642 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 660 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 477 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 591 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 57 3 248 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 87 3 435 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 52 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 98 3 404 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 87 3 839 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 108 3 256 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 426 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 159 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
90 41 3 861 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 75 3 325 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 41 3 528 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 860 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1373 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 782 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 535 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1222 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 58 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 554 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1208 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1697 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 34 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1457 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 553 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 1005 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 431 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1231 0.069 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 590 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 763 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 307 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 778 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 206 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 258 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 997 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 944 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 844 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 586 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 212 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 233 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 667 0.028 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2487 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2869 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 986 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 755 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 755 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 579 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 796 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1137 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1296 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1078 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1229 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1697 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 94 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 843 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1339 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 568 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 657 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 973 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 597 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1306 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 518 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1088 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 516 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2057 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2591 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1373 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 979 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 535 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1324 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2222 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2222 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 535 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1324 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2318 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1291 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 4028 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2807 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3337 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3504 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3475 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3294 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1067 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 711 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2546 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2303 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2526 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 872 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
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'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
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'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 330 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 560 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 445 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1085 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 39 3 870 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 67 3 330 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 39 3 545 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 915 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1425 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 100 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 100 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 335 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 940 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2520 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 995 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1875 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2265 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'P'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   330   0.069   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1155   0.069   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   560   0.069   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1290   0.069   1600   1   3
```

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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 445 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1085 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

135 100 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 335 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2520 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 995 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2265 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
'MsgrOb/CambSt S3' 770842.1 2960284 6
'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 330 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 560 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 445 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1085 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 106 3 370 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 39 3 870 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 67 3 330 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 39 3 545 0.069 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 915 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1425 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 100 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 100 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 335 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 940 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 830 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2520 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 995 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1875 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2265 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 0.028 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 109 3 340 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 0.028 1 54
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 0.028 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3235 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3470 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 0.028 1 90
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
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'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
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'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3235 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3470 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3250 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 305 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 109 3 340 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 106 3 370 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 78 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 76 3 670 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 78 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 76 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 871 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 39 3 870 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 67 3 330 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 39 3 545 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 915 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1425 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 780 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 116 3 570 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 100 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 100 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1245 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1646 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1397 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 980 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 0.069 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 380 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 420 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 765 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 335 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 940 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42

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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 985 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 741 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 741 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 566 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 770 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1150 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1295 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1780 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 875 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1381 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 570 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 945 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1340 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 520 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1110 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 520 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2145 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2665 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1425 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 570 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2370 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2370 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 570 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2375 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3235 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3470 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3250 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2475 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2420 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 340 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1185 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 545 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1345 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1100 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1150 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 340 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 955 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 215 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2415 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2320 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3270 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
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'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'P'
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'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
113   83   3   340   0.069   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
113   53   3   1185   0.069   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
113   83   3   545   0.069   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
113   53   3   1345   0.069   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1100 0.069 1600 1 3
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1150 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 0.069 1600 1 3
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2415 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42

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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2320 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3270 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/CambSt S4' 770902.7 2960239 6
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'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 340 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1185 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 545 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1345 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1100 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1150 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2415 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2320 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3270 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 59 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 103 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1382 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 980 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 425 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1215 0.069 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 695 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 305 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 87 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 87 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 100 3 340 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 215 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3912 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2693 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3465 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3912 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2693 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3465 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42

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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1745 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3912 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2693 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3465 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3375 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2425 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 77 3 340 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 67 3 1180 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 77 3 545 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 67 3 1325 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 73 3 1095 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 73 3 1110 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 59 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 875 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 103 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 955 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2545 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2390 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2275 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'P'
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'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   77   3   340   0.069   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   67   3   1180   0.069   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   77   3   545   0.069   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   67   3   1325   0.069   1600   1   3
```

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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 59 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2545 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2390 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42

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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 0.028 1 66
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
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'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
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'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
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'Broadway WB/Dexter5' 763185.3 2970207 6
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'Camb St/First SW2' 770394.7 2960375 6
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'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/East E4' 770825 2960517 6
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'MsgrOb/East W1' 770852.8 2960614 6
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'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 855 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2545 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2390 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2275 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3225 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 103 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1392 0.069 1600 1 3
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3922 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2703 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3365 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 236 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 59 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 875 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 555 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 103 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 555 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1392 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 980 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 0.069 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 695 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 955 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 925 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 530 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3922 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2703 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3365 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   35   0.3048   1   0
'Obrien/Third SW1'   769633.1   2961090   6
'Obrien/Third SW2'   769695.4   2961048   6
'Obrien/Third SW3'   769757.6   2961006   6
'Obrien/Third SW4'   769750.1   2960931   6
'Obrien/Third SW5'   769736.9   2960858   6
'Obrien/Third SE1'   769786   2960825   6
'Obrien/Third SE2'   769799.1   2960899   6
'Obrien/Third SE3'   769815.1   2960972   6
'Obrien/Third SE4'   769877.1   2960930   6
'Obrien/Third SE5'   769939.2   2960888   6
'Obrien/Third N1'   769959.4   2960983   6
'Obrien/Third N2'   769897.3   2961025   6
'Obrien/Third N3'   769835.9   2961068   6
'Obrien/Third N4'   769770.9   2961106   6
'Obrien/Third N5'   769708.6   2961147   6
'Obrien/Charles W1'   771328.7   2959942   6
'Obrien/Charles W2'   771390.7   2959900   6
'Obrien/Charles W3'   771453   2959858   6
'Obrien/Charles W4'   771408.5   2959798   6
'Obrien/Charles W5'   771364   2959738   6
'Obrien/Charles S1'   771443.6   2959694   6
'Obrien/Charles S2'   771488.2   2959754   6
'Obrien/Charles S3'   771537.1   2959811   6
'Obrien/Charles S4'   771597.8   2959767   6
'Obrien/Charles S5'   771659.7   2959725   6
'Obrien/Charles E1'   771712.6   2959798   6
'Obrien/Charles E2'   771650.6   2959840   6
'Obrien/Charles E3'   771588.6   2959882   6
'Obrien/Charles E4'   771617.4   2959951   6
'Obrien/Charles E5'   771659.7   2960014   6
'Obrien/Charles N1'   771605.5   2960052   6
'Obrien/Charles N2'   771563.4   2959989   6
'Obrien/Charles N3'   771514.4   2959933   6
'Obrien/Charles N4'   771448.9   2959969   6
'Obrien/Charles N5'   771386.5   2960011   6
'No Build'   112   1   0   'P'
 2
'South St'   'AG'   761297.67   2977091.41   760910.63   2977176.49   1   20   2
120   90   3   665   0.069   1600   1   3
 2
'Boston Ave. SB LT'   'AG'   759658.78   2973637.72   759530.2   2973877.66   1   10   1
135   94   3   320   0.069   1600   1   3
 2
'Boston Ave. SB R'   'AG'   759646   2973631.49   759519.38   2973870.53   1   10   1
135   94   3   130   0.069   1600   1   3
 2
'College Ave EB L'   'AG'   759636.36   2973439.82   759535.12   2973241.07   1   10   1
135   94   3   155   0.069   1600   1   3
 2
'College Ave. EB TR'   'AG'   759648.12   2973434.4   759545.06   2973235.66   1   10   1
135   94   3   236   0.069   1600   1   3
 2
'Boston Ave. NB '   'AG'   759699.85   2973463.01   759843.56   2973197.66   1   10   1
```

135 108 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 630 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 96 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 74 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 245 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 59 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 490 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 59 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 335 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 905 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 103 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1430 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 565 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1240 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42

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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2880 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1055 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 761 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 761 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 636 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1255 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1190 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1747 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 892 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 74 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 569 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1355 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1120 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 525 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2140 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2645 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1430 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 565 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1295 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 565 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1295 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2365 0.028 1 66
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3922 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2703 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3215 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3365 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 710 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
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'MVP/Winthrop NE3' 759358.6 2978025 6
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'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
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'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
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'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
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2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
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2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2510 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2320 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1900 0.028 1 42
1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2260 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3245 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'P'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   345   0.069   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1155   0.069   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   570   0.069   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1285   0.069   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 985 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 61 3 480 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 110 3 625 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1075 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

135 99 3 55 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 340 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2510 0.028 1 58
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1900 0.028 1 42

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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2260 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3245 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
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'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
'MsgrOb/CambSt S3' 770842.1 2960284 6
'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 345 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1285 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 985 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 61 3 480 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 110 3 625 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1075 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 500 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 0.069 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 55 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 340 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 945 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 910 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 210 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2510 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2320 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1145 0.028 1 42
1
'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1900 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2260 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3245 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 0.028 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
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'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 500 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 55 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1397 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 975 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 210 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3230 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 390 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1646 0.069 1600 1 3
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 0.069 1600 1 3
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 210 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3230 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 665 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 310 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 107 3 390 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 79 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 75 3 700 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 79 3 475 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 75 3 575 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 275 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 455 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 435 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 80 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 500 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
80 40 3 885 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
80 66 3 350 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
80 40 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1415 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 108 3 1255 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 55 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 103 3 1235 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1646 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1397 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 975 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1220 0.069 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 340 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 945 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 910 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 210 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 665 0.028 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1030 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 736 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 736 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1320 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1080 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1240 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1790 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 915 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1371 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 80 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 645 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1365 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1125 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2110 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2620 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1415 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1300 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2335 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2335 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1300 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3917 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3230 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3255 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1230 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2435 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2190 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2415 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 350 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1170 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 555 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1345 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 615 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1150 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 150 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 575 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1410 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1250 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 540 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2405 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1005 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1140 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1860 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2330 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3280 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'P'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   350   0.069   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1170   0.069   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   555   0.069   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1345   0.069   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 615 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1150 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 0.069 1600 1 3
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1140 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1860 0.028 1 42

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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3280 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
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'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
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'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
'MsgrOb/CambSt S3' 770842.1 2960284 6
'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 350 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1170 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 555 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1345 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 435 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 111 3 615 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1150 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 108 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 87 3 851 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 70 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 107 3 250 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 150 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 880 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 575 0.069 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1410 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 93 3 1250 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 540 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 860 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2570 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2405 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1005 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1140 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1860 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2330 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3280 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 0.028 1 54
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'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
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'Sville/Wash/Webs SE1' 765778.5 2963263 6
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 770 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1280 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3916 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3225 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 94 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 94 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 94 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 94 3 231 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 108 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 480 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 580 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 62 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 87 3 447 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 95 3 425 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 87 3 851 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 70 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 150 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 575 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 83 3 885 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 88 3 1410 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 61 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 105 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1230 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1651 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 0.069 1600 1 3
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 265 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 950 0.069 1600 1 3
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'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 0.069 1600 1 3
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2885 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 746 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 746 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 800 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1140 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1260 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1095 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1195 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1754 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 885 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 565 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 650 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 970 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 580 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1145 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2100 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1410 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 975 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1280 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2350 0.028 1 66
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3916 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2698 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3225 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3475 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1075 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2430 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2410 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 325 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1180 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 555 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1360 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 91 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 440 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1135 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 625 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1130 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 160 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 246 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 645 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 660 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 490 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 620 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 72 3 255 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 482 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 440 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
86 56 3 135 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
70 42 3 885 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 340 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 570 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 880 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

109 96 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1375 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 62 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 530 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 97 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 55 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 525 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1235 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 930 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 975 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 840 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2590 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2420 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1865 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2340 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 2395 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 815 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1145 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1325 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1794 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 895 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1391 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1155 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 510 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'College/Boston S1' 759601.3 2973328 6
'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
'College/Boston N3' 759696.9 2973644 6
'College/Boston N4' 759660.8 2973710 6
'College/Boston N5' 759624.6 2973775 6
'College/Boston W1' 759605.4 2973698 6
'College/Boston W2' 759643.1 2973630 6
'College/Boston W3' 759650.2 2973555 6
'College/Boston W4' 759623.4 2973485 6
'College/Boston W5' 759588.2 2973419 6
'Harvard/Main SW1' 761916.4 2972806 6
'Harvard/Main SW2' 761982.9 2972841 6
'Harvard/Main SW3' 762049.3 2972875 6
'Harvard/Main SW4' 762072.9 2972804 6
'Harvard/Main SW5' 762096.4 2972733 6
'Harvard/Main SE1' 762133.9 2972753 6
'Harvard/Main SE2' 762110.4 2972824 6
'Harvard/Main SE3' 762086.9 2972896 6
'Harvard/Main SE4' 762158.4 2972918 6
'Harvard/Main SE5' 762229.9 2972941 6
'Harvard/Main NE1' 762214 2972980 6
'Harvard/Main NE2' 762142.5 2972957 6
'Harvard/Main NE3' 762070.9 2972935 6
'Harvard/Main NE4' 762048.6 2973006 6
'Harvard/Main NE5' 762026.3 2973078 6
'Harvard/Main NW1' 761988.6 2973058 6
'Harvard/Main NW2' 762010.9 2972986 6
'Harvard/Main NW3' 762033.3 2972914 6
'Harvard/Main NW4' 761966.9 2972880 6
'Harvard/Main NW5' 761900.4 2972845 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
113 83 3 325 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
113 53 3 1180 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
113 83 3 555 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
113 53 3 1360 0.069 1600 1 3

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 91 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 55 3 440 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1135 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 115 3 625 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1130 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 670 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 160 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 246 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 645 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 660 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 490 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 620 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 72 3 255 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 482 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 990 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 0.028 1 54
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 0.028 1 42
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 0.028 1 66
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 0.028 1 42
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
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'Broadway SB/Lot NEB1' 762845.8 2970123 6
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'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
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'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
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'Broadway WB/Dexter5' 763185.3 2970207 6
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'Medford SB/Dexter 5' 763005 2970268 6
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'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
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'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
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'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 815 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1145 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1325 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1794 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 895 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1391 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
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1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1155 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
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'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 105 3 320 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 105 3 130 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 105 3 160 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 105 3 246 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 105 3 385 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 100 3 390 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
92 65 3 645 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
92 61 3 660 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
92 65 3 490 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
92 61 3 620 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
122 72 3 255 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
122 97 3 482 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
122 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
122 97 3 440 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
122 97 3 856 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
122 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
122 102 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
86 56 3 435 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
86 56 3 505 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
86 56 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
86 56 3 135 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
70 53 3 340 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
70 42 3 570 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
109 79 3 880 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
109 96 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
109 76 3 1375 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
109 62 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
133 123 3 530 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
133 97 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
133 118 3 55 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
133 118 3 525 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
133 83 3 1235 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1586 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 36 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1427 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 530 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 965 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 0.069 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 375 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 745 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 415 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 295 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 760 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 975 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3

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'First Ext. NB T'  'AG'  770557.7  2960480.35  770521.67  2960392.65  1  10  1
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'South Street'  'AG'  761345.7  2977076  760087.5  2977365  670  0.028  1  42
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'Main St North'  'AG'  761336.6  2977085  761454.9  2977751  2500  0.028  1  66
 1
'Main St South'  'AG'  761340.3  2977086  761346.3  2976244  2890  0.028  1  66
 1
'Boston Ave. SB'  'AG'  759689.9  2973573  759291.3  2974306  1050  0.028  1  54
 1
'College Ave. EB'  'AG'  759682.8  2973547  759503.5  2973187  771  0.028  1  54
 1
'College Ave. EB2'  'AG'  759494.1  2973185  759662.7  2971560  771  0.028  1  54
 1
'Boston Ave. NB'  'AG'  759638.3  2973545  760480.3  2972056  626  0.028  1  42
 1
'College Ave. WB'  'AG'  759667.3  2973564  760588.5  2974869  815  0.028  1  42
 1
'Main St. SB'  'AG'  762056.3  2972910  761788.3  2973767  1145  0.028  1  42
 1
'Harvard St. EB'  'AG'  762057.6  2972905  760514.6  2972076  1325  0.028  1  42
 1
'Main St. NB'  'AG'  762056.8  2972911  762406.1  2971899  1100  0.028  1  42
 1
'Harvard St. WB'  'AG'  762057.1  2972911  763589.6  2973380  1260  0.028  1  42
 1
'Broadway St. EB'  'AG'  763029.8  2970084  761172.6  2970882  1794  0.028  1  66
 1
'Parking Lot NEB'  'AG'  763030  2970081  762877.3  2969900  90  0.028  1  42
 1
'Medford St. NB'  'AG'  763025.4  2970079  764069.8  2968304  895  0.028  1  42
 1
'Broadway St. WB'  'AG'  763030.1  2970084  764419.9  2969487  1391  0.028  1  66
 1
'Dexter St. SWB'  'AG'  763031.1  2970080  764132.1  2971134  75  0.028  1  30
 1
'Medford St. SB'  'AG'  763047.7  2970075  762503.6  2971619  585  0.028  1  42
 1
'Highland St. EB'  'AG'  763300.2  2966830  762029.2  2967382  955  0.028  1  42
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'Central St. NB'  'AG'  763299.4  2966827  762852.7  2965953  640  0.028  1  42
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'Highland St. WB'  'AG'  763299.4  2966828  764576.9  2966256  975  0.028  1  42
 1
'Central St. SB'  'AG'  763299.6  2966828  764053.4  2968276  570  0.028  1  42
 1
'Medford St. NWB'  'AG'  764993.5  2967095  765926.1  2965874  1385  0.028  1  42
 1
'School St. SB'  'AG'  764992.8  2967094  765406.3  2967927  540  0.028  1  42
 1
'Medford St. SEB'  'AG'  764996.8  2967099  764392.9  2967878  1155  0.028  1  42
 1
'School St. NB'  'AG'  764991.8  2967095  764577.6  2966257  510  0.028  1  42
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1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1253 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3887 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2708 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3455 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3225 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
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'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
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'WashMcgrath SW4' 766969.2 2963680 6
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'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
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'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
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'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3

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'South Street'  'AG'  761345.7  2977076  760087.5  2977365  670  0.028  1  42
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'Main St North'  'AG'  761336.6  2977085  761454.9  2977751  2500  0.028  1  66
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'Main St South'  'AG'  761340.3  2977086  761346.3  2976244  2890  0.028  1  66
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'Boston Ave. SB'  'AG'  759689.9  2973573  759291.3  2974306  1050  0.028  1  54
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'College Ave. EB'  'AG'  759682.8  2973547  759503.5  2973187  771  0.028  1  54
 1
'College Ave. EB2'  'AG'  759494.1  2973185  759662.7  2971560  771  0.028  1  54
 1
'Boston Ave. NB'  'AG'  759638.3  2973545  760480.3  2972056  626  0.028  1  42
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'College Ave. WB'  'AG'  759667.3  2973564  760588.5  2974869  815  0.028  1  42
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'Main St. SB'  'AG'  762056.3  2972910  761788.3  2973767  1145  0.028  1  42
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'Harvard St. EB'  'AG'  762057.6  2972905  760514.6  2972076  1325  0.028  1  42
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'Harvard St. WB'  'AG'  762057.1  2972911  763589.6  2973380  1260  0.028  1  42
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'Broadway St. EB'  'AG'  763029.8  2970084  761172.6  2970882  1794  0.028  1  66
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'Parking Lot NEB'  'AG'  763030  2970081  762877.3  2969900  90  0.028  1  42
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'Medford St. NB'  'AG'  763025.4  2970079  764069.8  2968304  895  0.028  1  42
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'Broadway St. WB'  'AG'  763030.1  2970084  764419.9  2969487  1391  0.028  1  66
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'Dexter St. SWB'  'AG'  763031.1  2970080  764132.1  2971134  75  0.028  1  30
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'Medford St. SB'  'AG'  763047.7  2970075  762503.6  2971619  585  0.028  1  42
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'Highland St. EB'  'AG'  763300.2  2966830  762029.2  2967382  955  0.028  1  42
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'Central St. NB'  'AG'  763299.4  2966827  762852.7  2965953  640  0.028  1  42
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'Highland St. WB'  'AG'  763299.4  2966828  764576.9  2966256  975  0.028  1  42
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'Medford St. NWB'  'AG'  764993.5  2967095  765926.1  2965874  1385  0.028  1  42
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 0.069 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 375 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 745 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 415 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 295 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 760 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 330 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 205 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 670 0.028 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2500 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2890 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1050 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 771 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 771 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 626 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 815 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1145 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1325 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1100 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1260 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1794 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 895 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1391 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 585 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 955 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 640 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 570 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1385 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 540 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1155 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 510 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2085 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2600 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1375 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 530 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1255 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2330 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2330 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 530 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1255 0.028 1 42
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2360 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1253 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3887 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2708 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3455 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3380 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3225 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 700 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1215 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2460 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2200 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
'MVP/Winthrop SW3' 759314.4 2977959 6
'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
'MVP/Winthrop SE3' 759359.9 2977957 6
'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
'MVP/Winthrop NE1' 759505.5 2978016 6
'MVP/Winthrop NE2' 759431.3 2978020 6
'MVP/Winthrop NE3' 759358.6 2978025 6
'MVP/Winthrop NE4' 759357.1 2978097 6
'MVP/Winthrop NE5' 759353.3 2978169 6
'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
'MVP/Winthrop NW3' 761306.7 2977062 6
'MVP/Winthrop NW4' 761305.1 2977004 6
'MVP/Winthrop NW5' 761307.4 2976926 6
'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
'MVP/Winthrop E3' 761375.3 2977104 6

'MVP/Winthrop E4' 761388.1 2977179 6
'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 350 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 1005 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 450 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1080 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 615 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 226 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 600 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 445 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 265 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 42 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1380 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1285 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1240 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 960 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 945 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2515 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1890 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2360 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3230 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'College/Boston S1' 759601.3 2973328 6
'College/Boston S2' 759636.4 2973394 6
'College/Boston S3' 759671.5 2973461 6
'College/Boston S4' 759707.5 2973395 6
'College/Boston S5' 759743.5 2973329 6
'College/Boston E1' 759744.5 2973415 6
'College/Boston E2' 759706.1 2973485 6
'College/Boston E3' 759706.4 2973560 6
'College/Boston E4' 759737.3 2973628 6
'College/Boston E5' 759781.7 2973689 6
'College/Boston N1' 759784.9 2973766 6
'College/Boston N2' 759740.9 2973705 6
'College/Boston N3' 759696.9 2973644 6
'College/Boston N4' 759660.8 2973710 6
'College/Boston N5' 759624.6 2973775 6
'College/Boston W1' 759605.4 2973698 6
'College/Boston W2' 759643.1 2973630 6
'College/Boston W3' 759650.2 2973555 6
'College/Boston W4' 759623.4 2973485 6
'College/Boston W5' 759588.2 2973419 6
'Harvard/Main SW1' 761916.4 2972806 6
'Harvard/Main SW2' 761982.9 2972841 6
'Harvard/Main SW3' 762049.3 2972875 6
'Harvard/Main SW4' 762072.9 2972804 6
'Harvard/Main SW5' 762096.4 2972733 6
'Harvard/Main SE1' 762133.9 2972753 6
'Harvard/Main SE2' 762110.4 2972824 6
'Harvard/Main SE3' 762086.9 2972896 6
'Harvard/Main SE4' 762158.4 2972918 6
'Harvard/Main SE5' 762229.9 2972941 6
'Harvard/Main NE1' 762214 2972980 6
'Harvard/Main NE2' 762142.5 2972957 6
'Harvard/Main NE3' 762070.9 2972935 6
'Harvard/Main NE4' 762048.6 2973006 6
'Harvard/Main NE5' 762026.3 2973078 6
'Harvard/Main NW1' 761988.6 2973058 6
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'Harvard/Main NW5' 761900.4 2972845 6
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2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
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2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
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2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 0.069 1600 1 3

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
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2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 450 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1080 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 615 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 600 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 445 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 265 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 505 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 150 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
90 42 3 890 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 74 3 350 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 42 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1380 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1285 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

135 99 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1240 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 945 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2515 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1890 0.028 1 42

1
'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2360 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3230 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 0.028 1 42
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1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 0.028 1 90
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
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'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
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'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
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'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
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'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
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'MsgrOb/East E2' 770830.8 2960409 6
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'MsgrOb/East W1' 770852.8 2960614 6
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'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'P'
2
'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 350 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1155 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 570 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1290 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 94 3 1005 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 450 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 74 3 1110 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 112 3 620 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 74 3 1080 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 615 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 0.028 1 42
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2515 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2325 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1020 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1150 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2360 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3230 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 0.028 1 42
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
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'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
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'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
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'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
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'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 0.028 1 102
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'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 0.028 1 90

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'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
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'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
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'Highland/Central NE5' 763404.2 2966972 6
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'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
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'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
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'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 226 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
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'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3942 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2722 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3395 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3265 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 615 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 226 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 107 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 108 3 385 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 635 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 500 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 600 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 445 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 265 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 505 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 150 0.069 1600 1 3
2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
90 42 3 890 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 74 3 350 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 42 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1380 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1285 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1240 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1412 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 540 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 985 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1220 0.069 1600 1 3
2
'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 305 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 775 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 960 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 945 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 0.069 1600 1 3

2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3942 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2722 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3395 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3265 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 315 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 125 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 150 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 226 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 107 3 395 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 600 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 57 3 270 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 86 3 445 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 114 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 430 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 86 3 861 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 114 3 75 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 265 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
80 54 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
80 54 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
80 54 3 505 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
80 54 3 150 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
90 42 3 890 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
90 74 3 350 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
90 42 3 550 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 82 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 89 3 1380 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 60 3 775 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
135 117 3 550 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
135 107 3 1285 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
135 99 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
135 99 3 560 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
135 102 3 1240 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1656 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 31 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1412 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 985 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 585 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 385 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 710 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 425 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 305 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 775 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 350 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 960 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 945 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 225 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 615 0.028 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2425 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2810 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1040 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 731 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 731 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 631 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 790 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1160 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1275 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1110 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1215 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1770 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 905 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1361 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 75 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 590 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 960 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 655 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 980 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 585 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1370 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 545 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1130 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 535 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2105 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2615 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1380 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 970 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 550 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1305 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2365 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2365 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 550 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1305 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1283 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3942 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2722 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3240 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3395 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3265 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1240 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2450 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2225 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2435 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 55 0.3048 1 0
'MVP/Boston SW1' 756158.9 2976903 6
'MVP/Boston SW2' 756203.3 2976964 6
'MVP/Boston SW3' 756246.9 2977024 6
'MVP/Boston SW4' 756302.7 2976972 6
'MVP/Boston SW5' 756358.4 2976923 6
'MVP/Boston SE1' 756386.2 2976957 6
'MVP/Boston SE2' 756328.9 2977007 6
'MVP/Boston SE3' 756278.1 2977054 6
'MVP/Boston SE4' 756331.9 2977107 6
'MVP/Boston SE5' 756384.9 2977158 6
'MVP/Boston NE1' 756333.6 2977204 6
'MVP/Boston NE2' 756279.2 2977150 6
'MVP/Boston NE3' 756226.2 2977099 6
'MVP/Boston NE4' 756173.6 2977146 6
'MVP/Boston NE5' 756117 2977194 6
'MVP/Boston NW1' 756086.6 2977159 6
'MVP/Boston NW2' 756144.6 2977110 6
'MVP/Boston NW3' 756200.1 2977063 6
'MVP/Boston NW4' 756157.8 2977005 6
'MVP/Boston NW5' 756112.8 2976944 6
'MVP/Winthrop SW1' 759161.9 2977967 6
'MVP/Winthrop SW2' 759238.9 2977964 6
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'MVP/Winthrop SW4' 759314.9 2977896 6
'MVP/Winthrop SW5' 759314 2977821 6
'MVP/Winthrop SE1' 759355.9 2977815 6
'MVP/Winthrop SE2' 759356.8 2977889 6
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'MVP/Winthrop SE4' 759434.1 2977952 6
'MVP/Winthrop SE5' 759507.6 2977948 6
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'MVP/Winthrop NE2' 759431.3 2978020 6
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'MVP/Winthrop NE4' 759357.1 2978097 6
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'MVP/Winthrop NW1' 759311.4 2978167 6
'MVP/Winthrop NW2' 759312.3 2978091 6
'MVP/Winthrop NW3' 759314.4 2978030 6
'MVP/Winthrop NW4' 759239.6 2978033 6
'MVP/Winthrop NW5' 759163.3 2978036 6
'MVP/Winthrop NW1' 761332.4 2977267 6
'MVP/Winthrop NW2' 761320.6 2977193 6
'MVP/Winthrop NW3' 761306 2977121 6
'MVP/Winthrop NW4' 761241.1 2977123 6
'MVP/Winthrop NW5' 761169.4 2977139 6
'MVP/Winthrop SW1' 761156.9 2977096 6
'MVP/Winthrop NW2' 761231.8 2977078 6
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'MVP/Winthrop E1' 761376.1 2976931 6
'MVP/Winthrop E2' 761375.3 2977000 6
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'MVP/Winthrop E5' 761400.5 2977252 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 335 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1175 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 575 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1305 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 460 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1140 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 109 3 670 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1100 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
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2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2

'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
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2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 160 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2

120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 980 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2540 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2360 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1010 0.028 1 42
1
'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1195 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1925 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2310 0.028 1 66
1
'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3300 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 0.028 1 42

1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 0.028 1 42
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'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 0.028 1 66
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension'   60   175   0   0   40   0.3048   1   0
'College/Boston S1'   759601.3   2973328   6
'College/Boston S2'   759636.4   2973394   6
'College/Boston S3'   759671.5   2973461   6
'College/Boston S4'   759707.5   2973395   6
'College/Boston S5'   759743.5   2973329   6
'College/Boston E1'   759744.5   2973415   6
'College/Boston E2'   759706.1   2973485   6
'College/Boston E3'   759706.4   2973560   6
'College/Boston E4'   759737.3   2973628   6
'College/Boston E5'   759781.7   2973689   6
'College/Boston N1'   759784.9   2973766   6
'College/Boston N2'   759740.9   2973705   6
'College/Boston N3'   759696.9   2973644   6
'College/Boston N4'   759660.8   2973710   6
'College/Boston N5'   759624.6   2973775   6
'College/Boston W1'   759605.4   2973698   6
'College/Boston W2'   759643.1   2973630   6
'College/Boston W3'   759650.2   2973555   6
'College/Boston W4'   759623.4   2973485   6
'College/Boston W5'   759588.2   2973419   6
'Harvard/Main SW1'   761916.4   2972806   6
'Harvard/Main SW2'   761982.9   2972841   6
'Harvard/Main SW3'   762049.3   2972875   6
'Harvard/Main SW4'   762072.9   2972804   6
'Harvard/Main SW5'   762096.4   2972733   6
'Harvard/Main SE1'   762133.9   2972753   6
'Harvard/Main SE2'   762110.4   2972824   6
'Harvard/Main SE3'   762086.9   2972896   6
'Harvard/Main SE4'   762158.4   2972918   6
'Harvard/Main SE5'   762229.9   2972941   6
'Harvard/Main NE1'   762214   2972980   6
'Harvard/Main NE2'   762142.5   2972957   6
'Harvard/Main NE3'   762070.9   2972935   6
'Harvard/Main NE4'   762048.6   2973006   6
'Harvard/Main NE5'   762026.3   2973078   6
'Harvard/Main NW1'   761988.6   2973058   6
'Harvard/Main NW2'   762010.9   2972986   6
'Harvard/Main NW3'   762033.3   2972914   6
'Harvard/Main NW4'   761966.9   2972880   6
'Harvard/Main NW5'   761900.4   2972845   6
'Existing'   108   1   0   'P'
 2
'Boston Ave. North'   'AG'   756197.97   2977077.82   756020.78   2977234.89   1   20   2
120   75   3   335   0.069   1600   1   3
 2
'MVP West'   'AG'   756215.98   2977025.98   756086.42   2976860.33   1   10   1
120   69   3   1175   0.069   1600   1   3
 2
'Boston Ave South'   'AG'   756271.8   2977045.04   756406.42   2976924.3   1   10   1
120   75   3   575   0.069   1600   1   3
 2
'MVP East'   'AG'   756253.59   2977093.43   756378.75   2977217.23   1   20   2
120   69   3   1305   0.069   1600   1   3
```

2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 460 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1140 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 109 3 670 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1100 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 375 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 0.069 1600 1 3
2

'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
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'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1

120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
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2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
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'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2540 0.028 1 58
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'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2360 0.028 1 66
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'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1010 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1195 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1925 0.028 1 42

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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2310 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3300 0.028 1 66
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 0.028 1 54
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'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 0.028 1 42
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'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 0.028 1 66
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'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
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'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 0.028 1 42
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'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
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'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 0.028 1 42
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'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 0.028 1 42
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'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 0.028 1 66
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'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 60 0.3048 1 0
'Broadway SB/Lot NEB1' 762845.8 2970123 6
'Broadway SB/Lot NEB2' 762915 2970094 6
'Broadway SB/Lot NEB3' 762984.3 2970066 6
'Broadway SB/Lot NEB4' 762936.1 2970008 6
'Broadway SB/Lot NEB5' 762888.1 2969950 6
'Medford NB/Lot NEB1' 762931 2969936 6
'Medford NB/Lot NEB2' 762979.1 2969994 6
'Medford NB/Lot NEB3' 763027.3 2970051 6
'Medford NB/Lot NEB4' 763064.1 2969986 6
'Medford NB/Lot NEB5' 763100.9 2969921 6
'Med. NB/Broad. WB 1' 763162.9 2969896 6
'Med. NB/Broad. WB 2' 763126.1 2969962 6
'Med. NB/Broad. WB 3' 763089.2 2970027 6
'Med. NB/Broad. WB 4' 763158 2969997 6
'Med. NB/Broad. WB 5' 763226.8 2969967 6
'Broadway WB/Dexter 1' 763213 2970045 6
'Broadway WB/Dexter2' 763144.2 2970075 6
'Broadway WB/Dexter3' 763075.4 2970105 6
'Broadway WB/Dexter4' 763130.4 2970156 6
'Broadway WB/Dexter5' 763185.3 2970207 6
'Medford SB/Dexter 1' 763164.8 2970229 6
'Medford SB/Dexter 2' 763109.8 2970178 6
'Medford SB/Dexter 3' 763054.8 2970127 6
'Medford SB/Dexter 4' 763029.9 2970198 6
'Medford SB/Dexter 5' 763005 2970268 6
'Med. SB/Broad. EB 1' 762960.8 2970268 6
'Med. SB/Broad. EB 2' 762985.7 2970197 6
'Med. SB/Broad. EB 3' 763010.6 2970126 6
'Med. SB/Broad. EB 4' 762941.3 2970155 6
'Med. SB/Broad. EB 5' 762872.1 2970184 6
'Msgr Camb. St 1' 770578.8 2960499 6
'Msgr Camb. St 2' 770639.8 2960454 6
'Msgr Camb. St 3' 770691 2960400 6
'Msgr Camb. St 4' 770617.3 2960386 6
'Msgr Camb. St 5' 770691 2960400 6
'Camb St/First SW1' 770320.8 2960388 6
'Camb St/First SW2' 770394.7 2960375 6
'Camb St/First SW3' 770468.2 2960361 6
'Camb St/First SW4' 770456.7 2960287 6
'Camb St/First SW5' 770443.4 2960213 6
'Camb St/First SE1' 770505.4 2960185 6
'Camb St/First SE2' 770518.6 2960259 6
'Camb St/First SE3' 770537.1 2960331 6
'Camb St/First SE4' 770611.3 2960321 6
'Camb St/First SE5' 770685.6 2960310 6
'MsgrOb/CambSt S1' 770694.9 2960307 6
'MsgrOb/CambSt S2' 770768.8 2960297 6
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'MsgrOb/CambSt S4' 770902.7 2960239 6
'MsgrOb/CambSt S5' 770961 2960192 6
'MsgrOb/East E1' 770883.9 2960356 6
'MsgrOb/East E2' 770830.8 2960409 6
'MsgrOb/East E3' 770776.1 2960460 6

'MsgrOb/East E4' 770825 2960517 6
'MsgrOb/East E5' 770874 2960574 6
'MsgrOb/East W1' 770852.8 2960614 6
'MsgrOb/East W2' 770803.8 2960557 6
'MsgrOb/East W3' 770749.8 2960505 6
'MsgrOb/East W4' 770687.5 2960546 6
'MsgrOb/East W5' 770626.8 2960591 6
'Existing' 108 1 0 'P'
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'Boston Ave. North' 'AG' 756197.97 2977077.82 756020.78 2977234.89 1 20 2
120 75 3 335 0.069 1600 1 3
2
'MVP West' 'AG' 756215.98 2977025.98 756086.42 2976860.33 1 10 1
120 69 3 1175 0.069 1600 1 3
2
'Boston Ave South' 'AG' 756271.8 2977045.04 756406.42 2976924.3 1 10 1
120 75 3 575 0.069 1600 1 3
2
'MVP East' 'AG' 756253.59 2977093.43 756378.75 2977217.23 1 20 2
120 69 3 1305 0.069 1600 1 3
2
'Winthrop North' 'AG' 759327.19 2978019.48 759322.31 2978191.97 1 20 2
135 93 3 995 0.069 1600 1 3
2
'MVP East RT' 'AG' 759381.68 2977996.34 759619.21 2977985.88 1 10 1
135 62 3 460 0.069 1600 1 3
2
'MVP East T' 'AG' 759381.73 2977983.26 759617.25 2977975.42 1 10 1
135 75 3 1140 0.069 1600 1 3
2
'Winthrop South' 'AG' 759345.1 2977932.27 759340.5 2977752.76 1 20 2
135 109 3 670 0.069 1600 1 3
2
'MVP West' 'AG' 759293.51 2977972.79 759036.06 2977984.52 1 10 1
135 75 3 1100 0.069 1600 1 3
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 375 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1

135 107 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 160 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 865 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3
2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 0.069 1600 1 3

2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 980 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2

'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 220 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'Boston Ave. North' 'AG' 756236.2 2977061 754979.9 2978134 870 0.028 1 42
1
'MVP West' 'AG' 756236.4 2977061 755664.5 2976289 2540 0.028 1 58
1
'MVP East' 'AG' 756236.3 2977061 756857.2 2977666 2360 0.028 1 66
1
'Boston Ave. South' 'AG' 756236.7 2977061 757224.6 2976185 1010 0.028 1 42
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'Winthrop South' 'AG' 759337.5 2977992 759326.8 2977329 1195 0.028 1 42
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'Winthrop North' 'AG' 759337.5 2977992 759313.4 2978847 1925 0.028 1 42
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'MVP West' 'AG' 759335.1 2977994 758131.8 2978045 2310 0.028 1 66
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'MVP East' 'AG' 759335.6 2977992 760246.6 2977938 3300 0.028 1 66
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 0.028 1 42
1

'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 0.028 1 90

1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Highland/Central SE1' 763246.9 2966669 6
'Highland/Central SE2' 763279.9 2966736 6
'Highland/Central SE3' 763312.9 2966803 6
'Highland/Central SE4' 763381.4 2966773 6
'Highland/Central SE5' 763450 2966742 6
'Highland/Central NE1' 763472.5 2966778 6
'Highland/Central NE2' 763404 2966809 6
'Highland/Central NE3' 763335.4 2966839 6
'Highland/Central NE4' 763369.8 2966906 6
'Highland/Central NE5' 763404.2 2966972 6
'Highland/Central NW1' 763365.1 2966988 6
'Highland/Central NW2' 763330.8 2966922 6
'Highland/Central NW3' 763296.4 2966855 6
'Highland/Central NW4' 763227.8 2966885 6
'Highland/Central NW5' 763159.1 2966915 6
'Highland/Central SW1' 763136.6 2966879 6
'Highland/Central NW2' 763205.3 2966849 6
'Highland/Central NW3' 763274 2966819 6
'Highland/Central NW4' 763240.9 2966752 6
'Highland/Central NW5' 763207.9 2966684 6
'Medford/School S1' 764934.1 2966923 6
'Medford/School S2' 764967.1 2966990 6
'Medford/School S3' 765000.1 2967058 6
'Medford/School S4' 765045.4 2966998 6
'Medford/School S5' 765090.7 2966938 6
'Medford/School E1' 765113.9 2966977 6
'Medford/School E2' 765068.6 2967037 6
'Medford/School E3' 765023.3 2967097 6
'Medford/School E4' 765055.6 2967164 6
'Medford/School E5' 765087.9 2967232 6
'Medford/School N1' 765057.8 2967266 6
'Medford/School N2' 765025.5 2967199 6
'Medford/School N3' 764992.9 2967131 6
'Medford/School N4' 764948.5 2967191 6
'Medford/School N5' 764903.8 2967252 6
'Medford/School W1' 764880.7 2967212 6
'Medford/School W2' 764925.3 2967152 6
'Medford/School W3' 764969.9 2967092 6
'Medford/School W4' 764937 2967024 6
'Medford/School W5' 764904.1 2966957 6
'Existing' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
135 108 3 375 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
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'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1

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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
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2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
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2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 0.028 1 42
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'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
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'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 0.028 1 54
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'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 0.028 1 54
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'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 0.028 1 42
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'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
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'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 0.028 1 66
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'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
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'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 0.028 1 42
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'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
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'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 0.028 1 42
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'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
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'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 0.028 1 42
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'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42

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'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 0.028 1 66
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'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 0.028 1 54
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'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 0.028 1 66
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'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
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'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 0.028 1 42
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'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 0.028 1 66
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'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 0.028 1 66
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'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
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'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1293 0.028 1 54
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'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3997 0.028 1 90
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'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2778 0.028 1 90
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'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3305 0.028 1 90
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'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
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'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3435 0.028 1 90
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'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
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'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 40 0.3048 1 0
'Sville/Wash/Webs SW1' 765663.8 2963488 0
'Sville/Wash/Webs SW2' 765731.4 2963456 6
'Sville/Wash/Webs SW3' 765799.1 2963423 6
'Sville/Wash/Webs SW4' 765765.3 2963356 6
'Sville/Wash/Webs SW5' 765731.4 2963290 6
'Sville/Wash/Webs SE1' 765778.5 2963263 6
'Sville/Wash/Webs SE2' 765812.4 2963330 6
'Sville/Wash/Webs SE3' 765846.3 2963397 6
'Sville/Wash/Webs SE4' 765913.8 2963364 6
'Sville/Wash/Webs SE5' 765981.3 2963332 6
'Sville/Wash/Webs NE1' 766011.4 2963390 6
'Sville/Wash/Webs NE2' 765943.9 2963423 6
'Sville/Wash/Webs NE3' 765876.4 2963456 6
'Sville/Wash/Webs NE4' 765916.8 2963519 6
'Sville/Wash/Webs NE5' 765956.8 2963581 6
'Sville/Wash/Webs NW1' 765899.4 2963614 6
'Sville/Wash/Webs NW2' 765858.8 2963551 6
'Sville/Wash/Webs NW3' 765818.3 2963487 6
'Sville/Wash/Webs NW4' 765750.6 2963520 6
'Sville/Wash/Webs NW5' 765682.9 2963552 6
'WashMcgrath NW1' 766907.8 2963995 6
'WashMcgrath NW2' 766920.9 2963922 6
'WashMcgrath NW3' 766934 2963848 6
'WashMcgrath NW4' 766873.4 2963804 6
'WashMcgrath NW5' 766801.5 2963777 6
'WashMcgrath SW1' 766811.1 2963711 6
'WashMcgrath SW2' 766881.8 2963736 6
'WashMcgrath SW3' 766954.7 2963754 6
'WashMcgrath SW4' 766969.2 2963680 6
'WashMcgrath SW5' 766983.8 2963607 6
'WashMcgrath SE1' 767148.1 2963690 6
'WashMcgrath SE2' 767137.9 2963769 6
'WashMcgrath SE3' 767164.3 2963839 6
'WashMcgrath SE4' 767159.9 2963914 6
'WashMcgrath SE5' 767258.5 2963956 6
'WashMcgrath NE1' 767254.3 2964026 6
'WashMcgrath NE2' 767185.3 2963997 6
'WashMcgrath NE3' 767116.3 2963967 6
'WashMcgrath NE4' 767083.3 2964035 6
'WashMcgrath NE5' 767055.6 2964105 6
'Existing' 112 1 0 'P'
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'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
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2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 0.069 1600 1 3

2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
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2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1
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'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
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'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
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'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
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2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
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'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
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'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
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'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
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'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
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'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
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'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
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'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
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2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
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'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
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'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
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2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
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2

'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
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'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
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'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
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'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
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2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
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2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
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'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
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2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
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'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
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'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
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'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
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'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
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'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
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'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
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'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
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'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
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'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
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'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
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'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
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'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
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'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
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'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
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2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 765 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
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2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
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'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
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'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
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'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
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'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
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2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
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'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
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2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
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'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 0.028 1 42
1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
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'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 0.028 1 42
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'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
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'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42

1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 0.028 1 66
1
'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1293 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3997 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2778 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3305 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3435 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

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'Greenline Extension' 60 175 0 0 35 0.3048 1 0
'Obrien/Third SW1' 769633.1 2961090 6
'Obrien/Third SW2' 769695.4 2961048 6
'Obrien/Third SW3' 769757.6 2961006 6
'Obrien/Third SW4' 769750.1 2960931 6
'Obrien/Third SW5' 769736.9 2960858 6
'Obrien/Third SE1' 769786 2960825 6
'Obrien/Third SE2' 769799.1 2960899 6
'Obrien/Third SE3' 769815.1 2960972 6
'Obrien/Third SE4' 769877.1 2960930 6
'Obrien/Third SE5' 769939.2 2960888 6
'Obrien/Third N1' 769959.4 2960983 6
'Obrien/Third N2' 769897.3 2961025 6
'Obrien/Third N3' 769835.9 2961068 6
'Obrien/Third N4' 769770.9 2961106 6
'Obrien/Third N5' 769708.6 2961147 6
'Obrien/Charles W1' 771328.7 2959942 6
'Obrien/Charles W2' 771390.7 2959900 6
'Obrien/Charles W3' 771453 2959858 6
'Obrien/Charles W4' 771408.5 2959798 6
'Obrien/Charles W5' 771364 2959738 6
'Obrien/Charles S1' 771443.6 2959694 6
'Obrien/Charles S2' 771488.2 2959754 6
'Obrien/Charles S3' 771537.1 2959811 6
'Obrien/Charles S4' 771597.8 2959767 6
'Obrien/Charles S5' 771659.7 2959725 6
'Obrien/Charles E1' 771712.6 2959798 6
'Obrien/Charles E2' 771650.6 2959840 6
'Obrien/Charles E3' 771588.6 2959882 6
'Obrien/Charles E4' 771617.4 2959951 6
'Obrien/Charles E5' 771659.7 2960014 6
'Obrien/Charles N1' 771605.5 2960052 6
'Obrien/Charles N2' 771563.4 2959989 6
'Obrien/Charles N3' 771514.4 2959933 6
'Obrien/Charles N4' 771448.9 2959969 6
'Obrien/Charles N5' 771386.5 2960011 6
'No Build' 112 1 0 'P'
2
'South St' 'AG' 761297.67 2977091.41 760910.63 2977176.49 1 20 2
120 90 3 650 0.069 1600 1 3
2
'Boston Ave. SB LT' 'AG' 759658.78 2973637.72 759530.2 2973877.66 1 10 1
135 95 3 300 0.069 1600 1 3
2
'Boston Ave. SB R' 'AG' 759646 2973631.49 759519.38 2973870.53 1 10 1
135 95 3 120 0.069 1600 1 3
2
'College Ave EB L' 'AG' 759636.36 2973439.82 759535.12 2973241.07 1 10 1
135 95 3 155 0.069 1600 1 3
2
'College Ave. EB TR' 'AG' 759648.12 2973434.4 759545.06 2973235.66 1 10 1
135 95 3 241 0.069 1600 1 3
2
'Boston Ave. NB ' 'AG' 759699.85 2973463.01 759843.56 2973197.66 1 10 1

135 108 3 375 0.069 1600 1 3
2
'College Ave WB' 'AG' 759720.77 2973656.18 759850.53 2973838.14 1 10 1
135 107 3 395 0.069 1600 1 3
2
'Main St. SB' 'AG' 762042.2 2972929.32 761971.13 2973149.38 1 10 1
120 77 3 640 0.069 1600 1 3
2
'Harvard St. EB' 'AG' 762026.59 2972882.51 761748.78 2972730.78 1 10 1
120 77 3 650 0.069 1600 1 3
2
'Main st. NB' 'AG' 762078.27 2972876.05 762140.81 2972689.04 1 10 1
120 77 3 485 0.069 1600 1 3
2
'Harvard St. WB' 'AG' 762091.82 2972928.67 762503.68 2973057.26 1 10 1
120 77 3 595 0.069 1600 1 3
2
'Broadway EB R' 'AG' 762959.09 2970081.32 762725.14 2970181.7 1 10 1
120 56 3 250 0.069 1600 1 3
2
'Broadway EB TL' 'AG' 762965.1 2970094.19 762732.86 2970195.86 1 10 1
120 85 3 442 0.069 1600 1 3
2
'Parking Lot' 'AG' 763003.3 2970037.13 762959.95 2969988.23 1 10 1
120 116 3 50 0.069 1600 1 3
2
'Medford St. NB' 'AG' 763093.02 2969993.8 763200 2969804.8 1 10 1
120 97 3 410 0.069 1600 1 3
2
'Broadway St. WB' 'AG' 763115.65 2970067.13 763615.64 2969851.64 1 20 2
120 85 3 841 0.069 1600 1 3
2
'Dexter St. SWB' 'AG' 763101.44 2970146.2 763255.1 2970291.29 1 10 1
120 116 3 70 0.069 1600 1 3
2
'Medford St. SB' 'AG' 763008.27 2970159.02 762956.25 2970315.51 1 10 1
120 106 3 260 0.069 1600 1 3
2
'Highland St. EB' 'AG' 763277.56 2966827.54 763075.69 2966915.7 1 10 1
90 59 3 425 0.069 1600 1 3
2
'Central St NB' 'AG' 763301.3 2966809.46 763202.35 2966608.28 1 10 1
90 57 3 510 0.069 1600 1 3
2
'Highland St. WB' 'AG' 763328.41 2966824.71 763611.52 2966701.25 1 10 1
90 59 3 495 0.069 1600 1 3
2
'Central St. SB' 'AG' 763311.38 2966855.98 763415.95 2967057.59 1 10 1
90 57 3 160 0.069 1600 1 3
2
'Medford St. NWB' 'AG' 765022.14 2967075.1 765168.19 2966887.45 1 10 1
120 48 3 865 0.069 1600 1 3
2
'School St. SB' 'AG' 765002.28 2967126.73 765072.33 2967273.24 1 10 1
120 98 3 345 0.069 1600 1 3

2
'Medford St. SEB' 'AG' 764967.13 2967115.13 764840.02 2967276.86 1 10 1
120 48 3 520 0.069 1600 1 3
2
'Prospect SB' 'AG' 765830.58 2963471.88 765906.46 2963597.55 1 20 2
120 84 3 895 0.069 1600 1 3
2
'Sommerville WB' 'AG' 765870.05 2963440.3 766119.84 2963317.99 1 20 2
120 102 3 485 0.069 1600 1 3
2
'Prospect NB' 'AG' 765828.38 2963415.46 765693.81 2963143.49 1 30 3
120 87 3 1455 0.069 1600 1 3
2
'Somerville EB' 'AG' 765797.43 2963438.67 765535.17 2963566.55 1 20 2
120 62 3 770 0.069 1600 1 3
2
'McGrath Highway SB1' 'AG' 766950.47 2963878.53 766918.35 2964052.48 1 20 2
120 106 3 540 0.069 1600 1 3
2
'Washington St. EB' 'AG' 766952.81 2963785.72 766774.67 2963716.84 1 10 1
120 92 3 1265 0.069 1600 1 3
2
'McGrath Hwy NB2 L ' 'AG' 767105.32 2963771.5 767129.26 2963592.88 1 10 1
120 91 3 60 0.069 1600 1 3
2
'McGrath Hwy NB2 T' 'AG' 767119.92 2963772.67 767141.53 2963598.14 1 10 1
120 91 3 550 0.069 1600 1 3
2
'Washington St. WB' 'AG' 767129.88 2963943.86 767299.85 2964017.41 1 30 3
120 93 3 1235 0.069 1600 1 3
2
'Msgr Obrien EB' 'AG' 769756.38 2961035.19 769626.7 2961124.78 1 20 2
120 71 3 1676 0.069 1600 1 3
2
'Third St. NB L' 'AG' 769779.14 2960962.49 769761.45 2960860.8 1 10 1
120 103 3 875 0.069 1600 1 3
2
'Third St NB LR' 'AG' 769788.2 2960954.31 769773.96 2960860.8 1 10 1
120 103 3 36 0.069 1600 1 3
2
'Msgr Obrien WB' 'AG' 769858.08 2961015.57 770032.31 2960895.3 1 20 2
120 71 3 1447 0.069 1600 1 3
2
'Msgr Obrien L' 'AG' 771462.21 2959893.2 771224.72 2960056.71 1 10 1
120 104 3 550 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771448.99 2959876.68 771179.92 2960060.07 1 30 3
120 79 3 995 0.069 1600 1 3
2
'Charlestown NB L' 'AG' 771477.67 2959800.6 771396.71 2959701.69 1 10 1
120 95 3 430 0.069 1600 1 3
2
'Charlestown NB T' 'AG' 771490.84 2959788.42 771407.93 2959687.07 1 20 2
120 95 3 1225 0.069 1600 1 3
2

'Charlestown NB R' 'AG' 771500.72 2959777.35 771420.61 2959677.81 1 10 1
120 78 3 590 0.069 1600 1 3
2
'Msgr Obrien WB L' 'AG' 771572.22 2959825.9 771678.97 2959753.38 1 10 1
120 108 3 380 0.069 1600 1 3
2
'Msgr Obrien WB T' 'AG' 771581.37 2959839.31 771693.92 2959762.83 1 20 2
120 83 3 750 0.069 1600 1 3
2
'Msgr Obrien WB R' 'AG' 771588.58 2959852.12 771696.23 2959778.83 1 10 1
120 61 3 420 0.069 1600 1 3
2
'Charlestown SB LT' 'AG' 771546.11 2959911.12 771623.87 2960040.05 1 10 1
120 98 3 300 0.069 1600 1 3
2
'Charlestown SB TR' 'AG' 771535.3 2959916.71 771615.03 2960041.87 1 10 1
120 98 3 765 0.069 1600 1 3
2
'Camb. St at First L' 'AG' 770442.19 2960381.78 770301.32 2960405.38 1 10 1
120 88 3 205 0.069 1600 1 3
2
'Camb. St at First TR' 'AG' 770441.29 2960370.2 770251.84 2960405.38 1 10 1
120 88 3 260 0.069 1600 1 3
2
'First St NB TL' 'AG' 770490.91 2960326.23 770465.69 2960157.97 1 10 1
120 99 3 345 0.069 1600 1 3
2
'East St SB R' 'AG' 770778.19 2960472.7 770818.15 2960537.02 1 10 1
120 70 3 5 0.069 1600 1 3
2
'MsgrOb/East EB R' 'AG' 770496.26 2960543.13 770417.57 2960594.07 1 10 1
120 56 3 120 0.069 1600 1 3
2
'MsgrOb/East EB T' 'AG' 770503.49 2960561.58 770349.73 2960659.04 1 20 2
120 86 3 980 0.069 1600 1 3
2
'MsgrOb/East WB T' 'AG' 770636.87 2960542.05 770801.19 2960404.73 1 20 2
120 65 3 980 0.069 1600 1 3
2
'MsgrOb/East WB L' 'AG' 770624.73 2960524.81 770792.24 2960384.29 1 20 2
120 104 3 350 0.069 1600 1 3
2
'First at Camb. R' 'AG' 770501.21 2960324.37 770485.26 2960216.19 1 10 1
120 73 3 845 0.069 1600 1 3
2
'First St. Ext. SB' 'AG' 770490.56 2960403.66 770527.78 2960495.96 1 20 2
120 95 3 585 0.069 1600 1 3
2
'First Ext. NB L' 'AG' 770548.39 2960486.66 770511.16 2960396.36 1 10 1
120 95 3 220 0.069 1600 1 3
2
'First Ext. NB T' 'AG' 770557.7 2960480.35 770521.67 2960392.65 1 10 1
120 95 3 235 0.069 1600 1 3
1
'South Street' 'AG' 761345.7 2977076 760087.5 2977365 650 0.028 1 42

1
'Main St North' 'AG' 761336.6 2977085 761454.9 2977751 2445 0.028 1 66
1
'Main St South' 'AG' 761340.3 2977086 761346.3 2976244 2825 0.028 1 66
1
'Boston Ave. SB' 'AG' 759689.9 2973573 759291.3 2974306 1005 0.028 1 54
1
'College Ave. EB' 'AG' 759682.8 2973547 759503.5 2973187 756 0.028 1 54
1
'College Ave. EB2' 'AG' 759494.1 2973185 759662.7 2971560 756 0.028 1 54
1
'Boston Ave. NB' 'AG' 759638.3 2973545 760480.3 2972056 601 0.028 1 42
1
'College Ave. WB' 'AG' 759667.3 2973564 760588.5 2974869 810 0.028 1 42
1
'Main St. SB' 'AG' 762056.3 2972910 761788.3 2973767 1135 0.028 1 42
1
'Harvard St. EB' 'AG' 762057.6 2972905 760514.6 2972076 1290 0.028 1 42
1
'Main St. NB' 'AG' 762056.8 2972911 762406.1 2971899 1090 0.028 1 42
1
'Harvard St. WB' 'AG' 762057.1 2972911 763589.6 2973380 1225 0.028 1 42
1
'Broadway St. EB' 'AG' 763029.8 2970084 761172.6 2970882 1674 0.028 1 66
1
'Parking Lot NEB' 'AG' 763030 2970081 762877.3 2969900 90 0.028 1 42
1
'Medford St. NB' 'AG' 763025.4 2970079 764069.8 2968304 855 0.028 1 42
1
'Broadway St. WB' 'AG' 763030.1 2970084 764419.9 2969487 1351 0.028 1 66
1
'Dexter St. SWB' 'AG' 763031.1 2970080 764132.1 2971134 70 0.028 1 30
1
'Medford St. SB' 'AG' 763047.7 2970075 762503.6 2971619 575 0.028 1 42
1
'Highland St. EB' 'AG' 763300.2 2966830 762029.2 2967382 950 0.028 1 42
1
'Central St. NB' 'AG' 763299.4 2966827 762852.7 2965953 660 0.028 1 42
1
'Highland St. WB' 'AG' 763299.4 2966828 764576.9 2966256 975 0.028 1 42
1
'Central St. SB' 'AG' 763299.6 2966828 764053.4 2968276 595 0.028 1 42
1
'Medford St. NWB' 'AG' 764993.5 2967095 765926.1 2965874 1305 0.028 1 42
1
'School St. SB' 'AG' 764992.8 2967094 765406.3 2967927 535 0.028 1 42
1
'Medford St. SEB' 'AG' 764996.8 2967099 764392.9 2967878 1090 0.028 1 42
1
'School St. NB' 'AG' 764991.8 2967095 764577.6 2966257 530 0.028 1 42
1
'Prospect St. SB' 'AG' 765833.6 2963450 765929 2963599 2125 0.028 1 66
1
'Sommerville Ave. EB' 'AG' 765828.1 2963446 765178.4 2963756 2650 0.028 1 66
1

'Prospect St. NB' 'AG' 765839.9 2963444 765452.5 2962679 1455 0.028 1 54
1
'Somerville Ave WB' 'AG' 765826.5 2963443 767169.2 2962793 980 0.028 1 66
1
'McGrath Hwy SB1' 'AG' 766957.3 2963820 766833.9 2964523 540 0.028 1 42
1
'McGrath Highway NB1' 'AG' 767104.5 2963868 766885 2964526 1315 0.028 1 42
1
'Washington St. EB' 'AG' 766982.3 2963798 766385.3 2963573 2355 0.028 1 66
1
'Washington St. EB2' 'AG' 766381.6 2963577 765898.7 2963599 2355 0.028 1 66
1
'McGrath Highway SB2' 'AG' 766962.2 2963820 767150.7 2962807 540 0.028 1 42
1
'McGrath Highway NB2' 'AG' 767099.7 2963865 767239.2 2962955 1315 0.028 1 42
1
'Washington St. WB' 'AG' 767048.1 2963904 768293.4 2964414 2380 0.028 1 66
1
'Third St NB' 'AG' 769791.9 2961030 769526.6 2959516 1293 0.028 1 54
1
'Msgr Obrien EB' 'AG' 769802.7 2961029 768122.6 2962156 3997 0.028 1 90
1
'MSgr Obrien WB' 'AG' 769839.9 2961013 770237.3 2960746 2778 0.028 1 90
1
'Msgr Obrien EB' 'AG' 771475.8 2959897 771189.8 2960085 3305 0.028 1 90
1
'Charlestown NB' 'AG' 771517.3 2959866 770541.8 2958606 3480 0.028 1 90
1
'Msgr Obrien WB' 'AG' 771486.1 2959892 773351.8 2958616 3435 0.028 1 90
1
'Charlestown Ave SB' 'AG' 771515.1 2959867 772209.9 2960900 3260 0.028 1 66
1
'Cambridge St EB' 'AG' 770470.7 2960384 769731.3 2960511 1070 0.028 1 42
1
'Cambridge St WB' 'AG' 770764.8 2960312 770529.6 2960352 715 0.028 1 30
1
'First St NB' 'AG' 770502 2960353 770420.6 2959899 1235 0.028 1 66
1
'East St SB' 'AG' 770747.8 2960460 770875.9 2960608 35 0.028 1 42
1
'Msgr. Ob at East EB ' 'AG' 770538.9 2960568 770215.9 2960767 2510 0.028 1 102
1
'Msgr Ob at First Ext' 'AG' 770613.9 2960522 770820.4 2960347 2275 0.028 1 90
1
'MsgrOb at First WB L' 'AG' 770873.2 2960324 771176.3 2960091 2490 0.028 1 102
1
'First St. Extension' 'AG' 770547.8 2960499 770501.2 2960391 875 0.028 1 66
1 0 4 1000 5 'Y' 10 0 36

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Output Files
  - Carbon Monoxide (CO)
  - Particulate Matter (PM)

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Output Files
  - Carbon Monoxide (CO)

Ex1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:54:24

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.4	********	*	70.	312.	AG	322.	100.0	1.0	20.0	0.44	3.6
2. MVP West	*	756216.0	********	754217.4	********	*	3247.	218.	AG	103.	100.0	1.0	10.0	1.36	165.0
3. Boston Ave South	*	756271.8	********	757480.6	********	*	1624.	132.	AG	161.	100.0	1.0	10.0	1.37	82.5
4. MVP East	*	756253.6	********	756376.9	********	*	173.	45.	AG	206.	100.0	1.0	20.0	0.77	8.8
5. Winthrop North	*	759327.2	********	759298.6	********	*	1013.	358.	AG	308.	100.0	1.0	20.0	1.16	51.5
6. MVP East RT	*	759381.7	********	759502.5	********	*	121.	93.	AG	89.	100.0	1.0	10.0	0.45	6.1
7. MVP East T	*	759381.8	********	763790.8	********	*	4411.	92.	AG	122.	100.0	1.0	10.0	1.59	224.1
8. Winthrop South	*	759345.1	********	759310.2	********	*	1357.	181.	AG	373.	100.0	1.0	20.0	1.62	69.0
9. MVP West	*	759293.5	********	755376.9	********	*	3921.	273.	AG	122.	100.0	1.0	10.0	1.52	199.2
10. South St	*	761297.7	********	761138.4	********	*	163.	282.	AG	329.	100.0	1.0	20.0	0.86	8.3
11. Boston Ave. SB LT	*	759658.7	********	759565.4	********	*	198.	332.	AG	170.	100.0	1.0	10.0	0.92	10.0
12. Boston Ave. SB R	*	759646.0	********	759616.2	********	*	64.	332.	AG	170.	100.0	1.0	10.0	0.38	3.2
13. College Ave EB L	*	759636.4	********	759598.9	********	*	83.	207.	AG	170.	100.0	1.0	10.0	0.49	4.2
14. College Ave. EB TR	*	759648.1	********	759584.2	********	*	139.	207.	AG	170.	100.0	1.0	10.0	0.77	7.1
15. Boston Ave. NB	*	759699.9	********	759948.0	********	*	521.	152.	AG	170.	100.0	1.0	10.0	1.08	26.5
16. College Ave WB	*	759720.8	********	759917.4	********	*	339.	35.	AG	162.	100.0	1.0	10.0	1.01	17.2
17. Main St. SB	*	762042.2	********	761358.1	********	*	2227.	342.	AG	155.	100.0	1.0	10.0	1.50	113.1
18. Harvard St. EB	*	762026.6	********	760826.1	********	*	1368.	241.	AG	145.	100.0	1.0	10.0	1.24	69.5
19. Main st. NB	*	762078.3	********	762234.4	********	*	492.	162.	AG	155.	100.0	1.0	10.0	1.07	25.0
20. Harvard St. WB	*	762091.8	********	763477.0	********	*	1451.	73.	AG	145.	100.0	1.0	10.0	1.25	73.7
21. Broadway EB R	*	762959.1	********	762829.3	********	*	141.	293.	AG	174.	100.0	1.0	10.0	0.85	7.2
22. Broadway EB TL	*	762965.1	********	761504.0	********	*	1595.	294.	AG	174.	100.0	1.0	10.0	1.49	81.0
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	205.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	763636.6	********	*	1104.	150.	AG	174.	100.0	1.0	10.0	1.32	56.1
25. Broadway St. WB	*	763115.6	********	764227.2	********	*	1210.	113.	AG	348.	100.0	1.0	20.0	1.35	61.5
26. Dexter St. SWB	*	763101.5	********	763403.1	********	*	415.	47.	AG	205.	100.0	1.0	10.0	1.82	21.1
27. Medford St. SB	*	763008.3	********	762799.6	********	*	661.	342.	AG	183.	100.0	1.0	10.0	1.23	33.6
28. Highland St. EB	*	763277.6	********	763150.5	********	*	139.	294.	AG	143.	100.0	1.0	10.0	0.84	7.0
29. Central St NB	*	763301.4	********	763212.2	********	*	202.	206.	AG	143.	100.0	1.0	10.0	0.95	10.3
30. Highland St. WB	*	763328.5	********	763551.1	********	*	243.	114.	AG	143.	100.0	1.0	10.0	1.00	12.3
31. Central St. SB	*	763311.4	********	763332.6	********	*	46.	27.	AG	150.	100.0	1.0	10.0	0.37	2.3
32. Medford St. NWB	*	765022.2	********	766415.9	********	*	2269.	142.	AG	131.	100.0	1.0	10.0	1.38	115.3
33. School St. SB	*	765002.3	********	765166.0	********	*	379.	26.	AG	166.	100.0	1.0	10.0	1.08	19.3
34. Medford St. SEB	*	764967.1	********	764863.8	********	*	167.	322.	AG	131.	100.0	1.0	10.0	0.93	8.5
35. Prospect SB	*	765830.6	********	766200.2	********	*	715.	31.	AG	318.	100.0	1.0	20.0	1.12	36.3
36. Sommerville WB	*	765870.1	********	766866.4	********	*	1110.	116.	AG	386.	100.0	1.0	20.0	1.79	56.4
37. Prospect NB	*	765828.4	********	765723.3	********	*	237.	206.	AG	458.	100.0	1.0	30.0	0.97	12.0
38. Somerville EB	*	765797.5	********	765688.8	********	*	121.	296.	AG	265.	100.0	1.0	20.0	0.60	6.1
39. McGrath Highway SB1	*	766950.5	********	766591.9	********	*	1973.	350.	AG	405.	100.0	1.0	20.0	3.83	100.2
40. Washington St. EB	*	766952.8	********	759076.8	********	*	8448.	249.	AG	168.	100.0	1.0	10.0	3.46	429.2
41. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	32.	172.	AG	194.	100.0	1.0	10.0	0.41	1.6
42. McGrath Hwy NB2 T	*	767119.9	********	767604.3	********	*	3946.	173.	AG	194.	100.0	1.0	10.0	3.91	200.5
43. Washington St. WB	*	767129.9	********	767268.1	********	*	151.	67.	AG	410.	100.0	1.0	30.0	0.61	7.7
44. Cambridge St EB TR	*	770464.9	********	769532.8	********	*	943.	279.	AG	184.	100.0	1.0	10.0	1.39	47.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:54:24

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Cambridge St WB L	*	770550.6	********	770577.5	********	*	27.	98.	AG	93.	100.0	1.0	10.0	0.12	1.4
46. Cambridge St WB T	*	770554.3	********	770611.2	********	*	58.	99.	AG	93.	100.0	1.0	10.0	0.26	2.9
47. First St NB L	*	770507.2	********	770497.7	********	*	61.	189.	AG	193.	100.0	1.0	10.0	0.79	3.1
48. First St NB R	*	770523.2	********	770510.0	********	*	80.	189.	AG	57.	100.0	1.0	10.0	0.46	4.1
49. East St SB	*	770754.4	********	770782.0	********	*	42.	41.	AG	184.	100.0	1.0	10.0	0.44	2.1
50. MsgrOb/East EB R	*	770637.2	********	770602.3	********	*	44.	307.	AG	174.	100.0	1.0	10.0	0.35	2.2
51. MsgrOb/East EB T	*	770650.1	********	770507.4	********	*	180.	307.	AG	521.	100.0	1.0	30.0	0.97	9.1
52. MsgrOb/East EB L	*	770662.8	********	770653.7	********	*	12.	308.	AG	174.	100.0	1.0	10.0	0.09	0.6
53. MsgrOb/East WB T	*	770764.6	********	770972.1	********	*	282.	133.	AG	93.	100.0	1.0	10.0	0.95	14.3
54. MsgrOb/East WB R	*	770778.0	********	770778.9	********	*	1.	134.	AG	93.	100.0	1.0	10.0	0.01	0.1
55. MsgrOb at First WB L	*	770904.4	********	770949.4	********	*	54.	124.	AG	296.	100.0	1.0	20.0	0.30	2.8
56. Boston Ave. North	*	756236.2	********	754979.9	********	*	1652.	311.	AG	534.	12.8	1.0	42.0		
57. MVP West	*	756236.4	********	755664.5	********	*	961.	217.	AG	2303.	12.8	1.0	58.0		
58. MVP East	*	756236.3	********	756857.2	********	*	867.	46.	AG	2149.	12.8	1.0	66.0		
59. Boston Ave. South	*	756236.7	********	757224.6	********	*	1320.	132.	AG	883.	12.8	1.0	42.0		
60. Winthrop South	*	759337.5	********	759326.8	********	*	663.	181.	AG	1080.	13.1	1.0	42.0		
61. Winthrop North	*	759337.5	********	759313.4	********	*	855.	358.	AG	1761.	13.1	1.0	42.0		
62. MVP West	*	759335.1	********	758131.8	********	*	1204.	272.	AG	2092.	12.8	1.0	66.0		
63. MVP East	*	759335.6	********	760246.6	********	*	913.	93.	AG	2987.	12.8	1.0	66.0		
64. South Street	*	761345.7	********	760087.5	********	*	1291.	283.	AG	571.	12.8	1.0	42.0		
65. Main St North	*	761336.6	********	761454.9	********	*	676.	10.	AG	2127.	13.1	1.0	66.0		
66. Main St South	*	761340.3	********	761346.3	********	*	842.	180.	AG	2457.	13.1	1.0	66.0		
67. Boston Ave. SB	*	759689.9	********	759291.3	********	*	834.	331.	AG	903.	12.8	1.0	54.0		
68. College Ave. EB	*	759682.8	********	759503.5	********	*	402.	206.	AG	702.	12.8	1.0	54.0		
69. College Ave. EB2	*	759494.1	********	759662.7	********	*	1634.	174.	AG	702.	12.8	1.0	54.0		
70. Boston Ave. NB	*	759638.3	********	760480.3	********	*	1710.	151.	AG	528.	12.8	1.0	42.0		
71. College Ave. WB	*	759667.3	********	760588.5	********	*	1597.	35.	AG	739.	12.8	1.0	42.0		
72. Main St. SB	*	762056.3	********	761788.3	********	*	898.	343.	AG	996.	13.1	1.0	42.0		
73. Harvard St. EB	*	762057.7	********	760514.6	********	*	1752.	242.	AG	1156.	12.8	1.0	42.0		
74. Main St. NB	*	762056.8	********	762406.1	********	*	1071.	161.	AG	949.	13.1	1.0	42.0		
75. Harvard St. WB	*	762057.1	********	763589.7	********	*	1603.	73.	AG	1111.	12.8	1.0	42.0		
76. Broadway St. EB	*	763029.8	********	761172.6	********	*	2021.	293.	AG	1484.	12.8	1.0	66.0		
77. Parking Lot NEB	*	763030.0	********	762877.3	********	*	237.	220.	AG	85.	50.0	1.0	42.0		
78. Medford St. NB	*	763025.4	********	764069.8	********	*	2059.	150.	AG	748.	12.8	1.0	42.0		
79. Broadway St. WB	*	763030.1	********	764419.9	********	*	1513.	113.	AG	1164.	12.8	1.0	66.0		
80. Dexter St. SWB	*	763031.1	********	764132.1	********	*	1524.	46.	AG	71.	12.8	1.0	30.0		
81. Medford St. SB	*	763047.7	********	762503.6	********	*	1637.	341.	AG	499.	12.8	1.0	42.0		
82. Highland St. EB	*	763300.2	********	762029.2	********	*	1386.	293.	AG	881.	12.8	1.0	42.0		
83. Central St. NB	*	763299.4	********	762852.7	********	*	981.	207.	AG	581.	13.1	1.0	42.0		
84. Highland St. WB	*	763299.4	********	764576.9	********	*	1400.	114.	AG	896.	12.8	1.0	42.0		
85. Central St. SB	*	763299.7	********	764053.4	********	*	1632.	27.	AG	534.	13.1	1.0	42.0		
86. Medford St. NWB	*	764993.5	********	765926.1	********	*	1536.	143.	AG	1133.	12.8	1.0	42.0		
87. School St. SB	*	764992.8	********	765406.3	********	*	930.	26.	AG	461.	13.1	1.0	42.0		
88. Medford St. SEB	*	764996.8	********	764392.9	********	*	986.	322.	AG	960.	12.8	1.0	42.0		
89. School St. NB	*	764991.8	********	764577.6	********	*	935.	206.	AG	458.	13.1	1.0	42.0		
90. Prospect St. SB	*	765833.6	********	765929.0	********	*	177.	33.	AG	1857.	13.0	1.0	66.0		
91. Sommerville Ave. EB	*	765828.2	********	765178.4	********	*	720.	295.	AG	2312.	12.8	1.0	66.0		
92. Prospect St. NB	*	765839.9	********	765452.5	********	*	858.	207.	AG	1193.	13.0	1.0	54.0		
93. Somerville Ave WB	*	765826.5	********	767169.2	********	*	1492.	116.	AG	842.	12.8	1.0	66.0		
94. McGrath Hwy SB1	*	766957.3	********	766833.9	********	*	714.	350.	AG	460.	12.8	1.0	42.0		
95. McGrath Highway NB1	*	767104.5	********	766885.0	********	*	694.	342.	AG	1300.	12.8	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:54:24

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	12.8	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	12.8	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	12.8	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	12.8	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	12.8	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	12.8	1.0	42.0	
102. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	12.8	1.0	66.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	13.1	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	12.8	1.0	42.0	
105. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	12.8	1.0	****	
106. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	12.8	1.0	66.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	12.8	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	310	1600	81.70	1	3
2. MVP West	*	113	53	3.0	1058	1600	81.70	1	3
3. Boston Ave South	*	113	83	3.0	483	1600	81.70	1	3
4. MVP East	*	113	53	3.0	1197	1600	81.70	1	3
5. Winthrop North	*	135	95	3.0	961	1600	81.70	1	3
6. MVP East RT	*	135	55	3.0	402	1600	81.70	1	3
7. MVP East T	*	135	75	3.0	1036	1600	81.70	1	3
8. Winthrop South	*	135	115	3.0	572	1600	81.70	1	3
9. MVP West	*	135	75	3.0	989	1600	81.70	1	3
10. South St	*	120	90	3.0	571	1600	81.70	1	3
11. Boston Ave. SB LT	*	135	105	3.0	272	1600	81.70	1	3
12. Boston Ave. SB R	*	135	105	3.0	111	1600	81.70	1	3
13. College Ave EB L	*	135	105	3.0	144	1600	81.70	1	3
14. College Ave. EB TR	*	135	105	3.0	228	1600	81.70	1	3
15. Boston Ave. NB	*	135	105	3.0	321	1600	81.70	1	3
16. College Ave WB	*	135	100	3.0	360	1600	81.70	1	3
17. Main St. SB	*	92	65	3.0	573	1600	81.70	1	3
18. Harvard St. EB	*	92	61	3.0	559	1600	81.70	1	3
19. Main st. NB	*	92	65	3.0	407	1600	81.70	1	3
20. Harvard St. WB	*	92	61	3.0	567	1600	81.70	1	3
21. Broadway EB R	*	122	97	3.0	224	1600	81.70	1	3
22. Broadway EB TL	*	122	97	3.0	391	1600	81.70	1	3
23. Parking Lot	*	122	114	3.0	50	1600	81.70	1	3
24. Medford St. NB	*	122	97	3.0	345	1600	81.70	1	3
25. Broadway St. WB	*	122	97	3.0	710	1600	81.70	1	3
26. Dexter St. SWB	*	122	114	3.0	71	1600	81.70	1	3
27. Medford St. SB	*	122	102	3.0	241	1600	81.70	1	3
28. Highland St. EB	*	86	56	3.0	390	1600	81.70	1	3
29. Central St NB	*	86	56	3.0	443	1600	81.70	1	3
30. Highland St. WB	*	86	56	3.0	463	1600	81.70	1	3
31. Central St. SB	*	82	56	3.0	150	1600	81.70	1	3
32. Medford St. NWB	*	70	42	3.0	723	1600	81.70	1	3
33. School St. SB	*	70	53	3.0	295	1600	81.70	1	3
34. Medford St. SEB	*	70	42	3.0	488	1600	81.70	1	3
35. Prospect SB	*	109	79	3.0	821	1600	81.70	1	3
36. Sommerville WB	*	109	96	3.0	418	1600	81.70	1	3
37. Prospect NB	*	109	76	3.0	1193	1600	81.70	1	3
38. Somerville EB	*	109	66	3.0	670	1600	81.70	1	3
39. McGrath Highway SB1	*	133	123	3.0	460	1600	81.70	1	3
40. Washington St. EB	*	133	102	3.0	1079	1600	81.70	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	81.70	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	81.70	1	3
43. Washington St. WB	*	133	83	3.0	997	1600	81.70	1	3
44. Cambridge St EB TR	*	111	93	3.0	260	1600	81.70	1	3
45. Cambridge St WB L	*	111	47	3.0	106	1600	81.70	1	3
46. Cambridge St WB T	*	111	47	3.0	224	1600	81.70	1	3
47. First St NB L	*	111	98	3.0	91	1600	81.70	1	3
48. First St NB R	*	111	29	3.0	507	1600	81.70	1	3
49. East St SB	*	111	93	3.0	83	1600	81.70	1	3
50. MsgrOb/East EB R	*	111	88	3.0	91	1600	81.70	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East EB T	111	88	3.0	750	1600	81.70	1	3
52. MsgrOb/East EB L	111	88	3.0	24	1600	81.70	1	3
53. MsgrOb/East WB T	111	47	3.0	807	1600	81.70	1	3
54. MsgrOb/East WB R	111	47	3.0	5	1600	81.70	1	3
55. MsgrOb at First WB L	111	75	3.0	265	1600	81.70	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:54:24

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.5	6.6	6.6	6.3	6.1	5.4	5.7	6.3	6.3	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.8	5.8	5.5	5.3
10.	6.6	6.6	6.7	6.4	6.1	5.3	5.6	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.9	5.5	5.5	5.3
20.	6.7	6.7	7.0	6.2	5.9	5.3	5.6	6.6	6.5	6.2	5.1	5.2	5.1	5.0	5.0	5.2	6.1	5.6	5.7	5.7
30.	6.6	6.7	7.1	6.1	5.9	5.3	5.5	6.7	6.6	6.3	5.3	5.4	5.4	5.0	5.0	5.2	6.2	5.8	6.1	6.1
40.	6.4	6.4	7.0	6.0	5.8	5.1	5.3	6.5	6.4	6.3	5.8	6.0	6.0	5.1	5.0	5.2	6.4	6.6	6.7	6.7
50.	5.8	6.0	6.4	5.8	5.7	5.0	5.1	6.0	5.9	5.9	6.3	6.6	6.8	5.3	5.1	5.3	6.6	7.0	7.0	6.9
60.	5.4	5.5	6.0	5.6	5.6	5.0	5.0	5.4	5.4	5.4	6.5	6.9	7.0	5.6	5.2	5.5	6.9	7.1	6.9	7.0
70.	5.3	5.4	5.7	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.5	6.8	6.8	5.6	5.3	5.5	7.1	6.7	6.6	6.6
80.	5.3	5.4	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	6.4	6.8	6.5	5.7	5.4	5.6	7.2	6.5	6.5	6.4
90.	5.3	5.5	5.8	5.7	5.7	5.0	5.0	5.1	5.1	5.1	6.4	6.5	6.3	5.7	5.4	5.7	7.3	6.5	6.4	6.4
100.	5.2	5.4	5.8	5.8	5.8	5.1	5.1	5.1	5.1	5.1	6.3	6.5	6.2	5.6	5.4	5.8	7.4	6.5	6.5	6.3
110.	5.2	5.4	6.0	6.0	6.0	5.2	5.2	5.2	5.0	5.0	6.3	6.4	6.2	5.6	5.4	6.1	7.5	6.6	6.4	6.2
120.	5.2	5.4	6.1	6.1	6.1	5.6	5.6	5.6	5.0	5.0	6.2	6.4	6.3	5.8	5.7	6.4	7.4	6.9	6.5	6.3
130.	5.2	5.2	5.9	5.9	5.9	6.2	6.3	6.1	5.2	5.1	6.4	6.5	6.7	6.2	6.1	6.2	7.1	6.8	6.3	6.3
140.	5.0	5.0	5.6	5.5	5.6	6.5	6.5	6.5	5.4	5.2	6.5	6.7	6.9	6.3	6.3	5.8	6.4	6.4	6.0	6.0
150.	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.4	5.2	6.5	6.7	6.5	6.2	6.1	5.6	5.9	6.1	6.0	6.0
160.	5.0	5.0	5.2	5.1	5.1	6.1	6.2	6.2	5.4	5.2	6.6	6.8	6.5	6.3	6.0	5.4	5.6	6.0	6.1	6.1
170.	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.3	6.6	6.8	6.4	6.5	5.9	5.4	5.7	6.1	6.2	6.2
180.	5.1	5.1	5.1	5.0	5.0	5.9	6.0	5.9	5.5	5.3	6.7	6.9	6.4	6.5	5.7	5.4	5.7	6.3	6.4	6.4
190.	5.1	5.1	5.2	5.0	5.0	5.9	5.9	5.8	5.5	5.3	7.0	7.0	6.5	6.6	5.7	5.4	5.6	6.5	6.5	6.5
200.	5.3	5.3	5.4	5.0	5.0	5.8	5.8	5.9	5.5	5.4	7.3	7.1	6.8	6.5	5.6	5.4	5.6	6.7	6.8	6.8
210.	5.9	5.9	6.1	5.1	5.0	5.9	6.0	6.3	6.0	5.8	7.3	7.2	7.0	6.3	5.5	5.3	5.5	6.8	6.8	6.8
220.	6.6	6.7	6.7	5.4	5.2	6.1	6.3	6.9	6.6	6.3	6.9	6.9	6.7	6.0	5.3	5.0	5.3	6.3	6.3	6.3
230.	6.8	6.8	6.9	5.6	5.4	6.3	6.5	7.1	6.7	6.6	6.3	6.3	6.1	5.6	5.2	5.0	5.0	5.6	5.6	5.6
240.	6.6	6.6	6.6	5.6	5.4	6.2	6.4	6.8	6.5	6.7	5.6	5.6	5.7	5.4	5.2	5.0	5.0	5.2	5.2	5.2
250.	6.4	6.4	6.4	5.6	5.4	6.3	6.5	6.6	6.6	6.6	5.3	5.4	5.7	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	6.2	6.2	6.2	5.6	5.4	6.3	6.5	6.4	6.5	6.6	5.2	5.4	5.8	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	6.1	6.1	6.1	5.5	5.4	6.4	6.5	6.5	6.5	6.5	5.2	5.3	6.0	5.3	5.3	5.0	5.0	5.1	5.1	5.1
280.	6.0	6.1	6.0	5.5	5.4	6.5	6.6	6.5	6.3	6.3	5.2	5.2	5.9	5.3	5.3	5.0	5.0	5.1	5.0	5.0
290.	6.0	6.0	6.1	5.6	5.5	6.4	6.7	6.5	6.4	6.3	5.1	5.1	5.8	5.3	5.4	5.1	5.1	5.3	5.0	5.0
300.	6.1	6.1	6.4	5.7	5.7	6.6	6.7	6.6	6.2	6.2	5.1	5.1	5.6	5.4	5.4	5.2	5.2	5.8	5.0	5.0
310.	6.1	6.2	6.7	6.1	5.9	6.3	6.5	6.5	6.3	6.2	5.0	5.1	5.5	5.3	5.3	5.3	5.5	6.3	5.1	5.0
320.	6.1	6.1	6.7	6.2	6.2	6.0	6.1	6.3	6.2	6.1	5.0	5.0	5.2	5.2	5.2	5.4	5.6	6.6	5.1	5.1
330.	6.1	6.2	6.6	6.2	6.2	5.6	5.8	6.1	6.2	6.1	5.0	5.0	5.1	5.1	5.1	5.4	5.7	6.6	5.1	5.1
340.	6.2	6.4	6.5	6.2	6.2	5.5	5.7	6.1	6.2	6.1	5.0	5.0	5.0	5.0	5.0	5.3	5.7	6.3	5.3	5.2
350.	6.4	6.5	6.5	6.2	6.2	5.4	5.6	6.1	6.2	6.0	5.1	5.1	5.1	5.0	5.0	5.3	5.8	6.1	5.4	5.2
360.	6.5	6.6	6.6	6.3	6.1	5.4	5.7	6.3	6.3	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.8	5.8	5.5	5.3
MAX	6.8	6.8	7.1	6.4	6.2	6.6	6.7	7.1	6.7	6.7	7.3	7.2	7.0	6.6	6.3	6.4	7.5	7.1	7.0	7.0
DEGR.	230	230	30	10	320	300	290	230	230	240	200	210	60	190	140	120	110	60	50	60

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.3	6.7	7.8	7.0	6.8	7.9	7.8	7.7	6.8	6.4	5.1	5.3	6.7	6.6	6.7	7.9	7.8	7.9	5.5	5.2
10.	6.6	6.9	7.8	7.2	7.0	6.8	6.8	6.9	6.4	6.3	5.0	5.0	5.9	5.7	5.9	8.4	8.2	8.3	5.7	5.4
20.	6.6	7.0	7.4	6.8	7.1	6.0	6.2	6.3	6.3	6.2	5.0	5.0	5.3	5.3	5.4	7.9	7.9	7.9	5.9	5.5
30.	6.8	6.9	6.9	6.7	7.2	5.7	6.0	6.3	6.4	6.3	5.1	5.1	5.2	5.1	5.1	7.6	7.5	7.5	5.8	5.6
40.	6.7	7.0	6.8	6.8	7.1	5.6	6.0	6.4	6.5	6.4	5.1	5.1	5.2	5.1	5.1	7.2	7.2	7.2	5.9	5.6
50.	6.7	7.0	6.8	7.1	7.1	5.5	5.9	6.6	6.6	6.5	5.1	5.1	5.2	5.0	5.1	7.0	7.0	7.0	5.8	5.6
60.	7.0	7.1	7.0	7.2	7.0	5.6	5.8	6.9	6.9	6.8	5.1	5.1	5.1	5.0	5.0	6.8	6.8	6.8	5.8	5.6
70.	7.1	7.3	7.3	7.2	6.9	5.6	5.9	7.1	7.0	7.0	5.3	5.3	5.3	5.0	5.0	6.7	6.7	6.8	5.8	5.6
80.	7.3	7.5	7.6	7.1	6.8	5.4	5.9	7.4	7.2	7.2	5.7	5.7	5.7	5.0	5.0	6.7	6.8	7.2	6.2	6.0
90.	7.2	7.1	7.5	6.8	6.7	5.3	5.5	7.1	7.0	7.0	6.5	6.5	6.6	5.3	5.2	7.1	7.1	8.2	7.0	6.8
100.	6.4	6.5	6.6	6.6	6.3	5.0	5.2	6.3	6.3	6.3	7.1	7.3	7.3	5.7	5.3	7.0	7.5	8.8	7.4	6.9
110.	5.8	5.8	5.9	6.3	6.3	5.0	5.0	5.5	5.4	5.5	7.2	7.3	7.4	5.8	5.5	7.2	7.7	8.6	7.1	7.0
120.	5.5	5.6	5.8	6.4	6.4	5.0	5.0	5.2	5.2	5.2	6.9	7.0	7.0	5.8	5.7	7.5	7.9	8.1	6.7	6.5
130.	5.5	5.7	5.9	6.4	6.4	5.0	5.0	5.1	5.1	5.1	6.6	6.8	6.7	6.0	5.7	7.7	7.9	7.8	6.5	6.4
140.	5.5	5.7	6.2	6.6	6.6	5.1	5.2	5.1	5.1	5.1	6.5	6.7	6.5	5.9	5.6	7.9	8.0	7.7	6.5	6.5
150.	5.5	5.8	6.5	6.8	6.8	5.2	5.2	5.2	5.1	5.1	6.4	6.6	6.5	5.9	5.6	8.0	8.0	7.5	6.5	6.5
160.	5.4	5.7	6.8	6.9	6.9	5.5	5.6	5.3	5.0	5.0	6.3	6.5	6.6	6.2	5.9	8.4	8.2	7.7	6.5	6.2
170.	5.4	5.7	7.0	7.1	7.1	6.4	6.4	6.1	5.1	5.0	6.3	6.6	7.1	6.5	6.3	8.4	8.4	7.8	6.5	6.2
180.	5.1	5.4	6.7	6.7	6.8	7.4	7.6	7.1	5.4	5.1	6.5	6.9	7.8	7.2	7.3	7.9	7.6	7.5	6.3	6.0
190.	5.0	5.1	5.9	5.9	5.9	8.1	8.2	7.5	5.7	5.4	6.8	7.3	8.0	7.3	7.7	6.7	6.5	6.7	6.0	5.9
200.	5.0	5.0	5.3	5.3	5.3	8.0	8.1	7.2	5.8	5.5	6.8	7.2	7.6	7.2	7.4	5.9	5.9	6.1	5.8	5.8
210.	5.0	5.0	5.1	5.1	5.1	7.5	7.6	6.5	5.9	5.6	7.1	7.2	7.0	7.3	7.2	5.6	5.7	6.0	5.9	5.9
220.	5.1	5.1	5.1	5.1	5.1	7.2	7.3	6.1	5.8	5.6	7.1	7.1	6.9	7.1	7.1	5.6	5.6	6.0	6.0	6.0
230.	5.1	5.1	5.1	5.0	5.0	6.9	7.0	5.8	5.8	5.5	7.1	7.0	7.0	7.0	6.9	5.5	5.7	6.2	6.1	6.1
240.	5.1	5.1	5.1	5.0	5.0	6.8	6.8	5.6	5.7	5.5	7.2	7.1	7.2	7.0	6.8	5.4	5.6	6.2	6.2	6.2
250.	5.3	5.3	5.3	5.0	5.0	6.6	6.6	5.5	5.8	5.6	7.3	7.0	7.5	7.0	6.8	5.4	5.6	6.4	6.4	6.4
260.	5.7	5.7	5.6	5.1	5.0	6.6	6.6	6.1	6.1	6.0	7.3	7.3	7.7	7.0	6.8	5.4	5.6	6.6	6.6	6.6
270.	6.5	6.5	6.4	5.3	5.2	7.0	7.1	6.8	6.7	6.7	7.3	7.3	7.8	6.9	6.7	5.2	5.4	6.4	6.4	6.4
280.	6.9	7.0	6.8	5.6	5.3	6.9	7.2	7.1	7.1	7.2	6.5	6.6	7.2	6.5	6.4	5.0	5.1	5.8	5.8	5.8
290.	6.9	6.9	6.7	5.7	5.4	7.0	7.3	7.1	7.2	7.4	5.8	6.0	6.7	6.4	6.4	5.0	5.0	5.3	5.3	5.3
300.	6.6	6.6	6.4	5.7	5.4	7.2	7.5	6.9	7.0	7.2	5.6	5.7	6.6	6.5	6.5	5.0	5.0	5.1	5.1	5.1
310.	6.4	6.5	6.2	5.6	5.4	7.3	7.5	6.8	7.2	7.1	5.6	5.9	6.6	6.5	6.7	5.1	5.1	5.2	5.1	5.1
320.	6.3	6.3	6.0	5.6	5.5	7.5	7.6	7.0	7.2	7.2	5.7	5.9	6.7	6.7	6.8	5.2	5.1	5.3	5.1	5.1
330.	6.2	6.2	5.8	5.6	5.5	7.8	7.8	7.4	7.2	7.1	5.7	5.9	7.0	7.0	7.0	5.3	5.2	5.2	5.0	5.0
340.	6.1	6.1	6.1	5.8	5.7	8.2	8.1	7.9	7.1	6.9	5.5	5.8	7.3	7.3	7.3	5.7	5.7	5.7	5.0	5.0
350.	6.1	6.3	6.9	6.3	6.2	8.6	8.2	8.1	6.9	6.7	5.3	5.6	7.2	7.2	7.3	6.8	6.7	6.8	5.2	5.0
360.	6.3	6.7	7.8	7.0	6.8	7.9	7.8	7.7	6.8	6.4	5.1	5.3	6.7	6.6	6.7	7.9	7.8	7.9	5.5	5.2
MAX	7.3	7.5	7.8	7.2	7.2	8.6	8.2	8.1	7.2	7.4	7.3	7.3	8.0	7.3	7.7	8.4	8.4	8.8	7.4	7.0
DEGR.	80	80	0	10	30	350	190	350	80	290	250	100	190	190	190	10	170	100	100	110

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.5	5.5	5.5	5.0	5.0	6.0	6.0	6.3	6.2	6.4	6.2	6.2	6.3	6.3	6.3
10.	5.9	6.0	6.0	5.2	5.0	6.0	6.2	6.6	6.7	6.6	5.8	5.8	6.1	6.0	6.0
20.	6.2	6.3	6.3	5.4	5.1	6.1	6.4	6.7	6.6	6.6	5.3	5.3	5.6	5.6	5.6
30.	6.2	6.3	6.3	5.5	5.3	6.3	6.5	6.6	6.5	6.4	5.1	5.1	5.2	5.2	5.2
40.	6.1	6.1	6.1	5.5	5.3	6.3	6.5	6.4	6.2	6.1	5.1	5.1	5.1	5.1	5.1
50.	6.0	6.0	6.0	5.5	5.3	6.5	6.5	6.3	6.1	6.0	5.1	5.1	5.1	5.1	5.1
60.	5.9	5.9	5.9	5.5	5.3	6.5	6.5	6.2	5.9	5.9	5.0	5.1	5.1	5.1	5.1
70.	5.8	5.8	5.8	5.4	5.3	6.6	6.5	6.2	5.9	5.9	5.0	5.0	5.0	5.0	5.1
80.	5.7	5.8	5.8	5.4	5.5	6.5	6.3	6.2	5.9	5.9	5.0	5.0	5.0	5.0	5.0
90.	5.8	5.8	5.8	5.6	5.6	6.3	6.1	6.1	6.0	6.0	5.0	5.0	5.0	5.0	5.0
100.	5.8	5.8	5.8	5.8	6.0	6.0	5.8	6.0	5.9	5.9	5.0	5.0	5.0	5.0	5.0
110.	5.8	5.8	5.9	6.2	6.5	5.7	5.6	6.0	5.9	5.9	5.0	5.0	5.0	5.0	5.0
120.	5.7	5.7	6.0	6.6	6.9	5.4	5.6	6.0	5.9	5.9	5.1	5.1	5.0	5.0	5.0
130.	5.8	5.8	6.1	6.9	6.9	5.4	5.5	6.0	6.0	6.0	5.1	5.1	5.0	5.0	5.1
140.	5.9	6.0	6.2	6.9	6.9	5.4	5.5	6.2	6.1	6.2	5.1	5.1	5.0	5.1	5.1
150.	6.0	6.1	6.4	7.0	6.8	5.4	5.6	6.3	6.3	6.3	5.1	5.1	5.0	5.1	5.1
160.	6.2	6.4	6.6	6.8	6.6	5.3	5.6	6.5	6.5	6.5	5.3	5.3	5.2	5.2	5.1
170.	6.5	6.7	6.9	6.7	6.4	5.2	5.4	6.6	6.5	6.6	5.7	5.7	5.6	5.4	5.4
180.	6.5	6.7	6.5	6.4	6.2	5.1	5.2	6.3	6.2	6.2	6.3	6.3	6.1	6.0	5.9
190.	6.2	6.2	6.1	6.2	6.1	5.0	5.1	5.7	5.6	5.6	6.6	6.6	6.6	6.3	6.3
200.	5.7	5.8	5.8	6.1	6.1	5.0	5.0	5.3	5.2	5.3	6.5	6.5	6.4	6.4	6.4
210.	5.4	5.5	5.8	6.2	6.1	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	6.3	6.5
220.	5.4	5.5	5.9	6.2	6.1	5.0	5.0	5.1	5.1	5.1	6.1	6.1	6.2	6.3	6.4
230.	5.4	5.5	5.9	6.3	6.2	5.0	5.0	5.1	5.1	5.1	6.0	6.0	6.2	6.3	6.3
240.	5.3	5.5	6.0	6.4	6.1	5.0	5.0	5.1	5.0	5.1	5.9	5.9	6.3	6.3	6.2
250.	5.1	5.3	6.2	6.5	5.9	5.0	5.0	5.0	5.0	5.0	5.9	5.9	6.2	6.2	6.0
260.	5.1	5.2	6.1	6.5	5.8	5.1	5.1	5.1	5.0	5.0	5.9	5.9	6.6	6.1	5.9
270.	5.2	5.2	6.1	6.4	5.7	5.3	5.2	5.4	5.1	5.0	6.0	6.1	6.7	6.1	6.0
280.	5.0	5.2	5.7	6.1	5.6	5.4	5.6	5.8	5.2	5.1	6.0	6.2	6.5	5.9	5.9
290.	5.1	5.1	5.3	5.7	5.4	5.4	5.8	6.1	5.2	5.1	6.0	6.3	6.2	5.9	5.9
300.	5.1	5.1	5.1	5.3	5.2	5.6	6.2	6.4	5.5	5.3	6.2	6.5	6.0	5.9	5.9
310.	5.0	5.0	5.1	5.1	5.1	5.6	6.2	6.3	5.6	5.4	6.4	6.6	5.9	5.8	5.8
320.	5.1	5.1	5.1	5.0	5.0	5.6	6.2	6.1	5.6	5.4	6.4	6.4	5.9	5.9	5.9
330.	5.1	5.1	5.1	5.0	5.0	5.8	6.2	5.9	5.6	5.4	6.6	6.5	6.0	6.0	6.0
340.	5.1	5.1	5.1	5.0	5.0	5.8	6.0	5.7	5.6	5.5	6.5	6.4	6.1	6.1	6.1
350.	5.2	5.2	5.2	5.0	5.0	5.9	6.0	5.9	5.8	5.9	6.4	6.3	6.3	6.3	6.3
360.	5.5	5.5	5.5	5.0	5.0	6.0	6.0	6.3	6.2	6.4	6.2	6.2	6.3	6.3	6.3
MAX	6.5	6.7	6.9	7.0	6.9	6.6	6.5	6.7	6.7	6.6	6.6	6.6	6.7	6.4	6.5
DEGR.	170	170	170	150	120	70	30	20	10	10	190	190	270	200	210

THE HIGHEST CONCENTRATION OF 8.80 PPM OCCURRED AT RECEPTOR REC38.

Ex2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.4	********	*	70.	312.	AG	322.	100.0	1.0	20.0	0.44	3.6
2. MVP West	*	756216.0	********	754217.4	********	*	3247.	218.	AG	103.	100.0	1.0	10.0	1.36	165.0
3. Boston Ave South	*	756271.8	********	757480.6	********	*	1624.	132.	AG	161.	100.0	1.0	10.0	1.37	82.5
4. MVP East	*	756253.6	********	756376.9	********	*	173.	45.	AG	206.	100.0	1.0	20.0	0.77	8.8
5. Winthrop North	*	759327.2	********	759298.6	********	*	1013.	358.	AG	308.	100.0	1.0	20.0	1.16	51.5
6. MVP East RT	*	759381.7	********	759502.5	********	*	121.	93.	AG	89.	100.0	1.0	10.0	0.45	6.1
7. MVP East T	*	759381.8	********	763790.8	********	*	4411.	92.	AG	122.	100.0	1.0	10.0	1.59	224.1
8. Winthrop South	*	759345.1	********	759310.2	********	*	1357.	181.	AG	373.	100.0	1.0	20.0	1.62	69.0
9. MVP West	*	759293.5	********	755376.9	********	*	3921.	273.	AG	122.	100.0	1.0	10.0	1.52	199.2
10. South St	*	761297.7	********	761138.4	********	*	163.	282.	AG	329.	100.0	1.0	20.0	0.86	8.3
11. Boston Ave. SB LT	*	759658.7	********	759565.4	********	*	198.	332.	AG	170.	100.0	1.0	10.0	0.92	10.0
12. Boston Ave. SB R	*	759646.0	********	759616.2	********	*	64.	332.	AG	170.	100.0	1.0	10.0	0.38	3.2
13. College Ave EB L	*	759636.4	********	759598.9	********	*	83.	207.	AG	170.	100.0	1.0	10.0	0.49	4.2
14. College Ave. EB TR	*	759648.1	********	759584.2	********	*	139.	207.	AG	170.	100.0	1.0	10.0	0.77	7.1
15. Boston Ave. NB	*	759699.9	********	759948.0	********	*	521.	152.	AG	170.	100.0	1.0	10.0	1.08	26.5
16. College Ave WB	*	759720.8	********	759917.4	********	*	339.	35.	AG	162.	100.0	1.0	10.0	1.01	17.2
17. Main St. SB	*	762042.2	********	761358.1	********	*	2227.	342.	AG	155.	100.0	1.0	10.0	1.50	113.1
18. Harvard St. EB	*	762026.6	********	760826.1	********	*	1368.	241.	AG	145.	100.0	1.0	10.0	1.24	69.5
19. Main st. NB	*	762078.3	********	762234.4	********	*	492.	162.	AG	155.	100.0	1.0	10.0	1.07	25.0
20. Harvard St. WB	*	762091.8	********	763477.0	********	*	1451.	73.	AG	145.	100.0	1.0	10.0	1.25	73.7
21. Broadway EB R	*	762959.1	********	762829.3	********	*	141.	293.	AG	174.	100.0	1.0	10.0	0.85	7.2
22. Broadway EB TL	*	762965.1	********	761504.0	********	*	1595.	294.	AG	174.	100.0	1.0	10.0	1.49	81.0
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	205.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	763636.6	********	*	1104.	150.	AG	174.	100.0	1.0	10.0	1.32	56.1
25. Broadway St. WB	*	763115.6	********	764227.2	********	*	1210.	113.	AG	348.	100.0	1.0	20.0	1.35	61.5
26. Dexter St. SWB	*	763101.5	********	763403.1	********	*	415.	47.	AG	205.	100.0	1.0	10.0	1.82	21.1
27. Medford St. SB	*	763008.3	********	762799.6	********	*	661.	342.	AG	183.	100.0	1.0	10.0	1.23	33.6
28. Highland St. EB	*	763277.6	********	763150.5	********	*	139.	294.	AG	143.	100.0	1.0	10.0	0.84	7.0
29. Central St NB	*	763301.4	********	763212.2	********	*	202.	206.	AG	143.	100.0	1.0	10.0	0.95	10.3
30. Highland St. WB	*	763328.5	********	763551.1	********	*	243.	114.	AG	143.	100.0	1.0	10.0	1.00	12.3
31. Central St. SB	*	763311.4	********	763332.6	********	*	46.	27.	AG	150.	100.0	1.0	10.0	0.37	2.3
32. Medford St. NWB	*	765022.2	********	766415.9	********	*	2269.	142.	AG	131.	100.0	1.0	10.0	1.38	115.3
33. School St. SB	*	765002.3	********	765166.0	********	*	379.	26.	AG	166.	100.0	1.0	10.0	1.08	19.3
34. Medford St. SEB	*	764967.1	********	764863.8	********	*	167.	322.	AG	131.	100.0	1.0	10.0	0.93	8.5
35. Prospect SB	*	765830.6	********	766200.2	********	*	715.	31.	AG	318.	100.0	1.0	20.0	1.12	36.3
36. Sommerville WB	*	765870.1	********	766866.4	********	*	1110.	116.	AG	386.	100.0	1.0	20.0	1.79	56.4
37. Prospect NB	*	765828.4	********	765723.3	********	*	237.	206.	AG	458.	100.0	1.0	30.0	0.97	12.0
38. Somerville EB	*	765797.5	********	765688.8	********	*	121.	296.	AG	265.	100.0	1.0	20.0	0.60	6.1
39. McGrath Highway SB1	*	766950.5	********	766591.9	********	*	1973.	350.	AG	405.	100.0	1.0	20.0	3.83	100.2
40. Washington St. EB	*	766952.8	********	759076.8	********	*	8448.	249.	AG	168.	100.0	1.0	10.0	3.46	429.2
41. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	32.	172.	AG	194.	100.0	1.0	10.0	0.41	1.6
42. McGrath Hwy NB2 T	*	767119.9	********	767604.3	********	*	3946.	173.	AG	194.	100.0	1.0	10.0	3.91	200.5
43. Washington St. WB	*	767129.9	********	767268.1	********	*	151.	67.	AG	410.	100.0	1.0	30.0	0.61	7.7
44. Cambridge St EB TR	*	770464.9	********	769532.8	********	*	943.	279.	AG	184.	100.0	1.0	10.0	1.39	47.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55: 2

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Cambridge St WB L	*	770550.6	********	770577.5	********	*	27.	98.	AG	93.	100.0	1.0	10.0	0.12	1.4
46. Cambridge St WB T	*	770554.3	********	770611.2	********	*	58.	99.	AG	93.	100.0	1.0	10.0	0.26	2.9
47. First St NB L	*	770507.2	********	770497.7	********	*	61.	189.	AG	193.	100.0	1.0	10.0	0.79	3.1
48. First St NB R	*	770523.2	********	770510.0	********	*	80.	189.	AG	57.	100.0	1.0	10.0	0.46	4.1
49. East St SB	*	770754.4	********	770782.0	********	*	42.	41.	AG	184.	100.0	1.0	10.0	0.44	2.1
50. MsgrOb/East EB R	*	770637.2	********	770602.3	********	*	44.	307.	AG	174.	100.0	1.0	10.0	0.35	2.2
51. MsgrOb/East EB T	*	770650.1	********	770507.4	********	*	180.	307.	AG	521.	100.0	1.0	30.0	0.97	9.1
52. MsgrOb/East EB L	*	770662.8	********	770653.7	********	*	12.	308.	AG	174.	100.0	1.0	10.0	0.09	0.6
53. MsgrOb/East WB T	*	770764.6	********	770972.1	********	*	282.	133.	AG	93.	100.0	1.0	10.0	0.95	14.3
54. MsgrOb/East WB R	*	770778.0	********	770778.9	********	*	1.	134.	AG	93.	100.0	1.0	10.0	0.01	0.1
55. MsgrOb at First WB L	*	770904.4	********	770949.4	********	*	54.	124.	AG	296.	100.0	1.0	20.0	0.30	2.8
56. Boston Ave. North	*	756236.2	********	754979.9	********	*	1652.	311.	AG	534.	12.8	1.0	42.0		
57. MVP West	*	756236.4	********	755664.5	********	*	961.	217.	AG	2303.	12.8	1.0	58.0		
58. MVP East	*	756236.3	********	756857.2	********	*	867.	46.	AG	2149.	12.8	1.0	66.0		
59. Boston Ave. South	*	756236.7	********	757224.6	********	*	1320.	132.	AG	883.	12.8	1.0	42.0		
60. Winthrop South	*	759337.5	********	759326.8	********	*	663.	181.	AG	1080.	13.1	1.0	42.0		
61. Winthrop North	*	759337.5	********	759313.4	********	*	855.	358.	AG	1761.	13.1	1.0	42.0		
62. MVP West	*	759335.1	********	758131.8	********	*	1204.	272.	AG	2092.	12.8	1.0	66.0		
63. MVP East	*	759335.6	********	760246.6	********	*	913.	93.	AG	2987.	12.8	1.0	66.0		
64. South Street	*	761345.7	********	760087.5	********	*	1291.	283.	AG	571.	12.8	1.0	42.0		
65. Main St North	*	761336.6	********	761454.9	********	*	676.	10.	AG	2127.	13.1	1.0	66.0		
66. Main St South	*	761340.3	********	761346.3	********	*	842.	180.	AG	2457.	13.1	1.0	66.0		
67. Boston Ave. SB	*	759689.9	********	759291.3	********	*	834.	331.	AG	903.	12.8	1.0	54.0		
68. College Ave. EB	*	759682.8	********	759503.5	********	*	402.	206.	AG	702.	12.8	1.0	54.0		
69. College Ave. EB2	*	759494.1	********	759662.7	********	*	1634.	174.	AG	702.	12.8	1.0	54.0		
70. Boston Ave. NB	*	759638.3	********	760480.3	********	*	1710.	151.	AG	528.	12.8	1.0	42.0		
71. College Ave. WB	*	759667.3	********	760588.5	********	*	1597.	35.	AG	739.	12.8	1.0	42.0		
72. Main St. SB	*	762056.3	********	761788.3	********	*	898.	343.	AG	996.	13.1	1.0	42.0		
73. Harvard St. EB	*	762057.7	********	760514.6	********	*	1752.	242.	AG	1156.	12.8	1.0	42.0		
74. Main St. NB	*	762056.8	********	762406.1	********	*	1071.	161.	AG	949.	13.1	1.0	42.0		
75. Harvard St. WB	*	762057.1	********	763589.7	********	*	1603.	73.	AG	1111.	12.8	1.0	42.0		
76. Broadway St. EB	*	763029.8	********	761172.6	********	*	2021.	293.	AG	1484.	12.8	1.0	66.0		
77. Parking Lot NEB	*	763030.0	********	762877.3	********	*	237.	220.	AG	85.	50.0	1.0	42.0		
78. Medford St. NB	*	763025.4	********	764069.8	********	*	2059.	150.	AG	748.	12.8	1.0	42.0		
79. Broadway St. WB	*	763030.1	********	764419.9	********	*	1513.	113.	AG	1164.	12.8	1.0	66.0		
80. Dexter St. SWB	*	763031.1	********	764132.1	********	*	1524.	46.	AG	71.	12.8	1.0	30.0		
81. Medford St. SB	*	763047.7	********	762503.6	********	*	1637.	341.	AG	499.	12.8	1.0	42.0		
82. Highland St. EB	*	763300.2	********	762029.2	********	*	1386.	293.	AG	881.	12.8	1.0	42.0		
83. Central St. NB	*	763299.4	********	762852.7	********	*	981.	207.	AG	581.	13.1	1.0	42.0		
84. Highland St. WB	*	763299.4	********	764576.9	********	*	1400.	114.	AG	896.	12.8	1.0	42.0		
85. Central St. SB	*	763299.7	********	764053.4	********	*	1632.	27.	AG	534.	13.1	1.0	42.0		
86. Medford St. NWB	*	764993.5	********	765926.1	********	*	1536.	143.	AG	1133.	12.8	1.0	42.0		
87. School St. SB	*	764992.8	********	765406.3	********	*	930.	26.	AG	461.	13.1	1.0	42.0		
88. Medford St. SEB	*	764996.8	********	764392.9	********	*	986.	322.	AG	960.	12.8	1.0	42.0		
89. School St. NB	*	764991.8	********	764577.6	********	*	935.	206.	AG	458.	13.1	1.0	42.0		
90. Prospect St. SB	*	765833.6	********	765929.0	********	*	177.	33.	AG	1857.	13.0	1.0	66.0		
91. Sommerville Ave. EB	*	765828.2	********	765178.4	********	*	720.	295.	AG	2312.	12.8	1.0	66.0		
92. Prospect St. NB	*	765839.9	********	765452.5	********	*	858.	207.	AG	1193.	13.0	1.0	54.0		
93. Somerville Ave WB	*	765826.5	********	767169.2	********	*	1492.	116.	AG	842.	12.8	1.0	66.0		
94. McGrath Hwy SB1	*	766957.3	********	766833.9	********	*	714.	350.	AG	460.	12.8	1.0	42.0		
95. McGrath Highway NB1	*	767104.5	********	766885.0	********	*	694.	342.	AG	1300.	12.8	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	12.8	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	12.8	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	12.8	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	12.8	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	12.8	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	12.8	1.0	42.0	
102. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	12.8	1.0	66.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	13.1	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	12.8	1.0	42.0	
105. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	12.8	1.0	****	
106. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	12.8	1.0	66.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	12.8	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	310	1600	81.70	1	3
2. MVP West	*	113	53	3.0	1058	1600	81.70	1	3
3. Boston Ave South	*	113	83	3.0	483	1600	81.70	1	3
4. MVP East	*	113	53	3.0	1197	1600	81.70	1	3
5. Winthrop North	*	135	95	3.0	961	1600	81.70	1	3
6. MVP East RT	*	135	55	3.0	402	1600	81.70	1	3
7. MVP East T	*	135	75	3.0	1036	1600	81.70	1	3
8. Winthrop South	*	135	115	3.0	572	1600	81.70	1	3
9. MVP West	*	135	75	3.0	989	1600	81.70	1	3
10. South St	*	120	90	3.0	571	1600	81.70	1	3
11. Boston Ave. SB LT	*	135	105	3.0	272	1600	81.70	1	3
12. Boston Ave. SB R	*	135	105	3.0	111	1600	81.70	1	3
13. College Ave EB L	*	135	105	3.0	144	1600	81.70	1	3
14. College Ave. EB TR	*	135	105	3.0	228	1600	81.70	1	3
15. Boston Ave. NB	*	135	105	3.0	321	1600	81.70	1	3
16. College Ave WB	*	135	100	3.0	360	1600	81.70	1	3
17. Main St. SB	*	92	65	3.0	573	1600	81.70	1	3
18. Harvard St. EB	*	92	61	3.0	559	1600	81.70	1	3
19. Main st. NB	*	92	65	3.0	407	1600	81.70	1	3
20. Harvard St. WB	*	92	61	3.0	567	1600	81.70	1	3
21. Broadway EB R	*	122	97	3.0	224	1600	81.70	1	3
22. Broadway EB TL	*	122	97	3.0	391	1600	81.70	1	3
23. Parking Lot	*	122	114	3.0	50	1600	81.70	1	3
24. Medford St. NB	*	122	97	3.0	345	1600	81.70	1	3
25. Broadway St. WB	*	122	97	3.0	710	1600	81.70	1	3
26. Dexter St. SWB	*	122	114	3.0	71	1600	81.70	1	3
27. Medford St. SB	*	122	102	3.0	241	1600	81.70	1	3
28. Highland St. EB	*	86	56	3.0	390	1600	81.70	1	3
29. Central St NB	*	86	56	3.0	443	1600	81.70	1	3
30. Highland St. WB	*	86	56	3.0	463	1600	81.70	1	3
31. Central St. SB	*	82	56	3.0	150	1600	81.70	1	3
32. Medford St. NWB	*	70	42	3.0	723	1600	81.70	1	3
33. School St. SB	*	70	53	3.0	295	1600	81.70	1	3
34. Medford St. SEB	*	70	42	3.0	488	1600	81.70	1	3
35. Prospect SB	*	109	79	3.0	821	1600	81.70	1	3
36. Sommerville WB	*	109	96	3.0	418	1600	81.70	1	3
37. Prospect NB	*	109	76	3.0	1193	1600	81.70	1	3
38. Somerville EB	*	109	66	3.0	670	1600	81.70	1	3
39. McGrath Highway SB1	*	133	123	3.0	460	1600	81.70	1	3
40. Washington St. EB	*	133	102	3.0	1079	1600	81.70	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	81.70	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	81.70	1	3
43. Washington St. WB	*	133	83	3.0	997	1600	81.70	1	3
44. Cambridge St EB TR	*	111	93	3.0	260	1600	81.70	1	3
45. Cambridge St WB L	*	111	47	3.0	106	1600	81.70	1	3
46. Cambridge St WB T	*	111	47	3.0	224	1600	81.70	1	3
47. First St NB L	*	111	98	3.0	91	1600	81.70	1	3
48. First St NB R	*	111	29	3.0	507	1600	81.70	1	3
49. East St SB	*	111	93	3.0	83	1600	81.70	1	3
50. MsgrOb/East EB R	*	111	88	3.0	91	1600	81.70	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East EB T	111	88	3.0	750	1600	81.70	1	3
52. MsgrOb/East EB L	111	88	3.0	24	1600	81.70	1	3
53. MsgrOb/East WB T	111	47	3.0	807	1600	81.70	1	3
54. MsgrOb/East WB R	111	47	3.0	5	1600	81.70	1	3
55. MsgrOb at First WB L	111	75	3.0	265	1600	81.70	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.8	6.6	6.0	6.0	5.9	5.2	5.5	5.6	5.7	5.7	5.0	5.0	5.0	5.0	5.0	6.1	7.1	5.8	5.5	5.2
10.	6.8	6.4	6.0	5.8	5.9	5.2	5.4	5.7	5.9	5.9	5.1	5.1	5.1	5.0	5.0	6.0	6.7	5.8	5.7	5.3
20.	6.8	6.4	5.8	5.7	5.7	5.2	5.3	5.6	6.0	5.9	5.3	5.4	5.4	5.0	5.0	5.8	6.4	5.8	5.9	5.6
30.	6.3	5.9	5.6	5.6	5.6	5.1	5.3	5.6	5.9	5.8	5.7	5.8	5.8	5.1	5.0	5.8	6.5	6.0	5.8	5.8
40.	5.8	5.5	5.4	5.5	5.5	5.0	5.1	5.3	5.6	5.5	6.2	6.2	6.1	5.2	5.1	5.8	6.6	6.1	5.9	5.8
50.	5.4	5.3	5.2	5.5	5.5	5.0	5.0	5.1	5.2	5.2	6.3	6.3	6.1	5.3	5.1	5.9	6.5	5.8	5.6	5.7
60.	5.2	5.2	5.2	5.5	5.5	5.0	5.0	5.0	5.1	5.1	6.2	6.2	5.9	5.4	5.2	5.9	6.2	5.5	5.5	5.6
70.	5.2	5.3	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.6	5.4	5.2	5.9	5.9	5.3	5.5	5.8
80.	5.2	5.3	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.5	5.4	5.2	5.9	5.8	5.4	5.5	5.9
90.	5.2	5.3	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.3	5.3	5.2	5.9	5.6	5.2	5.5	6.0
100.	5.2	5.3	5.5	5.5	5.6	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.3	5.3	5.2	6.1	5.7	5.1	5.6	6.0
110.	5.2	5.3	5.6	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.3	5.2	5.2	6.1	5.7	5.2	5.6	6.1
120.	5.2	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.3	5.2	5.2	6.3	5.8	5.3	5.7	6.1
130.	5.2	5.3	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.0	5.8	5.8	5.3	5.2	5.2	6.5	5.7	5.4	5.8	6.0
140.	5.1	5.2	5.9	5.9	5.9	5.3	5.3	5.0	5.0	5.0	5.8	5.8	5.3	5.1	5.3	6.7	5.8	5.7	5.7	6.0
150.	5.0	5.2	5.8	5.8	5.8	5.7	5.6	5.2	5.1	5.0	5.8	5.8	5.5	5.4	5.5	6.5	5.8	6.0	5.9	5.9
160.	5.0	5.0	5.6	5.6	5.4	5.9	5.9	5.4	5.2	5.1	5.8	6.0	5.6	5.5	5.8	6.2	6.0	6.0	5.8	5.7
170.	5.1	5.0	5.2	5.2	5.2	5.9	5.9	5.4	5.3	5.2	6.1	6.1	5.8	5.8	6.0	5.8	5.9	5.9	5.8	5.9
180.	5.2	5.2	5.2	5.2	5.1	5.9	5.9	5.6	5.2	5.2	6.2	6.1	6.0	6.1	6.0	5.6	5.7	6.0	5.9	5.8
190.	5.3	5.4	5.4	5.2	5.2	5.8	5.6	5.6	5.5	5.4	6.4	6.3	6.1	5.9	6.0	5.3	5.7	6.0	6.0	5.6
200.	5.4	5.7	5.8	5.1	5.1	5.8	5.7	5.7	5.6	5.5	6.2	6.2	6.1	5.9	5.6	5.1	5.2	5.8	5.7	5.5
210.	5.7	6.1	6.1	5.1	5.1	5.7	5.9	5.7	5.7	5.5	6.2	5.9	5.7	5.8	5.6	5.1	5.1	5.4	5.4	5.3
220.	5.9	6.3	6.1	5.2	5.1	5.8	5.7	5.7	5.7	5.6	5.7	5.7	5.6	5.8	5.6	5.1	5.1	5.2	5.2	5.1
230.	6.0	6.4	5.9	5.2	5.1	5.8	5.8	5.4	5.7	5.6	5.5	5.5	5.4	5.8	5.6	5.1	5.1	5.1	5.1	5.1
240.	6.0	6.5	5.7	5.3	5.1	5.8	5.7	5.3	5.6	5.7	5.3	5.5	5.3	5.7	5.6	5.1	5.1	5.1	5.0	5.0
250.	5.9	6.4	5.4	5.5	5.1	5.9	5.5	5.3	5.6	5.9	5.2	5.4	5.5	5.7	5.6	5.1	5.1	5.0	5.0	5.0
260.	5.9	6.3	5.3	5.4	5.2	5.9	5.4	5.3	5.6	6.0	5.2	5.4	5.5	5.6	5.6	5.1	5.2	5.0	5.0	5.0
270.	5.9	6.3	5.3	5.4	5.2	5.9	5.4	5.3	5.7	5.9	5.2	5.3	5.7	5.6	5.6	5.1	5.2	5.0	5.0	5.0
280.	5.9	6.3	5.3	5.4	5.2	5.9	5.4	5.3	5.7	5.8	5.2	5.3	5.7	5.6	5.6	5.1	5.2	5.0	5.0	5.0
290.	5.9	6.3	5.4	5.4	5.4	5.8	5.4	5.4	5.9	5.9	5.1	5.3	5.9	5.7	5.6	5.1	5.3	5.0	5.0	5.0
300.	5.9	6.3	5.4	5.4	5.4	5.9	5.4	5.5	5.9	5.9	5.1	5.3	5.8	5.7	5.6	5.2	5.5	5.0	5.0	5.0
310.	5.9	6.3	5.4	5.3	5.4	5.8	5.4	5.8	5.8	5.8	5.1	5.2	5.8	5.7	5.5	5.3	5.8	5.0	5.0	5.0
320.	5.9	6.3	5.5	5.4	5.5	5.7	5.4	6.1	5.8	5.7	5.1	5.2	5.6	5.6	5.4	5.6	6.4	5.1	5.0	5.0
330.	5.9	6.4	5.7	5.5	5.7	5.7	5.9	6.2	5.7	5.7	5.0	5.1	5.4	5.4	5.3	5.9	7.1	5.4	5.1	5.0
340.	6.2	6.5	5.9	5.9	6.0	5.7	5.7	6.1	5.6	5.6	5.0	5.0	5.2	5.1	5.1	6.1	7.4	5.7	5.2	5.1
350.	6.5	6.7	6.0	6.1	5.9	5.2	5.5	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	6.1	7.3	5.7	5.3	5.1
360.	6.8	6.6	6.0	6.0	5.9	5.2	5.5	5.6	5.7	5.7	5.0	5.0	5.0	5.0	5.0	6.1	7.1	5.8	5.5	5.2
MAX	6.8	6.7	6.1	6.1	6.0	5.9	5.9	6.2	6.0	6.0	6.4	6.3	6.1	6.1	6.0	6.7	7.4	6.1	6.0	6.1
DEGR.	0	350	210	350	340	160	160	330	20	260	190	50	200	180	170	140	340	40	190	110

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.1	6.3	6.6	6.2	6.2	5.4	5.5	5.6	5.6	5.6	5.0	5.0	5.3	5.3	5.2	6.6	6.5	6.4	5.4	5.2
10.	6.2	6.3	6.2	6.1	6.1	5.3	5.4	5.6	5.7	5.8	5.0	5.0	5.1	5.1	5.1	6.3	6.2	6.1	5.4	5.2
20.	6.2	6.3	6.2	6.1	6.0	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.1	5.1	5.0	6.2	6.1	6.0	5.5	5.2
30.	6.4	6.4	6.1	6.1	6.0	5.3	5.3	5.8	5.8	5.9	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.7	5.5	5.3
40.	6.5	6.4	6.3	6.0	6.0	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.9	5.9	5.6	5.4	5.3
50.	6.5	6.3	6.3	6.1	6.0	5.3	5.5	6.1	6.1	6.1	5.3	5.3	5.3	5.0	5.0	5.9	5.8	5.9	5.7	5.5
60.	6.5	6.2	6.4	6.1	5.9	5.3	5.5	6.2	6.2	6.3	5.6	5.7	5.6	5.0	5.0	5.9	5.8	6.2	6.1	6.0
70.	6.2	6.2	6.3	6.0	5.9	5.2	5.3	6.1	6.1	6.1	6.2	6.3	6.3	5.2	5.0	6.0	6.0	6.8	6.4	6.5
80.	5.6	5.7	5.9	5.8	5.7	5.0	5.1	5.7	5.7	5.7	6.5	6.6	6.5	5.4	5.2	6.1	6.3	6.9	6.5	6.4
90.	5.3	5.4	5.6	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.5	6.6	6.4	5.5	5.3	6.2	6.3	6.5	6.4	6.3
100.	5.3	5.4	5.6	5.7	5.7	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.1	5.5	5.3	6.2	6.3	6.2	6.3	6.1
110.	5.3	5.3	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.1	6.1	6.1	5.8	5.4	5.3	6.3	6.4	6.1	6.1	6.0
120.	5.2	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.6	5.3	5.3	6.4	6.3	6.3	6.1	6.0
130.	5.2	5.4	6.0	6.0	6.0	5.1	5.1	5.0	5.0	5.0	5.9	5.9	5.6	5.4	5.3	6.4	6.4	6.3	6.2	6.0
140.	5.2	5.3	6.1	6.1	6.1	5.2	5.2	5.2	5.0	5.0	5.8	5.9	5.7	5.4	5.3	6.6	6.6	6.5	6.1	6.0
150.	5.1	5.3	6.2	6.2	6.1	5.5	5.5	5.5	5.0	5.0	5.8	5.9	6.0	5.8	5.6	6.6	6.6	6.6	6.1	5.9
160.	5.0	5.1	6.0	6.0	5.9	6.0	6.0	6.0	5.1	5.0	5.9	6.1	6.4	6.0	5.9	6.4	6.5	6.5	5.9	5.8
170.	5.0	5.0	5.6	5.5	5.5	6.3	6.3	6.3	5.3	5.1	6.0	6.2	6.5	6.2	6.3	6.0	5.9	6.0	5.8	5.8
180.	5.0	5.0	5.2	5.2	5.2	6.3	6.3	6.2	5.4	5.2	6.0	6.2	6.5	6.1	6.2	5.6	5.5	5.7	5.8	5.8
190.	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.0	5.4	5.2	6.1	6.3	6.3	6.1	6.1	5.4	5.4	5.6	5.8	5.8
200.	5.1	5.1	5.1	5.1	5.0	6.0	6.0	5.8	5.4	5.2	6.1	6.3	6.2	6.1	6.1	5.4	5.4	5.8	5.9	5.9
210.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.6	5.4	5.2	6.3	6.4	6.3	6.2	6.1	5.3	5.5	6.0	6.1	6.0
220.	5.3	5.3	5.2	5.0	5.0	5.8	5.8	5.6	5.3	5.3	6.4	6.6	6.5	6.2	6.0	5.3	5.5	6.2	6.2	6.2
230.	5.6	5.6	5.6	5.0	5.0	5.8	5.8	5.9	5.6	5.5	6.7	6.7	6.7	6.2	6.0	5.3	5.5	6.4	6.3	6.3
240.	6.3	6.2	6.1	5.2	5.1	5.9	6.0	6.3	5.9	5.7	6.8	6.8	6.6	6.0	5.9	5.2	5.3	6.3	6.2	6.1
250.	6.5	6.5	6.4	5.5	5.2	6.0	6.3	6.6	6.0	6.1	6.5	6.4	6.3	5.8	5.7	5.0	5.1	5.8	5.7	5.7
260.	6.5	6.5	6.3	5.5	5.3	6.1	6.3	6.3	6.0	6.3	6.0	5.9	5.8	5.7	5.7	5.0	5.0	5.4	5.2	5.2
270.	6.2	6.2	6.1	5.5	5.3	6.1	6.3	6.2	6.1	6.2	5.5	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1
280.	6.1	6.0	5.9	5.4	5.3	6.1	6.1	6.0	6.1	6.1	5.3	5.4	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1
290.	6.0	6.0	5.7	5.3	5.3	6.1	6.1	6.1	6.1	6.1	5.3	5.4	5.8	5.8	5.8	5.0	5.0	5.1	5.0	5.0
300.	5.9	5.9	5.6	5.4	5.2	6.2	6.3	6.1	6.1	6.0	5.3	5.4	5.8	5.8	5.8	5.1	5.0	5.0	5.0	5.0
310.	5.9	5.9	5.6	5.4	5.3	6.3	6.4	6.3	6.2	6.0	5.2	5.4	6.0	5.9	5.9	5.1	5.1	5.1	5.0	5.0
320.	5.9	5.9	5.8	5.4	5.3	6.4	6.4	6.4	6.1	5.9	5.2	5.4	6.1	6.1	6.1	5.2	5.2	5.2	5.0	5.0
330.	5.9	5.9	6.1	5.9	5.7	6.7	6.4	6.5	6.0	5.8	5.2	5.4	6.2	6.2	6.2	5.6	5.6	5.6	5.0	5.0
340.	6.0	6.1	6.6	6.2	6.0	6.3	6.3	6.4	5.9	5.9	5.1	5.2	6.1	6.1	6.1	6.2	6.2	6.1	5.2	5.1
350.	6.1	6.3	6.7	6.4	6.4	6.0	6.0	6.0	5.8	5.8	5.0	5.1	5.7	5.7	5.6	6.6	6.5	6.5	5.4	5.2
360.	6.1	6.3	6.6	6.2	6.2	5.4	5.5	5.6	5.6	5.6	5.0	5.0	5.3	5.3	5.2	6.6	6.5	6.4	5.4	5.2
MAX	6.5	6.5	6.7	6.4	6.4	6.7	6.4	6.6	6.2	6.3	6.8	6.8	6.7	6.2	6.3	6.6	6.6	6.9	6.5	6.5
DEGR.	40	250	350	350	350	330	310	250	60	60	240	240	230	170	170	140	140	80	80	70

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC17.

Ex3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55:25

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.4	********	*	70.	312.	AG	322.	100.0	1.0	20.0	0.44	3.6
2. MVP West	*	756216.0	********	754217.4	********	*	3247.	218.	AG	103.	100.0	1.0	10.0	1.36	165.0
3. Boston Ave South	*	756271.8	********	757480.6	********	*	1624.	132.	AG	161.	100.0	1.0	10.0	1.37	82.5
4. MVP East	*	756253.6	********	756376.9	********	*	173.	45.	AG	206.	100.0	1.0	20.0	0.77	8.8
5. Winthrop North	*	759327.2	********	759298.6	********	*	1013.	358.	AG	308.	100.0	1.0	20.0	1.16	51.5
6. MVP East RT	*	759381.7	********	759502.5	********	*	121.	93.	AG	89.	100.0	1.0	10.0	0.45	6.1
7. MVP East T	*	759381.8	********	763790.8	********	*	4411.	92.	AG	122.	100.0	1.0	10.0	1.59	224.1
8. Winthrop South	*	759345.1	********	759310.2	********	*	1357.	181.	AG	373.	100.0	1.0	20.0	1.62	69.0
9. MVP West	*	759293.5	********	755376.9	********	*	3921.	273.	AG	122.	100.0	1.0	10.0	1.52	199.2
10. South St	*	761297.7	********	761138.4	********	*	163.	282.	AG	329.	100.0	1.0	20.0	0.86	8.3
11. Boston Ave. SB LT	*	759658.7	********	759565.4	********	*	198.	332.	AG	170.	100.0	1.0	10.0	0.92	10.0
12. Boston Ave. SB R	*	759646.0	********	759616.2	********	*	64.	332.	AG	170.	100.0	1.0	10.0	0.38	3.2
13. College Ave EB L	*	759636.4	********	759598.9	********	*	83.	207.	AG	170.	100.0	1.0	10.0	0.49	4.2
14. College Ave. EB TR	*	759648.1	********	759584.2	********	*	139.	207.	AG	170.	100.0	1.0	10.0	0.77	7.1
15. Boston Ave. NB	*	759699.9	********	759948.0	********	*	521.	152.	AG	170.	100.0	1.0	10.0	1.08	26.5
16. College Ave WB	*	759720.8	********	759917.4	********	*	339.	35.	AG	162.	100.0	1.0	10.0	1.01	17.2
17. Main St. SB	*	762042.2	********	761358.1	********	*	2227.	342.	AG	155.	100.0	1.0	10.0	1.50	113.1
18. Harvard St. EB	*	762026.6	********	760826.1	********	*	1368.	241.	AG	145.	100.0	1.0	10.0	1.24	69.5
19. Main st. NB	*	762078.3	********	762234.4	********	*	492.	162.	AG	155.	100.0	1.0	10.0	1.07	25.0
20. Harvard St. WB	*	762091.8	********	763477.0	********	*	1451.	73.	AG	145.	100.0	1.0	10.0	1.25	73.7
21. Broadway EB R	*	762959.1	********	762829.3	********	*	141.	293.	AG	174.	100.0	1.0	10.0	0.85	7.2
22. Broadway EB TL	*	762965.1	********	761504.0	********	*	1595.	294.	AG	174.	100.0	1.0	10.0	1.49	81.0
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	205.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	763636.6	********	*	1104.	150.	AG	174.	100.0	1.0	10.0	1.32	56.1
25. Broadway St. WB	*	763115.6	********	764227.2	********	*	1210.	113.	AG	348.	100.0	1.0	20.0	1.35	61.5
26. Dexter St. SWB	*	763101.5	********	763403.1	********	*	415.	47.	AG	205.	100.0	1.0	10.0	1.82	21.1
27. Medford St. SB	*	763008.3	********	762799.6	********	*	661.	342.	AG	183.	100.0	1.0	10.0	1.23	33.6
28. Highland St. EB	*	763277.6	********	763150.5	********	*	139.	294.	AG	143.	100.0	1.0	10.0	0.84	7.0
29. Central St NB	*	763301.4	********	763212.2	********	*	202.	206.	AG	143.	100.0	1.0	10.0	0.95	10.3
30. Highland St. WB	*	763328.5	********	763551.1	********	*	243.	114.	AG	143.	100.0	1.0	10.0	1.00	12.3
31. Central St. SB	*	763311.4	********	763332.6	********	*	46.	27.	AG	150.	100.0	1.0	10.0	0.37	2.3
32. Medford St. NWB	*	765022.2	********	766415.9	********	*	2269.	142.	AG	131.	100.0	1.0	10.0	1.38	115.3
33. School St. SB	*	765002.3	********	765166.0	********	*	379.	26.	AG	166.	100.0	1.0	10.0	1.08	19.3
34. Medford St. SEB	*	764967.1	********	764863.8	********	*	167.	322.	AG	131.	100.0	1.0	10.0	0.93	8.5
35. Prospect SB	*	765830.6	********	766200.2	********	*	715.	31.	AG	318.	100.0	1.0	20.0	1.12	36.3
36. Sommerville WB	*	765870.1	********	766866.4	********	*	1110.	116.	AG	386.	100.0	1.0	20.0	1.79	56.4
37. Prospect NB	*	765828.4	********	765723.3	********	*	237.	206.	AG	458.	100.0	1.0	30.0	0.97	12.0
38. Somerville EB	*	765797.5	********	765688.8	********	*	121.	296.	AG	265.	100.0	1.0	20.0	0.60	6.1
39. McGrath Highway SB1	*	766950.5	********	766591.9	********	*	1973.	350.	AG	405.	100.0	1.0	20.0	3.83	100.2
40. Washington St. EB	*	766952.8	********	759076.8	********	*	8448.	249.	AG	168.	100.0	1.0	10.0	3.46	429.2
41. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	32.	172.	AG	194.	100.0	1.0	10.0	0.41	1.6
42. McGrath Hwy NB2 T	*	767119.9	********	767604.3	********	*	3946.	173.	AG	194.	100.0	1.0	10.0	3.91	200.5
43. Washington St. WB	*	767129.9	********	767268.1	********	*	151.	67.	AG	410.	100.0	1.0	30.0	0.61	7.7
44. Cambridge St EB TR	*	770464.9	********	769532.8	********	*	943.	279.	AG	184.	100.0	1.0	10.0	1.39	47.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	93.	100.0	1.0	10.0	0.12	1.4
46. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	93.	100.0	1.0	10.0	0.26	2.9
47. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	193.	100.0	1.0	10.0	0.79	3.1
48. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	57.	100.0	1.0	10.0	0.46	4.1
49. East St SB	770754.4	********	770782.0	********	42.	41.	AG	184.	100.0	1.0	10.0	0.44	2.1
50. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	174.	100.0	1.0	10.0	0.35	2.2
51. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	521.	100.0	1.0	30.0	0.97	9.1
52. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	174.	100.0	1.0	10.0	0.09	0.6
53. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	93.	100.0	1.0	10.0	0.95	14.3
54. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	93.	100.0	1.0	10.0	0.01	0.1
55. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	296.	100.0	1.0	20.0	0.30	2.8
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	534.	12.8	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2303.	12.8	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2149.	12.8	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	883.	12.8	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	13.1	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	13.1	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	12.8	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	12.8	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	12.8	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	13.1	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	13.1	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	12.8	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	12.8	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	12.8	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	12.8	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	12.8	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	13.1	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	12.8	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	13.1	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	12.8	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	12.8	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	50.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	12.8	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	12.8	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	12.8	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	12.8	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	12.8	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	13.1	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	12.8	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	13.1	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	12.8	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	13.1	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	12.8	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	13.1	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	13.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	12.8	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	13.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	12.8	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	12.8	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	12.8	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	12.8	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	12.8	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	12.8	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	12.8	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	12.8	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	12.8	1.0	42.0	
102. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	12.8	1.0	66.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	13.1	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	12.8	1.0	42.0	
105. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	12.8	1.0	****	
106. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	12.8	1.0	66.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	12.8	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55:25

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	310	1600	81.70	1	3
2. MVP West	*	113	53	3.0	1058	1600	81.70	1	3
3. Boston Ave South	*	113	83	3.0	483	1600	81.70	1	3
4. MVP East	*	113	53	3.0	1197	1600	81.70	1	3
5. Winthrop North	*	135	95	3.0	961	1600	81.70	1	3
6. MVP East RT	*	135	55	3.0	402	1600	81.70	1	3
7. MVP East T	*	135	75	3.0	1036	1600	81.70	1	3
8. Winthrop South	*	135	115	3.0	572	1600	81.70	1	3
9. MVP West	*	135	75	3.0	989	1600	81.70	1	3
10. South St	*	120	90	3.0	571	1600	81.70	1	3
11. Boston Ave. SB LT	*	135	105	3.0	272	1600	81.70	1	3
12. Boston Ave. SB R	*	135	105	3.0	111	1600	81.70	1	3
13. College Ave EB L	*	135	105	3.0	144	1600	81.70	1	3
14. College Ave. EB TR	*	135	105	3.0	228	1600	81.70	1	3
15. Boston Ave. NB	*	135	105	3.0	321	1600	81.70	1	3
16. College Ave WB	*	135	100	3.0	360	1600	81.70	1	3
17. Main St. SB	*	92	65	3.0	573	1600	81.70	1	3
18. Harvard St. EB	*	92	61	3.0	559	1600	81.70	1	3
19. Main st. NB	*	92	65	3.0	407	1600	81.70	1	3
20. Harvard St. WB	*	92	61	3.0	567	1600	81.70	1	3
21. Broadway EB R	*	122	97	3.0	224	1600	81.70	1	3
22. Broadway EB TL	*	122	97	3.0	391	1600	81.70	1	3
23. Parking Lot	*	122	114	3.0	50	1600	81.70	1	3
24. Medford St. NB	*	122	97	3.0	345	1600	81.70	1	3
25. Broadway St. WB	*	122	97	3.0	710	1600	81.70	1	3
26. Dexter St. SWB	*	122	114	3.0	71	1600	81.70	1	3
27. Medford St. SB	*	122	102	3.0	241	1600	81.70	1	3
28. Highland St. EB	*	86	56	3.0	390	1600	81.70	1	3
29. Central St NB	*	86	56	3.0	443	1600	81.70	1	3
30. Highland St. WB	*	86	56	3.0	463	1600	81.70	1	3
31. Central St. SB	*	82	56	3.0	150	1600	81.70	1	3
32. Medford St. NWB	*	70	42	3.0	723	1600	81.70	1	3
33. School St. SB	*	70	53	3.0	295	1600	81.70	1	3
34. Medford St. SEB	*	70	42	3.0	488	1600	81.70	1	3
35. Prospect SB	*	109	79	3.0	821	1600	81.70	1	3
36. Sommerville WB	*	109	96	3.0	418	1600	81.70	1	3
37. Prospect NB	*	109	76	3.0	1193	1600	81.70	1	3
38. Somerville EB	*	109	66	3.0	670	1600	81.70	1	3
39. McGrath Highway SB1	*	133	123	3.0	460	1600	81.70	1	3
40. Washington St. EB	*	133	102	3.0	1079	1600	81.70	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	81.70	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	81.70	1	3
43. Washington St. WB	*	133	83	3.0	997	1600	81.70	1	3
44. Cambridge St EB TR	*	111	93	3.0	260	1600	81.70	1	3
45. Cambridge St WB L	*	111	47	3.0	106	1600	81.70	1	3
46. Cambridge St WB T	*	111	47	3.0	224	1600	81.70	1	3
47. First St NB L	*	111	98	3.0	91	1600	81.70	1	3
48. First St NB R	*	111	29	3.0	507	1600	81.70	1	3
49. East St SB	*	111	93	3.0	83	1600	81.70	1	3
50. MsgrOb/East EB R	*	111	88	3.0	91	1600	81.70	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55:25

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East EB T	111	88	3.0	750	1600	81.70	1	3
52. MsgrOb/East EB L	111	88	3.0	24	1600	81.70	1	3
53. MsgrOb/East WB T	111	47	3.0	807	1600	81.70	1	3
54. MsgrOb/East WB R	111	47	3.0	5	1600	81.70	1	3
55. MsgrOb at First WB L	111	75	3.0	265	1600	81.70	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:55:25

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.7	6.8	6.0	5.9	5.6	6.5	6.6	6.4	5.9	6.2	5.6	5.7	5.5	6.1	6.1	5.2	5.2	5.0	5.7	5.6
10.	6.7	6.8	5.8	5.8	5.6	6.5	6.4	6.2	5.8	6.2	5.6	5.7	5.6	6.2	6.1	5.1	5.2	5.1	5.7	5.7
20.	6.8	7.0	5.8	5.7	5.6	6.3	6.4	6.2	5.9	6.2	5.6	5.8	5.7	6.1	6.1	5.1	5.2	5.3	5.9	5.8
30.	6.7	6.8	5.8	5.5	5.6	6.2	6.2	6.1	6.0	6.2	5.5	5.8	5.9	6.1	6.0	5.1	5.2	5.5	6.0	5.9
40.	6.7	6.7	5.8	5.6	5.4	6.1	6.1	6.2	6.0	6.1	5.5	5.7	6.0	6.0	6.0	5.0	5.1	5.6	5.9	5.8
50.	6.7	6.9	6.0	5.9	5.9	5.7	5.8	6.1	6.0	6.1	5.5	5.7	6.0	6.0	6.0	5.0	5.0	5.5	5.6	5.5
60.	7.0	7.1	6.1	6.0	6.0	5.7	5.7	6.0	6.1	6.1	5.5	5.7	6.1	6.1	6.1	5.0	5.0	5.2	5.3	5.2
70.	7.1	7.0	6.2	6.0	6.1	5.6	5.8	6.0	6.1	6.1	5.5	5.7	6.2	6.2	6.2	5.0	5.0	5.1	5.1	5.1
80.	7.2	7.2	6.2	6.2	6.3	5.7	5.9	6.3	6.3	6.2	5.6	5.8	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0
90.	7.5	7.4	6.5	6.3	6.2	5.7	6.0	6.6	6.5	6.3	5.7	5.9	6.5	6.5	6.5	5.2	5.2	5.2	5.0	5.0
100.	7.5	7.4	6.7	6.4	6.2	5.7	6.0	6.9	6.5	6.2	5.5	5.9	6.7	6.6	6.6	5.7	5.7	5.6	5.1	5.0
110.	7.4	7.4	6.8	6.2	5.9	5.4	5.9	6.8	6.4	6.2	5.4	5.6	6.5	6.5	6.5	6.6	6.6	6.4	5.3	5.1
120.	6.7	6.9	6.3	6.0	5.7	5.2	5.6	6.4	6.1	6.1	5.2	5.2	5.9	5.9	5.8	7.3	7.3	6.8	5.7	5.3
130.	5.9	6.2	5.9	5.8	5.7	5.2	5.4	6.1	6.0	6.0	5.2	5.2	5.6	5.4	5.3	7.4	7.3	6.6	5.9	5.5
140.	5.5	6.0	5.8	5.7	5.7	5.2	5.4	6.1	6.2	6.2	5.5	5.5	5.6	5.3	5.1	7.1	7.1	6.3	5.8	5.6
150.	5.4	5.6	5.7	5.6	5.5	5.1	5.2	6.1	6.1	6.1	6.0	6.0	6.0	5.5	5.3	7.0	7.0	6.1	6.0	5.5
160.	5.1	5.4	5.6	5.5	5.4	5.0	5.0	5.8	5.7	5.6	6.3	6.3	6.2	5.6	5.4	6.9	7.1	6.2	5.9	5.7
170.	5.1	5.3	5.4	5.5	5.4	5.0	5.0	5.3	5.2	5.2	6.3	6.2	5.8	5.5	5.4	6.8	6.9	5.9	5.9	5.7
180.	5.0	5.2	5.6	5.6	5.4	5.0	5.0	5.1	5.1	5.1	6.1	6.0	5.7	5.5	5.3	6.7	6.8	5.7	5.8	5.7
190.	5.0	5.1	5.6	5.6	5.3	5.0	5.0	5.1	5.1	5.1	6.0	5.9	5.4	5.4	5.3	6.6	6.8	5.6	5.6	5.7
200.	5.0	5.0	5.6	5.5	5.2	5.0	5.2	5.3	5.1	5.1	5.9	5.8	5.3	5.4	5.3	6.6	6.6	5.6	5.4	5.6
210.	5.0	5.0	5.5	5.3	5.1	5.2	5.4	5.5	5.0	5.0	5.8	5.8	5.3	5.4	5.3	6.6	6.6	5.9	5.4	5.5
220.	5.0	5.0	5.3	5.2	5.1	5.3	5.7	5.8	5.0	5.0	5.8	5.8	5.3	5.4	5.2	6.6	6.6	6.1	5.6	5.5
230.	5.0	5.0	5.2	5.0	5.0	5.5	5.9	5.8	5.0	5.0	5.8	5.8	5.4	5.4	5.2	6.7	6.5	5.9	5.7	5.8
240.	5.0	5.0	5.0	5.0	5.0	5.7	6.1	5.7	5.1	5.0	5.8	5.8	5.6	5.5	5.2	6.9	6.6	5.9	5.7	6.0
250.	5.0	5.1	5.1	5.0	5.0	5.8	6.0	5.5	5.3	5.0	5.8	5.9	5.7	5.6	5.3	7.0	6.6	6.0	6.0	6.2
260.	5.1	5.2	5.1	5.0	5.0	5.8	6.0	5.4	5.3	5.1	5.8	5.9	5.7	5.5	5.4	7.0	6.5	6.1	6.1	6.2
270.	5.2	5.4	5.2	5.0	5.0	5.8	5.9	5.5	5.3	5.1	5.9	5.9	5.8	5.5	5.4	7.1	6.4	6.3	6.5	6.3
280.	5.7	6.0	5.8	5.0	5.0	5.7	5.7	6.0	5.5	5.2	5.9	6.0	6.1	5.8	5.7	7.3	6.5	6.5	6.4	6.1
290.	6.4	6.9	6.5	5.3	5.1	5.8	6.0	6.6	6.0	5.4	6.3	6.3	6.6	6.3	6.1	6.8	6.3	6.3	6.2	6.1
300.	6.9	7.7	7.0	5.5	5.3	6.0	6.2	6.9	6.0	5.7	6.6	6.7	6.9	6.4	6.4	6.1	5.7	5.8	6.0	5.9
310.	7.1	7.6	6.8	5.7	5.4	6.2	6.4	6.6	6.2	5.9	6.6	6.6	6.3	6.4	6.6	5.6	5.4	5.5	5.9	5.8
320.	7.0	7.3	6.4	5.7	5.3	6.0	6.5	6.3	6.2	5.9	6.6	6.3	6.3	6.1	6.5	5.3	5.4	5.5	5.9	5.8
330.	6.8	7.1	6.1	5.7	5.3	6.1	6.4	6.2	6.1	6.1	6.2	6.1	6.1	6.3	6.5	5.3	5.4	5.6	5.8	5.8
340.	6.7	6.9	6.0	5.8	5.4	6.1	6.4	6.4	6.3	6.0	5.8	5.8	6.0	6.3	6.4	5.1	5.4	5.4	5.8	5.6
350.	6.9	6.9	6.1	5.9	5.6	6.4	6.7	6.5	6.2	6.1	5.7	5.8	5.6	6.2	6.2	5.1	5.2	5.2	5.6	5.6
360.	6.7	6.8	6.0	5.9	5.6	6.5	6.6	6.4	5.9	6.2	5.6	5.7	5.5	6.1	6.1	5.2	5.2	5.0	5.7	5.6
MAX	7.5	7.7	7.0	6.4	6.3	6.5	6.7	6.9	6.5	6.3	6.6	6.7	6.9	6.6	6.6	7.4	7.3	6.8	6.5	6.3
DEGR.	90	300	300	100	80	0	350	100	90	90	320	300	300	100	100	130	120	120	270	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.1	5.1	5.1	6.2	6.3	5.8	5.4	5.2	6.9	7.0	5.4	6.1	5.4	5.8	5.8	5.5	5.6	5.5
10.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	5.5	5.4	5.3	6.9	6.5	5.2	6.0	5.2	5.9	5.9	5.6	5.7	5.5
20.	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.4	5.3	5.3	6.9	6.3	5.1	5.7	5.1	6.0	6.0	5.6	5.7	5.8
30.	5.1	5.1	5.1	5.0	5.0	5.8	5.9	5.2	5.3	5.3	6.8	5.9	5.1	5.4	5.1	6.1	6.1	5.6	5.8	5.9
40.	5.3	5.3	5.3	5.0	5.0	5.8	5.8	5.3	5.3	5.2	6.8	5.7	5.1	5.2	5.1	6.1	6.3	5.5	6.0	5.8
50.	5.7	5.7	5.5	5.1	5.0	5.7	5.8	5.4	5.4	5.2	6.8	5.5	5.2	5.1	5.2	6.3	6.4	5.5	5.8	5.6
60.	5.8	5.8	5.6	5.2	5.1	5.7	5.9	5.5	5.5	5.4	6.9	5.5	5.3	5.1	5.3	6.5	6.4	5.3	6.1	5.5
70.	5.8	5.7	5.3	5.2	5.1	5.8	6.0	5.4	5.6	5.4	6.9	5.5	5.5	5.3	5.5	6.4	6.2	5.4	5.9	5.6
80.	5.6	5.6	5.2	5.2	5.1	5.8	6.0	5.4	5.5	5.4	7.0	5.5	5.6	5.4	5.6	6.4	6.3	5.4	5.9	5.5
90.	5.6	5.6	5.1	5.2	5.1	5.8	6.0	5.6	5.5	5.5	6.8	5.5	5.8	5.6	5.8	6.3	6.0	5.5	5.8	5.5
100.	5.5	5.5	5.3	5.3	5.1	5.9	6.0	5.8	5.8	5.9	6.7	5.7	5.8	5.8	5.8	6.0	6.0	5.7	5.7	5.4
110.	5.6	5.8	5.9	5.5	5.3	6.2	6.4	6.6	6.3	6.3	6.7	5.9	5.9	5.8	5.9	5.8	5.6	5.6	5.4	5.3
120.	5.8	6.1	6.4	5.8	5.6	6.6	6.9	6.8	6.6	6.6	6.4	5.9	5.9	5.7	5.9	5.3	5.3	5.7	5.3	5.3
130.	6.0	6.3	6.3	5.9	5.7	6.7	6.7	6.8	6.5	6.6	5.9	5.5	5.4	5.5	5.4	5.1	5.2	5.6	5.3	5.3
140.	6.0	6.3	6.1	5.9	5.8	6.6	6.7	6.5	6.4	6.6	5.5	5.2	5.1	5.4	5.1	5.1	5.1	5.7	5.3	5.3
150.	6.0	6.3	6.1	6.0	5.7	6.7	6.6	6.5	6.4	6.4	5.2	5.1	5.0	5.4	5.0	5.1	5.2	5.6	5.4	5.4
160.	6.2	6.4	6.1	5.8	5.8	6.3	6.2	6.5	6.2	6.2	5.3	5.1	5.0	5.4	5.0	5.1	5.2	5.6	5.4	5.4
170.	6.2	6.4	6.0	5.8	5.8	5.9	6.0	6.1	6.1	6.1	5.3	5.2	5.1	5.4	5.1	5.1	5.1	5.5	5.4	5.4
180.	6.2	6.0	5.7	5.7	5.9	5.7	5.6	6.0	6.1	6.0	5.3	5.2	5.1	5.4	5.1	5.0	5.1	5.4	5.4	5.4
190.	6.2	5.9	5.9	5.9	5.9	5.6	5.8	5.9	6.0	5.9	5.2	5.2	5.2	5.4	5.2	5.0	5.0	5.3	5.4	5.3
200.	5.9	5.5	6.0	5.8	6.1	5.4	5.6	5.9	6.1	6.0	5.4	5.3	5.2	5.5	5.2	5.0	5.0	5.2	5.2	5.2
210.	5.9	5.6	6.0	6.0	5.9	5.4	5.5	5.9	6.0	6.0	5.1	5.4	5.4	5.7	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.7	5.7	6.0	5.9	5.9	5.4	5.5	5.7	5.9	5.8	5.2	5.4	5.4	5.7	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.5	5.5	5.9	6.0	5.9	5.3	5.6	5.8	6.0	5.9	5.2	5.4	5.4	5.8	5.4	5.0	5.0	5.0	5.0	5.0
240.	5.6	5.5	5.8	6.0	5.8	5.3	5.6	6.0	6.1	5.9	5.2	5.1	5.4	6.0	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.6	5.6	5.9	6.1	5.8	5.4	5.7	6.1	6.2	6.0	5.4	5.3	5.4	6.2	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.5	5.7	6.1	6.0	5.9	5.4	5.6	6.3	6.2	6.1	5.4	5.4	5.5	6.2	5.5	5.3	5.3	5.2	5.0	5.0
270.	5.5	5.7	6.2	6.1	5.9	5.5	5.6	6.4	6.3	6.2	5.3	5.4	5.5	6.1	5.5	5.7	5.6	5.6	5.0	5.0
280.	5.5	5.7	6.3	6.1	5.9	5.4	5.6	6.6	6.5	6.5	5.2	5.3	5.2	5.8	5.2	6.2	6.2	6.0	5.1	5.0
290.	5.4	5.6	6.1	5.9	5.8	5.3	5.5	6.3	6.4	6.4	5.2	5.4	5.2	5.5	5.2	6.3	6.3	6.2	5.3	5.1
300.	5.2	5.4	5.7	5.7	5.7	5.1	5.2	5.9	5.9	5.9	5.5	6.0	5.4	5.2	5.4	6.3	6.2	6.1	5.3	5.2
310.	5.2	5.3	5.6	5.7	5.7	5.1	5.1	5.4	5.3	5.3	6.0	6.9	6.0	5.1	6.0	6.1	6.0	5.9	5.3	5.2
320.	5.2	5.3	5.6	5.7	5.7	5.2	5.2	5.3	5.1	5.1	6.6	7.5	6.4	5.4	6.4	6.0	6.0	5.8	5.3	5.2
330.	5.2	5.3	5.8	5.8	5.8	5.5	5.6	5.6	5.1	5.1	7.0	7.8	6.4	5.7	6.4	5.9	5.9	5.6	5.3	5.2
340.	5.0	5.2	5.6	5.6	5.6	6.0	6.1	6.1	5.3	5.1	7.2	7.7	5.9	6.0	5.9	5.8	5.8	5.6	5.4	5.2
350.	5.0	5.0	5.3	5.3	5.3	6.2	6.3	6.1	5.4	5.3	7.1	7.3	5.6	6.1	5.6	5.8	5.9	5.6	5.3	5.4
360.	5.0	5.0	5.1	5.1	5.1	6.2	6.3	5.8	5.4	5.2	6.9	7.0	5.4	6.1	5.4	5.8	5.8	5.5	5.6	5.5
MAX	6.2	6.4	6.4	6.1	6.1	6.7	6.9	6.8	6.6	6.6	7.2	7.8	6.4	6.2	6.4	6.5	6.4	6.2	6.1	5.9
DEGR.	160	160	120	250	200	130	120	120	120	120	340	330	320	260	320	60	50	290	60	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.8	6.0	5.6	6.2	5.5	5.4	5.4	5.9	6.2	5.9	5.1	5.1	5.3	5.1	5.0	5.0	5.0	5.0	5.1	5.1
10.	5.9	6.0	5.7	6.0	5.2	5.2	5.6	5.7	6.2	5.9	5.1	5.1	5.3	5.1	5.0	5.0	5.0	5.0	5.0	5.0
20.	5.5	5.8	6.0	5.7	5.3	5.1	5.6	5.6	6.3	5.7	5.1	5.0	5.2	5.1	5.0	5.0	5.0	5.0	5.0	5.0
30.	5.4	5.7	6.0	5.6	5.2	5.2	5.6	5.5	6.4	5.7	5.0	5.0	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.3	5.4	5.9	5.6	5.3	5.4	5.6	5.6	6.4	5.7	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.7	5.5	5.5	5.5	5.6	5.6	6.4	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.1	5.2	5.5	5.6	5.5	5.5	5.6	5.7	6.3	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.2	5.0	5.0
70.	5.2	5.4	5.7	5.7	5.5	5.5	5.6	5.8	6.2	5.7	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.3	5.0	5.1
80.	5.2	5.2	5.8	5.7	5.4	5.5	5.5	5.9	6.2	5.8	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.4	5.0	5.1
90.	5.2	5.2	5.6	5.8	5.6	5.6	5.7	6.1	6.2	5.9	5.2	5.1	5.1	5.0	5.0	5.0	5.1	5.3	5.0	5.1
100.	5.1	5.2	5.6	5.6	5.5	5.5	5.7	6.3	6.0	5.9	5.3	5.1	5.1	5.0	5.0	5.0	5.0	5.4	5.0	5.1
110.	5.0	5.1	5.4	5.3	5.4	5.4	5.6	6.4	6.0	5.9	5.5	5.2	5.3	5.0	5.0	5.0	5.0	5.4	5.2	5.1
120.	5.0	5.0	5.2	5.2	5.2	5.2	5.5	6.1	5.9	5.7	5.8	5.5	5.5	5.0	5.0	5.0	5.0	5.6	5.5	5.5
130.	5.0	5.0	5.0	5.1	5.1	5.1	5.2	5.7	5.6	5.5	6.2	6.2	6.1	5.1	5.0	5.0	5.1	6.0	5.9	5.9
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.3	6.4	6.5	6.6	5.3	5.1	5.1	5.2	6.2	6.0	6.0
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.2	5.1	6.4	6.6	6.6	5.4	5.2	5.2	5.4	6.2	5.8	6.0
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.3	6.5	6.3	5.7	5.3	5.2	5.5	6.1	5.6	6.1
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.2	5.6	5.3	5.4	5.6	5.7	5.5	6.4
180.	5.2	5.2	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	5.9	6.2	6.1	5.6	5.5	5.5	5.6	5.4	5.6	6.5
190.	5.3	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.8	6.1	5.9	5.5	5.4	5.3	5.6	5.3	5.7	6.7
200.	5.4	5.4	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.7	6.0	5.7	5.5	5.4	5.3	5.4	5.2	6.0	6.6
210.	5.4	5.4	5.6	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	6.1	5.7	5.4	5.2	5.3	5.5	5.2	6.4	6.5
220.	5.4	5.4	5.8	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.7	6.1	5.6	5.4	5.5	5.6	5.4	5.3	6.6	6.5
230.	5.4	5.4	5.8	5.2	5.1	5.1	5.1	5.0	5.0	5.0	5.9	6.2	5.4	5.5	5.6	5.2	5.6	5.4	6.5	6.6
240.	5.3	5.3	5.8	5.2	5.1	5.1	5.1	5.1	5.0	5.0	6.1	6.2	5.3	5.5	5.4	5.5	5.5	5.5	6.8	6.6
250.	5.3	5.3	5.7	5.3	5.2	5.1	5.1	5.1	5.2	5.1	6.2	6.3	5.4	5.7	5.6	5.6	5.7	5.9	6.6	6.6
260.	5.3	5.3	5.7	5.3	5.2	5.2	5.1	5.1	5.2	5.1	6.3	6.3	5.5	6.1	5.8	5.7	6.0	6.2	6.8	6.6
270.	5.3	5.3	6.0	5.5	5.5	5.5	5.3	5.3	5.2	5.1	6.5	6.5	5.8	6.1	5.8	5.4	5.9	6.4	6.7	6.5
280.	5.3	5.4	6.1	5.7	5.8	5.7	5.4	5.3	5.3	5.2	6.8	6.6	5.9	5.9	5.3	5.3	5.7	6.4	6.5	6.1
290.	5.4	5.7	6.0	5.8	5.7	5.7	5.4	5.3	5.3	5.4	6.7	6.5	6.2	5.6	5.1	5.1	5.4	6.3	6.3	5.9
300.	5.5	5.7	5.9	5.5	5.6	5.5	5.4	5.3	5.6	5.7	6.9	6.6	6.2	5.3	5.0	5.0	5.1	5.9	6.0	5.7
310.	5.5	5.8	5.5	5.4	5.7	5.6	5.5	5.6	6.0	6.2	6.5	6.2	5.8	5.1	5.0	5.0	5.0	5.5	5.5	5.4
320.	5.5	6.0	5.3	5.7	5.8	5.8	5.7	5.9	6.3	6.5	5.8	5.7	5.6	5.0	5.0	5.0	5.0	5.2	5.2	5.2
330.	5.5	6.0	5.2	5.8	6.1	6.0	5.6	6.0	6.2	6.5	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.1	5.1
340.	5.7	6.0	5.4	6.1	6.0	5.9	5.4	6.0	6.1	6.4	5.2	5.2	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.1
350.	5.7	6.1	5.4	6.2	5.9	5.7	5.3	5.9	6.1	6.1	5.1	5.1	5.4	5.1	5.0	5.0	5.0	5.0	5.1	5.1
360.	5.8	6.0	5.6	6.2	5.5	5.4	5.4	5.9	6.2	5.9	5.1	5.1	5.3	5.1	5.0	5.0	5.0	5.0	5.1	5.1
MAX	5.9	6.1	6.1	6.2	6.1	6.0	5.7	6.4	6.4	6.5	6.9	6.6	6.6	6.1	5.8	5.7	6.0	6.4	6.8	6.7
DEGR.	10	350	280	0	330	330	90	110	30	320	300	150	140	260	260	260	260	270	240	190

THE HIGHEST CONCENTRATION OF 7.80 PPM OCCURRED AT RECEPTOR REC32.

Ex4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Winthrop North	*	759327.2	********	759298.6	********	*	1013.	358.	AG	308.	100.0	1.0	20.0	1.16	51.5
2. MVP East RT	*	759381.7	********	759502.5	********	*	121.	93.	AG	89.	100.0	1.0	10.0	0.45	6.1
3. MVP East T	*	759381.8	********	763790.8	********	*	4411.	92.	AG	122.	100.0	1.0	10.0	1.59	224.1
4. Winthrop South	*	759345.1	********	759310.2	********	*	1357.	181.	AG	373.	100.0	1.0	20.0	1.62	69.0
5. MVP West	*	759293.5	********	755376.9	********	*	3921.	273.	AG	122.	100.0	1.0	10.0	1.52	199.2
6. South St	*	761297.7	********	761138.4	********	*	163.	282.	AG	329.	100.0	1.0	20.0	0.86	8.3
7. Boston Ave. SB LT	*	759658.7	********	759565.4	********	*	198.	332.	AG	170.	100.0	1.0	10.0	0.92	10.0
8. Boston Ave. SB R	*	759646.0	********	759616.2	********	*	64.	332.	AG	170.	100.0	1.0	10.0	0.38	3.2
9. College Ave EB L	*	759636.4	********	759598.9	********	*	83.	207.	AG	170.	100.0	1.0	10.0	0.49	4.2
10. College Ave. EB TR	*	759648.1	********	759584.2	********	*	139.	207.	AG	170.	100.0	1.0	10.0	0.77	7.1
11. Boston Ave. NB	*	759699.9	********	759948.0	********	*	521.	152.	AG	170.	100.0	1.0	10.0	1.08	26.5
12. College Ave WB	*	759720.8	********	759917.4	********	*	339.	35.	AG	162.	100.0	1.0	10.0	1.01	17.2
13. Main St. SB	*	762042.2	********	761358.1	********	*	2227.	342.	AG	155.	100.0	1.0	10.0	1.50	113.1
14. Harvard St. EB	*	762026.6	********	760826.1	********	*	1368.	241.	AG	145.	100.0	1.0	10.0	1.24	69.5
15. Main st. NB	*	762078.3	********	762234.4	********	*	492.	162.	AG	155.	100.0	1.0	10.0	1.07	25.0
16. Harvard St. WB	*	762091.8	********	763477.0	********	*	1451.	73.	AG	145.	100.0	1.0	10.0	1.25	73.7
17. Broadway EB R	*	762959.1	********	762829.3	********	*	141.	293.	AG	174.	100.0	1.0	10.0	0.85	7.2
18. Broadway EB TL	*	762965.1	********	761504.0	********	*	1595.	294.	AG	174.	100.0	1.0	10.0	1.49	81.0
19. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	205.	100.0	1.0	10.0	1.28	9.1
20. Medford St. NB	*	763093.0	********	763636.6	********	*	1104.	150.	AG	174.	100.0	1.0	10.0	1.32	56.1
21. Broadway St. WB	*	763115.6	********	764227.2	********	*	1210.	113.	AG	348.	100.0	1.0	20.0	1.35	61.5
22. Dexter St. SWB	*	763101.5	********	763403.1	********	*	415.	47.	AG	205.	100.0	1.0	10.0	1.82	21.1
23. Medford St. SB	*	763008.3	********	762799.6	********	*	661.	342.	AG	183.	100.0	1.0	10.0	1.23	33.6
24. Highland St. EB	*	763277.6	********	763150.5	********	*	139.	294.	AG	143.	100.0	1.0	10.0	0.84	7.0
25. Central St NB	*	763301.4	********	763212.2	********	*	202.	206.	AG	143.	100.0	1.0	10.0	0.95	10.3
26. Highland St. WB	*	763328.5	********	763551.1	********	*	243.	114.	AG	143.	100.0	1.0	10.0	1.00	12.3
27. Central St. SB	*	763311.4	********	763332.6	********	*	46.	27.	AG	150.	100.0	1.0	10.0	0.37	2.3
28. Medford St. NWB	*	765022.2	********	766415.9	********	*	2269.	142.	AG	131.	100.0	1.0	10.0	1.38	115.3
29. School St. SB	*	765002.3	********	765166.0	********	*	379.	26.	AG	166.	100.0	1.0	10.0	1.08	19.3
30. Medford St. SEB	*	764967.1	********	764863.8	********	*	167.	322.	AG	131.	100.0	1.0	10.0	0.93	8.5
31. Prospect SB	*	765830.6	********	766200.2	********	*	715.	31.	AG	318.	100.0	1.0	20.0	1.12	36.3
32. Sommerville WB	*	765870.1	********	766866.4	********	*	1110.	116.	AG	386.	100.0	1.0	20.0	1.79	56.4
33. Prospect NB	*	765828.4	********	765723.3	********	*	237.	206.	AG	458.	100.0	1.0	30.0	0.97	12.0
34. Somerville EB	*	765797.5	********	765688.8	********	*	121.	296.	AG	265.	100.0	1.0	20.0	0.60	6.1
35. McGrath Highway SB1	*	766950.5	********	766591.9	********	*	1973.	350.	AG	405.	100.0	1.0	20.0	3.83	100.2
36. Washington St. EB	*	766952.8	********	759076.8	********	*	8448.	249.	AG	168.	100.0	1.0	10.0	3.46	429.2
37. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	32.	172.	AG	194.	100.0	1.0	10.0	0.41	1.6
38. McGrath Hwy NB2 T	*	767119.9	********	767604.3	********	*	3946.	173.	AG	194.	100.0	1.0	10.0	3.91	200.5
39. Washington St. WB	*	767129.9	********	767268.1	********	*	151.	67.	AG	410.	100.0	1.0	30.0	0.61	7.7
40. Msgr Obrien EB	*	769756.5	********	769681.2	********	*	91.	304.	AG	252.	100.0	1.0	30.0	0.39	4.6
41. Third St. NB L	*	769790.4	********	769088.1	********	*	4491.	189.	AG	157.	100.0	1.0	10.0	2.03	228.1
42. Third St NB R	*	769802.4	********	769801.4	********	*	7.	189.	AG	157.	100.0	1.0	10.0	0.04	0.4
43. Msgr Obrien WB	*	769887.3	********	769975.1	********	*	106.	124.	AG	323.	100.0	1.0	30.0	0.44	5.4
44. Msgr Obrien L	*	771466.3	********	769824.5	********	*	1960.	303.	AG	183.	100.0	1.0	10.0	1.83	99.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56: 1

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771457.4	********	770930.5	********	628.	303.	AG	548.	100.0	1.0	30.0	1.21	31.9
46. Charlestown NB L	771481.8	********	770010.7	********	2407.	218.	AG	188.	100.0	1.0	10.0	2.31	122.3
47. Charlestown NB T	771497.8	********	768870.5	********	4328.	217.	AG	376.	100.0	1.0	20.0	3.43	219.8
48. Charlestown NB R	771512.8	********	768738.0	********	4446.	219.	AG	188.	100.0	1.0	10.0	3.50	225.9
49. Msgr Obrien WB L	771569.3	********	772136.7	********	676.	123.	AG	173.	100.0	1.0	10.0	1.16	34.3
50. Msgr Obrien WB T	771577.6	********	772091.2	********	612.	123.	AG	347.	100.0	1.0	20.0	1.14	31.1
51. Msgr Obrien WB R	771587.3	********	771678.8	********	109.	123.	AG	104.	100.0	1.0	10.0	0.45	5.5
52. Charlestown SB LT	771543.5	********	771608.0	********	114.	34.	AG	150.	100.0	1.0	10.0	0.58	5.8
53. Charlestown SB TR	771531.7	********	771963.5	********	762.	35.	AG	150.	100.0	1.0	10.0	1.10	38.7
54. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	184.	100.0	1.0	10.0	1.39	47.9
55. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	93.	100.0	1.0	10.0	0.12	1.4
56. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	93.	100.0	1.0	10.0	0.26	2.9
57. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	193.	100.0	1.0	10.0	0.79	3.1
58. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	57.	100.0	1.0	10.0	0.46	4.1
59. East St SB	770754.4	********	770782.0	********	42.	41.	AG	184.	100.0	1.0	10.0	0.44	2.1
60. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	174.	100.0	1.0	10.0	0.35	2.2
61. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	521.	100.0	1.0	30.0	0.97	9.1
62. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	174.	100.0	1.0	10.0	0.09	0.6
63. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	93.	100.0	1.0	10.0	0.95	14.3
64. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	93.	100.0	1.0	10.0	0.01	0.1
65. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	296.	100.0	1.0	20.0	0.30	2.8
66. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	13.1	1.0	42.0		
67. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	13.1	1.0	42.0		
68. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	12.8	1.0	66.0		
69. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	12.8	1.0	66.0		
70. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	12.8	1.0	42.0		
71. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	13.1	1.0	66.0		
72. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	13.1	1.0	66.0		
73. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	12.8	1.0	54.0		
74. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	12.8	1.0	54.0		
75. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	12.8	1.0	54.0		
76. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	12.8	1.0	42.0		
77. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	12.8	1.0	42.0		
78. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	13.1	1.0	42.0		
79. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	12.8	1.0	42.0		
80. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	13.1	1.0	42.0		
81. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	12.8	1.0	42.0		
82. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	12.8	1.0	66.0		
83. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	50.0	1.0	42.0		
84. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	12.8	1.0	42.0		
85. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	12.8	1.0	66.0		
86. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	12.8	1.0	30.0		
87. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	12.8	1.0	42.0		
88. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	12.8	1.0	42.0		
89. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	13.1	1.0	42.0		
90. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	12.8	1.0	42.0		
91. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	13.1	1.0	42.0		
92. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	12.8	1.0	42.0		
93. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	13.1	1.0	42.0		
94. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	12.8	1.0	42.0		
95. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	13.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56: 1

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	13.0	1.0	66.0	
97. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	12.8	1.0	66.0	
98. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	13.0	1.0	54.0	
99. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	12.8	1.0	66.0	
100. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	12.8	1.0	42.0	
101. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	12.8	1.0	42.0	
102. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	12.8	1.0	66.0	
103. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	12.8	1.0	66.0	
104. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	12.8	1.0	42.0	
105. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	12.8	1.0	42.0	
106. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	12.8	1.0	66.0	
107. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1095.	12.8	1.0	54.0	
108. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	2844.	12.8	1.0	90.0	
109. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	1815.	12.8	1.0	90.0	
110. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	2375.	12.8	1.0	90.0	
111. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	2918.	12.8	1.0	90.0	
112. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	2800.	12.8	1.0	90.0	
113. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	2545.	12.8	1.0	66.0	
114. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	12.8	1.0	42.0	
115. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	12.8	1.0	66.0	
116. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	13.1	1.0	66.0	
117. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	12.8	1.0	42.0	
118. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	12.8	1.0	****	
119. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	12.8	1.0	66.0	
120. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	12.8	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Winthrop North	*	135	95	3.0	961	1600	81.70	1	3
2. MVP East RT	*	135	55	3.0	402	1600	81.70	1	3
3. MVP East T	*	135	75	3.0	1036	1600	81.70	1	3
4. Winthrop South	*	135	115	3.0	572	1600	81.70	1	3
5. MVP West	*	135	75	3.0	989	1600	81.70	1	3
6. South St	*	120	90	3.0	571	1600	81.70	1	3
7. Boston Ave. SB LT	*	135	105	3.0	272	1600	81.70	1	3
8. Boston Ave. SB R	*	135	105	3.0	111	1600	81.70	1	3
9. College Ave EB L	*	135	105	3.0	144	1600	81.70	1	3
10. College Ave. EB TR	*	135	105	3.0	228	1600	81.70	1	3
11. Boston Ave. NB	*	135	105	3.0	321	1600	81.70	1	3
12. College Ave WB	*	135	100	3.0	360	1600	81.70	1	3
13. Main St. SB	*	92	65	3.0	573	1600	81.70	1	3
14. Harvard St. EB	*	92	61	3.0	559	1600	81.70	1	3
15. Main st. NB	*	92	65	3.0	407	1600	81.70	1	3
16. Harvard St. WB	*	92	61	3.0	567	1600	81.70	1	3
17. Broadway EB R	*	122	97	3.0	224	1600	81.70	1	3
18. Broadway EB TL	*	122	97	3.0	391	1600	81.70	1	3
19. Parking Lot	*	122	114	3.0	50	1600	81.70	1	3
20. Medford St. NB	*	122	97	3.0	345	1600	81.70	1	3
21. Broadway St. WB	*	122	97	3.0	710	1600	81.70	1	3
22. Dexter St. SWB	*	122	114	3.0	71	1600	81.70	1	3
23. Medford St. SB	*	122	102	3.0	241	1600	81.70	1	3
24. Highland St. EB	*	86	56	3.0	390	1600	81.70	1	3
25. Central St NB	*	86	56	3.0	443	1600	81.70	1	3
26. Highland St. WB	*	86	56	3.0	463	1600	81.70	1	3
27. Central St. SB	*	82	56	3.0	150	1600	81.70	1	3
28. Medford St. NWB	*	70	42	3.0	723	1600	81.70	1	3
29. School St. SB	*	70	53	3.0	295	1600	81.70	1	3
30. Medford St. SEB	*	70	42	3.0	488	1600	81.70	1	3
31. Prospect SB	*	109	79	3.0	821	1600	81.70	1	3
32. Sommerville WB	*	109	96	3.0	418	1600	81.70	1	3
33. Prospect NB	*	109	76	3.0	1193	1600	81.70	1	3
34. Somerville EB	*	109	66	3.0	670	1600	81.70	1	3
35. McGrath Highway SB1	*	133	123	3.0	460	1600	81.70	1	3
36. Washington St. EB	*	133	102	3.0	1079	1600	81.70	1	3
37. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	81.70	1	3
38. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	81.70	1	3
39. Washington St. WB	*	133	83	3.0	997	1600	81.70	1	3
40. Msgr Obrien EB	*	120	46	3.0	1090	1600	81.70	1	3
41. Third St. NB L	*	120	86	3.0	785	1600	81.70	1	3
42. Third St NB R	*	120	86	3.0	15	1600	81.70	1	3
43. Msgr Obrien WB	*	120	59	3.0	987	1600	81.70	1	3
44. Msgr Obrien L	*	120	100	3.0	365	1600	81.70	1	3
45. Msgr Obrien WB T	*	120	100	3.0	723	1600	81.70	1	3
46. Charlestown NB L	*	120	103	3.0	368	1600	81.70	1	3
47. Charlestown NB T	*	120	103	3.0	1093	1600	81.70	1	3
48. Charlestown NB R	*	120	103	3.0	557	1600	81.70	1	3
49. Msgr Obrien WB L	*	120	95	3.0	309	1600	81.70	1	3
50. Msgr Obrien WB T	*	120	95	3.0	607	1600	81.70	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. Msgr Obrien WB R	120	57	3.0	350	1600	81.70	1	3
52. Charlestown SB LT	120	82	3.0	254	1600	81.70	1	3
53. Charlestown SB TR	120	82	3.0	483	1600	81.70	1	3
54. Cambridge St EB TR	111	93	3.0	260	1600	81.70	1	3
55. Cambridge St WB L	111	47	3.0	106	1600	81.70	1	3
56. Cambridge St WB T	111	47	3.0	224	1600	81.70	1	3
57. First St NB L	111	98	3.0	91	1600	81.70	1	3
58. First St NB R	111	29	3.0	507	1600	81.70	1	3
59. East St SB	111	93	3.0	83	1600	81.70	1	3
60. MsgrOb/East EB R	111	88	3.0	91	1600	81.70	1	3
61. MsgrOb/East EB T	111	88	3.0	750	1600	81.70	1	3
62. MsgrOb/East EB L	111	88	3.0	24	1600	81.70	1	3
63. MsgrOb/East WB T	111	47	3.0	807	1600	81.70	1	3
64. MsgrOb/East WB R	111	47	3.0	5	1600	81.70	1	3
65. MsgrOb at First WB L	111	75	3.0	265	1600	81.70	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	5.9	5.8	5.8	5.1	5.1	5.4	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.4	5.9	5.8	5.4	5.3
10.	6.0	6.0	5.9	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.2	5.0	5.0	5.4	5.9	5.8	5.5	5.4
20.	5.9	5.8	6.0	5.8	5.8	5.1	5.1	5.4	5.4	5.4	5.4	5.4	5.5	5.0	5.0	5.4	5.8	6.0	5.5	5.7
30.	5.6	5.7	5.8	5.8	5.7	5.0	5.1	5.3	5.3	5.3	5.5	5.5	5.7	5.1	5.0	5.4	5.9	6.2	5.9	5.7
40.	5.5	5.6	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.8	5.1	5.1	5.4	5.9	6.0	5.8	5.8
50.	5.2	5.3	5.6	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.8	5.1	5.1	5.6	6.0	5.9	5.8	5.9
60.	5.2	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.7	5.1	5.1	5.6	6.0	5.9	5.9	5.9
70.	5.2	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.6	5.1	5.1	5.7	6.1	5.8	5.9	5.8
80.	5.1	5.3	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.6	5.2	5.1	6.0	6.3	5.9	5.9	5.8
90.	5.1	5.3	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.2	5.4	5.3	5.2	6.2	6.4	6.1	5.8	5.7
100.	5.1	5.2	6.0	6.1	5.9	5.3	5.3	5.3	5.0	5.0	5.2	5.2	5.6	5.5	5.4	6.4	6.4	6.3	5.7	5.5
110.	5.1	5.2	6.0	6.0	5.9	5.6	5.6	5.7	5.1	5.0	5.2	5.3	5.9	5.8	5.8	6.3	6.4	6.2	5.6	5.5
120.	5.0	5.1	5.7	5.7	5.6	5.9	6.0	6.0	5.2	5.1	5.3	5.4	6.2	5.9	5.9	6.1	6.0	6.1	5.5	5.5
130.	5.0	5.0	5.3	5.3	5.3	6.0	6.1	6.1	5.3	5.1	5.3	5.5	6.2	6.0	6.1	5.6	5.5	5.6	5.4	5.4
140.	5.0	5.0	5.1	5.2	5.1	5.9	6.0	6.0	5.3	5.1	5.3	5.5	5.9	6.0	6.1	5.3	5.3	5.5	5.5	5.5
150.	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.3	5.2	5.4	5.5	5.9	5.8	6.0	5.3	5.2	5.6	5.6	5.6
160.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.3	5.2	5.5	5.7	5.9	5.8	5.9	5.2	5.2	5.6	5.6	5.5
170.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.3	5.2	5.5	5.8	5.9	5.8	5.7	5.1	5.2	5.6	5.6	5.5
180.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2	5.5	5.9	5.9	5.7	5.6	5.1	5.2	5.7	5.7	5.5
190.	5.1	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.3	5.2	5.9	5.9	6.1	5.7	5.5	5.1	5.1	5.8	5.7	5.6
200.	5.3	5.4	5.4	5.0	5.0	5.8	5.8	6.0	5.5	5.5	5.8	6.0	6.1	5.7	5.5	5.0	5.1	5.7	5.6	5.5
210.	5.6	5.7	5.8	5.1	5.0	5.8	5.9	6.1	5.6	5.5	5.7	5.9	6.0	5.7	5.4	5.0	5.0	5.5	5.5	5.4
220.	5.7	5.9	5.9	5.1	5.1	5.8	5.9	6.1	5.8	5.7	5.5	5.6	5.8	5.5	5.3	5.0	5.0	5.2	5.2	5.3
230.	5.8	5.9	5.9	5.2	5.1	5.8	5.9	5.9	5.8	5.6	5.3	5.4	5.8	5.6	5.4	5.0	5.0	5.1	5.1	5.1
240.	5.7	5.8	5.8	5.2	5.1	6.0	6.0	5.8	5.7	5.5	5.3	5.4	5.6	5.6	5.4	5.0	5.0	5.0	5.1	5.1
250.	5.7	5.7	5.8	5.3	5.3	6.0	6.0	5.8	5.7	5.4	5.1	5.3	5.7	5.6	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.7	5.7	5.7	5.3	5.3	6.2	6.0	5.9	5.6	5.3	5.1	5.3	5.8	5.7	5.5	5.1	5.1	5.1	5.0	5.0
270.	5.6	5.6	5.8	5.3	5.3	6.3	6.2	6.0	5.5	5.3	5.1	5.2	5.9	5.7	5.6	5.1	5.1	5.2	5.0	5.0
280.	5.6	5.6	5.9	5.6	5.6	6.3	6.0	6.0	5.4	5.3	5.1	5.2	5.9	5.8	5.7	5.3	5.4	5.5	5.0	5.0
290.	5.6	5.7	6.4	6.0	6.1	6.0	6.0	5.9	5.3	5.3	5.1	5.1	5.8	5.7	5.6	5.6	5.7	5.9	5.1	5.0
300.	5.7	5.8	6.5	6.1	6.1	5.7	5.6	5.7	5.3	5.2	5.0	5.1	5.4	5.4	5.4	5.7	6.1	6.3	5.2	5.1
310.	5.7	5.8	6.2	6.0	6.0	5.4	5.4	5.5	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	6.2	6.4	5.2	5.1
320.	5.7	5.9	6.1	6.0	6.0	5.1	5.2	5.4	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.6	6.2	6.2	5.3	5.1
330.	5.7	5.9	5.8	6.0	5.9	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.5	6.1	6.1	5.3	5.1
340.	5.9	6.0	5.8	5.9	5.8	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.4	5.9	5.9	5.3	5.1
350.	6.0	6.1	5.8	5.8	5.8	5.1	5.1	5.5	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.4	5.9	5.8	5.3	5.3
360.	6.0	6.1	5.9	5.8	5.8	5.1	5.1	5.4	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.4	5.9	5.8	5.4	5.3
MAX	6.0	6.1	6.5	6.1	6.1	6.3	6.2	6.1	5.8	5.7	5.9	6.0	6.2	6.0	6.1	6.4	6.4	6.4	5.9	5.9
DEGR.	0	0	300	100	290	270	270	130	220	220	190	200	120	130	130	100	90	310	30	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.5	5.6	6.2	6.1	6.1	5.2	5.3	5.7	5.7	5.7	5.1	5.2	5.3	5.1	5.1	6.0	6.0	5.7	5.4	5.3
10.	5.6	5.6	6.2	5.9	6.0	5.2	5.2	5.7	5.6	5.6	5.3	5.3	5.5	5.1	5.0	6.0	5.9	5.7	5.6	5.3
20.	5.6	5.9	6.3	5.9	5.7	5.0	5.2	5.6	5.6	5.5	5.7	5.7	5.8	5.0	5.0	5.9	5.8	5.9	5.8	5.6
30.	5.4	5.5	5.9	5.7	5.7	5.0	5.0	5.4	5.3	5.3	6.0	6.1	6.1	5.2	5.0	5.8	6.0	6.2	5.8	5.7
40.	5.3	5.5	5.8	5.7	5.7	5.0	5.0	5.1	5.1	5.1	6.1	6.2	6.2	5.2	5.1	5.9	6.0	6.2	5.6	5.6
50.	5.2	5.3	5.6	5.7	5.7	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	5.3	5.2	6.0	6.1	6.0	5.7	5.5
60.	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	5.3	5.2	6.0	6.1	5.8	5.6	5.5
70.	5.2	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.3	5.2	6.0	6.1	5.6	5.5	5.4
80.	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.3	5.2	6.1	6.1	5.6	5.5	5.5
90.	5.3	5.3	5.8	5.8	5.7	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.3	5.2	6.1	6.0	5.6	5.5	5.5
100.	5.3	5.4	5.9	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.2	6.2	6.1	5.9	5.5	5.5
110.	5.3	5.4	6.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.3	6.3	6.0	5.6	5.5
120.	5.3	5.5	6.1	6.1	6.1	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.7	6.3	6.1	5.7	5.5
130.	5.4	5.6	6.5	6.5	6.4	5.6	5.6	5.5	5.0	5.0	5.7	5.7	6.0	5.7	5.6	6.4	6.4	6.4	5.8	5.6
140.	5.3	5.4	6.4	6.4	6.3	6.2	6.2	6.1	5.3	5.3	6.0	6.0	6.5	6.2	6.3	6.5	6.3	6.4	5.6	5.5
150.	5.0	5.2	5.9	5.9	5.9	6.5	6.5	6.4	5.5	5.3	6.0	6.3	6.5	6.2	6.2	5.9	5.7	5.9	5.3	5.2
160.	5.0	5.0	5.4	5.3	5.3	6.4	6.4	6.3	5.5	5.3	6.1	6.3	6.3	6.2	6.2	5.4	5.3	5.4	5.2	5.2
170.	5.0	5.0	5.2	5.2	5.1	6.2	6.2	6.1	5.5	5.3	6.2	6.3	6.1	5.9	5.9	5.2	5.1	5.4	5.3	5.3
180.	5.0	5.0	5.1	5.1	5.1	6.1	6.0	5.8	5.3	5.3	6.3	6.2	6.0	5.8	5.8	5.1	5.1	5.3	5.3	5.3
190.	5.1	5.1	5.2	5.1	5.1	5.9	5.9	5.7	5.3	5.4	6.3	6.3	6.0	5.8	5.8	5.1	5.1	5.4	5.4	5.4
200.	5.2	5.2	5.3	5.1	5.0	5.9	5.9	5.7	5.5	5.4	6.2	6.0	5.9	5.7	5.6	5.0	5.1	5.4	5.4	5.4
210.	5.3	5.3	5.3	5.1	5.0	5.8	5.9	5.6	5.5	5.5	5.8	5.8	5.7	5.6	5.6	5.0	5.0	5.3	5.3	5.3
220.	5.3	5.3	5.3	5.1	5.1	5.9	5.9	5.7	5.6	5.7	5.5	5.6	5.6	5.6	5.6	5.0	5.0	5.2	5.2	5.2
230.	5.3	5.3	5.3	5.1	5.1	6.0	6.0	5.6	5.6	5.8	5.3	5.4	5.6	5.6	5.6	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.3	5.3	5.1	5.1	6.0	5.9	5.7	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.1	5.9	5.9	5.7	5.8	5.7	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
260.	5.2	5.2	5.2	5.1	5.1	6.0	5.9	5.6	5.8	5.7	5.2	5.3	5.6	5.6	5.5	5.0	5.0	5.0	5.0	5.0
270.	5.2	5.2	5.3	5.2	5.2	6.0	6.0	5.6	5.8	5.7	5.1	5.3	5.7	5.7	5.5	5.0	5.0	5.0	5.0	5.0
280.	5.2	5.2	5.3	5.2	5.2	6.0	6.0	5.7	5.8	5.6	5.1	5.3	5.8	5.7	5.5	5.0	5.0	5.0	5.0	5.0
290.	5.2	5.2	5.3	5.2	5.2	6.2	6.1	5.8	5.8	5.7	5.2	5.3	5.9	5.8	5.6	5.0	5.0	5.0	5.0	5.0
300.	5.2	5.2	5.4	5.3	5.3	6.3	6.3	6.0	5.7	5.6	5.1	5.2	6.0	5.9	5.7	5.1	5.1	5.1	5.0	5.0
310.	5.2	5.2	5.7	5.6	5.5	6.4	6.3	6.2	5.7	5.6	5.1	5.2	6.0	5.9	5.8	5.4	5.3	5.3	5.0	5.0
320.	5.2	5.3	6.1	6.0	6.0	6.1	6.1	6.0	5.6	5.6	5.1	5.1	5.9	5.8	5.7	5.7	5.8	5.8	5.1	5.0
330.	5.3	5.5	6.2	6.2	6.2	5.9	5.7	5.8	5.5	5.5	5.0	5.1	5.6	5.5	5.5	6.1	6.2	6.0	5.2	5.1
340.	5.3	5.5	6.2	6.3	6.3	5.5	5.4	5.7	5.5	5.5	5.0	5.0	5.3	5.3	5.2	6.2	6.2	6.0	5.3	5.1
350.	5.4	5.5	6.1	6.2	6.2	5.3	5.3	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	6.1	6.1	5.8	5.3	5.1
360.	5.5	5.6	6.2	6.1	6.1	5.2	5.3	5.7	5.7	5.7	5.1	5.2	5.3	5.1	5.1	6.0	6.0	5.7	5.4	5.3
MAX	5.6	5.9	6.5	6.5	6.4	6.5	6.5	6.4	5.8	5.8	6.3	6.3	6.5	6.2	6.3	6.7	6.4	6.4	5.8	5.7
DEGR.	10	20	130	130	130	150	150	150	250	230	180	150	140	140	140	120	130	130	20	30

THE HIGHEST CONCENTRATION OF 6.70 PPM OCCURRED AT RECEPTOR REC36.

Ex5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56:26

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Winthrop North	*	759327.2	********	759298.6	********	*	1013.	358.	AG	308.	100.0	1.0	20.0	1.16	51.5
2. MVP East RT	*	759381.7	********	759502.5	********	*	121.	93.	AG	89.	100.0	1.0	10.0	0.45	6.1
3. MVP East T	*	759381.8	********	763790.8	********	*	4411.	92.	AG	122.	100.0	1.0	10.0	1.59	224.1
4. Winthrop South	*	759345.1	********	759310.2	********	*	1357.	181.	AG	373.	100.0	1.0	20.0	1.62	69.0
5. MVP West	*	759293.5	********	755376.9	********	*	3921.	273.	AG	122.	100.0	1.0	10.0	1.52	199.2
6. South St	*	761297.7	********	761138.4	********	*	163.	282.	AG	329.	100.0	1.0	20.0	0.86	8.3
7. Boston Ave. SB LT	*	759658.7	********	759565.4	********	*	198.	332.	AG	170.	100.0	1.0	10.0	0.92	10.0
8. Boston Ave. SB R	*	759646.0	********	759616.2	********	*	64.	332.	AG	170.	100.0	1.0	10.0	0.38	3.2
9. College Ave EB L	*	759636.4	********	759598.9	********	*	83.	207.	AG	170.	100.0	1.0	10.0	0.49	4.2
10. College Ave. EB TR	*	759648.1	********	759584.2	********	*	139.	207.	AG	170.	100.0	1.0	10.0	0.77	7.1
11. Boston Ave. NB	*	759699.9	********	759948.0	********	*	521.	152.	AG	170.	100.0	1.0	10.0	1.08	26.5
12. College Ave WB	*	759720.8	********	759917.4	********	*	339.	35.	AG	162.	100.0	1.0	10.0	1.01	17.2
13. Main St. SB	*	762042.2	********	761358.1	********	*	2227.	342.	AG	155.	100.0	1.0	10.0	1.50	113.1
14. Harvard St. EB	*	762026.6	********	760826.1	********	*	1368.	241.	AG	145.	100.0	1.0	10.0	1.24	69.5
15. Main st. NB	*	762078.3	********	762234.4	********	*	492.	162.	AG	155.	100.0	1.0	10.0	1.07	25.0
16. Harvard St. WB	*	762091.8	********	763477.0	********	*	1451.	73.	AG	145.	100.0	1.0	10.0	1.25	73.7
17. Broadway EB R	*	762959.1	********	762829.3	********	*	141.	293.	AG	174.	100.0	1.0	10.0	0.85	7.2
18. Broadway EB TL	*	762965.1	********	761504.0	********	*	1595.	294.	AG	174.	100.0	1.0	10.0	1.49	81.0
19. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	205.	100.0	1.0	10.0	1.28	9.1
20. Medford St. NB	*	763093.0	********	763636.6	********	*	1104.	150.	AG	174.	100.0	1.0	10.0	1.32	56.1
21. Broadway St. WB	*	763115.6	********	764227.2	********	*	1210.	113.	AG	348.	100.0	1.0	20.0	1.35	61.5
22. Dexter St. SWB	*	763101.5	********	763403.1	********	*	415.	47.	AG	205.	100.0	1.0	10.0	1.82	21.1
23. Medford St. SB	*	763008.3	********	762799.6	********	*	661.	342.	AG	183.	100.0	1.0	10.0	1.23	33.6
24. Highland St. EB	*	763277.6	********	763150.5	********	*	139.	294.	AG	143.	100.0	1.0	10.0	0.84	7.0
25. Central St NB	*	763301.4	********	763212.2	********	*	202.	206.	AG	143.	100.0	1.0	10.0	0.95	10.3
26. Highland St. WB	*	763328.5	********	763551.1	********	*	243.	114.	AG	143.	100.0	1.0	10.0	1.00	12.3
27. Central St. SB	*	763311.4	********	763332.6	********	*	46.	27.	AG	150.	100.0	1.0	10.0	0.37	2.3
28. Medford St. NWB	*	765022.2	********	766415.9	********	*	2269.	142.	AG	131.	100.0	1.0	10.0	1.38	115.3
29. School St. SB	*	765002.3	********	765166.0	********	*	379.	26.	AG	166.	100.0	1.0	10.0	1.08	19.3
30. Medford St. SEB	*	764967.1	********	764863.8	********	*	167.	322.	AG	131.	100.0	1.0	10.0	0.93	8.5
31. Prospect SB	*	765830.6	********	766200.2	********	*	715.	31.	AG	318.	100.0	1.0	20.0	1.12	36.3
32. Sommerville WB	*	765870.1	********	766866.4	********	*	1110.	116.	AG	386.	100.0	1.0	20.0	1.79	56.4
33. Prospect NB	*	765828.4	********	765723.3	********	*	237.	206.	AG	458.	100.0	1.0	30.0	0.97	12.0
34. Somerville EB	*	765797.5	********	765688.8	********	*	121.	296.	AG	265.	100.0	1.0	20.0	0.60	6.1
35. McGrath Highway SB1	*	766950.5	********	766591.9	********	*	1973.	350.	AG	405.	100.0	1.0	20.0	3.83	100.2
36. Washington St. EB	*	766952.8	********	759076.8	********	*	8448.	249.	AG	168.	100.0	1.0	10.0	3.46	429.2
37. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	32.	172.	AG	194.	100.0	1.0	10.0	0.41	1.6
38. McGrath Hwy NB2 T	*	767119.9	********	767604.3	********	*	3946.	173.	AG	194.	100.0	1.0	10.0	3.91	200.5
39. Washington St. WB	*	767129.9	********	767268.1	********	*	151.	67.	AG	410.	100.0	1.0	30.0	0.61	7.7
40. Msgr Obrien EB	*	769756.5	********	769681.2	********	*	91.	304.	AG	252.	100.0	1.0	30.0	0.39	4.6
41. Third St. NB L	*	769790.4	********	769088.1	********	*	4491.	189.	AG	157.	100.0	1.0	10.0	2.03	228.1
42. Third St NB R	*	769802.4	********	769801.4	********	*	7.	189.	AG	157.	100.0	1.0	10.0	0.04	0.4
43. Msgr Obrien WB	*	769887.3	********	769975.1	********	*	106.	124.	AG	323.	100.0	1.0	30.0	0.44	5.4
44. Msgr Obrien L	*	771466.3	********	769824.5	********	*	1960.	303.	AG	183.	100.0	1.0	10.0	1.83	99.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771457.4	********	770930.5	********	628.	303.	AG	548.	100.0	1.0	30.0	1.21	31.9
46. Charlestown NB L	771481.8	********	770010.7	********	2407.	218.	AG	188.	100.0	1.0	10.0	2.31	122.3
47. Charlestown NB T	771497.8	********	768870.5	********	4328.	217.	AG	376.	100.0	1.0	20.0	3.43	219.8
48. Charlestown NB R	771512.8	********	768738.0	********	4446.	219.	AG	188.	100.0	1.0	10.0	3.50	225.9
49. Msgr Obrien WB L	771569.3	********	772136.7	********	676.	123.	AG	173.	100.0	1.0	10.0	1.16	34.3
50. Msgr Obrien WB T	771577.6	********	772091.2	********	612.	123.	AG	347.	100.0	1.0	20.0	1.14	31.1
51. Msgr Obrien WB R	771587.3	********	771678.8	********	109.	123.	AG	104.	100.0	1.0	10.0	0.45	5.5
52. Charlestown SB LT	771543.5	********	771608.0	********	114.	34.	AG	150.	100.0	1.0	10.0	0.58	5.8
53. Charlestown SB TR	771531.7	********	771963.5	********	762.	35.	AG	150.	100.0	1.0	10.0	1.10	38.7
54. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	184.	100.0	1.0	10.0	1.39	47.9
55. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	93.	100.0	1.0	10.0	0.12	1.4
56. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	93.	100.0	1.0	10.0	0.26	2.9
57. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	193.	100.0	1.0	10.0	0.79	3.1
58. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	57.	100.0	1.0	10.0	0.46	4.1
59. East St SB	770754.4	********	770782.0	********	42.	41.	AG	184.	100.0	1.0	10.0	0.44	2.1
60. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	174.	100.0	1.0	10.0	0.35	2.2
61. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	521.	100.0	1.0	30.0	0.97	9.1
62. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	174.	100.0	1.0	10.0	0.09	0.6
63. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	93.	100.0	1.0	10.0	0.95	14.3
64. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	93.	100.0	1.0	10.0	0.01	0.1
65. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	296.	100.0	1.0	20.0	0.30	2.8
66. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	13.1	1.0	42.0		
67. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	13.1	1.0	42.0		
68. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	12.8	1.0	66.0		
69. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	12.8	1.0	66.0		
70. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	12.8	1.0	42.0		
71. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	13.1	1.0	66.0		
72. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	13.1	1.0	66.0		
73. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	12.8	1.0	54.0		
74. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	12.8	1.0	54.0		
75. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	12.8	1.0	54.0		
76. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	12.8	1.0	42.0		
77. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	12.8	1.0	42.0		
78. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	13.1	1.0	42.0		
79. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	12.8	1.0	42.0		
80. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	13.1	1.0	42.0		
81. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	12.8	1.0	42.0		
82. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	12.8	1.0	66.0		
83. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	50.0	1.0	42.0		
84. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	12.8	1.0	42.0		
85. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	12.8	1.0	66.0		
86. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	12.8	1.0	30.0		
87. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	12.8	1.0	42.0		
88. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	12.8	1.0	42.0		
89. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	13.1	1.0	42.0		
90. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	12.8	1.0	42.0		
91. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	13.1	1.0	42.0		
92. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	12.8	1.0	42.0		
93. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	13.1	1.0	42.0		
94. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	12.8	1.0	42.0		
95. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	13.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	13.0	1.0	66.0	
97. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	12.8	1.0	66.0	
98. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	13.0	1.0	54.0	
99. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	12.8	1.0	66.0	
100. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	12.8	1.0	42.0	
101. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	12.8	1.0	42.0	
102. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	12.8	1.0	66.0	
103. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	12.8	1.0	66.0	
104. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	12.8	1.0	42.0	
105. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	12.8	1.0	42.0	
106. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	12.8	1.0	66.0	
107. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1095.	12.8	1.0	54.0	
108. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	2844.	12.8	1.0	90.0	
109. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	1815.	12.8	1.0	90.0	
110. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	2375.	12.8	1.0	90.0	
111. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	2918.	12.8	1.0	90.0	
112. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	2800.	12.8	1.0	90.0	
113. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	2545.	12.8	1.0	66.0	
114. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	12.8	1.0	42.0	
115. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	12.8	1.0	66.0	
116. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	13.1	1.0	66.0	
117. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	12.8	1.0	42.0	
118. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	12.8	1.0	****	
119. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	12.8	1.0	66.0	
120. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	12.8	1.0	****	

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Winthrop North	*	135	95	3.0	961	1600	81.70	1	3
2. MVP East RT	*	135	55	3.0	402	1600	81.70	1	3
3. MVP East T	*	135	75	3.0	1036	1600	81.70	1	3
4. Winthrop South	*	135	115	3.0	572	1600	81.70	1	3
5. MVP West	*	135	75	3.0	989	1600	81.70	1	3
6. South St	*	120	90	3.0	571	1600	81.70	1	3
7. Boston Ave. SB LT	*	135	105	3.0	272	1600	81.70	1	3
8. Boston Ave. SB R	*	135	105	3.0	111	1600	81.70	1	3
9. College Ave EB L	*	135	105	3.0	144	1600	81.70	1	3
10. College Ave. EB TR	*	135	105	3.0	228	1600	81.70	1	3
11. Boston Ave. NB	*	135	105	3.0	321	1600	81.70	1	3
12. College Ave WB	*	135	100	3.0	360	1600	81.70	1	3
13. Main St. SB	*	92	65	3.0	573	1600	81.70	1	3
14. Harvard St. EB	*	92	61	3.0	559	1600	81.70	1	3
15. Main st. NB	*	92	65	3.0	407	1600	81.70	1	3
16. Harvard St. WB	*	92	61	3.0	567	1600	81.70	1	3
17. Broadway EB R	*	122	97	3.0	224	1600	81.70	1	3
18. Broadway EB TL	*	122	97	3.0	391	1600	81.70	1	3
19. Parking Lot	*	122	114	3.0	50	1600	81.70	1	3
20. Medford St. NB	*	122	97	3.0	345	1600	81.70	1	3
21. Broadway St. WB	*	122	97	3.0	710	1600	81.70	1	3
22. Dexter St. SWB	*	122	114	3.0	71	1600	81.70	1	3
23. Medford St. SB	*	122	102	3.0	241	1600	81.70	1	3
24. Highland St. EB	*	86	56	3.0	390	1600	81.70	1	3
25. Central St NB	*	86	56	3.0	443	1600	81.70	1	3
26. Highland St. WB	*	86	56	3.0	463	1600	81.70	1	3
27. Central St. SB	*	82	56	3.0	150	1600	81.70	1	3
28. Medford St. NWB	*	70	42	3.0	723	1600	81.70	1	3
29. School St. SB	*	70	53	3.0	295	1600	81.70	1	3
30. Medford St. SEB	*	70	42	3.0	488	1600	81.70	1	3
31. Prospect SB	*	109	79	3.0	821	1600	81.70	1	3
32. Sommerville WB	*	109	96	3.0	418	1600	81.70	1	3
33. Prospect NB	*	109	76	3.0	1193	1600	81.70	1	3
34. Somerville EB	*	109	66	3.0	670	1600	81.70	1	3
35. McGrath Highway SB1	*	133	123	3.0	460	1600	81.70	1	3
36. Washington St. EB	*	133	102	3.0	1079	1600	81.70	1	3
37. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	81.70	1	3
38. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	81.70	1	3
39. Washington St. WB	*	133	83	3.0	997	1600	81.70	1	3
40. Msgr Obrien EB	*	120	46	3.0	1090	1600	81.70	1	3
41. Third St. NB L	*	120	86	3.0	785	1600	81.70	1	3
42. Third St NB R	*	120	86	3.0	15	1600	81.70	1	3
43. Msgr Obrien WB	*	120	59	3.0	987	1600	81.70	1	3
44. Msgr Obrien L	*	120	100	3.0	365	1600	81.70	1	3
45. Msgr Obrien WB T	*	120	100	3.0	723	1600	81.70	1	3
46. Charlestown NB L	*	120	103	3.0	368	1600	81.70	1	3
47. Charlestown NB T	*	120	103	3.0	1093	1600	81.70	1	3
48. Charlestown NB R	*	120	103	3.0	557	1600	81.70	1	3
49. Msgr Obrien WB L	*	120	95	3.0	309	1600	81.70	1	3
50. Msgr Obrien WB T	*	120	95	3.0	607	1600	81.70	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. Msgr Obrien WB R	120	57	3.0	350	1600	81.70	1	3
52. Charlestown SB LT	120	82	3.0	254	1600	81.70	1	3
53. Charlestown SB TR	120	82	3.0	483	1600	81.70	1	3
54. Cambridge St EB TR	111	93	3.0	260	1600	81.70	1	3
55. Cambridge St WB L	111	47	3.0	106	1600	81.70	1	3
56. Cambridge St WB T	111	47	3.0	224	1600	81.70	1	3
57. First St NB L	111	98	3.0	91	1600	81.70	1	3
58. First St NB R	111	29	3.0	507	1600	81.70	1	3
59. East St SB	111	93	3.0	83	1600	81.70	1	3
60. MsgrOb/East EB R	111	88	3.0	91	1600	81.70	1	3
61. MsgrOb/East EB T	111	88	3.0	750	1600	81.70	1	3
62. MsgrOb/East EB L	111	88	3.0	24	1600	81.70	1	3
63. MsgrOb/East WB T	111	47	3.0	807	1600	81.70	1	3
64. MsgrOb/East WB R	111	47	3.0	5	1600	81.70	1	3
65. MsgrOb at First WB L	111	75	3.0	265	1600	81.70	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	6.7	6.4	5.8	6.0	8.3	8.5	6.8	7.1	6.8	5.8	5.8	6.7	6.8	6.4	5.2	5.1	5.1	5.0	5.0
10.	5.9	6.6	6.6	6.0	6.4	8.2	8.4	7.0	7.1	6.5	5.7	5.8	6.8	6.7	6.4	5.3	5.3	5.2	5.0	5.0
20.	6.0	7.0	7.4	6.8	6.8	8.2	8.1	7.1	7.0	6.6	5.7	5.7	6.8	6.7	6.4	5.9	6.0	6.0	5.1	5.0
30.	6.2	7.1	7.8	7.2	7.7	7.3	7.5	6.9	6.8	6.5	5.7	5.5	6.6	6.4	6.2	6.6	6.8	6.7	5.3	5.1
40.	6.2	7.4	7.8	7.6	8.3	6.5	6.9	6.6	6.7	6.4	5.8	5.4	6.0	6.1	5.9	7.0	7.4	7.5	5.4	5.2
50.	6.5	7.7	7.3	7.7	8.3	6.2	6.6	6.5	6.9	6.6	5.8	5.4	5.6	5.7	5.9	7.0	7.7	7.8	5.7	5.3
60.	6.8	8.0	7.4	8.1	8.3	6.1	6.9	6.6	7.1	6.6	6.0	5.8	5.7	5.8	6.1	7.1	7.8	7.7	6.0	5.6
70.	7.4	8.4	7.2	8.2	8.0	6.0	6.6	6.8	7.0	6.4	5.7	5.9	5.7	6.0	6.5	7.3	7.9	7.8	6.4	6.0
80.	7.7	8.2	7.2	8.1	7.4	5.5	6.0	6.8	6.5	6.3	5.2	5.7	5.6	5.9	6.8	7.6	7.8	7.5	6.5	6.1
90.	7.9	8.2	7.4	7.8	7.1	5.4	5.8	6.8	6.5	6.4	5.2	5.6	5.7	5.6	6.7	7.8	7.4	7.2	6.3	6.2
100.	8.2	8.2	7.8	7.7	7.0	5.4	5.7	6.8	6.5	6.5	5.6	6.0	5.8	5.3	6.4	7.9	7.0	7.3	6.4	6.2
110.	8.1	8.1	8.0	7.5	7.0	5.4	5.5	6.7	6.4	6.4	6.5	6.9	6.7	5.4	5.9	7.7	7.2	8.0	6.8	6.7
120.	7.4	7.5	7.8	7.3	6.8	5.1	5.3	6.2	5.9	5.9	7.3	7.6	7.5	5.7	6.0	8.0	7.4	8.5	7.5	7.4
130.	6.4	6.4	7.1	7.0	6.6	5.0	5.0	5.6	5.3	5.3	7.5	7.8	7.8	5.9	5.9	7.9	7.6	8.1	7.3	7.2
140.	6.0	6.0	7.0	7.0	6.7	5.0	5.0	5.3	5.1	5.1	7.2	7.6	7.5	5.9	5.9	7.8	7.6	7.6	7.0	7.2
150.	5.8	6.0	7.0	7.1	6.7	5.0	5.0	5.2	5.0	5.0	6.9	7.3	7.1	5.8	5.8	7.9	7.5	7.1	7.0	7.1
160.	5.7	6.0	7.2	7.3	6.8	5.0	5.0	5.3	5.0	5.0	6.8	7.1	6.9	5.9	5.8	7.9	7.5	7.1	7.2	7.0
170.	5.6	6.0	7.3	7.3	6.8	5.1	5.1	5.3	5.0	5.0	6.6	6.9	6.7	5.9	5.8	8.0	7.8	7.3	7.1	6.8
180.	5.5	5.8	7.5	7.4	6.7	5.1	5.1	5.5	5.0	5.0	6.5	6.8	6.5	5.8	5.8	8.3	7.9	7.6	7.0	6.4
190.	5.3	5.6	7.5	7.3	6.5	5.3	5.4	5.7	5.0	5.0	6.5	6.8	6.7	6.0	5.9	8.4	8.1	7.8	6.7	6.1
200.	5.2	5.4	7.1	6.9	6.2	5.8	6.0	6.4	5.0	5.0	6.5	6.9	7.2	6.3	6.3	8.6	8.1	7.6	6.7	6.1
210.	5.1	5.2	6.4	6.4	5.7	6.5	6.9	7.3	5.2	5.1	6.6	7.2	7.7	6.7	7.0	7.8	7.3	7.2	6.5	6.0
220.	5.2	5.2	5.7	5.8	5.3	6.9	7.4	7.9	5.4	5.1	6.6	7.5	7.8	7.1	7.1	6.7	6.4	6.7	6.3	5.9
230.	5.2	5.2	5.4	5.6	5.2	7.1	7.5	7.9	5.8	5.3	6.9	7.8	7.3	7.0	7.4	6.0	6.1	6.5	6.3	5.9
240.	5.3	5.3	5.5	5.6	5.4	7.3	7.8	7.7	6.1	5.5	7.2	7.9	7.1	6.9	7.4	5.8	6.0	6.5	6.4	6.0
250.	5.2	5.2	5.4	5.5	5.6	7.4	7.9	7.5	6.5	5.7	7.8	7.8	6.9	6.9	7.4	5.6	5.8	6.5	6.3	6.1
260.	5.1	5.1	5.2	5.2	5.6	7.3	7.8	7.0	6.4	5.9	8.0	7.8	6.9	7.0	7.4	5.4	5.7	6.5	6.2	6.1
270.	5.2	5.3	5.3	5.0	5.5	7.2	7.6	7.0	6.4	6.0	8.0	7.7	7.0	6.8	7.1	5.4	5.6	6.6	6.3	6.3
280.	5.4	5.5	5.6	5.0	5.5	7.0	7.4	7.1	6.6	5.9	8.1	7.7	7.4	6.7	7.1	5.2	5.5	6.7	6.4	6.4
290.	5.9	6.2	6.5	5.1	5.4	7.0	7.4	7.7	6.8	6.2	7.9	7.4	7.4	6.5	6.8	5.1	5.3	6.5	6.4	6.3
300.	6.5	7.0	7.3	5.3	5.5	7.2	7.6	8.1	7.1	6.8	7.0	6.7	7.1	6.3	6.7	5.0	5.1	6.0	5.9	5.9
310.	6.6	7.4	7.6	5.5	5.6	7.2	7.9	8.0	7.2	6.9	6.3	6.0	6.6	6.2	6.6	5.0	5.0	5.5	5.4	5.4
320.	6.4	7.3	7.4	5.6	5.6	7.4	8.0	7.5	7.0	6.8	6.0	5.9	6.3	6.2	6.3	5.1	5.0	5.2	5.2	5.2
330.	6.3	7.3	7.0	5.7	5.6	7.6	8.0	7.0	7.0	6.8	5.8	5.7	6.3	6.3	6.3	5.0	5.0	5.1	5.1	5.1
340.	6.1	7.0	6.7	5.9	5.7	7.7	8.0	6.8	7.0	6.8	5.8	5.7	6.4	6.5	6.4	5.0	5.1	5.2	5.1	5.1
350.	6.0	6.9	6.5	5.9	5.8	8.0	8.4	6.8	7.0	6.6	5.9	5.8	6.4	6.6	6.4	5.1	5.1	5.2	5.1	5.1
360.	5.9	6.7	6.4	5.8	6.0	8.3	8.5	6.8	7.1	6.8	5.8	5.8	6.7	6.8	6.4	5.2	5.1	5.1	5.0	5.0
MAX	8.2	8.4	8.0	8.2	8.3	8.3	8.5	8.1	7.2	6.9	8.1	7.9	7.8	7.1	7.4	8.6	8.1	8.5	7.5	7.4
DEGR.	100	70	110	70	40	0	0	300	310	310	280	240	130	220	250	200	190	120	120	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.3	7.3	7.1	5.8	5.4	6.5	6.9	7.1	6.3	6.0	6.0	5.9	5.8	6.6	6.4	5.0	5.0	5.0	5.1	5.2
10.	7.2	7.1	6.8	5.8	5.6	6.8	7.0	6.7	6.0	5.7	5.5	5.7	5.9	6.8	6.3	5.0	5.0	5.1	5.0	5.0
20.	7.0	7.0	6.4	5.8	5.6	6.8	6.8	6.3	5.7	5.8	5.5	5.7	5.8	6.8	6.3	5.1	5.1	5.1	5.0	5.0
30.	6.8	6.8	6.1	5.7	5.6	6.9	6.8	6.3	5.8	5.8	5.4	5.5	5.7	6.9	6.2	5.1	5.1	5.1	5.0	5.0
40.	6.6	6.6	5.8	5.6	5.5	7.1	7.0	6.3	5.9	5.7	5.3	5.4	5.7	7.0	6.2	5.1	5.1	5.1	5.0	5.0
50.	6.6	6.5	5.9	5.8	5.7	7.3	6.9	6.5	5.7	5.7	5.2	5.3	5.6	7.0	6.3	5.3	5.3	5.4	5.0	5.0
60.	6.6	6.8	6.3	6.1	5.8	7.1	6.9	6.2	5.6	5.5	5.1	5.2	5.4	6.7	6.4	5.7	5.8	6.1	5.1	5.0
70.	6.7	7.2	6.1	5.9	5.9	6.8	6.5	5.8	5.5	5.4	5.0	5.1	5.2	6.2	6.1	6.1	6.6	7.0	5.3	5.1
80.	7.0	7.3	5.9	5.8	6.1	6.2	5.9	5.6	5.4	5.4	5.0	5.0	5.0	5.5	5.6	6.3	7.0	7.6	5.4	5.3
90.	7.1	7.2	5.5	5.9	6.1	5.8	5.7	5.5	5.4	5.4	5.0	5.0	5.0	5.2	5.2	6.1	7.2	7.6	5.7	5.3
100.	7.1	6.8	5.3	6.0	6.3	5.6	5.5	5.5	5.4	5.4	5.0	5.0	5.0	5.1	5.1	6.0	7.2	7.4	5.7	5.3
110.	7.0	6.6	5.5	6.2	6.3	5.5	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.1	5.1	6.0	7.1	7.2	5.8	5.4
120.	6.8	6.5	5.6	6.2	6.2	5.5	5.4	5.5	5.5	5.5	5.0	5.0	5.0	5.1	5.1	5.9	7.0	6.9	5.9	5.5
130.	6.8	6.6	5.9	6.3	6.3	5.5	5.5	5.7	5.7	5.7	5.1	5.0	5.0	5.0	5.1	5.9	6.9	6.7	5.9	5.6
140.	7.0	6.7	6.1	6.2	6.2	5.5	5.5	5.8	5.8	5.8	5.2	5.2	5.1	5.1	5.1	6.2	6.9	6.6	5.9	5.8
150.	7.1	6.6	6.1	6.1	6.1	5.4	5.4	5.8	5.8	5.8	5.4	5.3	5.1	5.1	5.1	6.4	6.9	6.4	5.9	5.8
160.	6.8	6.4	6.3	6.2	6.0	5.2	5.4	5.7	5.7	5.7	5.6	5.5	5.2	5.2	5.0	6.6	6.9	6.3	6.1	5.9
170.	6.5	6.1	6.0	6.0	5.9	5.2	5.3	5.5	5.6	5.6	6.3	6.2	5.5	5.4	5.1	6.8	7.1	6.5	6.4	6.2
180.	5.8	5.6	6.0	5.9	5.9	5.2	5.2	5.3	5.3	5.3	6.6	6.7	5.7	5.6	5.3	7.1	7.2	6.8	6.3	6.3
190.	5.6	5.6	5.9	6.0	6.0	5.2	5.2	5.3	5.2	5.2	6.6	6.6	5.9	5.8	5.5	7.3	7.3	6.5	6.2	6.2
200.	5.5	5.5	5.9	6.1	6.1	5.3	5.2	5.2	5.1	5.2	6.5	6.5	5.9	5.7	5.5	7.4	7.5	6.5	6.0	6.0
210.	5.5	5.6	5.9	6.2	6.2	5.3	5.3	5.2	5.1	5.1	6.4	6.5	5.8	5.6	5.5	7.6	7.6	6.5	6.1	6.4
220.	5.4	5.7	6.0	6.3	6.3	5.4	5.4	5.2	5.1	5.1	6.2	6.3	5.7	5.7	5.4	7.8	7.6	6.6	6.2	6.3
230.	5.5	5.6	6.1	6.4	6.4	5.8	5.7	5.4	5.1	5.1	6.2	6.4	5.6	5.8	5.7	7.8	7.4	6.8	6.2	6.2
240.	5.4	5.6	6.1	6.5	6.5	6.4	6.4	5.9	5.2	5.1	6.1	6.6	5.9	6.3	6.3	7.5	7.1	6.8	6.3	6.2
250.	5.4	5.5	5.8	6.2	6.1	7.2	7.0	6.7	5.5	5.2	6.3	6.9	6.2	6.7	6.9	6.7	6.6	6.6	6.3	6.2
260.	5.2	5.2	5.5	5.6	5.6	7.4	7.3	7.1	5.8	5.6	6.8	7.2	6.2	6.6	7.1	5.9	5.9	6.2	6.0	6.0
270.	5.1	5.1	5.1	5.3	5.3	7.2	7.1	6.9	5.9	5.6	6.9	6.8	5.8	6.4	7.3	5.4	5.6	6.0	5.9	5.9
280.	5.0	5.1	5.1	5.1	5.1	6.7	6.7	6.5	5.7	5.6	6.5	6.2	5.7	6.5	7.4	5.5	5.5	5.9	5.9	5.9
290.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	6.3	5.7	5.5	6.5	6.0	5.6	6.6	7.3	5.5	5.5	5.9	5.9	6.0
300.	5.0	5.0	5.0	5.0	5.0	6.3	6.2	6.1	5.6	5.4	6.3	5.9	5.9	6.7	7.1	5.5	5.6	6.0	6.0	6.1
310.	5.0	5.0	5.0	5.0	5.0	6.1	6.2	6.1	5.5	5.4	6.5	5.9	6.1	6.9	7.0	5.4	5.5	5.9	6.1	6.2
320.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.5	5.5	6.6	6.3	6.2	7.1	7.1	5.4	5.5	6.0	6.2	6.2
330.	5.3	5.3	5.3	5.0	5.0	6.1	6.1	6.3	5.7	5.6	7.0	6.5	6.4	7.1	7.0	5.3	5.5	5.9	6.0	6.2
340.	6.0	5.9	5.9	5.2	5.1	6.2	6.2	6.7	6.2	5.9	7.0	6.5	6.2	7.2	6.9	5.2	5.3	5.6	5.9	5.9
350.	6.8	6.8	6.8	5.4	5.2	6.3	6.5	7.3	6.5	6.3	6.4	6.3	5.9	6.8	6.6	5.1	5.1	5.4	5.4	5.5
360.	7.3	7.3	7.1	5.8	5.4	6.5	6.9	7.1	6.3	6.0	6.0	5.9	5.8	6.6	6.4	5.0	5.0	5.0	5.1	5.2
MAX	7.3	7.3	7.1	6.5	6.5	7.4	7.3	7.3	6.5	6.3	7.0	7.2	6.4	7.2	7.4	7.8	7.6	7.6	6.4	6.4
DEGR.	0	0	0	240	240	260	260	350	350	350	330	260	330	340	280	220	210	80	170	210

THE HIGHEST CONCENTRATION OF 8.60 PPM OCCURRED AT RECEPTOR REC16.

Ex6a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56:57

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Winthrop North	*	759327.2	********	759298.6	********	*	1013.	358.	AG	308.	100.0	1.0	20.0	1.16	51.5
2. MVP East RT	*	759381.7	********	759502.5	********	*	121.	93.	AG	89.	100.0	1.0	10.0	0.45	6.1
3. MVP East T	*	759381.8	********	763790.8	********	*	4411.	92.	AG	122.	100.0	1.0	10.0	1.59	224.1
4. Winthrop South	*	759345.1	********	759310.2	********	*	1357.	181.	AG	373.	100.0	1.0	20.0	1.62	69.0
5. MVP West	*	759293.5	********	755376.9	********	*	3921.	273.	AG	122.	100.0	1.0	10.0	1.52	199.2
6. South St	*	761297.7	********	761138.4	********	*	163.	282.	AG	329.	100.0	1.0	20.0	0.86	8.3
7. Boston Ave. SB LT	*	759658.7	********	759565.4	********	*	198.	332.	AG	170.	100.0	1.0	10.0	0.92	10.0
8. Boston Ave. SB R	*	759646.0	********	759616.2	********	*	64.	332.	AG	170.	100.0	1.0	10.0	0.38	3.2
9. College Ave EB L	*	759636.4	********	759598.9	********	*	83.	207.	AG	170.	100.0	1.0	10.0	0.49	4.2
10. College Ave. EB TR	*	759648.1	********	759584.2	********	*	139.	207.	AG	170.	100.0	1.0	10.0	0.77	7.1
11. Boston Ave. NB	*	759699.9	********	759948.0	********	*	521.	152.	AG	170.	100.0	1.0	10.0	1.08	26.5
12. College Ave WB	*	759720.8	********	759917.4	********	*	339.	35.	AG	162.	100.0	1.0	10.0	1.01	17.2
13. Main St. SB	*	762042.2	********	761358.1	********	*	2227.	342.	AG	155.	100.0	1.0	10.0	1.50	113.1
14. Harvard St. EB	*	762026.6	********	760826.1	********	*	1368.	241.	AG	145.	100.0	1.0	10.0	1.24	69.5
15. Main st. NB	*	762078.3	********	762234.4	********	*	492.	162.	AG	155.	100.0	1.0	10.0	1.07	25.0
16. Harvard St. WB	*	762091.8	********	763477.0	********	*	1451.	73.	AG	145.	100.0	1.0	10.0	1.25	73.7
17. Broadway EB R	*	762959.1	********	762829.3	********	*	141.	293.	AG	174.	100.0	1.0	10.0	0.85	7.2
18. Broadway EB TL	*	762965.1	********	761504.0	********	*	1595.	294.	AG	174.	100.0	1.0	10.0	1.49	81.0
19. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	205.	100.0	1.0	10.0	1.28	9.1
20. Medford St. NB	*	763093.0	********	763636.6	********	*	1104.	150.	AG	174.	100.0	1.0	10.0	1.32	56.1
21. Broadway St. WB	*	763115.6	********	764227.2	********	*	1210.	113.	AG	348.	100.0	1.0	20.0	1.35	61.5
22. Dexter St. SWB	*	763101.5	********	763403.1	********	*	415.	47.	AG	205.	100.0	1.0	10.0	1.82	21.1
23. Medford St. SB	*	763008.3	********	762799.6	********	*	661.	342.	AG	183.	100.0	1.0	10.0	1.23	33.6
24. Highland St. EB	*	763277.6	********	763150.5	********	*	139.	294.	AG	143.	100.0	1.0	10.0	0.84	7.0
25. Central St NB	*	763301.4	********	763212.2	********	*	202.	206.	AG	143.	100.0	1.0	10.0	0.95	10.3
26. Highland St. WB	*	763328.5	********	763551.1	********	*	243.	114.	AG	143.	100.0	1.0	10.0	1.00	12.3
27. Central St. SB	*	763311.4	********	763332.6	********	*	46.	27.	AG	150.	100.0	1.0	10.0	0.37	2.3
28. Medford St. NWB	*	765022.2	********	766415.9	********	*	2269.	142.	AG	131.	100.0	1.0	10.0	1.38	115.3
29. School St. SB	*	765002.3	********	765166.0	********	*	379.	26.	AG	166.	100.0	1.0	10.0	1.08	19.3
30. Medford St. SEB	*	764967.1	********	764863.8	********	*	167.	322.	AG	131.	100.0	1.0	10.0	0.93	8.5
31. Prospect SB	*	765830.6	********	766200.2	********	*	715.	31.	AG	318.	100.0	1.0	20.0	1.12	36.3
32. Sommerville WB	*	765870.1	********	766866.4	********	*	1110.	116.	AG	386.	100.0	1.0	20.0	1.79	56.4
33. Prospect NB	*	765828.4	********	765723.3	********	*	237.	206.	AG	458.	100.0	1.0	30.0	0.97	12.0
34. Somerville EB	*	765797.5	********	765688.8	********	*	121.	296.	AG	265.	100.0	1.0	20.0	0.60	6.1
35. McGrath Highway SB1	*	766950.5	********	766591.9	********	*	1973.	350.	AG	405.	100.0	1.0	20.0	3.83	100.2
36. Washington St. EB	*	766952.8	********	759076.8	********	*	8448.	249.	AG	168.	100.0	1.0	10.0	3.46	429.2
37. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	32.	172.	AG	194.	100.0	1.0	10.0	0.41	1.6
38. McGrath Hwy NB2 T	*	767119.9	********	767604.3	********	*	3946.	173.	AG	194.	100.0	1.0	10.0	3.91	200.5
39. Washington St. WB	*	767129.9	********	767268.1	********	*	151.	67.	AG	410.	100.0	1.0	30.0	0.61	7.7
40. Msgr Obrien EB	*	769756.5	********	769681.2	********	*	91.	304.	AG	252.	100.0	1.0	30.0	0.39	4.6
41. Third St. NB L	*	769790.4	********	769088.1	********	*	4491.	189.	AG	157.	100.0	1.0	10.0	2.03	228.1
42. Third St NB R	*	769802.4	********	769801.4	********	*	7.	189.	AG	157.	100.0	1.0	10.0	0.04	0.4
43. Msgr Obrien WB	*	769887.3	********	769975.1	********	*	106.	124.	AG	323.	100.0	1.0	30.0	0.44	5.4
44. Msgr Obrien L	*	771466.3	********	769824.5	********	*	1960.	303.	AG	183.	100.0	1.0	10.0	1.83	99.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56:57

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771457.4	********	770930.5	********	628.	303.	AG	548.	100.0	1.0	30.0	1.21	31.9
46. Charlestown NB L	771481.8	********	770010.7	********	2407.	218.	AG	188.	100.0	1.0	10.0	2.31	122.3
47. Charlestown NB T	771497.8	********	768870.5	********	4328.	217.	AG	376.	100.0	1.0	20.0	3.43	219.8
48. Charlestown NB R	771512.8	********	768738.0	********	4446.	219.	AG	188.	100.0	1.0	10.0	3.50	225.9
49. Msgr Obrien WB L	771569.3	********	772136.7	********	676.	123.	AG	173.	100.0	1.0	10.0	1.16	34.3
50. Msgr Obrien WB T	771577.6	********	772091.2	********	612.	123.	AG	347.	100.0	1.0	20.0	1.14	31.1
51. Msgr Obrien WB R	771587.3	********	771678.8	********	109.	123.	AG	104.	100.0	1.0	10.0	0.45	5.5
52. Charlestown SB LT	771543.5	********	771608.0	********	114.	34.	AG	150.	100.0	1.0	10.0	0.58	5.8
53. Charlestown SB TR	771531.7	********	771963.5	********	762.	35.	AG	150.	100.0	1.0	10.0	1.10	38.7
54. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	184.	100.0	1.0	10.0	1.39	47.9
55. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	93.	100.0	1.0	10.0	0.12	1.4
56. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	93.	100.0	1.0	10.0	0.26	2.9
57. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	193.	100.0	1.0	10.0	0.79	3.1
58. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	57.	100.0	1.0	10.0	0.46	4.1
59. East St SB	770754.4	********	770782.0	********	42.	41.	AG	184.	100.0	1.0	10.0	0.44	2.1
60. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	174.	100.0	1.0	10.0	0.35	2.2
61. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	521.	100.0	1.0	30.0	0.97	9.1
62. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	174.	100.0	1.0	10.0	0.09	0.6
63. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	93.	100.0	1.0	10.0	0.95	14.3
64. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	93.	100.0	1.0	10.0	0.01	0.1
65. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	296.	100.0	1.0	20.0	0.30	2.8
66. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	13.1	1.0	42.0		
67. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	13.1	1.0	42.0		
68. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	12.8	1.0	66.0		
69. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	12.8	1.0	66.0		
70. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	12.8	1.0	42.0		
71. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	13.1	1.0	66.0		
72. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	13.1	1.0	66.0		
73. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	12.8	1.0	54.0		
74. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	12.8	1.0	54.0		
75. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	12.8	1.0	54.0		
76. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	12.8	1.0	42.0		
77. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	12.8	1.0	42.0		
78. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	13.1	1.0	42.0		
79. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	12.8	1.0	42.0		
80. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	13.1	1.0	42.0		
81. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	12.8	1.0	42.0		
82. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	12.8	1.0	66.0		
83. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	50.0	1.0	42.0		
84. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	12.8	1.0	42.0		
85. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	12.8	1.0	66.0		
86. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	12.8	1.0	30.0		
87. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	12.8	1.0	42.0		
88. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	12.8	1.0	42.0		
89. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	13.1	1.0	42.0		
90. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	12.8	1.0	42.0		
91. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	13.1	1.0	42.0		
92. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	12.8	1.0	42.0		
93. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	13.1	1.0	42.0		
94. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	12.8	1.0	42.0		
95. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	13.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	13.0	1.0	66.0	
97. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	12.8	1.0	66.0	
98. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	13.0	1.0	54.0	
99. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	12.8	1.0	66.0	
100. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	12.8	1.0	42.0	
101. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	12.8	1.0	42.0	
102. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	12.8	1.0	66.0	
103. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	12.8	1.0	66.0	
104. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	12.8	1.0	42.0	
105. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	12.8	1.0	42.0	
106. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	12.8	1.0	66.0	
107. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1095.	12.8	1.0	54.0	
108. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	2844.	12.8	1.0	90.0	
109. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	1815.	12.8	1.0	90.0	
110. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	2375.	12.8	1.0	90.0	
111. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	2918.	12.8	1.0	90.0	
112. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	2800.	12.8	1.0	90.0	
113. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	2545.	12.8	1.0	66.0	
114. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	12.8	1.0	42.0	
115. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	12.8	1.0	66.0	
116. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	13.1	1.0	66.0	
117. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	12.8	1.0	42.0	
118. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	12.8	1.0	****	
119. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	12.8	1.0	66.0	
120. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	12.8	1.0	****	

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Winthrop North	*	135	95	3.0	961	1600	81.70	1	3
2. MVP East RT	*	135	55	3.0	402	1600	81.70	1	3
3. MVP East T	*	135	75	3.0	1036	1600	81.70	1	3
4. Winthrop South	*	135	115	3.0	572	1600	81.70	1	3
5. MVP West	*	135	75	3.0	989	1600	81.70	1	3
6. South St	*	120	90	3.0	571	1600	81.70	1	3
7. Boston Ave. SB LT	*	135	105	3.0	272	1600	81.70	1	3
8. Boston Ave. SB R	*	135	105	3.0	111	1600	81.70	1	3
9. College Ave EB L	*	135	105	3.0	144	1600	81.70	1	3
10. College Ave. EB TR	*	135	105	3.0	228	1600	81.70	1	3
11. Boston Ave. NB	*	135	105	3.0	321	1600	81.70	1	3
12. College Ave WB	*	135	100	3.0	360	1600	81.70	1	3
13. Main St. SB	*	92	65	3.0	573	1600	81.70	1	3
14. Harvard St. EB	*	92	61	3.0	559	1600	81.70	1	3
15. Main st. NB	*	92	65	3.0	407	1600	81.70	1	3
16. Harvard St. WB	*	92	61	3.0	567	1600	81.70	1	3
17. Broadway EB R	*	122	97	3.0	224	1600	81.70	1	3
18. Broadway EB TL	*	122	97	3.0	391	1600	81.70	1	3
19. Parking Lot	*	122	114	3.0	50	1600	81.70	1	3
20. Medford St. NB	*	122	97	3.0	345	1600	81.70	1	3
21. Broadway St. WB	*	122	97	3.0	710	1600	81.70	1	3
22. Dexter St. SWB	*	122	114	3.0	71	1600	81.70	1	3
23. Medford St. SB	*	122	102	3.0	241	1600	81.70	1	3
24. Highland St. EB	*	86	56	3.0	390	1600	81.70	1	3
25. Central St NB	*	86	56	3.0	443	1600	81.70	1	3
26. Highland St. WB	*	86	56	3.0	463	1600	81.70	1	3
27. Central St. SB	*	82	56	3.0	150	1600	81.70	1	3
28. Medford St. NWB	*	70	42	3.0	723	1600	81.70	1	3
29. School St. SB	*	70	53	3.0	295	1600	81.70	1	3
30. Medford St. SEB	*	70	42	3.0	488	1600	81.70	1	3
31. Prospect SB	*	109	79	3.0	821	1600	81.70	1	3
32. Sommerville WB	*	109	96	3.0	418	1600	81.70	1	3
33. Prospect NB	*	109	76	3.0	1193	1600	81.70	1	3
34. Somerville EB	*	109	66	3.0	670	1600	81.70	1	3
35. McGrath Highway SB1	*	133	123	3.0	460	1600	81.70	1	3
36. Washington St. EB	*	133	102	3.0	1079	1600	81.70	1	3
37. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	81.70	1	3
38. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	81.70	1	3
39. Washington St. WB	*	133	83	3.0	997	1600	81.70	1	3
40. Msgr Obrien EB	*	120	46	3.0	1090	1600	81.70	1	3
41. Third St. NB L	*	120	86	3.0	785	1600	81.70	1	3
42. Third St NB R	*	120	86	3.0	15	1600	81.70	1	3
43. Msgr Obrien WB	*	120	59	3.0	987	1600	81.70	1	3
44. Msgr Obrien L	*	120	100	3.0	365	1600	81.70	1	3
45. Msgr Obrien WB T	*	120	100	3.0	723	1600	81.70	1	3
46. Charlestown NB L	*	120	103	3.0	368	1600	81.70	1	3
47. Charlestown NB T	*	120	103	3.0	1093	1600	81.70	1	3
48. Charlestown NB R	*	120	103	3.0	557	1600	81.70	1	3
49. Msgr Obrien WB L	*	120	95	3.0	309	1600	81.70	1	3
50. Msgr Obrien WB T	*	120	95	3.0	607	1600	81.70	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. Msgr Obrien WB R	120	57	3.0	350	1600	81.70	1	3
52. Charlestown SB LT	120	82	3.0	254	1600	81.70	1	3
53. Charlestown SB TR	120	82	3.0	483	1600	81.70	1	3
54. Cambridge St EB TR	111	93	3.0	260	1600	81.70	1	3
55. Cambridge St WB L	111	47	3.0	106	1600	81.70	1	3
56. Cambridge St WB T	111	47	3.0	224	1600	81.70	1	3
57. First St NB L	111	98	3.0	91	1600	81.70	1	3
58. First St NB R	111	29	3.0	507	1600	81.70	1	3
59. East St SB	111	93	3.0	83	1600	81.70	1	3
60. MsgrOb/East EB R	111	88	3.0	91	1600	81.70	1	3
61. MsgrOb/East EB T	111	88	3.0	750	1600	81.70	1	3
62. MsgrOb/East EB L	111	88	3.0	24	1600	81.70	1	3
63. MsgrOb/East WB T	111	47	3.0	807	1600	81.70	1	3
64. MsgrOb/East WB R	111	47	3.0	5	1600	81.70	1	3
65. MsgrOb at First WB L	111	75	3.0	265	1600	81.70	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:56:57

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.7	6.4	6.1	5.8	6.3	5.9	5.6	6.2	6.5	5.1	5.0	5.0	5.1	5.1	8.1	8.0	7.3	6.5	6.0
10.	5.9	6.6	6.2	6.0	6.0	5.8	5.7	5.4	6.3	6.5	5.0	5.0	5.0	5.0	5.0	7.9	7.9	6.9	6.3	6.1
20.	5.9	6.6	6.1	5.9	5.9	5.8	5.6	5.2	6.4	6.4	5.0	5.0	5.0	5.0	5.0	7.9	7.9	6.8	6.5	6.2
30.	6.0	6.8	6.2	5.9	6.0	5.5	5.6	5.3	6.5	6.3	5.0	5.0	5.0	5.0	5.0	8.1	8.2	7.2	6.9	6.8
40.	6.0	6.7	6.1	5.9	6.3	5.5	5.7	5.4	6.5	6.2	5.0	5.0	5.0	5.0	5.0	8.2	8.4	7.5	7.5	7.3
50.	5.9	6.6	6.1	6.0	6.2	5.6	5.8	5.6	6.5	6.1	5.0	5.0	5.0	5.0	5.0	8.3	8.6	7.5	7.4	7.5
60.	5.9	6.6	6.0	6.2	6.3	5.5	5.9	5.7	6.5	6.0	5.1	5.0	5.0	5.0	5.1	8.5	8.8	7.4	7.1	7.6
70.	6.1	6.8	5.9	6.3	6.2	5.4	5.8	5.9	6.5	6.1	5.1	5.1	5.0	5.1	5.1	8.8	8.9	7.1	7.1	8.0
80.	6.3	6.8	6.1	6.4	6.1	5.4	5.7	6.1	6.6	6.3	5.1	5.1	5.0	5.1	5.1	8.9	9.2	7.2	7.6	8.0
90.	6.6	7.1	6.4	6.4	6.1	5.4	5.7	6.2	6.7	6.5	5.1	5.1	5.0	5.1	5.1	9.5	9.2	7.8	7.7	8.0
100.	6.8	7.2	6.6	6.6	6.2	5.6	5.9	6.5	7.1	7.1	5.3	5.2	5.1	5.1	5.1	9.9	9.4	7.9	8.2	7.9
110.	7.2	7.5	7.0	6.6	6.3	5.7	5.9	7.0	7.8	7.7	5.5	5.5	5.4	5.6	5.6	10.4	9.8	8.2	7.9	7.6
120.	7.3	7.3	7.0	6.4	6.0	5.3	5.7	7.3	8.0	8.1	6.2	6.5	6.3	6.3	6.3	10.1	9.4	8.2	7.7	7.3
130.	6.7	6.6	6.6	6.1	6.0	5.4	5.4	6.8	7.6	7.7	6.8	7.2	6.7	6.8	6.7	8.6	8.1	7.7	7.2	7.1
140.	6.2	6.0	6.3	6.1	6.1	5.3	5.3	6.3	6.9	6.9	6.7	7.4	6.6	6.6	6.9	7.0	6.7	6.9	6.9	7.0
150.	5.8	5.7	6.1	6.2	6.2	5.3	5.3	5.8	6.3	6.3	7.0	7.6	6.4	6.7	7.0	6.3	6.5	6.7	6.9	7.0
160.	5.6	5.8	6.1	6.1	6.1	5.3	5.3	5.5	6.1	6.1	7.0	7.4	6.1	6.5	6.9	6.2	6.4	7.0	7.1	7.1
170.	5.6	5.8	6.3	6.4	6.4	5.4	5.4	5.6	5.8	5.8	7.0	7.1	5.8	6.7	7.1	6.2	6.5	7.2	7.2	7.2
180.	5.5	5.8	6.4	6.5	6.4	5.8	5.8	5.7	5.7	5.6	7.0	7.1	6.1	7.0	6.9	6.1	6.5	7.3	7.4	7.4
190.	5.3	5.4	6.0	6.2	6.2	6.2	6.2	6.0	5.8	5.8	7.1	7.0	6.2	6.8	6.4	6.1	6.5	7.6	7.6	7.7
200.	5.0	5.0	5.4	5.6	5.7	6.5	6.5	6.3	5.9	5.8	7.1	6.9	6.0	6.5	6.1	6.2	6.6	8.2	8.2	8.2
210.	5.0	5.0	5.1	5.2	5.2	6.3	6.2	6.1	6.0	5.8	7.2	6.6	5.9	6.5	6.1	5.8	6.5	8.2	8.3	8.3
220.	5.0	5.0	5.1	5.1	5.1	6.1	6.0	6.1	5.9	5.8	7.1	6.3	5.8	6.4	6.1	5.5	5.8	7.3	7.3	7.4
230.	5.0	5.0	5.0	5.1	5.1	5.9	5.9	6.1	5.8	5.7	7.0	6.1	5.9	6.3	5.9	5.0	5.2	6.0	6.0	6.1
240.	5.1	5.1	5.1	5.1	5.1	5.9	5.9	5.9	5.8	5.7	7.1	5.8	5.9	6.3	5.9	5.2	5.1	5.2	5.3	5.3
250.	5.1	5.1	5.1	5.0	5.0	5.8	5.8	5.9	5.8	5.7	6.9	5.8	6.1	6.3	6.0	5.2	5.2	5.2	5.1	5.2
260.	5.1	5.1	5.1	5.0	5.0	5.8	5.7	5.7	5.9	5.9	7.1	6.0	6.2	6.3	6.1	5.3	5.3	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.8	5.7	5.7	6.0	6.0	7.2	6.1	6.4	6.3	6.3	5.4	5.3	5.3	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.8	5.7	5.6	6.5	6.4	7.3	6.3	6.5	6.4	6.4	5.8	5.7	5.6	5.1	5.1
290.	5.6	5.6	5.7	5.1	5.0	5.8	5.8	6.0	7.0	6.9	7.3	6.5	6.6	6.7	6.7	7.0	6.7	6.5	5.0	5.0
300.	6.3	6.3	6.6	5.3	5.2	6.0	6.0	6.7	7.8	7.7	7.0	6.5	6.4	6.6	6.6	8.9	8.7	8.4	5.5	5.1
310.	6.7	6.9	7.2	5.6	5.4	6.2	6.4	7.1	7.9	8.0	6.0	5.9	5.8	6.0	6.0	10.4	10.1	9.7	6.2	5.5
320.	6.7	7.0	7.4	6.0	5.6	6.4	6.8	7.0	7.6	7.7	5.5	5.3	5.3	5.4	5.4	10.1	9.9	9.5	6.5	5.8
330.	6.4	6.8	7.1	5.9	5.6	6.5	6.8	6.5	6.9	7.0	5.1	5.0	5.1	5.2	5.2	9.4	9.4	8.8	6.7	6.1
340.	6.3	6.9	7.0	6.0	5.7	6.6	6.7	6.2	6.4	6.9	5.1	5.0	5.0	5.1	5.1	8.9	8.7	8.2	6.6	6.1
350.	6.1	6.8	6.6	5.9	5.7	6.5	6.3	5.8	6.3	6.7	5.1	5.0	5.0	5.1	5.1	8.4	8.4	7.7	6.6	6.0
360.	6.0	6.7	6.4	6.1	5.8	6.3	5.9	5.6	6.2	6.5	5.1	5.0	5.0	5.1	5.1	8.1	8.0	7.3	6.5	6.0
MAX	7.3	7.5	7.4	6.6	6.4	6.6	6.8	7.3	8.0	8.1	7.3	7.6	6.7	7.0	7.1	10.4	10.1	9.7	8.3	8.3
DEGR.	120	110	320	110	170	340	320	120	120	120	280	150	130	180	170	110	310	310	210	210

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	9.1	8.5	7.4	7.4	7.4	5.5	5.7	6.5	6.5	6.4	5.2	5.2	5.1	5.1	5.1
10.	8.9	8.6	7.5	7.3	7.2	5.5	5.6	6.4	6.6	6.6	5.4	5.5	5.2	5.0	5.0
20.	9.0	8.6	7.6	7.3	7.0	5.4	5.6	6.4	6.7	6.7	6.1	6.1	5.5	5.0	5.0
30.	8.4	8.2	7.6	7.2	6.9	5.1	5.4	6.0	6.6	6.6	6.9	7.1	6.3	5.2	5.1
40.	7.3	7.4	7.0	6.9	6.7	5.0	5.1	5.6	5.9	5.9	7.6	7.7	7.1	5.5	5.2
50.	6.4	6.6	6.5	6.7	6.6	5.0	5.0	5.1	5.3	5.3	7.6	7.8	7.3	5.8	5.5
60.	6.0	6.3	6.8	6.8	6.6	5.0	5.0	5.0	5.1	5.1	7.2	7.5	7.0	5.8	5.5
70.	5.8	6.1	6.9	6.9	6.8	5.1	5.1	5.1	5.1	5.1	6.9	7.2	7.0	5.9	5.6
80.	5.9	6.3	7.1	7.0	7.0	5.1	5.1	5.1	5.1	5.1	6.7	7.0	6.8	5.9	5.6
90.	6.0	6.4	7.4	7.2	7.2	5.1	5.1	5.1	5.0	5.0	6.5	6.8	6.6	5.8	5.5
100.	5.9	6.4	7.6	7.5	7.4	5.1	5.1	5.1	5.0	5.0	6.4	6.7	6.4	5.9	5.7
110.	5.7	6.1	7.9	7.7	7.7	5.6	5.6	5.7	5.1	5.0	6.4	6.8	6.8	6.3	6.1
120.	5.3	5.8	7.6	7.4	7.3	6.7	6.8	6.8	5.4	5.1	6.6	7.2	7.8	7.4	6.8
130.	5.1	5.2	6.7	6.5	6.5	7.7	7.8	7.9	6.0	5.4	6.9	7.8	8.5	7.7	7.3
140.	5.0	5.0	5.6	5.6	5.6	7.9	8.2	8.3	6.2	5.8	7.2	8.0	8.4	7.5	7.6
150.	5.0	5.0	5.3	5.3	5.3	7.7	7.9	7.9	6.3	5.9	7.4	8.2	7.8	7.1	7.6
160.	5.1	5.1	5.3	5.2	5.2	7.5	7.7	7.7	6.3	5.8	7.5	8.0	7.3	7.0	7.7
170.	5.1	5.1	5.3	5.1	5.1	7.2	7.5	7.3	6.3	5.9	7.6	7.9	7.3	7.4	7.8
180.	5.1	5.1	5.2	5.1	5.1	7.0	7.3	7.1	6.2	5.9	7.9	8.2	7.5	7.8	7.8
190.	5.1	5.3	5.2	5.1	5.1	6.9	7.2	6.7	6.2	5.9	8.3	8.7	7.9	8.2	7.7
200.	5.7	5.9	5.7	5.0	5.0	6.9	7.2	7.0	6.7	6.4	8.8	9.1	8.7	8.4	8.0
210.	7.2	7.6	7.2	5.5	5.2	7.1	7.8	8.0	7.8	7.4	9.2	9.5	8.9	8.3	7.6
220.	9.0	9.3	8.7	6.3	5.7	7.6	8.5	8.8	8.5	8.1	8.4	8.4	8.4	7.6	7.3
230.	9.5	9.8	9.1	6.8	6.1	8.0	9.0	8.6	8.1	7.9	7.0	7.1	7.2	7.0	6.7
240.	9.1	9.2	8.4	6.8	6.3	8.1	8.8	7.9	7.4	7.5	6.3	6.3	6.7	6.8	6.8
250.	8.6	8.7	7.8	6.6	6.2	8.0	8.6	7.4	7.4	7.5	6.0	6.2	6.7	7.0	6.9
260.	8.3	8.4	7.3	6.5	6.0	8.1	8.3	7.3	7.4	7.2	5.9	6.4	6.9	7.1	7.1
270.	8.0	8.1	6.8	6.5	6.1	8.2	8.2	7.7	7.5	7.2	5.9	6.4	7.3	7.3	7.4
280.	7.8	7.9	6.8	6.4	6.3	8.4	8.2	8.0	7.6	7.0	5.8	6.4	7.4	7.5	7.5
290.	7.6	7.8	7.5	7.0	6.8	8.6	8.3	8.2	7.3	6.6	5.5	6.0	7.4	7.5	7.3
300.	8.0	8.5	8.6	7.8	7.4	8.0	7.8	8.1	6.9	6.5	5.3	5.7	6.8	7.1	7.2
310.	8.1	9.0	9.2	8.1	7.9	6.7	6.8	7.0	6.5	6.1	5.1	5.2	5.9	6.2	6.1
320.	8.5	9.2	8.5	7.6	7.7	5.8	5.9	6.2	6.3	6.1	5.0	5.0	5.1	5.3	5.3
330.	8.8	9.2	7.7	7.3	7.6	5.5	5.7	6.2	6.3	6.1	5.1	5.1	5.0	5.1	5.1
340.	8.8	9.0	7.3	7.4	7.6	5.5	5.7	6.3	6.4	6.2	5.1	5.1	5.0	5.1	5.1
350.	8.9	8.8	7.3	7.3	7.4	5.5	5.7	6.4	6.4	6.3	5.2	5.2	5.1	5.1	5.1
360.	9.1	8.5	7.4	7.4	7.4	5.5	5.7	6.5	6.5	6.4	5.2	5.2	5.1	5.1	5.1
MAX	9.5	9.8	9.2	8.1	7.9	8.6	9.0	8.8	8.5	8.1	9.2	9.5	8.9	8.4	8.0
DEGR.	230	230	310	310	310	290	230	220	220	220	210	210	210	200	200

THE HIGHEST CONCENTRATION OF 10.40 PPM OCCURRED AT RECEPTOR REC16.

2030NB1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:57:47

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.8	********	70.	312.	AG	178.	100.0	1.0	20.0	0.45	3.5
2. MVP West	756216.0	********	753960.7	********	3664.	218.	AG	54.	100.0	1.0	10.0	1.39	186.1
3. Boston Ave South	756271.8	********	757624.4	********	1817.	132.	AG	89.	100.0	1.0	10.0	1.40	92.3
4. MVP East	756253.6	********	756366.2	********	158.	45.	AG	108.	100.0	1.0	20.0	0.76	8.0
5. Winthrop North	759327.2	********	759301.8	********	902.	358.	AG	169.	100.0	1.0	20.0	1.13	45.8
6. MVP East RT	759381.7	********	759489.0	********	107.	93.	AG	45.	100.0	1.0	10.0	0.45	5.5
7. MVP East T	759381.8	********	763362.9	********	3983.	92.	AG	63.	100.0	1.0	10.0	1.48	202.4
8. Winthrop South	759345.1	********	759307.6	********	1460.	181.	AG	209.	100.0	1.0	20.0	1.63	74.1
9. MVP West	759293.5	********	755107.0	********	4191.	273.	AG	63.	100.0	1.0	10.0	1.51	212.9
10. South St	761297.7	********	761050.9	********	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	96.	100.0	1.0	10.0	1.01	15.1
12. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	96.	100.0	1.0	10.0	0.41	3.6
13. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	96.	100.0	1.0	10.0	0.52	4.5
14. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	96.	100.0	1.0	10.0	0.82	7.9
15. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	96.	100.0	1.0	10.0	1.19	43.3
16. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	92.	100.0	1.0	10.0	1.09	31.3
17. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	83.	100.0	1.0	10.0	1.48	121.3
18. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	76.	100.0	1.0	10.0	1.29	89.9
19. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	83.	100.0	1.0	10.0	1.10	34.3
20. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	76.	100.0	1.0	10.0	1.25	79.9
21. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	99.	100.0	1.0	10.0	0.98	10.5
22. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	99.	100.0	1.0	10.0	1.72	113.0
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	99.	100.0	1.0	10.0	1.54	88.1
25. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	197.	100.0	1.0	20.0	1.60	96.2
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	104.	100.0	1.0	10.0	1.31	41.8
28. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	77.	100.0	1.0	10.0	0.84	6.8
29. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	78.	100.0	1.0	10.0	1.05	24.8
30. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	77.	100.0	1.0	10.0	0.98	11.4
31. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	78.	100.0	1.0	10.0	0.33	2.2
32. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	68.	100.0	1.0	10.0	1.45	150.9
33. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	90.	100.0	1.0	10.0	1.05	16.7
34. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	68.	100.0	1.0	10.0	0.89	6.9
35. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	173.	100.0	1.0	20.0	1.06	24.9
36. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	215.	100.0	1.0	20.0	1.88	67.6
37. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	248.	100.0	1.0	30.0	1.01	16.2
38. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	140.	100.0	1.0	20.0	0.62	5.9
39. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	229.	100.0	1.0	20.0	4.48	122.3
40. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	95.	100.0	1.0	10.0	3.95	511.6
41. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	110.	100.0	1.0	10.0	0.48	1.9
42. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	110.	100.0	1.0	10.0	4.62	247.7
43. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	232.	100.0	1.0	30.0	0.74	9.2
44. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	92.	100.0	1.0	10.0	0.58	4.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	92.	100.0	1.0	10.0	0.75	6.7
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	65.	100.0	1.0	10.0	0.17	2.1
49. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	171.	100.0	1.0	20.0	1.14	46.5
50. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	190.	100.0	1.0	20.0	1.52	98.0
51. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	190.	100.0	1.0	20.0	0.57	4.5
52. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	74.	100.0	1.0	10.0	1.25	92.7
53. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	217.	100.0	1.0	20.0	2.12	88.8
54. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	103.	100.0	1.0	10.0	1.06	15.0
55. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	103.	100.0	1.0	10.0	1.11	20.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2461.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2297.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	958.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2230.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3177.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	106	76	3.0	336	1600	46.20	1	3
2. MVP West	*	106	46	3.0	1153	1600	46.20	1	3
3. Boston Ave South	*	106	76	3.0	526	1600	46.20	1	3
4. MVP East	*	106	46	3.0	1258	1600	46.20	1	3
5. Winthrop North	*	126	86	3.0	1000	1600	46.20	1	3
6. MVP East RT	*	126	46	3.0	427	1600	46.20	1	3
7. MVP East T	*	126	64	3.0	1070	1600	46.20	1	3
8. Winthrop South	*	126	106	3.0	618	1600	46.20	1	3
9. MVP West	*	126	64	3.0	1090	1600	46.20	1	3
10. South St	*	120	90	3.0	667	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	105	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	105	3.0	122	1600	46.20	1	3
13. College Ave EB L	*	135	105	3.0	154	1600	46.20	1	3
14. College Ave. EB TR	*	135	105	3.0	244	1600	46.20	1	3
15. Boston Ave. NB	*	135	105	3.0	352	1600	46.20	1	3
16. College Ave WB	*	135	100	3.0	386	1600	46.20	1	3
17. Main St. SB	*	81	54	3.0	642	1600	46.20	1	3
18. Harvard St. EB	*	81	50	3.0	660	1600	46.20	1	3
19. Main st. NB	*	81	54	3.0	477	1600	46.20	1	3
20. Harvard St. WB	*	81	50	3.0	641	1600	46.20	1	3
21. Broadway EB R	*	122	97	3.0	258	1600	46.20	1	3
22. Broadway EB TL	*	122	97	3.0	450	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
24. Medford St. NB	*	122	97	3.0	404	1600	46.20	1	3
25. Broadway St. WB	*	122	97	3.0	839	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	122	102	3.0	256	1600	46.20	1	3
28. Highland St. EB	*	79	49	3.0	426	1600	46.20	1	3
29. Central St NB	*	79	50	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	79	49	3.0	496	1600	46.20	1	3
31. Central St. SB	*	79	50	3.0	159	1600	46.20	1	3
32. Medford St. NWB	*	62	34	3.0	861	1600	46.20	1	3
33. School St. SB	*	62	45	3.0	325	1600	46.20	1	3
34. Medford St. SEB	*	62	34	3.0	528	1600	46.20	1	3
35. Prospect SB	*	99	69	3.0	855	1600	46.20	1	3
36. Sommerville WB	*	99	86	3.0	485	1600	46.20	1	3
37. Prospect NB	*	99	66	3.0	1373	1600	46.20	1	3
38. Somerville EB	*	99	56	3.0	762	1600	46.20	1	3
39. McGrath Highway SB1	*	133	123	3.0	539	1600	46.20	1	3
40. Washington St. EB	*	133	102	3.0	1231	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	46.20	1	3
43. Washington St. WB	*	133	83	3.0	1198	1600	46.20	1	3
44. Camb. St at First L	*	120	89	3.0	200	1600	46.20	1	3
45. Camb. St at First TR	*	120	89	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	63	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	83	3.0	970	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	92	3.0	930	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	92	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	72	3.0	715	1600	46.20	1	3
53. First St. Ext. SB	120	105	3.0	565	1600	46.20	1	3
54. First Ext. NB L	120	100	3.0	210	1600	46.20	1	3
55. First Ext. NB T	120	100	3.0	220	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.2	5.4	5.8	5.8	5.6	5.0	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.4	5.2
10.	6.1	6.0	6.0	5.7	5.6	5.2	5.4	5.9	5.9	5.7	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.3
20.	6.0	6.1	6.2	5.6	5.5	5.2	5.3	6.0	5.9	5.8	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.4	5.5	5.4
30.	6.1	6.1	6.4	5.6	5.5	5.2	5.3	6.0	6.0	5.9	5.2	5.2	5.2	5.0	5.0	5.2	5.8	5.6	5.7	5.8
40.	5.8	6.0	6.3	5.5	5.4	5.1	5.2	6.0	5.9	5.8	5.5	5.6	5.6	5.1	5.0	5.2	5.9	6.0	6.1	6.0
50.	5.5	5.6	5.8	5.4	5.3	5.0	5.1	5.6	5.6	5.6	5.8	6.0	6.0	5.2	5.1	5.3	6.0	6.4	6.3	6.2
60.	5.3	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	5.9	6.2	6.2	5.3	5.2	5.4	6.2	6.4	6.2	6.2
70.	5.3	5.3	5.4	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.9	6.1	6.1	5.4	5.2	5.4	6.3	6.1	6.1	6.0
80.	5.2	5.3	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.8	6.0	6.0	5.4	5.2	5.4	6.3	6.2	6.1	6.0
90.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.8	5.9	5.8	5.4	5.3	5.6	6.5	6.0	5.9	5.9
100.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.8	5.4	5.3	5.7	6.4	6.1	5.9	5.9
110.	5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.2	5.0	5.0	5.8	5.8	5.6	5.4	5.3	5.7	6.6	6.2	5.8	5.8
120.	5.2	5.2	5.7	5.6	5.6	5.4	5.4	5.4	5.0	5.0	5.8	5.8	5.8	5.7	5.6	5.9	6.5	6.3	5.9	5.9
130.	5.0	5.2	5.6	5.6	5.6	5.7	5.8	5.8	5.2	5.0	5.8	6.0	6.1	5.7	5.7	5.8	6.4	6.2	5.9	5.7
140.	5.0	5.0	5.4	5.3	5.3	5.9	6.0	5.8	5.2	5.2	6.0	6.0	6.2	5.9	5.8	5.6	5.9	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.2	6.0	6.0	6.0	5.8	5.8	5.3	5.5	5.7	5.7	5.7
160.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.2	5.2	6.0	6.0	5.9	5.6	5.7	5.2	5.4	5.7	5.7	5.7
170.	5.0	5.0	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.0	6.0	6.0	5.8	5.6	5.2	5.3	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.3	5.3	6.1	6.2	6.0	5.9	5.4	5.2	5.4	5.8	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.1	6.2	6.1	6.1	5.4	5.2	5.5	5.9	6.0	6.0
200.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.4	5.3	6.3	6.4	6.3	6.1	5.4	5.2	5.4	6.1	6.1	6.1
210.	5.6	5.7	5.7	5.1	5.0	5.5	5.6	5.9	5.6	5.5	6.3	6.4	6.2	5.9	5.3	5.1	5.3	6.1	6.1	6.1
220.	6.0	6.0	6.0	5.3	5.1	5.7	5.9	6.2	5.8	5.8	6.2	6.3	6.1	5.6	5.2	5.0	5.1	5.8	5.8	5.8
230.	6.2	6.2	6.2	5.4	5.2	5.7	5.9	6.3	6.1	5.9	5.8	5.7	5.7	5.4	5.2	5.0	5.0	5.3	5.3	5.3
240.	6.0	6.0	6.0	5.4	5.2	5.7	5.9	6.2	5.9	5.9	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	5.9	5.9	5.9	5.4	5.2	5.7	5.9	6.0	6.1	6.2	5.2	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.8	5.9	5.9	6.0	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.7	5.3	5.2	5.8	5.9	6.1	6.0	5.9	5.2	5.2	5.7	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.6	5.3	5.2	5.8	5.9	6.0	5.9	5.9	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.7	5.3	5.3	6.0	6.1	6.2	5.8	5.8	5.1	5.1	5.5	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.1	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.7	5.4	5.8	6.0	6.0	5.8	5.7	5.0	5.1	5.3	5.3	5.3	5.3	5.4	5.8	5.1	5.0
320.	5.7	5.7	6.1	5.9	5.7	5.6	5.7	5.9	5.7	5.7	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.7	5.8	6.1	5.8	5.7	5.4	5.5	5.7	5.7	5.6	5.0	5.0	5.1	5.1	5.1	5.4	5.6	6.1	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.8	5.3	5.4	5.6	5.7	5.6	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.9	5.1	5.1
350.	5.8	5.9	5.9	5.8	5.8	5.3	5.4	5.8	5.8	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.2	5.4	5.8	5.8	5.6	5.0	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.4	5.2
MAX	6.2	6.2	6.4	5.9	5.8	6.0	6.1	6.3	6.1	6.2	6.3	6.4	6.3	6.1	5.8	5.9	6.6	6.4	6.3	6.2
DEGR.	230	230	30	320	340	290	300	230	230	250	200	200	200	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.8	5.9	6.7	6.2	6.1	6.6	6.7	6.7	6.1	5.8	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.7	5.2	5.0
10.	5.9	6.1	6.8	6.4	6.4	5.9	6.1	6.2	5.9	5.8	5.0	5.0	5.5	5.4	5.5	7.0	7.0	7.0	5.4	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.8	5.0	5.0	5.1	5.1	5.2	6.8	6.7	6.8	5.6	5.4
30.	6.1	6.1	6.2	6.0	6.2	5.3	5.4	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.5	5.4
40.	6.0	6.1	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.4	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.0	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.1	6.1	5.4	5.2
60.	6.1	6.3	6.3	6.3	6.2	5.3	5.6	6.2	6.1	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.4	5.3
70.	6.2	6.3	6.4	6.4	6.2	5.4	5.6	6.4	6.3	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.5	6.6	6.4	6.1	5.3	5.5	6.5	6.4	6.4	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.3	6.6	6.2	5.9	5.1	5.4	6.4	6.3	6.3	5.9	6.0	6.0	5.1	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.4	6.4	5.4	5.2	6.4	6.6	7.2	6.5	6.3
110.	5.4	5.4	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.3	6.3	6.4	5.5	5.4	6.5	6.6	7.1	6.3	6.0
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.3	6.4	6.7	7.0	6.0	6.0
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.0	6.1	6.1	5.5	5.3	6.5	6.8	6.7	5.9	5.9
140.	5.3	5.3	5.8	6.0	6.0	5.0	5.0	5.1	5.1	5.1	5.9	6.0	5.9	5.5	5.4	6.7	6.7	6.5	5.8	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.1	5.1	5.0	5.1	5.9	6.0	5.8	5.5	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.8	5.9	6.0	5.6	5.6	7.1	7.0	6.7	6.1	5.9
170.	5.2	5.4	6.2	6.2	6.2	5.7	5.8	5.6	5.0	5.0	5.8	6.0	6.3	5.9	6.0	7.1	7.0	6.7	6.0	5.9
180.	5.1	5.3	6.0	6.1	6.1	6.3	6.4	6.2	5.2	5.1	5.9	6.3	6.7	6.5	6.5	6.8	6.5	6.4	5.9	5.7
190.	5.0	5.1	5.5	5.6	5.6	6.7	6.8	6.4	5.4	5.2	6.0	6.3	6.9	6.4	6.5	6.2	6.0	6.0	5.7	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.3	5.4	5.3	6.1	6.4	6.6	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.1	6.4	6.3	6.1	6.3	5.4	5.4	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.6	5.6	5.6
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.3	6.3	6.1	5.2	5.4	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.4	6.4	6.5	6.2	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.6	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.4	6.0	6.0	6.0
270.	5.9	6.0	5.8	5.2	5.1	6.1	6.2	6.1	6.0	6.1	6.4	6.4	6.7	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.4	6.3	6.5	5.8	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.0	5.5	5.3	6.3	6.4	6.4	6.4	6.4	5.5	5.7	6.1	5.8	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.0	6.0	5.8	5.4	5.3	6.3	6.4	6.2	6.3	6.4	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.8	5.8	5.7	5.4	5.3	6.3	6.5	6.2	6.3	6.4	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.0	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.2	6.4	6.5	6.2	6.4	6.3	5.4	5.5	6.0	6.0	6.1	5.2	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.6	6.4	6.4	6.3	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.3	6.7	6.8	6.8	6.4	6.1	5.2	5.5	6.3	6.3	6.3	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.7	6.1	5.8	5.7	6.9	7.0	6.9	6.3	6.0	5.2	5.4	6.4	6.3	6.4	6.2	6.0	6.1	5.0	5.0
360.	5.8	5.9	6.7	6.2	6.1	6.6	6.7	6.7	6.1	5.8	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.7	5.2	5.0
MAX	6.4	6.5	6.8	6.4	6.4	6.9	7.0	6.9	6.4	6.5	6.6	6.4	6.9	6.5	6.5	7.1	7.0	7.2	6.5	6.3
DEGR.	80	80	10	10	10	350	350	350	80	280	260	100	190	180	180	160	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.1	6.1	5.6	5.6	5.7	5.7	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.2	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.3	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.5	5.5	5.5	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.7	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.5	5.5	5.6	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.2	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.2	5.3	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.8	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.8	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.8	5.9	6.1	6.2	6.1	5.2	5.4	6.1	6.0	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.2	6.2	6.1	5.9	5.1	5.3	6.1	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.2	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.8	6.0	5.8	5.7	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	6.0
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.9	5.8
230.	5.2	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	6.0	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.9	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.0	5.8	5.6
280.	5.0	5.1	5.5	5.8	5.7	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.8	5.8	5.6	5.7
300.	5.1	5.1	5.1	5.3	5.3	5.8	5.9	6.0	5.4	5.1	5.9	6.0	5.6	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.7	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	5.9	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
MAX	6.0	6.2	6.2	6.2	6.2	5.9	6.0	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
DEGR.	170	170	170	140	120	30	30	10	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.20 PPM OCCURRED AT RECEPTOR REC38.

2030NB2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:58:55

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.8	********	*	70.	312.	AG	178.	100.0	1.0	20.0	0.45	3.5
2. MVP West	*	756216.0	********	753960.7	********	*	3664.	218.	AG	54.	100.0	1.0	10.0	1.39	186.1
3. Boston Ave South	*	756271.8	********	757624.4	********	*	1817.	132.	AG	89.	100.0	1.0	10.0	1.40	92.3
4. MVP East	*	756253.6	********	756366.2	********	*	158.	45.	AG	108.	100.0	1.0	20.0	0.76	8.0
5. Winthrop North	*	759327.2	********	759301.8	********	*	902.	358.	AG	169.	100.0	1.0	20.0	1.13	45.8
6. MVP East RT	*	759381.7	********	759489.0	********	*	107.	93.	AG	45.	100.0	1.0	10.0	0.45	5.5
7. MVP East T	*	759381.8	********	763362.9	********	*	3983.	92.	AG	63.	100.0	1.0	10.0	1.48	202.4
8. Winthrop South	*	759345.1	********	759307.6	********	*	1460.	181.	AG	209.	100.0	1.0	20.0	1.63	74.1
9. MVP West	*	759293.5	********	755107.0	********	*	4191.	273.	AG	63.	100.0	1.0	10.0	1.51	212.9
10. South St	*	761297.7	********	761050.9	********	*	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	*	759658.7	********	759518.7	********	*	296.	332.	AG	96.	100.0	1.0	10.0	1.01	15.1
12. Boston Ave. SB R	*	759646.0	********	759613.3	********	*	70.	332.	AG	96.	100.0	1.0	10.0	0.41	3.6
13. College Ave EB L	*	759636.4	********	759596.3	********	*	88.	207.	AG	96.	100.0	1.0	10.0	0.52	4.5
14. College Ave. EB TR	*	759648.1	********	759576.3	********	*	156.	207.	AG	96.	100.0	1.0	10.0	0.82	7.9
15. Boston Ave. NB	*	759699.9	********	760106.0	********	*	853.	152.	AG	96.	100.0	1.0	10.0	1.19	43.3
16. College Ave WB	*	759720.8	********	760078.1	********	*	616.	35.	AG	92.	100.0	1.0	10.0	1.09	31.3
17. Main St. SB	*	762042.2	********	761308.8	********	*	2387.	342.	AG	83.	100.0	1.0	10.0	1.48	121.3
18. Harvard St. EB	*	762026.6	********	760473.5	********	*	1770.	241.	AG	76.	100.0	1.0	10.0	1.29	89.9
19. Main st. NB	*	762078.3	********	762292.6	********	*	676.	162.	AG	83.	100.0	1.0	10.0	1.10	34.3
20. Harvard St. WB	*	762091.8	********	763593.7	********	*	1573.	73.	AG	76.	100.0	1.0	10.0	1.25	79.9
21. Broadway EB R	*	762959.1	********	762769.2	********	*	207.	293.	AG	99.	100.0	1.0	10.0	0.98	10.5
22. Broadway EB TL	*	762965.1	********	760926.9	********	*	2224.	294.	AG	99.	100.0	1.0	10.0	1.72	113.0
23. Parking Lot	*	763003.3	********	762870.0	********	*	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	*	763093.0	********	763946.7	********	*	1733.	150.	AG	99.	100.0	1.0	10.0	1.54	88.1
25. Broadway St. WB	*	763115.6	********	764854.5	********	*	1894.	113.	AG	197.	100.0	1.0	20.0	1.60	96.2
26. Dexter St. SWB	*	763101.5	********	763427.6	********	*	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	*	763008.3	********	762748.7	********	*	822.	342.	AG	104.	100.0	1.0	10.0	1.31	41.8
28. Highland St. EB	*	763277.6	********	763154.6	********	*	134.	294.	AG	77.	100.0	1.0	10.0	0.84	6.8
29. Central St NB	*	763301.4	********	763085.9	********	*	489.	206.	AG	78.	100.0	1.0	10.0	1.05	24.8
30. Highland St. WB	*	763328.5	********	763533.4	********	*	224.	114.	AG	77.	100.0	1.0	10.0	0.98	11.4
31. Central St. SB	*	763311.4	********	763331.4	********	*	43.	27.	AG	78.	100.0	1.0	10.0	0.33	2.2
32. Medford St. NWB	*	765022.2	********	766847.0	********	*	2971.	142.	AG	68.	100.0	1.0	10.0	1.45	150.9
33. School St. SB	*	765002.3	********	765143.9	********	*	328.	26.	AG	90.	100.0	1.0	10.0	1.05	16.7
34. Medford St. SEB	*	764967.1	********	764883.7	********	*	135.	322.	AG	68.	100.0	1.0	10.0	0.89	6.9
35. Prospect SB	*	765830.6	********	766084.6	********	*	491.	31.	AG	173.	100.0	1.0	20.0	1.06	24.9
36. Sommerville WB	*	765870.1	********	767064.5	********	*	1330.	116.	AG	215.	100.0	1.0	20.0	1.88	67.6
37. Prospect NB	*	765828.4	********	765687.0	********	*	319.	206.	AG	248.	100.0	1.0	30.0	1.01	16.2
38. Somerville EB	*	765797.5	********	765692.6	********	*	117.	296.	AG	140.	100.0	1.0	20.0	0.62	5.9
39. McGrath Highway SB1	*	766950.5	********	766512.9	********	*	2408.	350.	AG	229.	100.0	1.0	20.0	4.48	122.3
40. Washington St. EB	*	766952.8	********	757563.9	********	*	*****	249.	AG	95.	100.0	1.0	10.0	3.95	511.6
41. McGrath Hwy NB2 L	*	767105.3	********	767110.3	********	*	37.	172.	AG	110.	100.0	1.0	10.0	0.48	1.9
42. McGrath Hwy NB2 T	*	767119.9	********	767718.4	********	*	4876.	173.	AG	110.	100.0	1.0	10.0	4.62	247.7
43. Washington St. WB	*	767129.9	********	767296.0	********	*	181.	67.	AG	232.	100.0	1.0	30.0	0.74	9.2
44. Camb. St at First L	*	770442.2	********	770346.2	********	*	97.	280.	AG	92.	100.0	1.0	10.0	0.58	4.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:58:55

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	92.	100.0	1.0	10.0	0.75	6.7
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	65.	100.0	1.0	10.0	0.17	2.1
49. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	171.	100.0	1.0	20.0	1.14	46.5
50. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	190.	100.0	1.0	20.0	1.52	98.0
51. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	190.	100.0	1.0	20.0	0.57	4.5
52. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	74.	100.0	1.0	10.0	1.25	92.7
53. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	217.	100.0	1.0	20.0	2.12	88.8
54. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	103.	100.0	1.0	10.0	1.06	15.0
55. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	103.	100.0	1.0	10.0	1.11	20.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2461.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2297.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	958.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2230.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3177.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:58:55

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:58:55

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	106	76	3.0	336	1600	46.20	1	3
2. MVP West	*	106	46	3.0	1153	1600	46.20	1	3
3. Boston Ave South	*	106	76	3.0	526	1600	46.20	1	3
4. MVP East	*	106	46	3.0	1258	1600	46.20	1	3
5. Winthrop North	*	126	86	3.0	1000	1600	46.20	1	3
6. MVP East RT	*	126	46	3.0	427	1600	46.20	1	3
7. MVP East T	*	126	64	3.0	1070	1600	46.20	1	3
8. Winthrop South	*	126	106	3.0	618	1600	46.20	1	3
9. MVP West	*	126	64	3.0	1090	1600	46.20	1	3
10. South St	*	120	90	3.0	667	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	105	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	105	3.0	122	1600	46.20	1	3
13. College Ave EB L	*	135	105	3.0	154	1600	46.20	1	3
14. College Ave. EB TR	*	135	105	3.0	244	1600	46.20	1	3
15. Boston Ave. NB	*	135	105	3.0	352	1600	46.20	1	3
16. College Ave WB	*	135	100	3.0	386	1600	46.20	1	3
17. Main St. SB	*	81	54	3.0	642	1600	46.20	1	3
18. Harvard St. EB	*	81	50	3.0	660	1600	46.20	1	3
19. Main st. NB	*	81	54	3.0	477	1600	46.20	1	3
20. Harvard St. WB	*	81	50	3.0	641	1600	46.20	1	3
21. Broadway EB R	*	122	97	3.0	258	1600	46.20	1	3
22. Broadway EB TL	*	122	97	3.0	450	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
24. Medford St. NB	*	122	97	3.0	404	1600	46.20	1	3
25. Broadway St. WB	*	122	97	3.0	839	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	122	102	3.0	256	1600	46.20	1	3
28. Highland St. EB	*	79	49	3.0	426	1600	46.20	1	3
29. Central St NB	*	79	50	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	79	49	3.0	496	1600	46.20	1	3
31. Central St. SB	*	79	50	3.0	159	1600	46.20	1	3
32. Medford St. NWB	*	62	34	3.0	861	1600	46.20	1	3
33. School St. SB	*	62	45	3.0	325	1600	46.20	1	3
34. Medford St. SEB	*	62	34	3.0	528	1600	46.20	1	3
35. Prospect SB	*	99	69	3.0	855	1600	46.20	1	3
36. Sommerville WB	*	99	86	3.0	485	1600	46.20	1	3
37. Prospect NB	*	99	66	3.0	1373	1600	46.20	1	3
38. Somerville EB	*	99	56	3.0	762	1600	46.20	1	3
39. McGrath Highway SB1	*	133	123	3.0	539	1600	46.20	1	3
40. Washington St. EB	*	133	102	3.0	1231	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	46.20	1	3
43. Washington St. WB	*	133	83	3.0	1198	1600	46.20	1	3
44. Camb. St at First L	*	120	89	3.0	200	1600	46.20	1	3
45. Camb. St at First TR	*	120	89	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	63	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	83	3.0	970	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	92	3.0	930	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:58:55

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	92	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	72	3.0	715	1600	46.20	1	3
53. First St. Ext. SB	120	105	3.0	565	1600	46.20	1	3
54. First Ext. NB L	120	100	3.0	210	1600	46.20	1	3
55. First Ext. NB T	120	100	3.0	220	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.1	5.8	5.6	5.6	5.5	5.1	5.2	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	6.3	5.5	5.2	5.2
10.	6.1	6.0	5.6	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.6	6.1	5.4	5.5	5.2
20.	6.0	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.6	5.6	5.2	5.2	5.2	5.0	5.0	5.5	5.9	5.5	5.5	5.3
30.	5.8	5.7	5.4	5.5	5.4	5.1	5.2	5.3	5.6	5.6	5.6	5.5	5.5	5.0	5.0	5.4	5.9	5.6	5.7	5.5
40.	5.3	5.4	5.2	5.3	5.3	5.0	5.1	5.2	5.4	5.4	5.8	5.8	5.7	5.2	5.0	5.5	5.9	5.7	5.6	5.5
50.	5.3	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.1	5.1	5.8	5.8	5.7	5.2	5.1	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.1	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.4	5.2	5.2	5.6	5.6	5.3	5.3	5.5
80.	5.1	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.2	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.8	5.4	5.1	5.4	5.7
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.1	5.4	5.7
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	6.1	5.4	5.3	5.6	5.7
140.	5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	6.1	5.4	5.5	5.6	5.7
150.	5.0	5.2	5.5	5.5	5.5	5.5	5.5	5.2	5.0	5.0	5.5	5.5	5.3	5.3	5.2	6.1	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.3	5.3	5.3	5.5	5.6	5.3	5.2	5.0	5.5	5.6	5.5	5.4	5.6	5.9	5.6	5.6	5.5	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.2	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.6	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.1	5.7	5.8	5.6	5.5	5.7	5.3	5.3	5.5	5.6	5.6
190.	5.3	5.3	5.3	5.1	5.0	5.5	5.5	5.4	5.3	5.1	5.7	5.7	5.6	5.5	5.5	5.2	5.3	5.8	5.6	5.5
200.	5.4	5.5	5.4	5.1	5.1	5.6	5.3	5.4	5.3	5.2	5.8	5.7	5.6	5.5	5.4	5.1	5.2	5.4	5.5	5.3
210.	5.6	5.6	5.5	5.0	5.1	5.3	5.4	5.5	5.3	5.3	5.8	5.7	5.5	5.5	5.4	5.1	5.1	5.2	5.2	5.2
220.	5.7	5.9	5.7	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.5	5.4	5.0	5.0	5.2	5.1	5.1
230.	5.7	5.9	5.5	5.2	5.0	5.4	5.5	5.3	5.4	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.0
240.	5.6	5.8	5.4	5.2	5.0	5.5	5.5	5.2	5.4	5.5	5.3	5.2	5.2	5.4	5.4	5.1	5.1	5.0	5.0	5.0
250.	5.6	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.4	5.5	5.2	5.3	5.2	5.4	5.4	5.0	5.1	5.0	5.0	5.0
260.	5.6	5.8	5.2	5.3	5.1	5.6	5.3	5.2	5.4	5.6	5.2	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.5	5.7	5.2	5.3	5.2	5.6	5.2	5.1	5.4	5.6	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.0	5.0	5.0
280.	5.5	5.7	5.2	5.3	5.2	5.4	5.2	5.2	5.6	5.6	5.2	5.2	5.4	5.4	5.4	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.2	5.2	5.6	5.6	5.1	5.2	5.5	5.4	5.4	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.4	5.4	5.6	5.2	5.4	5.5	5.6	5.1	5.2	5.6	5.5	5.5	5.1	5.3	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.2	5.5	5.5	5.5	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.5	5.3	5.8	5.5	5.5	5.0	5.1	5.5	5.4	5.4	5.5	6.0	5.1	5.0	5.0
330.	5.6	5.7	5.5	5.4	5.5	5.4	5.4	5.8	5.4	5.4	5.0	5.1	5.3	5.3	5.3	5.7	6.3	5.3	5.1	5.0
340.	5.7	5.9	5.7	5.7	5.5	5.2	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.7	6.5	5.5	5.1	5.1
350.	5.8	5.9	5.7	5.5	5.6	5.2	5.5	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.2	5.1
360.	6.1	5.8	5.6	5.6	5.5	5.1	5.2	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	6.3	5.5	5.2	5.2
MAX	6.1	6.0	5.7	5.7	5.6	5.6	5.6	5.8	5.6	5.6	5.8	5.8	5.7	5.5	5.7	6.1	6.5	5.8	5.7	5.7
DEGR.	0	10	220	340	10	170	160	320	20	20	40	40	40	170	170	130	340	190	30	110

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	6.0	5.8	5.8	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.8	5.7	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.6	5.5	5.5	5.3	5.3
50.	5.9	6.0	5.9	5.8	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.9	5.7	5.6
70.	5.8	5.6	5.8	5.6	5.5	5.1	5.2	5.7	5.8	5.8	5.8	5.8	5.8	5.2	5.0	5.5	5.7	6.1	6.0	5.9
80.	5.3	5.5	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.9	6.1	6.0	5.3	5.2	5.7	5.8	6.3	6.0	6.0
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.2	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.9
100.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.7	5.7
110.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.8	5.8	5.7	5.7	5.8
120.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.5	5.3	5.2	5.9	6.0	5.8	5.6	5.6
130.	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	5.9	5.7	5.6
140.	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	6.0	5.9	5.7	5.6
150.	5.1	5.2	5.8	5.7	5.7	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.0	6.0	6.1	5.7	5.6
160.	5.0	5.1	5.7	5.7	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.6	6.0	5.6	5.7	6.0	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.4	5.4	5.4	5.8	5.8	5.8	5.2	5.1	5.6	5.7	6.0	5.8	5.8	5.5	5.7	5.7	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.2	5.7	5.8	6.0	6.0	5.7	5.2	5.4	5.5	5.4	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.2	5.7	5.8	5.9	5.7	5.7	5.2	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.2	5.8	5.8	5.9	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.8	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.8	5.8
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.3	5.7	5.6	5.2	5.3	5.9	5.9	5.8
240.	5.9	5.7	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.6	6.2	6.2	6.2	5.6	5.5	5.1	5.2	5.9	5.8	5.8
250.	6.0	6.0	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.9	5.8	5.5	5.4	5.0	5.0	5.5	5.5	5.5
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.6	5.8	5.3	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.8	5.2	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
300.	5.6	5.6	5.5	5.3	5.2	5.7	5.6	5.8	5.7	5.7	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.6	5.9	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0
330.	5.6	5.6	5.7	5.5	5.5	5.9	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.4	5.4	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.7	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.8	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.9	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.8	5.9	6.0	6.1	5.8	5.8	6.2	6.2	6.3	6.0	5.8	6.0	6.0	6.3	6.0	6.0
DEGR.	30	50	340	0	0	320	330	250	60	60	240	240	230	180	170	150	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.50 PPM OCCURRED AT RECEPTOR REC17.

2030NB3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:19

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	* 756198.0	********	756145.8	******** *	70.	312.	AG	178.	100.0	1.0	20.0	0.45	3.5
2. MVP West	* 756216.0	********	753960.7	******** *	3664.	218.	AG	54.	100.0	1.0	10.0	1.39	186.1
3. Boston Ave South	* 756271.8	********	757624.4	******** *	1817.	132.	AG	89.	100.0	1.0	10.0	1.40	92.3
4. MVP East	* 756253.6	********	756366.2	******** *	158.	45.	AG	108.	100.0	1.0	20.0	0.76	8.0
5. Winthrop North	* 759327.2	********	759301.8	******** *	902.	358.	AG	169.	100.0	1.0	20.0	1.13	45.8
6. MVP East RT	* 759381.7	********	759489.0	******** *	107.	93.	AG	45.	100.0	1.0	10.0	0.45	5.5
7. MVP East T	* 759381.8	********	763362.9	******** *	3983.	92.	AG	63.	100.0	1.0	10.0	1.48	202.4
8. Winthrop South	* 759345.1	********	759307.6	******** *	1460.	181.	AG	209.	100.0	1.0	20.0	1.63	74.1
9. MVP West	* 759293.5	********	755107.0	******** *	4191.	273.	AG	63.	100.0	1.0	10.0	1.51	212.9
10. South St	* 761297.7	********	761050.9	******** *	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	* 759658.7	********	759518.7	******** *	296.	332.	AG	96.	100.0	1.0	10.0	1.01	15.1
12. Boston Ave. SB R	* 759646.0	********	759613.3	******** *	70.	332.	AG	96.	100.0	1.0	10.0	0.41	3.6
13. College Ave EB L	* 759636.4	********	759596.3	******** *	88.	207.	AG	96.	100.0	1.0	10.0	0.52	4.5
14. College Ave. EB TR	* 759648.1	********	759576.3	******** *	156.	207.	AG	96.	100.0	1.0	10.0	0.82	7.9
15. Boston Ave. NB	* 759699.9	********	760106.0	******** *	853.	152.	AG	96.	100.0	1.0	10.0	1.19	43.3
16. College Ave WB	* 759720.8	********	760078.1	******** *	616.	35.	AG	92.	100.0	1.0	10.0	1.09	31.3
17. Main St. SB	* 762042.2	********	761308.8	******** *	2387.	342.	AG	83.	100.0	1.0	10.0	1.48	121.3
18. Harvard St. EB	* 762026.6	********	760473.5	******** *	1770.	241.	AG	76.	100.0	1.0	10.0	1.29	89.9
19. Main st. NB	* 762078.3	********	762292.6	******** *	676.	162.	AG	83.	100.0	1.0	10.0	1.10	34.3
20. Harvard St. WB	* 762091.8	********	763593.7	******** *	1573.	73.	AG	76.	100.0	1.0	10.0	1.25	79.9
21. Broadway EB R	* 762959.1	********	762769.2	******** *	207.	293.	AG	99.	100.0	1.0	10.0	0.98	10.5
22. Broadway EB TL	* 762965.1	********	760926.9	******** *	2224.	294.	AG	99.	100.0	1.0	10.0	1.72	113.0
23. Parking Lot	* 763003.3	********	762870.0	******** *	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	* 763093.0	********	763946.7	******** *	1733.	150.	AG	99.	100.0	1.0	10.0	1.54	88.1
25. Broadway St. WB	* 763115.6	********	764854.5	******** *	1894.	113.	AG	197.	100.0	1.0	20.0	1.60	96.2
26. Dexter St. SWB	* 763101.5	********	763427.6	******** *	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	* 763008.3	********	762748.7	******** *	822.	342.	AG	104.	100.0	1.0	10.0	1.31	41.8
28. Highland St. EB	* 763277.6	********	763154.6	******** *	134.	294.	AG	77.	100.0	1.0	10.0	0.84	6.8
29. Central St NB	* 763301.4	********	763085.9	******** *	489.	206.	AG	78.	100.0	1.0	10.0	1.05	24.8
30. Highland St. WB	* 763328.5	********	763533.4	******** *	224.	114.	AG	77.	100.0	1.0	10.0	0.98	11.4
31. Central St. SB	* 763311.4	********	763331.4	******** *	43.	27.	AG	78.	100.0	1.0	10.0	0.33	2.2
32. Medford St. NWB	* 765022.2	********	766847.0	******** *	2971.	142.	AG	68.	100.0	1.0	10.0	1.45	150.9
33. School St. SB	* 765002.3	********	765143.9	******** *	328.	26.	AG	90.	100.0	1.0	10.0	1.05	16.7
34. Medford St. SEB	* 764967.1	********	764883.7	******** *	135.	322.	AG	68.	100.0	1.0	10.0	0.89	6.9
35. Prospect SB	* 765830.6	********	766084.6	******** *	491.	31.	AG	173.	100.0	1.0	20.0	1.06	24.9
36. Sommerville WB	* 765870.1	********	767064.5	******** *	1330.	116.	AG	215.	100.0	1.0	20.0	1.88	67.6
37. Prospect NB	* 765828.4	********	765687.0	******** *	319.	206.	AG	248.	100.0	1.0	30.0	1.01	16.2
38. Somerville EB	* 765797.5	********	765692.6	******** *	117.	296.	AG	140.	100.0	1.0	20.0	0.62	5.9
39. McGrath Highway SB1	* 766950.5	********	766512.9	******** *	2408.	350.	AG	229.	100.0	1.0	20.0	4.48	122.3
40. Washington St. EB	* 766952.8	********	757563.9	******** *	*****	249.	AG	95.	100.0	1.0	10.0	3.95	511.6
41. McGrath Hwy NB2 L	* 767105.3	********	767110.3	******** *	37.	172.	AG	110.	100.0	1.0	10.0	0.48	1.9
42. McGrath Hwy NB2 T	* 767119.9	********	767718.4	******** *	4876.	173.	AG	110.	100.0	1.0	10.0	4.62	247.7
43. Washington St. WB	* 767129.9	********	767296.0	******** *	181.	67.	AG	232.	100.0	1.0	30.0	0.74	9.2
44. Camb. St at First L	* 770442.2	********	770346.2	******** *	97.	280.	AG	92.	100.0	1.0	10.0	0.58	4.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:19

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	92.	100.0	1.0	10.0	0.75	6.7
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	65.	100.0	1.0	10.0	0.17	2.1
49. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	171.	100.0	1.0	20.0	1.14	46.5
50. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	190.	100.0	1.0	20.0	1.52	98.0
51. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	190.	100.0	1.0	20.0	0.57	4.5
52. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	74.	100.0	1.0	10.0	1.25	92.7
53. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	217.	100.0	1.0	20.0	2.12	88.8
54. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	103.	100.0	1.0	10.0	1.06	15.0
55. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	103.	100.0	1.0	10.0	1.11	20.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2461.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2297.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	958.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2230.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3177.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:19

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:19

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	106	76	3.0	336	1600	46.20	1	3
2. MVP West	*	106	46	3.0	1153	1600	46.20	1	3
3. Boston Ave South	*	106	76	3.0	526	1600	46.20	1	3
4. MVP East	*	106	46	3.0	1258	1600	46.20	1	3
5. Winthrop North	*	126	86	3.0	1000	1600	46.20	1	3
6. MVP East RT	*	126	46	3.0	427	1600	46.20	1	3
7. MVP East T	*	126	64	3.0	1070	1600	46.20	1	3
8. Winthrop South	*	126	106	3.0	618	1600	46.20	1	3
9. MVP West	*	126	64	3.0	1090	1600	46.20	1	3
10. South St	*	120	90	3.0	667	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	105	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	105	3.0	122	1600	46.20	1	3
13. College Ave EB L	*	135	105	3.0	154	1600	46.20	1	3
14. College Ave. EB TR	*	135	105	3.0	244	1600	46.20	1	3
15. Boston Ave. NB	*	135	105	3.0	352	1600	46.20	1	3
16. College Ave WB	*	135	100	3.0	386	1600	46.20	1	3
17. Main St. SB	*	81	54	3.0	642	1600	46.20	1	3
18. Harvard St. EB	*	81	50	3.0	660	1600	46.20	1	3
19. Main st. NB	*	81	54	3.0	477	1600	46.20	1	3
20. Harvard St. WB	*	81	50	3.0	641	1600	46.20	1	3
21. Broadway EB R	*	122	97	3.0	258	1600	46.20	1	3
22. Broadway EB TL	*	122	97	3.0	450	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
24. Medford St. NB	*	122	97	3.0	404	1600	46.20	1	3
25. Broadway St. WB	*	122	97	3.0	839	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	122	102	3.0	256	1600	46.20	1	3
28. Highland St. EB	*	79	49	3.0	426	1600	46.20	1	3
29. Central St NB	*	79	50	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	79	49	3.0	496	1600	46.20	1	3
31. Central St. SB	*	79	50	3.0	159	1600	46.20	1	3
32. Medford St. NWB	*	62	34	3.0	861	1600	46.20	1	3
33. School St. SB	*	62	45	3.0	325	1600	46.20	1	3
34. Medford St. SEB	*	62	34	3.0	528	1600	46.20	1	3
35. Prospect SB	*	99	69	3.0	855	1600	46.20	1	3
36. Sommerville WB	*	99	86	3.0	485	1600	46.20	1	3
37. Prospect NB	*	99	66	3.0	1373	1600	46.20	1	3
38. Somerville EB	*	99	56	3.0	762	1600	46.20	1	3
39. McGrath Highway SB1	*	133	123	3.0	539	1600	46.20	1	3
40. Washington St. EB	*	133	102	3.0	1231	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	46.20	1	3
43. Washington St. WB	*	133	83	3.0	1198	1600	46.20	1	3
44. Camb. St at First L	*	120	89	3.0	200	1600	46.20	1	3
45. Camb. St at First TR	*	120	89	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	63	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	83	3.0	970	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	92	3.0	930	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:19

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	92	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	72	3.0	715	1600	46.20	1	3
53. First St. Ext. SB	120	105	3.0	565	1600	46.20	1	3
54. First Ext. NB L	120	100	3.0	210	1600	46.20	1	3
55. First Ext. NB T	120	100	3.0	220	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:19

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.2	6.2	5.7	5.6	5.5	5.9	5.8	5.8	5.6	5.6	5.4	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	6.2	6.2	5.6	5.6	5.5	5.7	5.8	5.8	5.6	5.8	5.4	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	6.2	6.2	5.6	5.4	5.3	5.6	5.7	5.8	5.5	5.7	5.4	5.5	5.5	5.7	5.6	5.1	5.1	5.1	5.4	5.4
30.	6.2	6.2	5.5	5.3	5.2	5.5	5.8	5.7	5.6	5.8	5.3	5.5	5.5	5.7	5.6	5.0	5.1	5.2	5.5	5.5
40.	6.2	6.2	5.6	5.4	5.3	5.5	5.6	5.7	5.6	5.7	5.3	5.4	5.6	5.6	5.6	5.0	5.1	5.3	5.4	5.4
50.	6.2	6.3	5.6	5.3	5.4	5.5	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.6	5.6	5.0	5.0	5.2	5.3	5.3
60.	6.3	6.2	5.6	5.5	5.5	5.3	5.4	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.7	5.0	5.0	5.1	5.1	5.1
70.	6.2	6.3	5.8	5.5	5.5	5.3	5.5	5.7	5.7	5.8	5.4	5.5	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
80.	6.4	6.3	5.7	5.7	5.6	5.4	5.5	5.8	5.8	5.8	5.4	5.5	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.5	6.4	5.8	5.7	5.6	5.5	5.5	6.0	5.9	5.8	5.4	5.6	6.0	6.0	6.0	5.2	5.2	5.2	5.0	5.0
100.	6.7	6.7	6.2	5.8	5.7	5.5	5.7	6.2	6.0	5.8	5.4	5.6	6.1	6.1	6.1	5.5	5.5	5.4	5.0	5.0
110.	6.4	6.5	6.1	5.7	5.6	5.4	5.5	6.3	5.9	5.8	5.3	5.4	6.0	6.0	6.0	6.1	6.1	5.9	5.3	5.1
120.	6.0	6.0	5.9	5.6	5.4	5.2	5.4	6.0	5.7	5.6	5.1	5.2	5.6	5.6	5.6	6.4	6.4	6.2	5.5	5.3
130.	5.6	5.7	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.4	5.3	5.2	6.4	6.4	6.0	5.5	5.3
140.	5.4	5.4	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.3	5.4	5.1	5.1	6.2	6.2	5.9	5.5	5.3
150.	5.2	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.2	6.3	5.7	5.7	5.3
160.	5.1	5.1	5.3	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.9	5.7	5.6	5.4	5.2	6.2	6.2	5.7	5.7	5.5
170.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.1	6.1	5.6	5.6	5.5
190.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.0	5.6	5.5	5.3	5.2	5.2	6.1	6.1	5.5	5.5	5.4
200.	5.0	5.0	5.2	5.2	5.1	5.0	5.0	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	6.1	5.4	5.4	5.3
210.	5.0	5.0	5.2	5.1	5.1	5.1	5.1	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	6.1	5.5	5.3	5.3
220.	5.0	5.0	5.1	5.1	5.0	5.2	5.3	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	5.9	5.6	5.3	5.2
230.	5.0	5.0	5.0	5.0	5.0	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.1	6.0	5.6	5.4	5.5
240.	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.3	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.5
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.0	5.5	5.5	5.3	5.3	5.2	6.2	5.9	5.5	5.5	5.6
260.	5.0	5.1	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.0	5.5	5.6	5.4	5.4	5.3	6.3	5.8	5.7	5.8	5.8
270.	5.2	5.3	5.2	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.5	5.6	5.4	5.4	5.4	6.3	5.9	5.9	5.8	5.9
280.	5.5	5.6	5.5	5.0	5.0	5.3	5.4	5.5	5.1	5.1	5.6	5.7	5.8	5.6	5.4	6.3	6.0	6.1	5.9	5.8
290.	6.1	6.2	6.1	5.2	5.1	5.4	5.5	5.8	5.5	5.4	5.9	5.9	6.1	5.9	5.7	6.1	5.8	6.0	5.8	5.7
300.	6.5	6.7	6.3	5.3	5.2	5.5	5.6	6.1	5.8	5.5	6.0	6.1	6.3	5.9	5.8	5.7	5.5	5.6	5.6	5.5
310.	6.6	6.7	6.2	5.5	5.3	5.6	5.8	6.1	5.7	5.6	6.0	6.0	6.1	5.9	5.9	5.5	5.3	5.4	5.5	5.5
320.	6.4	6.5	5.9	5.5	5.3	5.6	5.8	5.8	5.6	5.5	5.8	5.8	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	6.3	6.3	5.6	5.4	5.3	5.7	5.7	5.9	5.8	5.7	5.8	5.7	5.8	5.8	6.0	5.3	5.3	5.4	5.5	5.4
340.	6.0	6.0	5.7	5.4	5.4	5.7	6.0	6.0	5.8	5.8	5.6	5.5	5.6	5.9	5.9	5.1	5.3	5.3	5.4	5.3
350.	6.1	6.2	5.7	5.6	5.4	5.8	5.9	6.1	5.9	5.8	5.2	5.4	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	6.2	6.2	5.7	5.6	5.5	5.9	5.8	5.8	5.6	5.6	5.4	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.7	6.7	6.3	5.8	5.7	5.9	6.0	6.3	6.0	5.8	6.0	6.1	6.3	6.1	6.1	6.4	6.4	6.2	5.9	5.9
DEGR.	100	100	300	100	100	0	340	110	100	10	300	300	300	100	100	120	120	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.5	5.3	5.2	5.5	6.3	6.1	5.7	6.1	5.8	6.0	5.6	5.6	6.4
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.8	5.4	5.2	5.2	5.6	6.3	6.1	5.7	6.1	5.9	6.2	5.9	6.2	6.9
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.4	6.2	5.7	5.8	5.7	5.9	6.2	6.2	6.3	7.1
30.	5.1	5.1	5.1	5.0	5.0	5.5	5.6	5.2	5.2	5.2	5.2	6.2	5.7	5.7	5.7	6.0	6.3	6.1	6.5	7.2
40.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.1	6.1	5.7	5.6	5.7	6.1	6.3	6.0	6.5	6.9
50.	5.3	5.3	5.3	5.1	5.0	5.5	5.5	5.3	5.2	5.2	5.4	6.1	5.7	5.6	5.7	6.0	6.4	6.0	6.5	6.6
60.	5.4	5.4	5.3	5.1	5.0	5.5	5.6	5.4	5.3	5.2	5.7	6.1	5.7	5.5	5.7	6.1	6.9	6.0	6.6	6.3
70.	5.4	5.4	5.2	5.1	5.1	5.6	5.6	5.3	5.4	5.4	5.7	6.0	5.8	5.5	5.8	6.4	6.7	5.8	6.6	6.2
80.	5.4	5.3	5.1	5.1	5.1	5.6	5.6	5.3	5.4	5.4	6.0	5.9	5.8	5.5	5.8	6.7	6.7	5.8	6.4	6.1
90.	5.3	5.3	5.0	5.1	5.1	5.6	5.6	5.3	5.3	5.4	6.1	6.0	5.8	5.6	5.8	6.6	6.5	5.9	6.3	6.2
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.7	5.5	5.5	6.1	6.0	6.0	5.5	6.0	6.5	6.5	5.9	6.3	6.1
110.	5.4	5.5	5.6	5.4	5.2	5.8	6.0	6.1	5.9	5.9	6.3	6.2	6.0	5.6	6.0	6.1	6.1	5.9	6.3	6.0
120.	5.6	5.7	5.9	5.6	5.4	6.0	6.1	6.3	6.2	6.0	6.2	6.2	6.0	5.5	6.0	5.7	5.7	5.9	6.2	6.0
130.	5.6	5.8	5.8	5.5	5.4	6.1	6.2	6.1	6.0	6.1	5.8	6.1	5.8	5.3	5.8	5.5	5.6	5.6	6.1	6.0
140.	5.6	5.8	5.8	5.4	5.3	6.1	6.2	6.1	5.9	6.0	5.5	5.6	5.4	5.1	5.4	5.4	5.6	5.9	6.1	6.0
150.	5.6	5.9	5.7	5.6	5.5	6.2	6.1	6.2	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.4	5.6	5.9	6.2	6.0
160.	5.8	5.9	5.8	5.6	5.5	6.0	6.0	6.1	5.7	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.6	6.0	6.4	6.2
170.	5.8	5.8	5.7	5.6	5.6	5.5	5.6	5.7	5.7	5.7	5.0	5.2	5.2	5.1	5.2	5.3	5.4	6.3	6.6	6.5
180.	5.7	5.7	5.5	5.5	5.5	5.5	5.4	5.7	5.7	5.6	5.1	5.2	5.2	5.1	5.2	5.1	5.3	6.3	6.6	6.6
190.	5.6	5.4	5.5	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.6	5.4	5.1	5.3	5.1	5.0	5.1	6.0	6.3	6.4
200.	5.6	5.3	5.7	5.6	5.6	5.4	5.5	5.5	5.6	5.6	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.5	5.8	6.1
210.	5.4	5.4	5.7	5.6	5.8	5.4	5.4	5.5	5.6	5.6	6.0	5.5	5.4	5.4	5.4	5.0	5.0	5.1	5.4	5.7
220.	5.5	5.4	5.6	5.6	5.8	5.4	5.4	5.5	5.6	5.6	6.1	5.5	5.4	5.6	5.4	5.0	5.0	5.0	5.1	5.4
230.	5.2	5.3	5.6	5.8	5.8	5.3	5.4	5.6	5.6	5.6	6.0	5.3	5.4	5.6	5.4	5.0	5.0	5.0	5.0	5.2
240.	5.2	5.3	5.5	5.8	5.7	5.3	5.4	5.6	5.6	5.6	6.0	5.2	5.4	5.5	5.4	5.0	5.1	5.0	5.0	5.2
250.	5.3	5.5	5.8	5.8	5.7	5.3	5.5	5.7	5.8	5.8	5.8	5.6	5.4	5.4	5.4	5.0	5.1	5.0	5.0	5.2
260.	5.5	5.5	5.8	5.7	5.7	5.3	5.4	5.8	5.9	5.9	5.7	5.7	5.4	5.3	5.4	5.2	5.3	5.2	5.0	5.2
270.	5.5	5.5	5.9	5.8	5.7	5.3	5.4	5.9	5.9	5.8	5.6	5.7	5.5	5.4	5.5	5.3	5.6	5.5	5.0	5.2
280.	5.5	5.5	6.0	5.8	5.7	5.3	5.4	6.0	6.0	6.0	5.7	5.7	5.6	5.5	5.6	5.6	6.1	5.7	5.1	5.2
290.	5.4	5.5	5.7	5.7	5.6	5.2	5.3	5.9	6.0	6.0	5.8	5.7	5.7	5.6	5.7	5.6	6.1	5.8	5.1	5.3
300.	5.2	5.3	5.6	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.2	5.9	5.8	5.7	5.8	5.7	6.2	5.8	5.1	5.4
310.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.2	5.2	5.2	6.3	6.1	5.9	5.9	5.9	5.7	6.2	5.6	5.2	5.4
320.	5.2	5.2	5.5	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	6.0	6.0	5.9	6.0	5.7	6.2	5.6	5.4	5.6
330.	5.2	5.2	5.5	5.5	5.5	5.4	5.4	5.5	5.1	5.1	5.8	5.8	6.1	5.6	6.1	5.7	6.1	5.4	5.5	5.7
340.	5.0	5.2	5.5	5.5	5.5	5.8	5.8	5.7	5.3	5.1	5.6	5.8	6.2	5.4	6.2	5.8	6.1	5.5	5.5	6.0
350.	5.0	5.0	5.3	5.3	5.3	5.9	5.9	5.7	5.2	5.2	5.6	6.1	6.2	5.5	6.2	5.7	6.0	5.5	5.4	6.1
360.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.5	5.3	5.2	5.5	6.3	6.1	5.7	6.1	5.8	6.0	5.6	5.6	6.4
MAX	5.8	5.9	6.0	5.8	5.8	6.2	6.2	6.3	6.2	6.1	6.3	6.3	6.2	5.9	6.2	6.7	6.9	6.3	6.6	7.2
DEGR.	160	150	280	230	210	150	130	120	120	130	110	0	340	310	340	80	60	170	60	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	6.0	5.9	6.1	5.6	5.9	6.0	5.7	5.6	5.9	5.9	5.1	5.1	5.2	5.2	5.1	5.2	5.2	5.2	5.3	5.5
10.	5.8	6.0	5.9	5.8	6.0	5.9	5.7	5.5	5.9	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2	5.5
20.	5.4	5.7	5.7	5.7	5.8	5.8	5.5	5.4	5.8	5.8	5.0	5.0	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.4
30.	5.4	5.6	5.6	5.6	5.7	5.7	5.5	5.5	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
40.	5.2	5.3	5.6	5.5	5.7	5.7	5.4	5.6	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.5	5.7	5.7	5.4	5.6	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.5	5.5	5.6	5.6	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.6	5.6	5.6	5.3	5.7	5.8	5.8	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.8	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.2	5.2	5.5	5.7	5.7	5.7	5.5	5.9	5.9	5.9	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.2	5.2	5.5	5.6	5.6	5.6	5.7	5.9	6.1	6.0	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.1	5.2	5.4	5.5	5.5	5.5	5.7	6.1	6.1	6.0	5.5	5.2	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.1
120.	5.1	5.1	5.2	5.3	5.3	5.3	5.6	6.0	6.0	5.9	6.1	5.5	5.4	5.1	5.0	5.0	5.0	5.3	5.3	5.4
130.	5.0	5.0	5.1	5.1	5.1	5.2	5.3	5.7	5.7	5.7	6.6	6.0	6.0	5.3	5.1	5.1	5.2	5.6	5.7	5.8
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.3	6.8	6.3	6.2	5.5	5.3	5.2	5.4	5.8	6.1	6.1
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.7	6.1	6.2	5.5	5.4	5.3	5.5	5.9	6.1	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.4	6.0	6.1	5.5	5.4	5.4	5.4	5.8	6.0	6.0
170.	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.3	5.9	5.9	5.4	5.4	5.3	5.4	5.8	6.0	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	6.1	5.9	5.9	5.4	5.3	5.3	5.4	5.8	6.0	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.9	5.8	5.9	5.4	5.2	5.2	5.4	5.8	6.0	5.8
200.	5.8	5.8	5.9	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.9	5.8	5.9	5.4	5.2	5.2	5.4	5.7	6.4	5.7
210.	5.8	5.9	5.9	5.3	5.2	5.2	5.1	5.0	5.0	5.0	5.8	6.0	6.1	5.5	5.4	5.4	5.5	6.0	6.5	5.8
220.	5.8	5.9	6.0	5.3	5.3	5.3	5.1	5.0	5.0	5.0	5.7	6.0	6.2	5.6	5.4	5.4	5.6	5.9	6.4	5.6
230.	5.8	5.8	5.9	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.6	6.1	6.2	5.5	5.3	5.4	5.7	6.0	6.5	5.5
240.	5.8	5.9	5.8	5.5	5.2	5.2	5.2	5.1	5.0	5.0	5.8	6.1	6.1	5.5	5.4	5.4	5.7	6.0	6.5	5.6
250.	5.8	5.9	5.8	5.5	5.3	5.3	5.1	5.1	5.0	5.0	6.0	6.1	6.1	5.6	5.4	5.4	5.7	6.3	6.0	5.8
260.	5.7	5.8	5.7	5.4	5.4	5.2	5.2	5.1	5.1	5.1	6.1	6.1	6.5	5.7	5.6	5.3	5.6	6.2	6.0	5.8
270.	5.7	5.8	5.7	5.5	5.5	5.4	5.3	5.1	5.0	5.1	6.4	6.3	6.3	5.8	5.3	5.3	5.5	6.2	5.8	5.9
280.	5.7	5.8	5.8	5.6	5.6	5.6	5.4	5.2	5.1	5.1	6.4	6.5	6.6	5.6	5.3	5.3	5.4	6.0	5.9	5.9
290.	5.7	5.9	5.9	5.6	5.6	5.6	5.5	5.4	5.4	5.1	6.6	6.6	6.5	5.4	5.3	5.3	5.4	6.0	5.7	5.9
300.	5.8	5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.6	5.6	6.7	6.5	6.3	5.3	5.1	5.1	5.3	5.6	5.6	5.8
310.	6.0	6.1	5.6	5.8	5.7	5.6	5.6	5.8	5.9	6.0	6.3	6.1	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	6.1	6.1	5.9	6.1	5.6	5.6	6.0	6.0	6.0	6.2	5.6	5.4	5.3	5.1	5.1	5.1	5.1	5.2	5.2	5.3
330.	6.2	6.0	6.2	6.0	5.7	5.6	6.0	5.8	6.0	6.0	5.2	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2	5.4
340.	6.2	6.1	6.1	5.7	5.9	5.9	5.9	5.7	5.9	6.0	5.1	5.1	5.2	5.1	5.1	5.1	5.2	5.2	5.2	5.4
350.	6.1	6.2	6.1	5.6	5.8	5.9	5.8	5.7	5.8	6.0	5.1	5.1	5.2	5.2	5.1	5.2	5.2	5.2	5.2	5.4
360.	6.0	5.9	6.1	5.6	5.9	6.0	5.7	5.6	5.9	5.9	5.1	5.1	5.2	5.2	5.1	5.2	5.2	5.2	5.3	5.5
MAX	6.2	6.2	6.2	6.1	6.0	6.0	6.0	6.1	6.1	6.2	6.8	6.6	6.6	5.8	5.6	5.4	5.7	6.3	6.5	6.2
DEGR.	330	350	330	320	10	0	320	110	100	320	140	290	280	270	260	160	230	250	210	150

THE HIGHEST CONCENTRATION OF 7.20 PPM OCCURRED AT RECEPTOR REC40.

2030NB4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:47

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	96.	100.0	1.0	10.0	1.01	15.1
3. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	96.	100.0	1.0	10.0	0.41	3.6
4. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	96.	100.0	1.0	10.0	0.52	4.5
5. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	96.	100.0	1.0	10.0	0.82	7.9
6. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	96.	100.0	1.0	10.0	1.19	43.3
7. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	92.	100.0	1.0	10.0	1.09	31.3
8. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	83.	100.0	1.0	10.0	1.48	121.3
9. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	76.	100.0	1.0	10.0	1.29	89.9
10. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	83.	100.0	1.0	10.0	1.10	34.3
11. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	76.	100.0	1.0	10.0	1.25	79.9
12. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	99.	100.0	1.0	10.0	0.98	10.5
13. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	99.	100.0	1.0	10.0	1.72	113.0
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	99.	100.0	1.0	10.0	1.54	88.1
16. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	197.	100.0	1.0	20.0	1.60	96.2
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	104.	100.0	1.0	10.0	1.31	41.8
19. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	77.	100.0	1.0	10.0	0.84	6.8
20. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	78.	100.0	1.0	10.0	1.05	24.8
21. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	77.	100.0	1.0	10.0	0.98	11.4
22. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	78.	100.0	1.0	10.0	0.33	2.2
23. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	68.	100.0	1.0	10.0	1.45	150.9
24. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	90.	100.0	1.0	10.0	1.05	16.7
25. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	68.	100.0	1.0	10.0	0.89	6.9
26. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	173.	100.0	1.0	20.0	1.06	24.9
27. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	215.	100.0	1.0	20.0	1.88	67.6
28. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	248.	100.0	1.0	30.0	1.01	16.2
29. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	140.	100.0	1.0	20.0	0.62	5.9
30. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	229.	100.0	1.0	20.0	4.48	122.3
31. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	95.	100.0	1.0	10.0	3.95	511.6
32. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	110.	100.0	1.0	10.0	0.48	1.9
33. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	110.	100.0	1.0	10.0	4.62	247.7
34. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	232.	100.0	1.0	30.0	0.74	9.2
35. Msgr Obrien EB	769756.4	********	769519.6	********	288.	305.	AG	101.	100.0	1.0	20.0	0.94	14.6
36. Third St. NB L	769779.2	********	769011.2	********	4470.	190.	AG	82.	100.0	1.0	10.0	1.83	227.1
37. Third St NB LR	769788.2	********	769786.2	********	13.	189.	AG	82.	100.0	1.0	10.0	0.06	0.7
38. Msgr Obrien WB	769858.1	********	770015.7	********	192.	125.	AG	101.	100.0	1.0	20.0	0.81	9.7
39. Msgr Obrien L	771462.2	********	768300.8	********	3838.	305.	AG	103.	100.0	1.0	10.0	2.71	195.0
40. Msgr Obrien WB T	771449.0	********	770740.6	********	857.	304.	AG	294.	100.0	1.0	30.0	1.23	43.5
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	196.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	769197.3	********	3672.	219.	AG	98.	100.0	1.0	10.0	2.22	186.5
44. Msgr Obrien WB L	771572.2	********	773370.4	********	2174.	124.	AG	103.	100.0	1.0	10.0	1.93	110.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:47

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	772722.5	********	1380.	124.	AG	196.	100.0	1.0	20.0	1.41	70.1
46. Msgr Obrien WB R	771588.6	********	773170.2	********	1913.	124.	AG	98.	100.0	1.0	10.0	1.60	97.2
47. Charlestown SB LT	771546.2	********	771845.5	********	580.	31.	AG	98.	100.0	1.0	10.0	1.13	29.5
48. Charlestown SB TR	771535.3	********	774509.8	********	5537.	32.	AG	98.	100.0	1.0	10.0	2.88	281.3
49. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	92.	100.0	1.0	10.0	0.58	4.9
50. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	92.	100.0	1.0	10.0	0.75	6.7
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	65.	100.0	1.0	10.0	0.17	2.1
54. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	171.	100.0	1.0	20.0	1.14	46.5
55. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	190.	100.0	1.0	20.0	1.52	98.0
56. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	190.	100.0	1.0	20.0	0.57	4.5
57. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	74.	100.0	1.0	10.0	1.25	92.7
58. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	217.	100.0	1.0	20.0	2.12	88.8
59. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	103.	100.0	1.0	10.0	1.06	15.0
60. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	103.	100.0	1.0	10.0	1.11	20.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1285.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3960.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2735.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3275.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3485.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3430.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	667	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	105	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	105	3.0	122	1600	46.20	1	3
4. College Ave EB L	*	135	105	3.0	154	1600	46.20	1	3
5. College Ave. EB TR	*	135	105	3.0	244	1600	46.20	1	3
6. Boston Ave. NB	*	135	105	3.0	352	1600	46.20	1	3
7. College Ave WB	*	135	100	3.0	386	1600	46.20	1	3
8. Main St. SB	*	81	54	3.0	642	1600	46.20	1	3
9. Harvard St. EB	*	81	50	3.0	660	1600	46.20	1	3
10. Main st. NB	*	81	54	3.0	477	1600	46.20	1	3
11. Harvard St. WB	*	81	50	3.0	641	1600	46.20	1	3
12. Broadway EB R	*	122	97	3.0	258	1600	46.20	1	3
13. Broadway EB TL	*	122	97	3.0	450	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
15. Medford St. NB	*	122	97	3.0	404	1600	46.20	1	3
16. Broadway St. WB	*	122	97	3.0	839	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	122	102	3.0	256	1600	46.20	1	3
19. Highland St. EB	*	79	49	3.0	426	1600	46.20	1	3
20. Central St NB	*	79	50	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	79	49	3.0	496	1600	46.20	1	3
22. Central St. SB	*	79	50	3.0	159	1600	46.20	1	3
23. Medford St. NWB	*	62	34	3.0	861	1600	46.20	1	3
24. School St. SB	*	62	45	3.0	325	1600	46.20	1	3
25. Medford St. SEB	*	62	34	3.0	528	1600	46.20	1	3
26. Prospect SB	*	99	69	3.0	855	1600	46.20	1	3
27. Sommerville WB	*	99	86	3.0	485	1600	46.20	1	3
28. Prospect NB	*	99	66	3.0	1373	1600	46.20	1	3
29. Somerville EB	*	99	56	3.0	762	1600	46.20	1	3
30. McGrath Highway SB1	*	133	123	3.0	539	1600	46.20	1	3
31. Washington St. EB	*	133	102	3.0	1231	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	46.20	1	3
34. Washington St. WB	*	133	83	3.0	1198	1600	46.20	1	3
35. Msgr Obrien EB	*	120	49	3.0	1655	1600	46.20	1	3
36. Third St. NB L	*	120	79	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	79	3.0	30	1600	46.20	1	3
38. Msgr Obrien WB	*	120	49	3.0	1430	1600	46.20	1	3
39. Msgr Obrien L	*	120	100	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	95	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1230	1600	46.20	1	3
43. Charlestown NB R	*	120	95	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	100	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	95	3.0	750	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	95	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	95	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	95	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	89	3.0	200	1600	46.20	1	3
50. Camb. St at First TR	*	120	89	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:59:47

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	63	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	83	3.0	970	1600	46.20	1	3
55. MsgrOb/East WB T	120	92	3.0	930	1600	46.20	1	3
56. MsgrOb/East WB L	120	92	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	72	3.0	715	1600	46.20	1	3
58. First St. Ext. SB	120	105	3.0	565	1600	46.20	1	3
59. First Ext. NB L	120	100	3.0	210	1600	46.20	1	3
60. First Ext. NB T	120	100	3.0	220	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.5	5.6	5.4	5.4	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.4	5.2	5.2
10.	5.7	5.7	5.5	5.4	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.5	5.3	5.2
20.	5.5	5.5	5.4	5.4	5.3	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.3	5.0	5.0	5.3	5.5	5.6	5.3	5.4
30.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.2	5.5	5.7	5.4	5.5
40.	5.3	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.3	5.5	5.6	5.5	5.5
50.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.3	5.5	5.7	5.5	5.6
60.	5.1	5.2	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.4	5.7	5.5	5.5	5.5
70.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.5	5.7	5.6	5.5	5.5
80.	5.1	5.2	5.6	5.6	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.4	5.7	5.6	5.5	5.4
90.	5.1	5.1	5.6	5.6	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.6	5.8	5.6	5.5	5.4
100.	5.1	5.1	5.7	5.6	5.6	5.1	5.1	5.2	5.0	5.0	5.2	5.2	5.5	5.3	5.2	5.8	5.9	5.8	5.4	5.4
110.	5.1	5.1	5.6	5.6	5.5	5.4	5.4	5.4	5.0	5.0	5.1	5.2	5.6	5.6	5.3	5.7	5.8	5.9	5.4	5.4
120.	5.0	5.0	5.5	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.2	5.2	5.8	5.5	5.6	5.5	5.6	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.6	5.6	5.7	5.1	5.1	5.2	5.2	5.8	5.6	5.6	5.2	5.4	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.7	5.2	5.1	5.3	5.4	5.6	5.6	5.4	5.2	5.2	5.3	5.3	5.3
150.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.5	5.2	5.1	5.3	5.4	5.4	5.6	5.5	5.1	5.2	5.3	5.3	5.3
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.3	5.4	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.5	5.4	5.5	5.2	5.1	5.3	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.3	5.4	5.7	5.5	5.4	5.1	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.4	5.6	5.8	5.5	5.4	5.1	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.5	5.6	5.8	5.4	5.2	5.0	5.1	5.5	5.5	5.5
210.	5.5	5.6	5.6	5.1	5.0	5.4	5.5	5.7	5.4	5.3	5.5	5.6	5.7	5.3	5.2	5.0	5.0	5.4	5.4	5.4
220.	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.6	5.5	5.4	5.2	5.3	5.5	5.3	5.2	5.0	5.0	5.2	5.2	5.2
230.	5.5	5.6	5.6	5.2	5.1	5.5	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.2	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.4	5.3	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.5	5.5	5.3	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.6	5.7	5.6	5.3	5.3	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.2	5.2	5.1	5.1	5.5	5.5	5.4	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.6	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.2	5.3	5.3	5.0	5.0
290.	5.4	5.5	5.8	5.7	5.4	5.5	5.5	5.6	5.2	5.1	5.0	5.1	5.5	5.4	5.4	5.4	5.5	5.6	5.1	5.0
300.	5.5	5.5	5.9	5.6	5.6	5.3	5.3	5.4	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.5	5.7	5.8	5.1	5.1
310.	5.5	5.5	5.7	5.5	5.6	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.5	5.7	5.8	5.1	5.1
320.	5.5	5.5	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.4	5.7	5.7	5.1	5.1
330.	5.5	5.6	5.6	5.5	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.6	5.2	5.1
340.	5.5	5.6	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.6	5.2	5.1
350.	5.6	5.7	5.5	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.5	5.2	5.1
360.	5.6	5.5	5.6	5.4	5.4	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.4	5.2	5.2
MAX	5.7	5.7	5.9	5.7	5.6	5.7	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.6	5.6	5.8	5.9	5.9	5.5	5.6
DEGR.	10	10	300	290	100	240	280	130	220	200	200	190	120	110	120	100	100	110	40	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.7	5.8	5.0	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.0	5.0	5.5	5.6	5.4	5.2	5.1
10.	5.3	5.5	5.9	5.7	5.5	5.0	5.2	5.4	5.4	5.4	5.2	5.2	5.2	5.0	5.0	5.4	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.6	5.6	5.5	5.0	5.1	5.3	5.3	5.3	5.4	5.4	5.4	5.0	5.0	5.4	5.5	5.6	5.4	5.4
30.	5.3	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.1	5.0	5.5	5.5	5.7	5.5	5.5
40.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.2	5.0	5.5	5.7	5.6	5.6	5.4
50.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.6	5.7	5.6	5.4	5.3
60.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.7	5.7	5.5	5.3	5.3
70.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.6	5.7	5.5	5.4	5.3
90.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.7	5.7	5.5	5.4	5.2
100.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.7	5.7	5.5	5.4	5.2
110.	5.2	5.3	5.7	5.7	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.8	5.7	5.6	5.4	5.3
120.	5.2	5.3	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.8	5.7	5.7	5.4	5.3
130.	5.2	5.3	5.9	5.9	6.0	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.6	5.3	6.0	5.9	5.9	5.4	5.3
140.	5.1	5.2	5.9	5.9	6.0	5.7	5.7	5.6	5.3	5.1	5.5	5.7	5.9	5.7	5.6	5.9	5.7	5.8	5.3	5.2
150.	5.0	5.1	5.6	5.6	5.6	5.9	5.9	5.9	5.3	5.2	5.6	5.7	6.0	5.8	5.8	5.7	5.6	5.7	5.2	5.1
160.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.8	5.3	5.2	5.7	5.8	5.8	5.8	5.6	5.3	5.2	5.3	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.8	5.9	5.7	5.7	5.5	5.0	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.0	5.1	5.2	5.0	5.0	5.6	5.6	5.5	5.3	5.1	5.7	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	5.7	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.4	5.4	5.5	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.4	5.3	5.5	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.5	5.5	5.4	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.6	5.5	5.5	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.3	5.3	5.1	5.1	5.4	5.5	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.4	5.3	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.7	5.7	5.6	5.4	5.3	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.4	5.4	5.3	5.7	5.6	5.7	5.4	5.3	5.1	5.2	5.7	5.5	5.5	5.2	5.3	5.2	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.7	5.5	5.7	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.4	5.4	5.1	5.0
330.	5.2	5.2	5.8	5.6	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.5	5.7	5.6	5.1	5.1
340.	5.2	5.3	5.9	5.7	5.7	5.2	5.4	5.3	5.3	5.4	5.0	5.0	5.2	5.2	5.1	5.5	5.8	5.6	5.2	5.1
350.	5.3	5.3	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.4	5.7	5.5	5.3	5.1
360.	5.3	5.3	5.7	5.7	5.8	5.0	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.0	5.0	5.5	5.6	5.4	5.2	5.1
MAX	5.5	5.5	5.9	5.9	6.0	5.9	5.9	5.9	5.5	5.5	5.8	5.9	6.0	5.8	5.8	6.0	5.9	5.9	5.6	5.5
DEGR.	20	10	10	130	130	150	150	150	260	220	170	170	150	150	150	130	130	130	40	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC25.

2030NB5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 0:22

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	96.	100.0	1.0	10.0	1.01	15.1
3. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	96.	100.0	1.0	10.0	0.41	3.6
4. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	96.	100.0	1.0	10.0	0.52	4.5
5. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	96.	100.0	1.0	10.0	0.82	7.9
6. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	96.	100.0	1.0	10.0	1.19	43.3
7. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	92.	100.0	1.0	10.0	1.09	31.3
8. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	83.	100.0	1.0	10.0	1.48	121.3
9. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	76.	100.0	1.0	10.0	1.29	89.9
10. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	83.	100.0	1.0	10.0	1.10	34.3
11. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	76.	100.0	1.0	10.0	1.25	79.9
12. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	99.	100.0	1.0	10.0	0.98	10.5
13. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	99.	100.0	1.0	10.0	1.72	113.0
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	99.	100.0	1.0	10.0	1.54	88.1
16. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	197.	100.0	1.0	20.0	1.60	96.2
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	104.	100.0	1.0	10.0	1.31	41.8
19. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	77.	100.0	1.0	10.0	0.84	6.8
20. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	78.	100.0	1.0	10.0	1.05	24.8
21. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	77.	100.0	1.0	10.0	0.98	11.4
22. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	78.	100.0	1.0	10.0	0.33	2.2
23. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	68.	100.0	1.0	10.0	1.45	150.9
24. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	90.	100.0	1.0	10.0	1.05	16.7
25. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	68.	100.0	1.0	10.0	0.89	6.9
26. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	173.	100.0	1.0	20.0	1.06	24.9
27. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	215.	100.0	1.0	20.0	1.88	67.6
28. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	248.	100.0	1.0	30.0	1.01	16.2
29. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	140.	100.0	1.0	20.0	0.62	5.9
30. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	229.	100.0	1.0	20.0	4.48	122.3
31. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	95.	100.0	1.0	10.0	3.95	511.6
32. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	110.	100.0	1.0	10.0	0.48	1.9
33. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	110.	100.0	1.0	10.0	4.62	247.7
34. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	232.	100.0	1.0	30.0	0.74	9.2
35. Msgr Obrien EB	769756.4	********	769519.6	********	288.	305.	AG	101.	100.0	1.0	20.0	0.94	14.6
36. Third St. NB L	769779.2	********	769011.2	********	4470.	190.	AG	82.	100.0	1.0	10.0	1.83	227.1
37. Third St NB LR	769788.2	********	769786.2	********	13.	189.	AG	82.	100.0	1.0	10.0	0.06	0.7
38. Msgr Obrien WB	769858.1	********	770015.7	********	192.	125.	AG	101.	100.0	1.0	20.0	0.81	9.7
39. Msgr Obrien L	771462.2	********	768300.8	********	3838.	305.	AG	103.	100.0	1.0	10.0	2.71	195.0
40. Msgr Obrien WB T	771449.0	********	770740.6	********	857.	304.	AG	294.	100.0	1.0	30.0	1.23	43.5
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	196.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	769197.3	********	3672.	219.	AG	98.	100.0	1.0	10.0	2.22	186.5
44. Msgr Obrien WB L	771572.2	********	773370.4	********	2174.	124.	AG	103.	100.0	1.0	10.0	1.93	110.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 0:22

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	772722.5	********	1380.	124.	AG	196.	100.0	1.0	20.0	1.41	70.1
46. Msgr Obrien WB R	771588.6	********	773170.2	********	1913.	124.	AG	98.	100.0	1.0	10.0	1.60	97.2
47. Charlestown SB LT	771546.2	********	771845.5	********	580.	31.	AG	98.	100.0	1.0	10.0	1.13	29.5
48. Charlestown SB TR	771535.3	********	774509.8	********	5537.	32.	AG	98.	100.0	1.0	10.0	2.88	281.3
49. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	92.	100.0	1.0	10.0	0.58	4.9
50. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	92.	100.0	1.0	10.0	0.75	6.7
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	65.	100.0	1.0	10.0	0.17	2.1
54. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	171.	100.0	1.0	20.0	1.14	46.5
55. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	190.	100.0	1.0	20.0	1.52	98.0
56. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	190.	100.0	1.0	20.0	0.57	4.5
57. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	74.	100.0	1.0	10.0	1.25	92.7
58. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	217.	100.0	1.0	20.0	2.12	88.8
59. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	103.	100.0	1.0	10.0	1.06	15.0
60. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	103.	100.0	1.0	10.0	1.11	20.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 0:22

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1285.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3960.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2735.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3275.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3485.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3430.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 0:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	667	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	105	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	105	3.0	122	1600	46.20	1	3
4. College Ave EB L	*	135	105	3.0	154	1600	46.20	1	3
5. College Ave. EB TR	*	135	105	3.0	244	1600	46.20	1	3
6. Boston Ave. NB	*	135	105	3.0	352	1600	46.20	1	3
7. College Ave WB	*	135	100	3.0	386	1600	46.20	1	3
8. Main St. SB	*	81	54	3.0	642	1600	46.20	1	3
9. Harvard St. EB	*	81	50	3.0	660	1600	46.20	1	3
10. Main st. NB	*	81	54	3.0	477	1600	46.20	1	3
11. Harvard St. WB	*	81	50	3.0	641	1600	46.20	1	3
12. Broadway EB R	*	122	97	3.0	258	1600	46.20	1	3
13. Broadway EB TL	*	122	97	3.0	450	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
15. Medford St. NB	*	122	97	3.0	404	1600	46.20	1	3
16. Broadway St. WB	*	122	97	3.0	839	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	122	102	3.0	256	1600	46.20	1	3
19. Highland St. EB	*	79	49	3.0	426	1600	46.20	1	3
20. Central St NB	*	79	50	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	79	49	3.0	496	1600	46.20	1	3
22. Central St. SB	*	79	50	3.0	159	1600	46.20	1	3
23. Medford St. NWB	*	62	34	3.0	861	1600	46.20	1	3
24. School St. SB	*	62	45	3.0	325	1600	46.20	1	3
25. Medford St. SEB	*	62	34	3.0	528	1600	46.20	1	3
26. Prospect SB	*	99	69	3.0	855	1600	46.20	1	3
27. Sommerville WB	*	99	86	3.0	485	1600	46.20	1	3
28. Prospect NB	*	99	66	3.0	1373	1600	46.20	1	3
29. Somerville EB	*	99	56	3.0	762	1600	46.20	1	3
30. McGrath Highway SB1	*	133	123	3.0	539	1600	46.20	1	3
31. Washington St. EB	*	133	102	3.0	1231	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	46.20	1	3
34. Washington St. WB	*	133	83	3.0	1198	1600	46.20	1	3
35. Msgr Obrien EB	*	120	49	3.0	1655	1600	46.20	1	3
36. Third St. NB L	*	120	79	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	79	3.0	30	1600	46.20	1	3
38. Msgr Obrien WB	*	120	49	3.0	1430	1600	46.20	1	3
39. Msgr Obrien L	*	120	100	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	95	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1230	1600	46.20	1	3
43. Charlestown NB R	*	120	95	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	100	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	95	3.0	750	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	95	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	95	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	95	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	89	3.0	200	1600	46.20	1	3
50. Camb. St at First TR	*	120	89	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 0:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	63	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	83	3.0	970	1600	46.20	1	3
55. MsgrOb/East WB T	120	92	3.0	930	1600	46.20	1	3
56. MsgrOb/East WB L	120	92	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	72	3.0	715	1600	46.20	1	3
58. First St. Ext. SB	120	105	3.0	565	1600	46.20	1	3
59. First Ext. NB L	120	100	3.0	210	1600	46.20	1	3
60. First Ext. NB T	120	100	3.0	220	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	6.1	5.9	5.6	5.6	6.9	6.9	6.1	6.3	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.6	6.0	6.2	5.7	5.7	6.8	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.1	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.1	6.3	6.0	6.0	6.8	6.8	6.3	6.1	5.9	5.5	5.4	6.2	6.1	5.9	5.5	5.5	5.4	5.0	5.0
30.	5.7	6.3	6.8	6.4	6.6	6.4	6.5	6.2	6.2	5.9	5.5	5.3	5.9	5.9	5.7	5.8	5.9	6.1	5.2	5.0
40.	5.7	6.6	6.8	6.6	7.0	6.0	6.2	6.1	6.2	5.9	5.5	5.3	5.7	5.7	5.6	6.1	6.4	6.4	5.2	5.0
50.	5.7	6.7	6.4	6.4	6.9	5.6	5.9	5.7	6.1	5.9	5.6	5.3	5.4	5.6	5.7	6.2	6.6	6.7	5.3	5.1
60.	6.2	6.8	6.3	6.8	6.9	5.6	5.9	6.0	6.2	6.0	5.5	5.5	5.3	5.5	5.7	6.1	6.6	6.6	5.5	5.1
70.	6.4	6.9	6.5	6.9	6.8	5.5	5.9	6.2	6.3	6.0	5.5	5.5	5.6	5.7	6.1	6.3	6.9	6.7	5.9	5.5
80.	6.7	7.0	6.5	6.8	6.5	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.5	6.3	6.6	6.8	6.5	6.0	5.6
90.	6.6	7.1	6.5	6.6	6.2	5.3	5.4	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.2	6.9	6.7	6.3	5.9	5.7
100.	6.8	7.0	6.7	6.6	6.2	5.3	5.4	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.0	6.8	6.2	6.4	5.8	5.8
110.	7.0	6.8	6.8	6.4	6.1	5.2	5.3	6.1	5.9	5.9	5.9	6.1	6.0	5.2	5.7	6.7	6.2	6.8	6.1	6.0
120.	6.5	6.6	6.6	6.4	6.0	5.1	5.3	5.9	5.7	5.7	6.5	6.7	6.6	5.5	5.7	7.0	6.5	7.2	6.6	6.6
130.	5.9	6.1	6.2	6.1	5.9	5.0	5.0	5.3	5.2	5.2	6.5	6.7	6.6	5.5	5.6	7.0	6.5	7.0	6.5	6.5
140.	5.5	5.7	6.0	6.2	5.9	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.7	6.4	6.8	6.3	6.4
150.	5.5	5.7	6.2	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.2	6.4	6.3	5.5	5.6	6.7	6.5	6.4	6.3	6.2
160.	5.5	5.7	6.2	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.2	5.5	5.5	6.7	6.5	6.3	6.5	6.2
170.	5.5	5.7	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	5.9	6.1	6.0	5.6	5.6	6.8	6.5	6.5	6.4	6.0
180.	5.4	5.6	6.5	6.5	6.2	5.1	5.1	5.2	5.0	5.0	5.9	6.1	5.9	5.5	5.7	7.0	6.7	6.6	6.4	5.9
190.	5.3	5.5	6.6	6.6	6.2	5.3	5.3	5.4	5.0	5.0	5.8	6.1	6.0	5.7	5.6	7.2	6.9	6.8	6.3	5.7
200.	5.2	5.3	6.4	6.4	6.0	5.6	5.8	6.0	5.0	5.0	5.8	6.0	6.3	6.0	5.8	7.1	6.8	6.9	6.1	5.8
210.	5.1	5.2	5.9	5.9	5.6	6.1	6.3	6.6	5.2	5.0	5.8	6.2	6.6	6.2	6.2	6.7	6.4	6.3	5.9	5.7
220.	5.2	5.1	5.4	5.5	5.3	6.5	6.6	6.8	5.4	5.1	6.0	6.4	6.7	6.4	6.4	6.3	6.0	6.2	5.9	5.7
230.	5.2	5.1	5.2	5.4	5.1	6.5	6.6	6.7	5.5	5.2	6.1	6.7	6.5	6.3	6.5	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.1	5.2	5.3	5.2	6.5	6.6	6.6	5.7	5.4	6.3	6.7	6.3	6.3	6.5	5.5	5.6	5.9	5.8	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.5	6.7	6.4	5.8	5.4	6.7	6.8	6.3	6.3	6.5	5.4	5.6	6.0	5.9	5.7
260.	5.1	5.1	5.1	5.1	5.3	6.4	6.6	6.3	5.9	5.5	6.7	6.6	6.1	6.2	6.4	5.2	5.3	6.0	5.8	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.2	6.4	6.0	5.8	5.4	6.8	6.6	6.3	6.2	6.4	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.1	6.3	6.3	6.0	5.6	6.9	6.7	6.5	6.0	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.6	5.8	5.9	5.1	5.2	6.1	6.4	6.6	6.2	5.8	6.7	6.5	6.7	6.0	6.2	5.1	5.2	6.0	5.9	5.9
300.	6.0	6.2	6.4	5.2	5.3	6.2	6.5	6.9	6.3	6.0	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.6	5.3	5.3	6.3	6.6	6.7	6.2	6.1	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.5	5.4	5.4	6.3	6.8	6.4	6.2	6.0	5.5	5.4	5.9	5.7	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.3	5.4	5.4	6.5	6.7	6.2	6.1	6.0	5.5	5.4	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.1	5.4	5.4	6.7	6.8	6.2	6.2	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.5	5.5	6.7	6.9	6.3	6.1	6.0	5.5	5.5	5.9	6.0	5.8	5.1	5.1	5.2	5.0	5.0
360.	5.6	6.1	5.9	5.6	5.6	6.9	6.9	6.1	6.3	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.1	6.8	6.9	7.0	6.9	7.0	6.9	6.3	6.1	6.9	6.8	6.7	6.4	6.5	7.2	6.9	7.2	6.6	6.6
DEGR.	110	90	30	70	40	0	10	300	0	310	280	250	220	220	230	190	70	120	120	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.4	6.4	6.3	5.6	5.2	5.9	6.3	6.3	5.9	5.7	5.7	5.5	5.5	6.0	6.0	5.0	5.0	5.0	5.0	5.1
10.	6.2	6.2	6.0	5.6	5.3	6.0	6.2	6.1	5.6	5.5	5.4	5.5	5.6	6.0	6.1	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.3	6.1	6.2	6.0	5.5	5.6	5.4	5.4	5.6	6.2	6.1	5.0	5.0	5.1	5.0	5.0
30.	6.1	6.1	5.6	5.5	5.3	6.2	6.2	5.8	5.6	5.6	5.3	5.3	5.5	6.3	6.1	5.1	5.1	5.1	5.0	5.0
40.	6.0	6.0	5.6	5.5	5.3	6.3	6.2	6.0	5.6	5.6	5.2	5.4	5.4	6.4	6.0	5.1	5.1	5.1	5.0	5.0
50.	5.8	5.8	5.6	5.6	5.3	6.5	6.3	6.0	5.6	5.6	5.2	5.2	5.5	6.4	6.0	5.2	5.2	5.3	5.0	5.0
60.	5.8	6.1	5.7	5.7	5.6	6.3	6.2	5.9	5.4	5.4	5.1	5.2	5.3	6.3	6.0	5.5	5.6	5.7	5.1	5.0
70.	6.0	6.3	5.8	5.6	5.6	6.0	6.1	5.6	5.4	5.3	5.0	5.1	5.1	5.8	5.8	5.9	6.1	6.4	5.2	5.1
80.	6.2	6.4	5.6	5.6	5.6	5.7	5.6	5.4	5.4	5.4	5.0	5.0	5.0	5.4	5.4	6.1	6.4	6.7	5.3	5.2
90.	6.2	6.2	5.3	5.6	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.2	6.1	6.5	6.6	5.4	5.2
100.	6.2	6.0	5.2	5.7	5.7	5.3	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.1	6.5	6.5	5.5	5.2
110.	6.1	6.0	5.2	5.8	5.7	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.1	5.1	6.1	6.3	6.3	5.6	5.3
120.	6.1	5.9	5.4	5.9	5.7	5.3	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.2	6.3	6.2	5.6	5.4
130.	6.1	5.9	5.5	6.0	6.0	5.5	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.1	6.2	6.0	5.6	5.4
140.	6.3	6.0	5.7	5.9	5.9	5.5	5.5	5.5	5.5	5.5	5.2	5.1	5.1	5.1	5.1	6.2	6.2	6.0	5.6	5.5
150.	6.1	6.0	5.8	5.8	5.8	5.3	5.3	5.5	5.5	5.5	5.2	5.2	5.1	5.1	5.1	6.2	6.2	5.9	5.7	5.5
160.	6.1	5.8	5.8	5.8	5.7	5.2	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.1	6.1	6.0	5.7	5.8
170.	5.8	5.7	5.9	5.6	5.6	5.2	5.1	5.4	5.4	5.4	5.8	5.8	5.3	5.2	5.1	6.2	6.3	6.1	5.9	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.2	5.2	5.2	5.2	5.3	6.0	6.0	5.4	5.4	5.2	6.4	6.3	6.2	5.9	5.8
190.	5.5	5.5	5.6	5.7	5.7	5.2	5.2	5.2	5.2	5.2	6.1	6.1	5.5	5.3	5.2	6.4	6.5	6.1	5.8	5.7
200.	5.4	5.4	5.6	5.7	5.7	5.2	5.2	5.2	5.1	5.1	6.1	6.1	5.6	5.4	5.3	6.5	6.5	6.1	5.6	5.6
210.	5.4	5.4	5.6	5.9	5.9	5.2	5.2	5.2	5.1	5.1	5.9	6.0	5.4	5.4	5.3	6.6	6.5	6.1	5.6	5.6
220.	5.4	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.8	5.9	5.4	5.5	5.2	6.7	6.5	6.2	5.7	5.8
230.	5.2	5.4	5.8	6.0	6.0	5.5	5.5	5.3	5.1	5.1	5.7	5.8	5.4	5.7	5.4	6.7	6.5	6.2	5.7	5.7
240.	5.3	5.3	5.7	5.9	6.0	6.0	6.0	5.6	5.1	5.1	5.7	6.1	5.6	5.8	5.9	6.6	6.3	6.1	5.7	5.6
250.	5.2	5.2	5.4	5.7	5.7	6.3	6.3	6.2	5.3	5.2	5.9	6.0	5.7	5.9	6.1	6.1	5.9	6.0	5.6	5.6
260.	5.0	5.0	5.2	5.5	5.5	6.6	6.5	6.3	5.4	5.3	6.0	6.1	5.6	6.0	6.3	5.5	5.4	5.7	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.0	6.4	6.3	6.0	5.5	5.4	5.9	6.0	5.3	5.9	6.5	5.3	5.3	5.6	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	5.9	5.4	5.3	5.9	5.7	5.3	5.9	6.4	5.3	5.4	5.6	5.5	5.6
290.	5.0	5.0	5.0	5.0	5.0	5.9	5.8	5.8	5.4	5.3	5.8	5.5	5.4	6.1	6.4	5.3	5.4	5.6	5.6	5.6
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.8	5.5	5.7	6.1	6.3	5.2	5.3	5.6	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.9	5.6	5.6	6.2	6.2	5.2	5.4	5.6	5.6	5.7
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.1	5.8	5.8	6.3	6.2	5.2	5.4	5.6	5.7	5.7
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.5	6.3	5.9	5.9	6.3	6.3	5.1	5.3	5.6	5.8	5.8
340.	5.5	5.5	5.6	5.1	5.0	5.7	5.8	6.1	5.8	5.5	6.3	6.1	5.8	6.4	6.2	5.1	5.2	5.4	5.5	5.6
350.	6.0	6.1	6.1	5.3	5.1	5.8	6.0	6.4	6.0	5.8	6.0	5.9	5.7	6.2	6.0	5.0	5.1	5.2	5.3	5.3
360.	6.4	6.4	6.3	5.6	5.2	5.9	6.3	6.3	5.9	5.7	5.7	5.5	5.5	6.0	6.0	5.0	5.0	5.0	5.0	5.1
MAX	6.4	6.4	6.3	6.0	6.0	6.6	6.5	6.4	6.0	5.8	6.3	6.1	5.9	6.4	6.5	6.7	6.5	6.7	5.9	5.8
DEGR.	0	0	0	130	130	260	260	350	350	350	330	240	330	40	270	220	90	80	170	160

THE HIGHEST CONCENTRATION OF 7.20 PPM OCCURRED AT RECEPTOR REC18.

2030NB6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 1: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	96.	100.0	1.0	10.0	1.01	15.1
3. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	96.	100.0	1.0	10.0	0.41	3.6
4. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	96.	100.0	1.0	10.0	0.52	4.5
5. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	96.	100.0	1.0	10.0	0.82	7.9
6. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	96.	100.0	1.0	10.0	1.19	43.3
7. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	92.	100.0	1.0	10.0	1.09	31.3
8. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	83.	100.0	1.0	10.0	1.48	121.3
9. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	76.	100.0	1.0	10.0	1.29	89.9
10. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	83.	100.0	1.0	10.0	1.10	34.3
11. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	76.	100.0	1.0	10.0	1.25	79.9
12. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	99.	100.0	1.0	10.0	0.98	10.5
13. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	99.	100.0	1.0	10.0	1.72	113.0
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	99.	100.0	1.0	10.0	1.54	88.1
16. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	197.	100.0	1.0	20.0	1.60	96.2
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	104.	100.0	1.0	10.0	1.31	41.8
19. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	77.	100.0	1.0	10.0	0.84	6.8
20. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	78.	100.0	1.0	10.0	1.05	24.8
21. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	77.	100.0	1.0	10.0	0.98	11.4
22. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	78.	100.0	1.0	10.0	0.33	2.2
23. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	68.	100.0	1.0	10.0	1.45	150.9
24. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	90.	100.0	1.0	10.0	1.05	16.7
25. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	68.	100.0	1.0	10.0	0.89	6.9
26. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	173.	100.0	1.0	20.0	1.06	24.9
27. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	215.	100.0	1.0	20.0	1.88	67.6
28. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	248.	100.0	1.0	30.0	1.01	16.2
29. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	140.	100.0	1.0	20.0	0.62	5.9
30. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	229.	100.0	1.0	20.0	4.48	122.3
31. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	95.	100.0	1.0	10.0	3.95	511.6
32. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	110.	100.0	1.0	10.0	0.48	1.9
33. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	110.	100.0	1.0	10.0	4.62	247.7
34. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	232.	100.0	1.0	30.0	0.74	9.2
35. Msgr Obrien EB	769756.4	********	769519.6	********	288.	305.	AG	101.	100.0	1.0	20.0	0.94	14.6
36. Third St. NB L	769779.2	********	769011.2	********	4470.	190.	AG	82.	100.0	1.0	10.0	1.83	227.1
37. Third St NB LR	769788.2	********	769786.2	********	13.	189.	AG	82.	100.0	1.0	10.0	0.06	0.7
38. Msgr Obrien WB	769858.1	********	770015.7	********	192.	125.	AG	101.	100.0	1.0	20.0	0.81	9.7
39. Msgr Obrien L	771462.2	********	768300.8	********	3838.	305.	AG	103.	100.0	1.0	10.0	2.71	195.0
40. Msgr Obrien WB T	771449.0	********	770740.6	********	857.	304.	AG	294.	100.0	1.0	30.0	1.23	43.5
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	196.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	769197.3	********	3672.	219.	AG	98.	100.0	1.0	10.0	2.22	186.5
44. Msgr Obrien WB L	771572.2	********	773370.4	********	2174.	124.	AG	103.	100.0	1.0	10.0	1.93	110.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 1: 1

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	772722.5	********	1380.	124.	AG	196.	100.0	1.0	20.0	1.41	70.1
46. Msgr Obrien WB R	771588.6	********	773170.2	********	1913.	124.	AG	98.	100.0	1.0	10.0	1.60	97.2
47. Charlestown SB LT	771546.2	********	771845.5	********	580.	31.	AG	98.	100.0	1.0	10.0	1.13	29.5
48. Charlestown SB TR	771535.3	********	774509.8	********	5537.	32.	AG	98.	100.0	1.0	10.0	2.88	281.3
49. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	92.	100.0	1.0	10.0	0.58	4.9
50. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	92.	100.0	1.0	10.0	0.75	6.7
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	65.	100.0	1.0	10.0	0.17	2.1
54. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	171.	100.0	1.0	20.0	1.14	46.5
55. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	190.	100.0	1.0	20.0	1.52	98.0
56. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	190.	100.0	1.0	20.0	0.57	4.5
57. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	74.	100.0	1.0	10.0	1.25	92.7
58. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	217.	100.0	1.0	20.0	2.12	88.8
59. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	103.	100.0	1.0	10.0	1.06	15.0
60. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	103.	100.0	1.0	10.0	1.11	20.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 1: 1

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1285.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3960.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2735.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3275.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3485.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3430.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 1: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	667	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	105	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	105	3.0	122	1600	46.20	1	3
4. College Ave EB L	*	135	105	3.0	154	1600	46.20	1	3
5. College Ave. EB TR	*	135	105	3.0	244	1600	46.20	1	3
6. Boston Ave. NB	*	135	105	3.0	352	1600	46.20	1	3
7. College Ave WB	*	135	100	3.0	386	1600	46.20	1	3
8. Main St. SB	*	81	54	3.0	642	1600	46.20	1	3
9. Harvard St. EB	*	81	50	3.0	660	1600	46.20	1	3
10. Main st. NB	*	81	54	3.0	477	1600	46.20	1	3
11. Harvard St. WB	*	81	50	3.0	641	1600	46.20	1	3
12. Broadway EB R	*	122	97	3.0	258	1600	46.20	1	3
13. Broadway EB TL	*	122	97	3.0	450	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
15. Medford St. NB	*	122	97	3.0	404	1600	46.20	1	3
16. Broadway St. WB	*	122	97	3.0	839	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	122	102	3.0	256	1600	46.20	1	3
19. Highland St. EB	*	79	49	3.0	426	1600	46.20	1	3
20. Central St NB	*	79	50	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	79	49	3.0	496	1600	46.20	1	3
22. Central St. SB	*	79	50	3.0	159	1600	46.20	1	3
23. Medford St. NWB	*	62	34	3.0	861	1600	46.20	1	3
24. School St. SB	*	62	45	3.0	325	1600	46.20	1	3
25. Medford St. SEB	*	62	34	3.0	528	1600	46.20	1	3
26. Prospect SB	*	99	69	3.0	855	1600	46.20	1	3
27. Sommerville WB	*	99	86	3.0	485	1600	46.20	1	3
28. Prospect NB	*	99	66	3.0	1373	1600	46.20	1	3
29. Somerville EB	*	99	56	3.0	762	1600	46.20	1	3
30. McGrath Highway SB1	*	133	123	3.0	539	1600	46.20	1	3
31. Washington St. EB	*	133	102	3.0	1231	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	46.20	1	3
34. Washington St. WB	*	133	83	3.0	1198	1600	46.20	1	3
35. Msgr Obrien EB	*	120	49	3.0	1655	1600	46.20	1	3
36. Third St. NB L	*	120	79	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	79	3.0	30	1600	46.20	1	3
38. Msgr Obrien WB	*	120	49	3.0	1430	1600	46.20	1	3
39. Msgr Obrien L	*	120	100	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	95	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1230	1600	46.20	1	3
43. Charlestown NB R	*	120	95	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	100	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	95	3.0	750	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	95	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	95	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	95	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	89	3.0	200	1600	46.20	1	3
50. Camb. St at First TR	*	120	89	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 1: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	63	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	83	3.0	970	1600	46.20	1	3
55. MsgrOb/East WB T	120	92	3.0	930	1600	46.20	1	3
56. MsgrOb/East WB L	120	92	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	72	3.0	715	1600	46.20	1	3
58. First St. Ext. SB	120	105	3.0	565	1600	46.20	1	3
59. First Ext. NB L	120	100	3.0	210	1600	46.20	1	3
60. First Ext. NB T	120	100	3.0	220	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.3	6.3	6.6	6.1	5.8	5.9	5.9	6.1	6.2	6.3	5.1	5.0	5.0	5.1	5.1	7.6	7.8	6.6	6.3	6.0
10.	6.2	6.2	6.5	6.0	6.0	5.7	5.7	5.9	6.1	6.2	5.0	5.0	5.0	5.0	5.0	7.5	7.6	6.2	6.2	6.0
20.	6.2	6.2	6.4	6.0	5.9	5.4	5.7	5.8	6.1	6.1	5.0	5.0	5.0	5.0	5.0	7.5	7.6	6.6	6.3	5.9
30.	6.3	6.3	6.4	6.0	6.1	5.6	5.8	5.9	6.2	6.3	5.0	5.0	5.0	5.0	5.0	7.5	7.8	6.8	6.6	6.5
40.	6.2	6.2	6.5	6.0	6.0	5.5	5.7	6.1	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.8	8.1	7.3	7.0	7.0
50.	6.2	6.2	6.3	6.0	6.1	5.5	5.7	6.1	6.2	6.2	5.0	5.0	5.0	5.0	5.0	7.8	8.2	7.4	7.0	6.9
60.	6.2	6.2	6.4	6.4	6.2	5.6	5.8	6.3	6.4	6.2	5.1	5.1	5.1	5.0	5.0	8.0	8.2	7.3	6.6	6.8
70.	6.3	6.4	6.4	6.3	6.1	5.5	5.8	6.3	6.5	6.4	5.2	5.2	5.1	5.2	5.2	8.1	8.4	7.0	6.8	6.9
80.	6.5	6.6	6.8	6.3	6.2	5.6	5.9	6.7	6.6	6.5	5.2	5.2	5.1	5.2	5.2	8.4	8.6	7.2	6.8	7.2
90.	6.7	6.8	6.9	6.4	6.1	5.7	5.8	6.8	6.7	6.5	5.2	5.2	5.1	5.2	5.2	8.4	8.6	7.4	7.2	7.2
100.	6.9	7.3	7.1	6.4	6.2	5.7	5.8	6.9	6.8	6.8	5.2	5.2	5.2	5.2	5.2	9.0	9.1	7.9	7.2	7.2
110.	7.0	7.4	7.3	6.4	6.1	5.7	5.8	7.0	6.8	7.0	5.5	5.4	5.3	5.3	5.4	9.4	9.5	8.7	7.3	7.1
120.	7.4	7.5	7.2	6.2	5.9	5.4	5.7	6.9	6.9	6.9	6.3	6.4	6.3	6.4	6.3	9.3	9.6	9.1	7.2	6.7
130.	6.5	6.6	6.5	5.8	5.5	5.0	5.3	6.2	6.2	6.0	6.8	6.8	6.7	6.9	7.0	8.2	8.5	8.7	6.8	6.4
140.	5.5	5.6	5.5	5.7	5.7	5.2	5.1	5.4	5.4	5.3	6.7	6.7	6.5	6.5	6.7	6.6	7.1	7.6	6.2	6.2
150.	5.3	5.4	5.5	5.6	5.6	5.1	5.0	5.1	5.2	5.2	6.6	6.7	6.3	6.5	6.7	5.9	6.4	7.0	6.2	6.2
160.	5.3	5.4	5.5	5.7	5.7	5.0	5.0	5.1	5.1	5.1	6.4	6.5	6.1	6.4	6.6	5.9	6.3	6.9	6.2	6.3
170.	5.3	5.4	5.7	5.8	5.7	5.1	5.1	5.2	5.1	5.0	6.4	6.5	6.0	6.5	6.6	5.8	6.1	6.8	6.3	6.3
180.	5.3	5.4	5.8	5.9	5.9	5.3	5.3	5.3	5.0	5.0	6.2	6.1	5.8	6.6	6.5	5.8	6.2	6.9	6.4	6.5
190.	5.3	5.2	5.7	5.8	5.8	5.7	5.7	5.6	5.2	5.1	6.2	6.3	6.0	6.7	6.3	5.7	6.0	7.0	6.6	6.8
200.	5.0	5.0	5.3	5.4	5.4	5.7	5.7	5.7	5.3	5.2	6.3	6.4	6.1	6.4	6.0	5.7	5.9	7.3	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.7	5.7	5.7	5.3	5.2	6.3	6.4	5.9	6.2	6.1	5.6	5.8	7.4	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.6	5.3	5.2	6.3	6.4	5.9	6.1	6.1	5.2	5.5	6.8	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.3	5.2	6.2	6.4	5.9	6.0	6.0	5.0	5.0	5.9	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.4	6.1	6.0	6.1	6.1	5.2	5.1	5.6	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	6.3	6.2	6.1	6.2	6.2	5.2	5.2	5.6	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.2	5.2	6.4	6.2	6.2	6.3	6.4	5.2	5.3	5.7	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.3	5.3	5.2	6.6	6.5	6.3	6.5	6.5	5.3	5.4	5.9	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.4	5.3	5.2	6.7	6.4	6.4	6.5	6.5	5.5	5.7	6.2	5.1	5.1
290.	5.5	5.5	5.6	5.1	5.0	5.4	5.5	5.9	5.6	5.5	6.7	6.6	6.6	6.7	6.8	6.4	6.8	7.3	5.0	5.0
300.	6.3	6.3	6.4	5.3	5.1	5.5	5.7	6.6	6.4	6.4	6.7	6.5	6.5	6.7	6.6	7.9	8.5	8.9	5.4	5.1
310.	6.9	6.9	7.1	5.6	5.4	5.8	6.2	7.3	7.0	6.9	5.9	5.9	5.8	6.0	6.0	9.0	9.7	9.9	5.9	5.5
320.	7.0	7.0	7.2	5.9	5.5	6.0	6.3	7.3	7.0	6.9	5.3	5.3	5.2	5.3	5.4	9.2	9.7	9.5	6.2	5.7
330.	6.7	6.7	7.0	5.8	5.6	6.2	6.4	7.0	6.6	6.6	5.1	5.0	5.1	5.1	5.2	8.8	9.1	8.4	6.5	5.9
340.	6.6	6.6	7.0	6.0	5.7	6.3	6.3	6.7	6.5	6.5	5.1	5.0	5.0	5.1	5.1	8.4	8.6	7.7	6.5	6.1
350.	6.4	6.3	6.6	5.9	5.7	6.0	6.2	6.4	6.4	6.5	5.1	5.0	5.0	5.1	5.1	7.9	8.1	7.1	6.3	6.0
360.	6.3	6.3	6.6	6.1	5.8	5.9	5.9	6.1	6.2	6.3	5.1	5.0	5.0	5.1	5.1	7.6	7.8	6.6	6.3	6.0
MAX	7.4	7.5	7.3	6.4	6.2	6.3	6.4	7.3	7.0	7.0	6.8	6.8	6.7	6.9	7.0	9.4	9.7	9.9	7.3	7.2
DEGR.	120	120	110	60	60	340	330	310	310	110	130	130	130	130	130	110	310	310	110	80

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.8	7.7	6.8	7.0	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.8	7.8	6.8	6.9	6.8	5.4	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	8.0	7.8	7.1	6.9	6.6	5.3	5.6	6.3	6.6	6.6	5.9	5.8	5.4	5.0	5.0
30.	7.8	7.7	6.9	6.7	6.5	5.2	5.3	6.0	6.4	6.4	6.6	6.6	6.1	5.2	5.2
40.	7.0	7.2	6.3	6.4	6.3	5.0	5.1	5.5	5.7	5.7	7.1	7.1	6.7	5.5	5.3
50.	6.2	6.3	6.0	6.3	6.3	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.4
60.	5.9	6.3	6.1	6.3	6.3	5.0	5.0	5.0	5.1	5.1	6.9	6.7	6.4	5.7	5.5
70.	5.9	6.3	6.3	6.4	6.4	5.0	5.0	5.0	5.1	5.1	6.5	6.5	6.3	5.6	5.6
80.	6.0	6.3	6.4	6.5	6.5	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	6.0	6.3	6.7	6.7	6.7	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	6.0	6.3	6.9	6.9	6.9	5.1	5.1	5.1	5.0	5.0	6.2	6.1	6.1	5.8	5.6
110.	6.0	6.4	7.5	7.4	7.3	5.5	5.5	5.5	5.0	5.0	6.2	6.1	6.4	6.2	5.8
120.	5.5	6.1	7.5	7.4	7.3	6.3	6.3	6.4	5.4	5.1	6.4	6.6	7.2	6.7	6.6
130.	5.2	5.5	7.2	7.0	6.8	7.2	7.2	7.3	5.8	5.5	6.8	7.0	8.0	7.3	7.1
140.	5.0	5.1	6.6	6.2	6.0	7.3	7.4	7.5	6.1	5.7	7.0	7.2	7.7	7.3	7.3
150.	5.0	5.0	6.1	6.0	5.8	7.2	7.2	7.2	6.2	5.8	7.1	7.2	7.5	6.8	6.9
160.	5.0	5.1	5.9	5.8	5.7	7.0	7.0	6.9	6.1	5.8	7.1	7.4	7.1	6.6	7.0
170.	5.1	5.1	5.9	5.7	5.6	6.7	6.7	6.7	6.0	5.8	7.1	7.2	6.8	6.8	7.0
180.	5.1	5.2	5.9	5.7	5.6	6.6	6.6	6.4	6.0	5.8	7.0	7.3	6.9	7.2	7.1
190.	5.1	5.2	5.8	5.6	5.6	6.6	6.6	6.3	5.9	5.8	7.2	7.4	7.3	7.2	7.2
200.	5.4	5.7	6.0	5.5	5.4	6.5	6.5	6.3	6.0	5.9	7.6	7.6	7.5	7.3	7.1
210.	6.5	6.8	6.9	5.7	5.4	6.6	6.8	6.9	6.8	6.6	7.7	7.6	7.7	7.3	7.1
220.	7.6	7.9	7.8	6.2	5.8	7.0	7.4	7.6	7.2	7.2	7.1	7.4	7.2	6.9	6.6
230.	7.8	8.2	8.0	6.6	6.1	7.2	7.5	7.5	7.1	7.4	6.2	6.4	6.5	6.4	6.3
240.	7.7	7.8	7.6	6.6	6.2	7.4	7.6	7.0	6.9	6.7	5.8	6.0	6.2	6.4	6.5
250.	7.4	7.5	7.0	6.6	6.3	7.3	7.4	6.8	6.8	6.7	5.8	6.1	6.3	6.5	6.6
260.	7.0	7.3	6.8	6.5	6.3	7.2	7.1	6.9	7.0	6.7	5.8	6.1	6.5	6.7	6.7
270.	7.0	7.0	6.6	6.5	6.3	7.2	7.0	7.1	6.9	6.5	5.8	6.1	6.5	6.9	6.8
280.	6.6	6.9	6.9	6.6	6.2	7.4	7.2	7.3	6.9	6.6	5.7	6.1	6.8	7.1	7.0
290.	6.6	6.8	7.7	6.9	6.7	7.3	7.5	7.6	6.8	6.5	5.4	5.9	6.9	7.0	7.0
300.	6.8	7.4	8.6	7.8	7.3	7.1	6.9	7.3	6.5	6.4	5.4	5.6	6.5	6.9	6.7
310.	7.2	8.0	8.6	7.9	7.8	6.1	6.4	6.7	6.1	5.9	5.0	5.2	5.8	6.1	6.1
320.	7.4	8.1	7.8	7.3	7.3	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.3	5.5
330.	7.6	8.1	7.0	6.8	7.0	5.6	5.6	5.9	5.9	5.9	5.1	5.2	5.1	5.2	5.2
340.	7.7	7.9	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.0	5.1	5.1	5.0	5.2	5.2
350.	7.8	7.7	6.6	6.7	6.9	5.6	5.7	6.0	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.8	7.7	6.8	7.0	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	8.0	8.2	8.6	7.9	7.8	7.4	7.6	7.6	7.2	7.4	7.7	7.6	8.0	7.3	7.3
DEGR.	20	230	300	310	310	240	240	220	220	230	210	200	130	130	140

THE HIGHEST CONCENTRATION OF 9.90 PPM OCCURRED AT RECEPTOR REC18.

Bus_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:25:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756146.5	********	69.	312.	AG	155.	100.0	1.0	20.0	0.32	3.5
2. MVP West	756216.0	********	752537.7	********	5976.	218.	AG	71.	100.0	1.0	10.0	1.88	303.6
3. Boston Ave South	756271.8	********	756541.5	********	362.	132.	AG	77.	100.0	1.0	10.0	1.01	18.4
4. MVP East	756253.6	********	756733.5	********	675.	45.	AG	143.	100.0	1.0	20.0	1.05	34.3
5. Winthrop North	759327.2	********	759302.9	********	858.	358.	AG	169.	100.0	1.0	20.0	1.11	43.6
6. MVP East RT	759381.7	********	759526.3	********	145.	93.	AG	57.	100.0	1.0	10.0	0.53	7.4
7. MVP East T	759381.8	********	764458.8	********	5080.	92.	AG	69.	100.0	1.0	10.0	1.69	258.1
8. Winthrop South	759345.1	********	759316.5	********	1115.	181.	AG	204.	100.0	1.0	20.0	1.37	56.6
9. MVP West	759293.5	********	754323.3	********	4975.	273.	AG	69.	100.0	1.0	10.0	1.67	252.7
10. South St	761297.7	********	761050.9	********	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	86.	100.0	1.0	10.0	0.70	7.8
12. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	86.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	86.	100.0	1.0	10.0	0.57	6.4
15. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	100.	100.0	1.0	10.0	1.42	68.2
16. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	98.	100.0	1.0	10.0	1.42	74.3
17. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	81.	100.0	1.0	10.0	1.30	95.6
18. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	78.	100.0	1.0	10.0	1.27	91.6
19. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	81.	100.0	1.0	10.0	0.97	14.3
20. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	78.	100.0	1.0	10.0	1.14	54.9
21. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	88.	100.0	1.0	10.0	1.11	36.9
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	100.	100.0	1.0	10.0	1.62	94.8
25. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	177.	100.0	1.0	20.0	1.07	28.3
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	110.	100.0	1.0	10.0	2.17	82.5
28. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	84.	100.0	1.0	10.0	1.01	14.5
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	84.	100.0	1.0	10.0	1.18	51.4
31. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	84.	100.0	1.0	10.0	0.38	2.4
32. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	56.	100.0	1.0	10.0	1.10	56.9
33. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	103.	100.0	1.0	10.0	1.84	86.8
34. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	56.	100.0	1.0	10.0	0.68	6.0
35. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	171.	100.0	1.0	20.0	1.01	17.1
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	273.	100.0	1.0	30.0	1.27	66.1
38. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	215.	100.0	1.0	20.0	1.73	70.5
40. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	98.	100.0	1.0	10.0	4.49	529.6
41. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	91.	100.0	1.0	10.0	0.16	1.6
42. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	91.	100.0	1.0	10.0	1.51	115.9
43. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	281.	100.0	1.0	30.0	1.21	52.3
44. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:25:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	91.	100.0	1.0	10.0	0.72	6.4
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	178.	100.0	1.0	20.0	1.29	74.2
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	75.	100.0	1.0	10.0	1.51	168.4
53. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	196.	100.0	1.0	20.0	1.10	25.7
54. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	98.	100.0	1.0	10.0	0.80	6.2
55. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	98.	100.0	1.0	10.0	0.88	7.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2501.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2327.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	968.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3207.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:25:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:25:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	336	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1153	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	536	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1288	1600	46.20	1	3
5. Winthrop North	*	135	92	3.0	1000	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	427	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1100	1600	46.20	1	3
8. Winthrop South	*	135	111	3.0	618	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1090	1600	46.20	1	3
10. South St	*	120	90	3.0	667	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	122	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	154	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	244	1600	46.20	1	3
15. Boston Ave. NB	*	135	109	3.0	352	1600	46.20	1	3
16. College Ave WB	*	135	107	3.0	386	1600	46.20	1	3
17. Main St. SB	*	120	78	3.0	642	1600	46.20	1	3
18. Harvard St. EB	*	120	76	3.0	660	1600	46.20	1	3
19. Main st. NB	*	120	78	3.0	477	1600	46.20	1	3
20. Harvard St. WB	*	120	76	3.0	591	1600	46.20	1	3
21. Broadway EB R	*	122	57	3.0	248	1600	46.20	1	3
22. Broadway EB TL	*	122	87	3.0	435	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
24. Medford St. NB	*	122	98	3.0	404	1600	46.20	1	3
25. Broadway St. WB	*	122	87	3.0	839	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	122	108	3.0	256	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	426	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	496	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	159	1600	46.20	1	3
32. Medford St. NWB	*	90	41	3.0	861	1600	46.20	1	3
33. School St. SB	*	90	75	3.0	325	1600	46.20	1	3
34. Medford St. SEB	*	90	41	3.0	528	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	860	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1373	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	782	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	535	1600	46.20	1	3
40. Washington St. EB	*	135	107	3.0	1222	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	46.20	1	3
43. Washington St. WB	*	135	102	3.0	1208	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	206	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	258	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	997	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	944	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:25:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	844	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	586	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	212	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	233	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
10.	6.2	6.2	6.1	5.8	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.4	5.4	5.3
20.	6.1	6.2	6.3	5.8	5.6	5.3	5.5	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.4
30.	6.1	6.2	6.5	5.7	5.6	5.3	5.4	6.2	6.2	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.7	5.6	5.8	5.9
40.	5.9	6.1	6.5	5.7	5.5	5.1	5.3	6.2	6.2	6.0	5.8	5.8	5.8	5.1	5.0	5.2	5.8	6.2	6.1	6.1
50.	5.6	5.6	5.9	5.4	5.3	5.0	5.1	5.7	5.7	5.7	6.3	6.3	6.3	5.3	5.1	5.3	6.0	6.6	6.4	6.4
60.	5.3	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.4	6.5	6.4	5.5	5.3	5.5	6.2	6.5	6.2	6.3
70.	5.2	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.5	5.3	5.5	6.4	6.2	6.1	6.1
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	5.8
100.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.3	6.1	5.9	5.8
110.	5.1	5.2	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.9	5.9	5.6	5.4	5.3	5.8	6.4	6.2	5.9	5.8
120.	5.1	5.1	5.7	5.5	5.5	5.3	5.3	5.3	5.0	5.0	5.9	5.9	5.9	5.6	5.5	5.9	6.4	6.2	5.8	5.8
130.	5.0	5.1	5.5	5.5	5.5	5.6	5.6	5.6	5.1	5.0	5.9	6.0	6.0	5.8	5.7	5.8	6.3	6.1	5.8	5.7
140.	5.0	5.0	5.3	5.2	5.2	5.8	5.8	5.8	5.1	5.1	6.0	6.1	6.1	5.8	5.7	5.5	5.8	5.8	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.2	5.1	6.0	6.1	6.1	5.7	5.8	5.3	5.4	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.7	5.7	5.7	5.2	5.1	6.0	6.1	5.9	5.7	5.6	5.2	5.5	5.7	5.7	5.7
170.	5.0	5.0	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.2	6.1	6.0	5.8	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.2	6.3	6.0	5.9	5.5	5.3	5.4	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.3	6.4	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.2	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	5.6	5.7	5.7	5.1	5.0	5.4	5.5	5.8	5.6	5.6	6.5	6.4	6.3	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	5.9	5.8	6.3	6.2	6.1	5.6	5.2	5.0	5.2	5.8	5.8	5.9
230.	6.2	6.2	6.2	5.4	5.3	5.7	5.8	6.4	6.1	6.1	5.9	5.8	5.7	5.4	5.2	5.0	5.0	5.4	5.4	5.4
240.	6.1	6.1	6.1	5.5	5.3	5.7	5.9	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	6.0	6.0	6.0	5.4	5.3	5.7	5.8	6.1	6.0	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.7	6.0	5.9	6.1	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.9	5.1	5.1	5.5	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.0	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.7	5.4	5.8	6.0	6.0	5.8	5.7	5.0	5.1	5.3	5.3	5.3	5.3	5.3	5.7	5.1	5.0
320.	5.7	5.8	6.1	5.9	5.7	5.7	5.7	5.9	5.8	5.7	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.8	5.8	6.1	5.8	5.8	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.5	6.0	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.7	5.3	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.8	5.1	5.1
350.	5.9	6.0	5.9	5.8	5.7	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
MAX	6.2	6.2	6.5	5.9	5.8	6.0	6.1	6.4	6.2	6.2	6.5	6.5	6.4	6.0	5.8	5.9	6.4	6.6	6.4	6.4
DEGR.	10	10	30	320	330	300	290	220	30	30	200	60	60	190	150	120	70	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.9	6.7	6.2	6.1	6.6	6.7	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.7	5.2	5.0
10.	5.9	6.1	6.7	6.4	6.4	5.9	6.1	6.2	5.9	5.9	5.0	5.0	5.5	5.4	5.5	7.0	6.9	7.0	5.4	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.8	5.0	5.0	5.1	5.1	5.2	6.8	6.7	6.8	5.6	5.4
30.	6.1	6.1	6.2	6.1	6.2	5.3	5.5	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.5	5.4
40.	6.1	6.1	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.3	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.1	6.1	5.4	5.2
60.	6.2	6.3	6.3	6.3	6.2	5.4	5.6	6.2	6.3	6.2	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.4	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.3	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.6	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.5	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.2	5.4	6.4	6.3	6.3	5.9	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.5	6.5	5.4	5.2	6.4	6.6	7.4	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.4	6.5	6.5	5.6	5.4	6.5	6.6	7.2	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.0	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.0	6.1	6.1	5.5	5.3	6.5	6.8	6.7	5.9	5.9
140.	5.3	5.3	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	6.0	6.0	6.0	5.5	5.4	6.7	6.7	6.5	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.1	5.1	5.0	5.1	6.0	6.0	5.9	5.6	5.4	6.9	6.8	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.2	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.5	7.0	7.0	6.7	6.1	5.9
170.	5.1	5.4	6.1	6.2	6.2	5.6	5.7	5.6	5.0	5.0	5.9	5.9	6.3	5.9	6.0	7.1	7.0	6.7	6.0	5.8
180.	5.1	5.2	5.9	6.0	6.0	6.3	6.4	6.2	5.1	5.1	6.1	6.3	6.7	6.4	6.5	6.7	6.5	6.4	5.9	5.7
190.	5.0	5.0	5.5	5.6	5.6	6.6	6.7	6.4	5.4	5.1	6.0	6.3	6.8	6.4	6.5	6.1	6.0	6.0	5.6	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.6	6.7	6.2	5.4	5.3	6.2	6.4	6.5	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.3	6.1	6.3	5.4	5.5	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.2	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.3	6.3	6.1	5.2	5.4	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	5.9	6.0	5.4	5.4	5.3	6.3	6.5	6.5	6.2	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	5.9	6.0	5.6	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.4	6.0	6.0	6.0
270.	6.0	6.0	5.8	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.5	6.4	6.7	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.4	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.4	6.4	6.4	6.5	5.5	5.7	6.1	5.8	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.0	6.0	5.9	5.4	5.3	6.3	6.4	6.2	6.3	6.4	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	6.0	6.0	5.7	5.4	5.3	6.3	6.5	6.2	6.3	6.4	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.3	6.4	6.5	6.2	6.4	6.3	5.4	5.5	6.0	6.0	6.1	5.1	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.6	6.4	6.4	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.3	6.7	6.8	6.8	6.4	6.2	5.2	5.5	6.3	6.3	6.3	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.7	6.1	5.8	5.7	6.8	7.0	6.9	6.3	6.1	5.2	5.4	6.4	6.3	6.4	6.1	5.9	6.1	5.0	5.0
360.	5.7	5.9	6.7	6.2	6.1	6.6	6.7	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.7	5.2	5.0
MAX	6.4	6.6	6.8	6.4	6.4	6.8	7.0	6.9	6.5	6.6	6.6	6.5	6.8	6.4	6.5	7.1	7.0	7.4	6.5	6.4
DEGR.	70	80	80	10	10	350	350	350	80	280	260	100	190	180	180	170	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.1	6.1	5.6	5.6	5.8	5.7	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.3	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.5	5.6	5.6	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.5	5.6	5.7	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.2	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.2	5.3	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.9	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.8	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.9	5.9	6.1	6.3	6.1	5.2	5.4	6.1	6.1	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.2	6.2	6.1	5.9	5.1	5.3	6.1	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.2	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.8	6.0	5.8	5.7	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	6.0
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.9	5.8
230.	5.2	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	6.0	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.9	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.0	5.8	5.6
280.	5.0	5.1	5.5	5.8	5.7	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.8	5.8	5.6	5.7
300.	5.1	5.1	5.1	5.3	5.3	5.8	5.9	6.0	5.4	5.1	5.9	6.0	5.7	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.7	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	6.0	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
MAX	6.0	6.2	6.2	6.3	6.2	5.9	6.0	6.3	6.2	6.1	6.1	6.1	6.1	6.0	6.0
DEGR.	170	170	170	160	120	30	30	20	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC38.

Bus_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:26:22

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756146.5	********	*	69.	312.	AG	155.	100.0	1.0	20.0	0.32	3.5
2. MVP West	*	756216.0	********	752537.7	********	*	5976.	218.	AG	71.	100.0	1.0	10.0	1.88	303.6
3. Boston Ave South	*	756271.8	********	756541.5	********	*	362.	132.	AG	77.	100.0	1.0	10.0	1.01	18.4
4. MVP East	*	756253.6	********	756733.5	********	*	675.	45.	AG	143.	100.0	1.0	20.0	1.05	34.3
5. Winthrop North	*	759327.2	********	759302.9	********	*	858.	358.	AG	169.	100.0	1.0	20.0	1.11	43.6
6. MVP East RT	*	759381.7	********	759526.3	********	*	145.	93.	AG	57.	100.0	1.0	10.0	0.53	7.4
7. MVP East T	*	759381.8	********	764458.8	********	*	5080.	92.	AG	69.	100.0	1.0	10.0	1.69	258.1
8. Winthrop South	*	759345.1	********	759316.5	********	*	1115.	181.	AG	204.	100.0	1.0	20.0	1.37	56.6
9. MVP West	*	759293.5	********	754323.3	********	*	4975.	273.	AG	69.	100.0	1.0	10.0	1.67	252.7
10. South St	*	761297.7	********	761050.9	********	*	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	*	759658.7	********	759585.9	********	*	154.	332.	AG	86.	100.0	1.0	10.0	0.70	7.8
12. Boston Ave. SB R	*	759646.0	********	759616.7	********	*	63.	332.	AG	86.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	*	759636.4	********	759600.5	********	*	79.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759590.5	********	*	125.	207.	AG	86.	100.0	1.0	10.0	0.57	6.4
15. Boston Ave. NB	*	759699.9	********	760339.0	********	*	1342.	152.	AG	100.	100.0	1.0	10.0	1.42	68.2
16. College Ave WB	*	759720.8	********	760569.0	********	*	1462.	35.	AG	98.	100.0	1.0	10.0	1.42	74.3
17. Main St. SB	*	762042.2	********	761464.3	********	*	1881.	342.	AG	81.	100.0	1.0	10.0	1.30	95.6
18. Harvard St. EB	*	762026.6	********	760444.3	********	*	1803.	241.	AG	78.	100.0	1.0	10.0	1.27	91.6
19. Main st. NB	*	762078.3	********	762167.6	********	*	282.	162.	AG	81.	100.0	1.0	10.0	0.97	14.3
20. Harvard St. WB	*	762091.8	********	763123.2	********	*	1080.	73.	AG	78.	100.0	1.0	10.0	1.14	54.9
21. Broadway EB R	*	762959.1	********	762888.1	********	*	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	*	762965.1	********	762299.0	********	*	727.	294.	AG	88.	100.0	1.0	10.0	1.11	36.9
23. Parking Lot	*	763003.3	********	762870.0	********	*	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	*	763093.0	********	764012.4	********	*	1867.	150.	AG	100.	100.0	1.0	10.0	1.62	94.8
25. Broadway St. WB	*	763115.6	********	763628.1	********	*	558.	113.	AG	177.	100.0	1.0	20.0	1.07	28.3
26. Dexter St. SWB	*	763101.5	********	763427.6	********	*	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	*	763008.3	********	762495.6	********	*	1624.	342.	AG	110.	100.0	1.0	10.0	2.17	82.5
28. Highland St. EB	*	763277.6	********	763015.1	********	*	286.	294.	AG	84.	100.0	1.0	10.0	1.01	14.5
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764256.7	********	*	1013.	114.	AG	84.	100.0	1.0	10.0	1.18	51.4
31. Central St. SB	*	763311.4	********	763333.0	********	*	47.	27.	AG	84.	100.0	1.0	10.0	0.38	2.4
32. Medford St. NWB	*	765022.2	********	765710.7	********	*	1121.	142.	AG	56.	100.0	1.0	10.0	1.10	56.9
33. School St. SB	*	765002.3	********	765740.2	********	*	1709.	26.	AG	103.	100.0	1.0	10.0	1.84	86.8
34. Medford St. SEB	*	764967.1	********	764893.9	********	*	118.	322.	AG	56.	100.0	1.0	10.0	0.68	6.0
35. Prospect SB	*	765830.6	********	766004.3	********	*	336.	31.	AG	171.	100.0	1.0	20.0	1.01	17.1
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765251.5	********	*	1302.	206.	AG	273.	100.0	1.0	30.0	1.27	66.1
38. Somerville EB	*	765797.5	********	765680.2	********	*	130.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766698.3	********	*	1388.	350.	AG	215.	100.0	1.0	20.0	1.73	70.5
40. Washington St. EB	*	766952.8	********	757233.0	********	*	*****	249.	AG	98.	100.0	1.0	10.0	4.49	529.6
41. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	31.	172.	AG	91.	100.0	1.0	10.0	0.16	1.6
42. McGrath Hwy NB2 T	*	767119.9	********	767399.9	********	*	2281.	173.	AG	91.	100.0	1.0	10.0	1.51	115.9
43. Washington St. WB	*	767129.9	********	768075.0	********	*	1030.	67.	AG	281.	100.0	1.0	30.0	1.21	52.3
44. Camb. St at First L	*	770442.2	********	770344.4	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:26:22

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	91.	100.0	1.0	10.0	0.72	6.4
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	178.	100.0	1.0	20.0	1.29	74.2
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	75.	100.0	1.0	10.0	1.51	168.4
53. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	196.	100.0	1.0	20.0	1.10	25.7
54. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	98.	100.0	1.0	10.0	0.80	6.2
55. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	98.	100.0	1.0	10.0	0.88	7.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2501.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2327.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	968.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3207.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:26:22

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:26:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	336	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1153	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	536	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1288	1600	46.20	1	3
5. Winthrop North	*	135	92	3.0	1000	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	427	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1100	1600	46.20	1	3
8. Winthrop South	*	135	111	3.0	618	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1090	1600	46.20	1	3
10. South St	*	120	90	3.0	667	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	122	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	154	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	244	1600	46.20	1	3
15. Boston Ave. NB	*	135	109	3.0	352	1600	46.20	1	3
16. College Ave WB	*	135	107	3.0	386	1600	46.20	1	3
17. Main St. SB	*	120	78	3.0	642	1600	46.20	1	3
18. Harvard St. EB	*	120	76	3.0	660	1600	46.20	1	3
19. Main st. NB	*	120	78	3.0	477	1600	46.20	1	3
20. Harvard St. WB	*	120	76	3.0	591	1600	46.20	1	3
21. Broadway EB R	*	122	57	3.0	248	1600	46.20	1	3
22. Broadway EB TL	*	122	87	3.0	435	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
24. Medford St. NB	*	122	98	3.0	404	1600	46.20	1	3
25. Broadway St. WB	*	122	87	3.0	839	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	122	108	3.0	256	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	426	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	496	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	159	1600	46.20	1	3
32. Medford St. NWB	*	90	41	3.0	861	1600	46.20	1	3
33. School St. SB	*	90	75	3.0	325	1600	46.20	1	3
34. Medford St. SEB	*	90	41	3.0	528	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	860	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1373	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	782	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	535	1600	46.20	1	3
40. Washington St. EB	*	135	107	3.0	1222	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	46.20	1	3
43. Washington St. WB	*	135	102	3.0	1208	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	206	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	258	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	997	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	944	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:26:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	844	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	586	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	212	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	233	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	5.9	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.5	5.9	5.4	5.4	5.2
20.	6.0	5.7	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.7	5.5	5.5	5.4
30.	5.8	5.6	5.4	5.6	5.4	5.2	5.2	5.4	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.4	5.9	5.7	5.7	5.5
40.	5.3	5.5	5.3	5.3	5.3	5.0	5.2	5.2	5.5	5.4	5.9	5.8	5.8	5.2	5.1	5.6	5.9	5.8	5.6	5.5
50.	5.3	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.2	5.2	5.9	5.9	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.1	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.6	5.3	5.3	5.4
80.	5.1	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.2	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.4	5.6	5.6
140.	5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.5	5.5	5.5	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.3	5.3	5.3	5.9	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.3	5.3	5.3	5.6	5.6	5.3	5.2	5.1	5.5	5.6	5.5	5.4	5.6	5.8	5.6	5.7	5.6	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.6	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.1	5.8	5.8	5.6	5.5	5.7	5.2	5.3	5.5	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.0	5.5	5.5	5.4	5.3	5.1	5.7	5.7	5.6	5.5	5.4	5.2	5.3	5.7	5.6	5.4
200.	5.3	5.5	5.3	5.1	5.1	5.6	5.3	5.3	5.3	5.2	5.8	5.8	5.6	5.5	5.4	5.1	5.2	5.3	5.5	5.3
210.	5.3	5.5	5.5	5.0	5.1	5.4	5.4	5.5	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.4	5.7	5.6	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.0	5.2	5.1	5.1
230.	5.4	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.4	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.0
240.	5.4	5.7	5.4	5.2	5.0	5.4	5.4	5.2	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.0	5.0	5.0
250.	5.4	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.4	5.5	5.1	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.7	5.2	5.3	5.1	5.5	5.3	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.5	5.7	5.2	5.3	5.1	5.7	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.0	5.1	5.0	5.0	5.0
280.	5.5	5.7	5.2	5.3	5.2	5.5	5.2	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.2	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.2	5.2	5.6	5.5	5.1	5.1	5.4	5.3	5.2	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.3	5.3	5.6	5.2	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.5	5.3	5.8	5.5	5.5	5.0	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.4	5.5	5.4	5.3	5.7	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.1	5.2	5.1	5.0
340.	5.6	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.5	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	6.3	5.5	5.1	5.1
360.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	5.9	5.7	5.6	5.6	5.7	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.5	5.7	5.9	6.3	5.8	5.7	5.6
DEGR.	10	10	10	0	10	270	160	320	20	20	40	50	40	170	180	130	340	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	6.0	5.8	5.8	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.8	5.7	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.6	5.5	5.5	5.3	5.3
50.	5.9	6.0	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.5	5.1	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.8	5.6	5.8	5.5	5.5	5.1	5.2	5.7	5.7	5.8	5.8	5.8	5.8	5.1	5.0	5.5	5.6	6.1	6.0	5.8
80.	5.3	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.9	6.0	5.9	5.3	5.1	5.6	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.2	5.9	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.9
100.	5.1	5.2	5.4	5.5	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.8	5.8	5.7	5.7	5.7
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.5	5.3	5.2	5.9	6.0	5.7	5.6	5.5
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.6	5.5
140.	5.1	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.9	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.7	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	5.9	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.6	6.0	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.4	5.3	5.3	5.7	5.8	5.8	5.1	5.1	5.6	5.6	6.0	5.8	5.6	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.2	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.1	5.6	5.8	5.9	5.7	5.7	5.2	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.1	5.7	5.7	5.9	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.7	5.7
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.3	5.7	5.6	5.2	5.3	5.9	5.8	5.8
240.	5.8	5.8	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	6.0	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.5
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.7	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.7	5.6	5.8	5.6	5.8	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.2	5.1	5.8	5.6	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	6.0	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.4	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.7	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.8	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.9	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.8	6.0	6.0	6.1	5.8	5.8	6.2	6.2	6.3	5.9	5.8	6.0	6.0	6.2	6.0	5.9
DEGR.	30	50	340	0	0	330	330	250	60	60	240	240	230	180	200	160	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.30 PPM OCCURRED AT RECEPTOR REC33.

Bus_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27: 6

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756146.5	********	*	69.	312.	AG	155.	100.0	1.0	20.0	0.32	3.5
2. MVP West	*	756216.0	********	752537.7	********	*	5976.	218.	AG	71.	100.0	1.0	10.0	1.88	303.6
3. Boston Ave South	*	756271.8	********	756541.5	********	*	362.	132.	AG	77.	100.0	1.0	10.0	1.01	18.4
4. MVP East	*	756253.6	********	756733.5	********	*	675.	45.	AG	143.	100.0	1.0	20.0	1.05	34.3
5. Winthrop North	*	759327.2	********	759302.9	********	*	858.	358.	AG	169.	100.0	1.0	20.0	1.11	43.6
6. MVP East RT	*	759381.7	********	759526.3	********	*	145.	93.	AG	57.	100.0	1.0	10.0	0.53	7.4
7. MVP East T	*	759381.8	********	764458.8	********	*	5080.	92.	AG	69.	100.0	1.0	10.0	1.69	258.1
8. Winthrop South	*	759345.1	********	759316.5	********	*	1115.	181.	AG	204.	100.0	1.0	20.0	1.37	56.6
9. MVP West	*	759293.5	********	754323.3	********	*	4975.	273.	AG	69.	100.0	1.0	10.0	1.67	252.7
10. South St	*	761297.7	********	761050.9	********	*	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	*	759658.7	********	759585.9	********	*	154.	332.	AG	86.	100.0	1.0	10.0	0.70	7.8
12. Boston Ave. SB R	*	759646.0	********	759616.7	********	*	63.	332.	AG	86.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	*	759636.4	********	759600.5	********	*	79.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759590.5	********	*	125.	207.	AG	86.	100.0	1.0	10.0	0.57	6.4
15. Boston Ave. NB	*	759699.9	********	760339.0	********	*	1342.	152.	AG	100.	100.0	1.0	10.0	1.42	68.2
16. College Ave WB	*	759720.8	********	760569.0	********	*	1462.	35.	AG	98.	100.0	1.0	10.0	1.42	74.3
17. Main St. SB	*	762042.2	********	761464.3	********	*	1881.	342.	AG	81.	100.0	1.0	10.0	1.30	95.6
18. Harvard St. EB	*	762026.6	********	760444.3	********	*	1803.	241.	AG	78.	100.0	1.0	10.0	1.27	91.6
19. Main st. NB	*	762078.3	********	762167.6	********	*	282.	162.	AG	81.	100.0	1.0	10.0	0.97	14.3
20. Harvard St. WB	*	762091.8	********	763123.2	********	*	1080.	73.	AG	78.	100.0	1.0	10.0	1.14	54.9
21. Broadway EB R	*	762959.1	********	762888.1	********	*	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	*	762965.1	********	762299.0	********	*	727.	294.	AG	88.	100.0	1.0	10.0	1.11	36.9
23. Parking Lot	*	763003.3	********	762870.0	********	*	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	*	763093.0	********	764012.4	********	*	1867.	150.	AG	100.	100.0	1.0	10.0	1.62	94.8
25. Broadway St. WB	*	763115.6	********	763628.1	********	*	558.	113.	AG	177.	100.0	1.0	20.0	1.07	28.3
26. Dexter St. SWB	*	763101.5	********	763427.6	********	*	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	*	763008.3	********	762495.6	********	*	1624.	342.	AG	110.	100.0	1.0	10.0	2.17	82.5
28. Highland St. EB	*	763277.6	********	763015.1	********	*	286.	294.	AG	84.	100.0	1.0	10.0	1.01	14.5
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764256.7	********	*	1013.	114.	AG	84.	100.0	1.0	10.0	1.18	51.4
31. Central St. SB	*	763311.4	********	763333.0	********	*	47.	27.	AG	84.	100.0	1.0	10.0	0.38	2.4
32. Medford St. NWB	*	765022.2	********	765710.7	********	*	1121.	142.	AG	56.	100.0	1.0	10.0	1.10	56.9
33. School St. SB	*	765002.3	********	765740.2	********	*	1709.	26.	AG	103.	100.0	1.0	10.0	1.84	86.8
34. Medford St. SEB	*	764967.1	********	764893.9	********	*	118.	322.	AG	56.	100.0	1.0	10.0	0.68	6.0
35. Prospect SB	*	765830.6	********	766004.3	********	*	336.	31.	AG	171.	100.0	1.0	20.0	1.01	17.1
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765251.5	********	*	1302.	206.	AG	273.	100.0	1.0	30.0	1.27	66.1
38. Somerville EB	*	765797.5	********	765680.2	********	*	130.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766698.3	********	*	1388.	350.	AG	215.	100.0	1.0	20.0	1.73	70.5
40. Washington St. EB	*	766952.8	********	757233.0	********	*	*****	249.	AG	98.	100.0	1.0	10.0	4.49	529.6
41. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	31.	172.	AG	91.	100.0	1.0	10.0	0.16	1.6
42. McGrath Hwy NB2 T	*	767119.9	********	767399.9	********	*	2281.	173.	AG	91.	100.0	1.0	10.0	1.51	115.9
43. Washington St. WB	*	767129.9	********	768075.0	********	*	1030.	67.	AG	281.	100.0	1.0	30.0	1.21	52.3
44. Camb. St at First L	*	770442.2	********	770344.4	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	91.	100.0	1.0	10.0	0.72	6.4
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	178.	100.0	1.0	20.0	1.29	74.2
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	75.	100.0	1.0	10.0	1.51	168.4
53. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	196.	100.0	1.0	20.0	1.10	25.7
54. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	98.	100.0	1.0	10.0	0.80	6.2
55. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	98.	100.0	1.0	10.0	0.88	7.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2501.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2327.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	968.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3207.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27: 6

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	336	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1153	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	536	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1288	1600	46.20	1	3
5. Winthrop North	*	135	92	3.0	1000	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	427	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1100	1600	46.20	1	3
8. Winthrop South	*	135	111	3.0	618	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1090	1600	46.20	1	3
10. South St	*	120	90	3.0	667	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	122	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	154	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	244	1600	46.20	1	3
15. Boston Ave. NB	*	135	109	3.0	352	1600	46.20	1	3
16. College Ave WB	*	135	107	3.0	386	1600	46.20	1	3
17. Main St. SB	*	120	78	3.0	642	1600	46.20	1	3
18. Harvard St. EB	*	120	76	3.0	660	1600	46.20	1	3
19. Main st. NB	*	120	78	3.0	477	1600	46.20	1	3
20. Harvard St. WB	*	120	76	3.0	591	1600	46.20	1	3
21. Broadway EB R	*	122	57	3.0	248	1600	46.20	1	3
22. Broadway EB TL	*	122	87	3.0	435	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
24. Medford St. NB	*	122	98	3.0	404	1600	46.20	1	3
25. Broadway St. WB	*	122	87	3.0	839	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	122	108	3.0	256	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	426	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	496	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	159	1600	46.20	1	3
32. Medford St. NWB	*	90	41	3.0	861	1600	46.20	1	3
33. School St. SB	*	90	75	3.0	325	1600	46.20	1	3
34. Medford St. SEB	*	90	41	3.0	528	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	860	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1373	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	782	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	535	1600	46.20	1	3
40. Washington St. EB	*	135	107	3.0	1222	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	46.20	1	3
43. Washington St. WB	*	135	102	3.0	1208	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	206	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	258	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	997	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	944	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27: 6

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	844	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	586	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	212	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	233	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27: 6

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.5	5.3	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.2	5.7	5.8	5.8	5.6	5.8	5.3	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.7	5.7	5.5	5.7	5.4	5.5	5.5	5.7	5.6	5.1	5.1	5.1	5.4	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.5	5.8	5.7	5.6	5.7	5.3	5.5	5.5	5.7	5.6	5.0	5.1	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.3	5.3	5.5	5.6	5.7	5.6	5.7	5.3	5.4	5.6	5.6	5.6	5.0	5.1	5.3	5.4	5.4
50.	5.7	6.1	5.6	5.3	5.4	5.4	5.4	5.6	5.6	5.7	5.3	5.4	5.6	5.6	5.6	5.0	5.0	5.2	5.3	5.3
60.	5.8	6.0	5.6	5.5	5.5	5.3	5.4	5.6	5.6	5.7	5.3	5.4	5.6	5.6	5.6	5.0	5.0	5.1	5.1	5.1
70.	5.7	6.1	5.8	5.5	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.0	5.6	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	5.9	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.8	5.8	5.3	5.5	5.9	5.9	5.9	5.2	5.2	5.1	5.0	5.0
100.	6.0	6.3	6.1	5.8	5.6	5.4	5.6	6.1	5.9	5.7	5.3	5.5	6.0	6.0	5.9	5.4	5.4	5.4	5.0	5.0
110.	5.9	6.2	5.9	5.6	5.5	5.3	5.4	6.2	5.8	5.6	5.1	5.3	5.9	5.8	5.8	5.9	5.9	5.8	5.2	5.0
120.	5.7	5.8	5.8	5.5	5.4	5.2	5.3	5.9	5.6	5.5	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.4	5.1
130.	5.4	5.6	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.4	5.2
140.	5.3	5.3	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.3	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.2	6.2	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.4	5.4	5.4	5.9	5.7	5.6	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.1	6.0	5.6	5.6	5.4
180.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.0	5.2	5.2	5.1	5.0	5.0	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.4	5.4	5.3
210.	5.0	5.0	5.2	5.1	5.1	5.1	5.1	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.3	5.3
220.	5.0	5.0	5.1	5.1	5.0	5.2	5.3	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	5.9	5.6	5.3	5.2
230.	5.0	5.0	5.0	5.0	5.0	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.6	5.4	5.5
240.	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.3	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.5
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.0	5.5	5.5	5.3	5.3	5.2	6.1	5.9	5.5	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.0	5.5	5.6	5.4	5.4	5.3	6.2	5.8	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.5	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.1	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.8	5.8	5.9	5.6
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.4	5.7	5.5	5.2	5.8	5.9	5.9	5.8	5.7	6.0	5.8	5.8	5.7	5.5
300.	5.9	6.2	6.1	5.3	5.1	5.4	5.6	6.0	5.6	5.5	6.0	6.0	6.1	5.9	5.8	5.5	5.4	5.6	5.6	5.4
310.	5.9	6.3	6.1	5.4	5.3	5.6	5.7	5.9	5.6	5.5	6.0	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.8	6.1	5.9	5.4	5.3	5.6	5.7	5.8	5.6	5.5	5.8	5.9	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.6	5.9	5.8	5.7	5.8	5.7	5.8	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.6	6.0	5.7	5.4	5.3	5.6	5.8	6.0	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.0	5.7	5.6	5.3	5.6	5.8	6.0	5.8	5.7	5.2	5.4	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.5	5.3	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.0	6.3	6.1	5.8	5.6	5.7	5.8	6.2	5.9	5.8	6.0	6.0	6.1	6.0	5.9	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	100	100	0	0	110	100	10	300	300	300	100	90	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.7	6.1	5.9	6.1	5.8	5.9	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.3	5.2	5.2	5.2	6.1	6.0	5.6	6.0	5.9	6.2	6.0	5.9	5.7
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.2	6.0	5.9	6.0
40.	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.9	5.9
50.	5.3	5.3	5.3	5.1	5.0	5.4	5.5	5.2	5.2	5.2	5.4	6.1	5.9	5.6	5.9	6.1	6.5	6.0	5.9	5.8
60.	5.4	5.4	5.3	5.1	5.0	5.4	5.6	5.3	5.3	5.2	5.6	6.1	5.9	5.6	5.9	6.1	6.8	5.9	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.8	5.9	5.8
80.	5.4	5.3	5.1	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.6	5.7	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.6	5.1	5.3	5.4	6.1	6.2	6.0	5.6	6.0	6.5	6.5	5.6	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.7	5.7	5.5	5.5	5.5	6.2	6.3	6.1	5.5	6.1	6.3	6.4	5.6	5.8	5.7
110.	5.3	5.4	5.5	5.3	5.1	5.8	5.9	6.0	5.8	5.7	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.4	5.5	5.8	5.5	5.3	5.9	6.0	6.2	6.0	5.9	6.2	6.3	6.1	5.4	6.1	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.3	6.1	6.0	6.1	5.9	6.1	5.8	6.0	5.7	5.2	5.7	5.3	5.4	5.2	5.6	5.6
140.	5.5	5.7	5.8	5.5	5.2	6.1	6.1	6.1	5.9	5.8	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.1	6.0	6.1	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.4	5.5	5.6	5.6
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.8	5.7	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.7	5.6	5.6	5.0	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.6	5.5	5.5	5.4	5.5	5.4	5.6	5.7	5.5	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.4	5.4	5.5	5.6	5.2	5.3	5.5	5.7	5.5	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.6	5.6
200.	5.6	5.3	5.6	5.6	5.5	5.3	5.4	5.5	5.6	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.4	5.4	5.6	5.6	5.6	5.3	5.3	5.5	5.6	5.5	6.0	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.3	5.5	5.4	5.6	5.3	5.3	5.5	5.5	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.2	5.3	5.5	5.6	5.6	5.3	5.3	5.4	5.5	5.5	6.0	5.2	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.3	5.6	5.5	5.5	6.0	5.2	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.1	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.2	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.6	5.6	5.3	5.4	5.6	5.6	5.7	5.7	5.6	5.2	5.2	5.2	5.1	5.3	5.2	5.0	5.0
270.	5.4	5.5	5.7	5.7	5.6	5.3	5.4	5.8	5.8	5.8	5.5	5.7	5.4	5.5	5.4	5.2	5.6	5.5	5.0	5.0
280.	5.3	5.5	5.7	5.7	5.5	5.2	5.4	5.9	5.9	6.0	5.6	5.7	5.6	5.5	5.6	5.5	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.6	5.5	5.1	5.2	5.8	5.8	5.8	5.7	5.7	5.6	5.5	5.6	5.6	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.1	5.7	5.7	5.7	5.5	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.2	5.9	5.9	5.9	5.7	6.3	5.7	5.3	5.2
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.1	6.0	6.0	5.9	6.0	5.6	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.5	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.6	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.8	5.8	5.7	5.3	5.2	5.6	5.9	6.2	5.4	6.2	5.7	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2	5.5	6.0	6.3	5.4	6.3	5.8	6.1	5.5	5.4	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.1	6.1	6.2	6.0	6.1	6.3	6.4	6.3	5.9	6.3	6.6	6.8	6.1	6.0	6.0
DEGR.	160	150	120	270	170	150	140	120	120	130	110	110	350	310	350	70	60	40	80	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.8	5.8	5.8	5.7	5.8	5.8	5.7	5.6	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.8	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.8	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.5	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.6	5.6	5.5	5.9	6.0	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.5	5.7	5.7	5.7	5.6	6.0	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.6	5.6	6.0	5.9	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.1	5.2	5.4	5.9	5.6	5.5	5.6	5.2	5.3	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.1	5.1	5.1	5.6	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.7
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.1	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.2
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.2	5.1	5.3	5.7	6.2	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.4	5.3	5.3	5.4	5.9	6.2	6.0
170.	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.9	6.2	5.9
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.4	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.4	5.3	5.2	5.4	5.9	6.1	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.7	5.7	6.0	5.4	5.2	5.3	5.6	6.1	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.3	5.5	5.4	5.5	5.6	6.2	6.3	5.8
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.0	5.0	5.0	5.5	5.9	6.4	5.8	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.7	5.7	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.7	5.5	5.4	5.6	6.0	6.3	5.5
240.	5.7	5.7	5.5	5.3	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.6	5.4	5.4	5.6	5.9	6.4	5.5
250.	5.6	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.7	5.4	5.5	5.6	6.1	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.5	5.7	5.6	5.3	5.6	6.2	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.9
280.	5.6	5.6	5.5	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.6	5.6	5.4	5.3	5.4	6.1	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.4	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.8	6.0
300.	5.7	5.7	5.7	5.6	5.7	5.7	5.6	5.7	5.7	5.7	6.2	6.5	6.3	5.3	5.2	5.2	5.3	5.7	5.7	5.8
310.	5.9	5.9	5.4	5.9	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.0	6.1	5.7	5.6	5.9	6.3	6.4	6.4	5.5	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.3	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.0	5.7	5.7	5.7	6.0	6.0	6.0	6.1	5.0	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.9	6.0	5.7	6.0	6.1	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.3	6.4	6.4	6.4	6.5	6.6	5.8	5.6	5.5	5.7	6.2	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	300	280	220	260	210	220	210	240	140

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

Bus_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27:43

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761050.9	********	*	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	*	759658.7	********	759585.9	********	*	154.	332.	AG	86.	100.0	1.0	10.0	0.70	7.8
3. Boston Ave. SB R	*	759646.0	********	759616.7	********	*	63.	332.	AG	86.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	*	759636.4	********	759600.5	********	*	79.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	*	759648.1	********	759590.5	********	*	125.	207.	AG	86.	100.0	1.0	10.0	0.57	6.4
6. Boston Ave. NB	*	759699.9	********	760339.0	********	*	1342.	152.	AG	100.	100.0	1.0	10.0	1.42	68.2
7. College Ave WB	*	759720.8	********	760569.0	********	*	1462.	35.	AG	98.	100.0	1.0	10.0	1.42	74.3
8. Main St. SB	*	762042.2	********	761464.3	********	*	1881.	342.	AG	81.	100.0	1.0	10.0	1.30	95.6
9. Harvard St. EB	*	762026.6	********	760444.3	********	*	1803.	241.	AG	78.	100.0	1.0	10.0	1.27	91.6
10. Main st. NB	*	762078.3	********	762167.6	********	*	282.	162.	AG	81.	100.0	1.0	10.0	0.97	14.3
11. Harvard St. WB	*	762091.8	********	763123.2	********	*	1080.	73.	AG	78.	100.0	1.0	10.0	1.14	54.9
12. Broadway EB R	*	762959.1	********	762888.1	********	*	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	*	762965.1	********	762299.0	********	*	727.	294.	AG	88.	100.0	1.0	10.0	1.11	36.9
14. Parking Lot	*	763003.3	********	762870.0	********	*	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	*	763093.0	********	764012.4	********	*	1867.	150.	AG	100.	100.0	1.0	10.0	1.62	94.8
16. Broadway St. WB	*	763115.6	********	763628.1	********	*	558.	113.	AG	177.	100.0	1.0	20.0	1.07	28.3
17. Dexter St. SWB	*	763101.5	********	763427.6	********	*	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	*	763008.3	********	762495.6	********	*	1624.	342.	AG	110.	100.0	1.0	10.0	2.17	82.5
19. Highland St. EB	*	763277.6	********	763015.1	********	*	286.	294.	AG	84.	100.0	1.0	10.0	1.01	14.5
20. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	*	763328.5	********	764256.7	********	*	1013.	114.	AG	84.	100.0	1.0	10.0	1.18	51.4
22. Central St. SB	*	763311.4	********	763333.0	********	*	47.	27.	AG	84.	100.0	1.0	10.0	0.38	2.4
23. Medford St. NWB	*	765022.2	********	765710.7	********	*	1121.	142.	AG	56.	100.0	1.0	10.0	1.10	56.9
24. School St. SB	*	765002.3	********	765740.2	********	*	1709.	26.	AG	103.	100.0	1.0	10.0	1.84	86.8
25. Medford St. SEB	*	764967.1	********	764893.9	********	*	118.	322.	AG	56.	100.0	1.0	10.0	0.68	6.0
26. Prospect SB	*	765830.6	********	766004.3	********	*	336.	31.	AG	171.	100.0	1.0	20.0	1.01	17.1
27. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	*	765828.4	********	765251.5	********	*	1302.	206.	AG	273.	100.0	1.0	30.0	1.27	66.1
29. Somerville EB	*	765797.5	********	765680.2	********	*	130.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	*	766950.5	********	766698.3	********	*	1388.	350.	AG	215.	100.0	1.0	20.0	1.73	70.5
31. Washington St. EB	*	766952.8	********	757233.0	********	*	*****	249.	AG	98.	100.0	1.0	10.0	4.49	529.6
32. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	31.	172.	AG	91.	100.0	1.0	10.0	0.16	1.6
33. McGrath Hwy NB2 T	*	767119.9	********	767399.9	********	*	2281.	173.	AG	91.	100.0	1.0	10.0	1.51	115.9
34. Washington St. WB	*	767129.9	********	768075.0	********	*	1030.	67.	AG	281.	100.0	1.0	30.0	1.21	52.3
35. Msgr Obrien EB	*	769756.4	********	767221.9	********	*	3078.	305.	AG	147.	100.0	1.0	20.0	1.45	156.4
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.3	********	*	19.	189.	AG	106.	100.0	1.0	10.0	0.21	1.0
38. Msgr Obrien WB	*	769858.1	********	771361.0	********	*	1827.	125.	AG	147.	100.0	1.0	20.0	1.24	92.8
39. Msgr Obrien L	*	771462.2	********	767719.6	********	*	4544.	305.	AG	107.	100.0	1.0	10.0	3.79	230.8
40. Msgr Obrien WB T	*	771449.0	********	771329.4	********	*	145.	304.	AG	245.	100.0	1.0	30.0	0.70	7.4
41. Charlestown NB L	*	771477.7	********	770223.3	********	*	1977.	219.	AG	98.	100.0	1.0	10.0	1.62	100.4
42. Charlestown NB T	*	771490.8	********	768999.9	********	*	3938.	219.	AG	196.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	*	771500.8	********	770662.9	********	*	1336.	219.	AG	81.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	*	771572.2	********	774298.4	********	*	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27:43

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771753.2	********	208.	124.	AG	171.	100.0	1.0	20.0	0.89	10.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772093.8	********	1061.	31.	AG	101.	100.0	1.0	10.0	1.36	53.9
48. Charlestown SB TR	771535.3	********	774813.3	********	6102.	32.	AG	101.	100.0	1.0	10.0	3.44	310.0
49. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	91.	100.0	1.0	10.0	0.72	6.4
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	178.	100.0	1.0	20.0	1.29	74.2
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	75.	100.0	1.0	10.0	1.51	168.4
58. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	196.	100.0	1.0	20.0	1.10	25.7
59. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	98.	100.0	1.0	10.0	0.80	6.2
60. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	98.	100.0	1.0	10.0	0.88	7.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27:43

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1291.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	4028.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2807.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3337.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3504.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3475.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3294.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27:43

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	667	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	122	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	154	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	244	1600	46.20	1	3
6. Boston Ave. NB	*	135	109	3.0	352	1600	46.20	1	3
7. College Ave WB	*	135	107	3.0	386	1600	46.20	1	3
8. Main St. SB	*	120	78	3.0	642	1600	46.20	1	3
9. Harvard St. EB	*	120	76	3.0	660	1600	46.20	1	3
10. Main st. NB	*	120	78	3.0	477	1600	46.20	1	3
11. Harvard St. WB	*	120	76	3.0	591	1600	46.20	1	3
12. Broadway EB R	*	122	57	3.0	248	1600	46.20	1	3
13. Broadway EB TL	*	122	87	3.0	435	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
15. Medford St. NB	*	122	98	3.0	404	1600	46.20	1	3
16. Broadway St. WB	*	122	87	3.0	839	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	122	108	3.0	256	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	426	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	496	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	159	1600	46.20	1	3
23. Medford St. NWB	*	90	41	3.0	861	1600	46.20	1	3
24. School St. SB	*	90	75	3.0	325	1600	46.20	1	3
25. Medford St. SEB	*	90	41	3.0	528	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	860	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1373	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	782	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	535	1600	46.20	1	3
31. Washington St. EB	*	135	107	3.0	1222	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	46.20	1	3
34. Washington St. WB	*	135	102	3.0	1208	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1697	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	34	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1457	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	553	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	1005	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	431	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1231	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	763	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	307	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	778	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	206	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	258	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27:43

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	997	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	944	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	844	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	586	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	212	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	233	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:27:43

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.5	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.5	5.5	5.4	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.3	5.0	5.0	5.6	5.6	5.6	5.4	5.4
30.	5.5	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.5
50.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.6
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.7	5.7	5.6	5.6	5.6
90.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.9	5.6	5.6	5.6
100.	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.5	5.4	5.2	6.0	5.9	5.9	5.5	5.5
110.	5.1	5.2	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.7	5.6	5.4	5.9	5.8	6.0	5.5	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.3	5.3	5.8	5.7	5.7	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.7	5.6	5.7	5.2	5.2	5.4	5.4	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.4
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.6	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.5	5.4	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.5	5.7	5.8	5.5	5.5	5.2	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.6	5.4	5.4	5.5	5.6	5.8	5.5	5.3	5.0	5.2	5.5	5.5	5.6
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.8	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.7	5.7	5.7	5.2	5.1	5.5	5.6	5.6	5.5	5.4	5.2	5.4	5.6	5.3	5.3	5.0	5.0	5.2	5.2	5.2
230.	5.5	5.6	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.8	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.8	5.7	5.6	5.5	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.3	5.6	5.7	5.5	5.3	5.2	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.7	5.8	5.6	5.2	5.2	5.1	5.1	5.7	5.6	5.5	5.3	5.3	5.3	5.0	5.0
290.	5.4	5.5	6.0	5.7	5.5	5.6	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.5	5.5	5.6	5.6	5.7	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.7	5.3	5.4	5.5	5.1	5.1	5.0	5.0	5.4	5.3	5.3	5.8	5.9	5.9	5.1	5.1
310.	5.5	5.6	5.8	5.6	5.7	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.9	5.8	5.8	5.2	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1
330.	5.6	5.6	5.6	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
350.	5.7	5.7	5.5	5.6	5.6	5.1	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.8	5.8	5.7	5.5	5.4	5.5	5.7	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	290	100	100	250	280	120	220	200	190	190	120	130	120	100	90	110	70	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.7	5.8	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.0	5.0	5.4	5.5	5.4	5.1	5.1
10.	5.4	5.5	5.9	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.3	5.0	5.0	5.3	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.6	5.6	5.6	5.1	5.0	5.3	5.6	5.7	5.5	5.4
30.	5.4	5.4	5.6	5.5	5.4	5.0	5.1	5.3	5.3	5.4	5.8	5.8	5.8	5.2	5.1	5.4	5.6	5.8	5.6	5.5
40.	5.1	5.3	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.9	5.8	5.8	5.3	5.1	5.4	5.7	5.7	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.5	5.7	5.6	5.4	5.3
60.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.5	5.3	5.3
70.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.4	5.7	5.5	5.4	5.3
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.5	5.2	5.1	5.4	5.7	5.5	5.3	5.3
90.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.5	5.7	5.5	5.4	5.2
100.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.5	5.7	5.5	5.4	5.2
110.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.6	5.7	5.6	5.4	5.2
120.	5.1	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.7	5.6	5.7	5.4	5.2
130.	5.1	5.3	5.9	5.8	5.8	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.5	5.4	5.9	5.9	5.8	5.4	5.2
140.	5.1	5.1	5.8	5.8	5.8	5.6	5.6	5.6	5.1	5.0	5.4	5.5	5.8	5.8	5.6	5.8	5.7	5.7	5.2	5.2
150.	5.0	5.1	5.6	5.6	5.6	5.8	5.8	5.8	5.3	5.1	5.5	5.7	5.9	5.8	5.8	5.5	5.6	5.7	5.2	5.1
160.	5.0	5.0	5.2	5.2	5.2	5.8	5.8	5.7	5.3	5.2	5.8	5.9	5.8	5.6	5.6	5.3	5.2	5.3	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.1	5.7	5.9	5.7	5.7	5.5	5.0	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.8	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.0	5.1	5.2	5.0	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	5.8	5.8	5.7	5.5	5.3	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4	5.7	5.5	5.6	5.4	5.3	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.5	5.5	5.5	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.4	5.4	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.4	5.4	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.4	5.4	5.1	5.1	5.4	5.5	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.7	5.7	5.6	5.5	5.4	5.1	5.2	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.3	5.4	5.3	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.5	5.5	5.2	5.2	5.2	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.6	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.4	5.4	5.1	5.0
330.	5.2	5.2	5.8	5.6	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.5	5.7	5.5	5.1	5.1
340.	5.2	5.3	5.9	5.7	5.7	5.2	5.4	5.4	5.3	5.4	5.0	5.0	5.2	5.2	5.1	5.5	5.7	5.6	5.2	5.1
350.	5.3	5.3	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.4	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.7	5.8	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.0	5.0	5.4	5.5	5.4	5.1	5.1
MAX	5.5	5.6	5.9	5.9	5.8	5.8	5.8	5.8	5.5	5.5	5.9	5.9	5.9	5.8	5.8	5.9	5.9	5.8	5.6	5.5
DEGR.	20	20	10	350	0	150	150	150	10	10	40	160	150	140	150	130	130	30	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC16.

Bus_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:28:21

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761050.9	********	*	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	*	759658.7	********	759585.9	********	*	154.	332.	AG	86.	100.0	1.0	10.0	0.70	7.8
3. Boston Ave. SB R	*	759646.0	********	759616.7	********	*	63.	332.	AG	86.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	*	759636.4	********	759600.5	********	*	79.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	*	759648.1	********	759590.5	********	*	125.	207.	AG	86.	100.0	1.0	10.0	0.57	6.4
6. Boston Ave. NB	*	759699.9	********	760339.0	********	*	1342.	152.	AG	100.	100.0	1.0	10.0	1.42	68.2
7. College Ave WB	*	759720.8	********	760569.0	********	*	1462.	35.	AG	98.	100.0	1.0	10.0	1.42	74.3
8. Main St. SB	*	762042.2	********	761464.3	********	*	1881.	342.	AG	81.	100.0	1.0	10.0	1.30	95.6
9. Harvard St. EB	*	762026.6	********	760444.3	********	*	1803.	241.	AG	78.	100.0	1.0	10.0	1.27	91.6
10. Main st. NB	*	762078.3	********	762167.6	********	*	282.	162.	AG	81.	100.0	1.0	10.0	0.97	14.3
11. Harvard St. WB	*	762091.8	********	763123.2	********	*	1080.	73.	AG	78.	100.0	1.0	10.0	1.14	54.9
12. Broadway EB R	*	762959.1	********	762888.1	********	*	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	*	762965.1	********	762299.0	********	*	727.	294.	AG	88.	100.0	1.0	10.0	1.11	36.9
14. Parking Lot	*	763003.3	********	762870.0	********	*	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	*	763093.0	********	764012.4	********	*	1867.	150.	AG	100.	100.0	1.0	10.0	1.62	94.8
16. Broadway St. WB	*	763115.6	********	763628.1	********	*	558.	113.	AG	177.	100.0	1.0	20.0	1.07	28.3
17. Dexter St. SWB	*	763101.5	********	763427.6	********	*	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	*	763008.3	********	762495.6	********	*	1624.	342.	AG	110.	100.0	1.0	10.0	2.17	82.5
19. Highland St. EB	*	763277.6	********	763015.1	********	*	286.	294.	AG	84.	100.0	1.0	10.0	1.01	14.5
20. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	*	763328.5	********	764256.7	********	*	1013.	114.	AG	84.	100.0	1.0	10.0	1.18	51.4
22. Central St. SB	*	763311.4	********	763333.0	********	*	47.	27.	AG	84.	100.0	1.0	10.0	0.38	2.4
23. Medford St. NWB	*	765022.2	********	765710.7	********	*	1121.	142.	AG	56.	100.0	1.0	10.0	1.10	56.9
24. School St. SB	*	765002.3	********	765740.2	********	*	1709.	26.	AG	103.	100.0	1.0	10.0	1.84	86.8
25. Medford St. SEB	*	764967.1	********	764893.9	********	*	118.	322.	AG	56.	100.0	1.0	10.0	0.68	6.0
26. Prospect SB	*	765830.6	********	766004.3	********	*	336.	31.	AG	171.	100.0	1.0	20.0	1.01	17.1
27. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	*	765828.4	********	765251.5	********	*	1302.	206.	AG	273.	100.0	1.0	30.0	1.27	66.1
29. Somerville EB	*	765797.5	********	765680.2	********	*	130.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	*	766950.5	********	766698.3	********	*	1388.	350.	AG	215.	100.0	1.0	20.0	1.73	70.5
31. Washington St. EB	*	766952.8	********	757233.0	********	*	*****	249.	AG	98.	100.0	1.0	10.0	4.49	529.6
32. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	31.	172.	AG	91.	100.0	1.0	10.0	0.16	1.6
33. McGrath Hwy NB2 T	*	767119.9	********	767399.9	********	*	2281.	173.	AG	91.	100.0	1.0	10.0	1.51	115.9
34. Washington St. WB	*	767129.9	********	768075.0	********	*	1030.	67.	AG	281.	100.0	1.0	30.0	1.21	52.3
35. Msgr Obrien EB	*	769756.4	********	767221.9	********	*	3078.	305.	AG	147.	100.0	1.0	20.0	1.45	156.4
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.3	********	*	19.	189.	AG	106.	100.0	1.0	10.0	0.21	1.0
38. Msgr Obrien WB	*	769858.1	********	771361.0	********	*	1827.	125.	AG	147.	100.0	1.0	20.0	1.24	92.8
39. Msgr Obrien L	*	771462.2	********	767719.6	********	*	4544.	305.	AG	107.	100.0	1.0	10.0	3.79	230.8
40. Msgr Obrien WB T	*	771449.0	********	771329.4	********	*	145.	304.	AG	245.	100.0	1.0	30.0	0.70	7.4
41. Charlestown NB L	*	771477.7	********	770223.3	********	*	1977.	219.	AG	98.	100.0	1.0	10.0	1.62	100.4
42. Charlestown NB T	*	771490.8	********	768999.9	********	*	3938.	219.	AG	196.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	*	771500.8	********	770662.9	********	*	1336.	219.	AG	81.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	*	771572.2	********	774298.4	********	*	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:28:21

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771753.2	********	208.	124.	AG	171.	100.0	1.0	20.0	0.89	10.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772093.8	********	1061.	31.	AG	101.	100.0	1.0	10.0	1.36	53.9
48. Charlestown SB TR	771535.3	********	774813.3	********	6102.	32.	AG	101.	100.0	1.0	10.0	3.44	310.0
49. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	91.	100.0	1.0	10.0	0.72	6.4
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	178.	100.0	1.0	20.0	1.29	74.2
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	75.	100.0	1.0	10.0	1.51	168.4
58. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	196.	100.0	1.0	20.0	1.10	25.7
59. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	98.	100.0	1.0	10.0	0.80	6.2
60. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	98.	100.0	1.0	10.0	0.88	7.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1291.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	4028.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2807.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3337.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3504.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3475.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3294.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:28:21

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	667	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	122	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	154	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	244	1600	46.20	1	3
6. Boston Ave. NB	*	135	109	3.0	352	1600	46.20	1	3
7. College Ave WB	*	135	107	3.0	386	1600	46.20	1	3
8. Main St. SB	*	120	78	3.0	642	1600	46.20	1	3
9. Harvard St. EB	*	120	76	3.0	660	1600	46.20	1	3
10. Main st. NB	*	120	78	3.0	477	1600	46.20	1	3
11. Harvard St. WB	*	120	76	3.0	591	1600	46.20	1	3
12. Broadway EB R	*	122	57	3.0	248	1600	46.20	1	3
13. Broadway EB TL	*	122	87	3.0	435	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
15. Medford St. NB	*	122	98	3.0	404	1600	46.20	1	3
16. Broadway St. WB	*	122	87	3.0	839	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	122	108	3.0	256	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	426	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	496	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	159	1600	46.20	1	3
23. Medford St. NWB	*	90	41	3.0	861	1600	46.20	1	3
24. School St. SB	*	90	75	3.0	325	1600	46.20	1	3
25. Medford St. SEB	*	90	41	3.0	528	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	860	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1373	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	782	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	535	1600	46.20	1	3
31. Washington St. EB	*	135	107	3.0	1222	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	46.20	1	3
34. Washington St. WB	*	135	102	3.0	1208	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1697	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	34	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1457	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	553	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	1005	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	431	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1231	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	763	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	307	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	778	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	206	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	258	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:28:21

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	997	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	944	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	844	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	586	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	212	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	233	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:28:21

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	6.0	5.9	5.5	5.6	7.0	7.0	6.1	6.2	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.6	6.0	6.2	5.7	5.6	6.9	7.0	6.2	6.0	5.8	5.4	5.4	6.1	6.0	5.7	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.3	6.1	6.1	6.8	6.9	6.3	6.1	5.8	5.4	5.2	6.1	5.9	5.7	5.3	5.4	5.4	5.0	5.0
30.	5.7	6.1	6.7	6.2	6.5	6.3	6.3	6.1	6.1	5.8	5.5	5.2	5.9	5.7	5.6	5.6	5.8	6.0	5.0	5.0
40.	5.7	6.4	6.7	6.5	7.0	5.9	6.1	6.0	6.1	5.9	5.5	5.3	5.6	5.6	5.6	5.8	6.2	6.3	5.1	5.0
50.	5.8	6.5	6.4	6.5	7.0	5.6	5.9	5.7	6.2	5.9	5.6	5.2	5.3	5.5	5.7	6.1	6.5	6.5	5.3	5.0
60.	6.2	6.6	6.3	6.8	6.9	5.8	6.0	6.1	6.4	6.1	5.7	5.6	5.3	5.5	5.7	6.1	6.6	6.6	5.5	5.1
70.	6.8	7.2	6.6	7.1	7.0	5.5	6.1	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.4	7.0	6.8	6.0	5.6
80.	6.9	6.9	6.5	6.8	6.5	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.6	6.4	6.7	6.8	6.5	6.0	5.6
90.	6.9	7.0	6.5	6.7	6.3	5.3	5.4	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.2	6.9	6.6	6.3	5.9	5.7
100.	7.0	7.0	6.7	6.6	6.2	5.2	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.0	6.8	6.2	6.4	5.9	5.8
110.	7.1	6.7	6.8	6.5	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.7	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.7	6.5	6.1	5.1	5.3	5.9	5.7	5.7	6.5	6.7	6.6	5.6	5.8	6.9	6.6	7.3	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.4	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.6
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.7	6.4	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.4	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.4	6.2	5.5	5.6	6.8	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.5	6.8	6.5	6.4	6.5	6.2
170.	5.6	5.8	6.4	6.5	6.3	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.6	6.9	6.5	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.4	5.2	5.2	5.3	5.0	5.0	5.8	6.1	5.9	5.5	5.7	6.9	6.7	6.7	6.5	6.1
190.	5.6	5.7	6.8	6.9	6.6	5.5	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.7	7.2	7.0	6.9	6.5	6.2
200.	5.4	5.5	6.7	6.8	6.5	6.0	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.2	7.1	7.1	6.3	6.0
210.	5.2	5.3	6.2	6.2	6.0	6.7	6.7	6.9	5.4	5.1	5.9	6.4	6.9	6.5	6.4	6.9	6.8	6.6	6.0	5.8
220.	5.2	5.1	5.5	5.6	5.4	7.0	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.5	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.1	6.7	6.8	6.9	5.7	5.4	6.2	6.7	6.5	6.3	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.1	5.2	5.3	5.2	6.7	6.9	6.8	5.8	5.5	6.4	6.8	6.3	6.3	6.5	5.6	5.6	5.9	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	6.8	6.5	6.0	5.5	6.7	6.8	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.8
260.	5.1	5.1	5.1	5.1	5.4	6.5	6.8	6.4	6.0	5.5	6.7	6.6	6.1	6.2	6.4	5.2	5.4	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.5	6.1	5.8	5.4	6.9	6.6	6.3	6.2	6.4	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.5	6.4	6.0	5.6	6.8	6.7	6.4	6.1	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.6	5.8	5.9	5.1	5.2	6.2	6.5	6.6	6.3	5.8	6.6	6.5	6.7	6.0	6.2	5.1	5.2	6.0	5.9	5.9
300.	6.0	6.2	6.3	5.2	5.3	6.3	6.6	6.9	6.3	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.5	5.3	5.3	6.4	6.7	6.8	6.2	6.0	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.5	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.4	5.9	5.7	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	6.9	6.2	6.1	6.0	5.5	5.4	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.7	7.0	6.2	6.2	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.4	5.5	6.8	7.0	6.3	6.1	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.0
360.	5.6	6.0	5.9	5.5	5.6	7.0	7.0	6.1	6.2	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.1	7.2	6.8	7.1	7.0	7.0	7.0	7.1	6.4	6.1	6.9	6.8	6.9	6.6	6.6	7.2	7.1	7.3	6.6	6.6
DEGR.	110	70	110	70	40	0	0	220	60	300	270	240	210	220	250	190	200	120	130	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.3	6.3	6.2	5.4	5.2	5.9	6.2	6.3	5.9	5.6	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.2	6.2	6.0	5.5	5.3	6.0	6.2	6.1	5.6	5.5	5.5	5.5	5.6	6.2	6.2	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.3	6.1	6.2	6.0	5.5	5.6	5.5	5.5	5.7	6.3	6.3	5.0	5.0	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.4	5.3	6.1	6.2	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.4	5.1	5.1	5.1	5.0	5.0
40.	6.0	5.9	5.6	5.5	5.3	6.4	6.2	6.1	5.7	5.7	5.4	5.6	5.7	6.6	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.8	5.8	5.7	5.7	5.4	6.6	6.5	6.1	5.7	5.6	5.4	5.5	5.8	6.8	6.8	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	5.9	5.7	6.4	6.4	6.1	5.6	5.5	5.2	5.4	5.6	6.8	6.8	6.1	6.1	6.1	5.2	5.0
70.	6.2	6.6	6.1	5.8	5.7	6.2	6.3	5.8	5.4	5.3	5.0	5.2	5.2	6.2	6.3	6.8	6.8	6.9	5.5	5.2
80.	6.4	6.6	5.7	5.7	5.7	5.7	5.6	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.1	7.1	7.2	5.7	5.4
90.	6.4	6.3	5.3	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.2	6.9	6.9	6.9	5.7	5.5
100.	6.3	6.1	5.2	5.7	5.7	5.3	5.4	5.2	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.7	6.7	6.7	5.7	5.5
110.	6.1	5.9	5.2	5.8	5.7	5.2	5.3	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.5	6.5	6.5	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.4	6.4	5.7	5.5
130.	6.1	5.9	5.5	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.1	6.0	5.7	6.0	5.8	5.4	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.1	5.7	5.5
150.	6.1	6.0	5.9	5.9	5.7	5.3	5.4	5.5	5.5	5.5	5.3	5.3	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.8	5.8	5.8	5.6	5.1	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.3	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.5	5.5	5.1	5.0	5.3	5.3	5.3	5.8	5.8	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.5	5.5	5.1	5.1	5.1	5.1	5.2	5.9	5.9	5.4	5.3	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.1	5.1	5.1	5.9	5.9	5.5	5.3	5.2	6.5	6.6	6.0	5.7	5.6
200.	5.3	5.3	5.5	5.6	5.7	5.2	5.1	5.1	5.0	5.0	5.9	5.8	5.4	5.4	5.3	6.7	6.5	5.9	5.5	5.6
210.	5.3	5.4	5.6	5.9	5.9	5.2	5.2	5.1	5.0	5.0	5.7	5.7	5.3	5.3	5.3	6.8	6.6	6.0	5.5	5.5
220.	5.4	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.2	5.4	5.2	6.9	6.6	6.1	5.7	5.7
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.1	5.1	5.6	5.7	5.4	5.8	5.4	7.0	6.7	6.1	5.8	5.8
240.	5.4	5.4	5.8	6.0	6.1	6.1	6.1	5.7	5.2	5.2	5.7	6.0	5.7	5.8	6.0	6.8	6.5	6.1	5.8	5.6
250.	5.2	5.2	5.4	5.7	5.7	6.4	6.4	6.3	5.4	5.3	5.9	6.0	5.7	5.9	6.2	6.1	5.9	5.9	5.6	5.5
260.	5.0	5.0	5.2	5.5	5.5	6.6	6.6	6.3	5.4	5.3	5.9	6.1	5.6	6.0	6.4	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.0	6.4	6.3	6.0	5.5	5.4	5.8	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	5.9	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	5.9	5.8	5.8	5.4	5.3	5.8	5.5	5.4	6.0	6.5	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.4	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.8	5.6	5.6	6.2	6.3	5.2	5.3	5.5	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.8	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.7
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.2	5.5	5.6	5.7
340.	5.5	5.5	5.6	5.1	5.0	5.7	5.8	6.1	5.8	5.5	6.2	6.1	5.7	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	6.0	5.9	5.9	5.2	5.1	5.8	5.9	6.2	5.8	5.8	5.9	5.9	5.7	6.1	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.3	6.3	6.2	5.4	5.2	5.9	6.2	6.3	5.9	5.6	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.4	6.6	6.2	6.1	6.1	6.6	6.6	6.3	5.9	5.8	6.2	6.1	5.9	6.8	6.8	7.1	7.1	7.2	5.8	5.8
DEGR.	80	70	0	230	230	50	260	0	0	350	330	260	330	50	50	80	80	80	170	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC18.

Bus_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:28:51

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	186.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	86.	100.0	1.0	10.0	0.70	7.8
3. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	86.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	86.	100.0	1.0	10.0	0.57	6.4
6. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	100.	100.0	1.0	10.0	1.42	68.2
7. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	98.	100.0	1.0	10.0	1.42	74.3
8. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	81.	100.0	1.0	10.0	1.30	95.6
9. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	78.	100.0	1.0	10.0	1.27	91.6
10. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	81.	100.0	1.0	10.0	0.97	14.3
11. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	78.	100.0	1.0	10.0	1.14	54.9
12. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	88.	100.0	1.0	10.0	1.11	36.9
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	116.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	100.	100.0	1.0	10.0	1.62	94.8
16. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	177.	100.0	1.0	20.0	1.07	28.3
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	116.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	110.	100.0	1.0	10.0	2.17	82.5
19. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	84.	100.0	1.0	10.0	1.01	14.5
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	84.	100.0	1.0	10.0	1.18	51.4
22. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	84.	100.0	1.0	10.0	0.38	2.4
23. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	56.	100.0	1.0	10.0	1.10	56.9
24. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	103.	100.0	1.0	10.0	1.84	86.8
25. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	56.	100.0	1.0	10.0	0.68	6.0
26. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	171.	100.0	1.0	20.0	1.01	17.1
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	273.	100.0	1.0	30.0	1.27	66.1
29. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	215.	100.0	1.0	20.0	1.73	70.5
31. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	98.	100.0	1.0	10.0	4.49	529.6
32. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	91.	100.0	1.0	10.0	0.16	1.6
33. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	91.	100.0	1.0	10.0	1.51	115.9
34. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	281.	100.0	1.0	30.0	1.21	52.3
35. Msgr Obrien EB	769756.4	********	767221.9	********	3078.	305.	AG	147.	100.0	1.0	20.0	1.45	156.4
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.3	********	19.	189.	AG	106.	100.0	1.0	10.0	0.21	1.0
38. Msgr Obrien WB	769858.1	********	771361.0	********	1827.	125.	AG	147.	100.0	1.0	20.0	1.24	92.8
39. Msgr Obrien L	771462.2	********	767719.6	********	4544.	305.	AG	107.	100.0	1.0	10.0	3.79	230.8
40. Msgr Obrien WB T	771449.0	********	771329.4	********	145.	304.	AG	245.	100.0	1.0	30.0	0.70	7.4
41. Charlestown NB L	771477.7	********	770223.3	********	1977.	219.	AG	98.	100.0	1.0	10.0	1.62	100.4
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	196.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	81.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:28:51

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771753.2	********	208.	124.	AG	171.	100.0	1.0	20.0	0.89	10.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772093.8	********	1061.	31.	AG	101.	100.0	1.0	10.0	1.36	53.9
48. Charlestown SB TR	771535.3	********	774813.3	********	6102.	32.	AG	101.	100.0	1.0	10.0	3.44	310.0
49. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	91.	100.0	1.0	10.0	0.72	6.4
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	178.	100.0	1.0	20.0	1.29	74.2
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	75.	100.0	1.0	10.0	1.51	168.4
58. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	196.	100.0	1.0	20.0	1.10	25.7
59. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	98.	100.0	1.0	10.0	0.80	6.2
60. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	98.	100.0	1.0	10.0	0.88	7.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1291.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	4028.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2807.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3337.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3504.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3475.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3294.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:28:51

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	667	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	122	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	154	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	244	1600	46.20	1	3
6. Boston Ave. NB	*	135	109	3.0	352	1600	46.20	1	3
7. College Ave WB	*	135	107	3.0	386	1600	46.20	1	3
8. Main St. SB	*	120	78	3.0	642	1600	46.20	1	3
9. Harvard St. EB	*	120	76	3.0	660	1600	46.20	1	3
10. Main st. NB	*	120	78	3.0	477	1600	46.20	1	3
11. Harvard St. WB	*	120	76	3.0	591	1600	46.20	1	3
12. Broadway EB R	*	122	57	3.0	248	1600	46.20	1	3
13. Broadway EB TL	*	122	87	3.0	435	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	52	1600	46.20	1	3
15. Medford St. NB	*	122	98	3.0	404	1600	46.20	1	3
16. Broadway St. WB	*	122	87	3.0	839	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	122	108	3.0	256	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	426	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	496	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	159	1600	46.20	1	3
23. Medford St. NWB	*	90	41	3.0	861	1600	46.20	1	3
24. School St. SB	*	90	75	3.0	325	1600	46.20	1	3
25. Medford St. SEB	*	90	41	3.0	528	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	860	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1373	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	782	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	535	1600	46.20	1	3
31. Washington St. EB	*	135	107	3.0	1222	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	46.20	1	3
34. Washington St. WB	*	135	102	3.0	1208	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1697	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	34	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1457	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	553	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	1005	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	431	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1231	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	763	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	307	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	778	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	206	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	258	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:28:51

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	997	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	944	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	844	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	586	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	212	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	233	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	6.0	6.2	6.5	6.5	5.1	5.0	5.0	5.1	5.1	6.7	6.8	6.0	5.9	5.8
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.8	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.7	6.7	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.1	6.0	5.5	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.7	6.7	6.2	6.0	5.8
30.	6.9	6.9	6.6	6.0	6.1	5.6	5.8	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.1	6.9	6.4	6.3	6.3
40.	6.9	6.9	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.1	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.5	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.3	7.3	7.0	6.8	6.7
60.	6.8	6.8	6.4	6.4	6.1	5.5	5.7	6.3	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.3	7.3	6.9	6.4	6.6
70.	7.0	6.9	6.3	6.3	6.1	5.5	5.7	6.5	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.5	6.6	6.5	6.7
80.	7.2	7.1	6.7	6.3	6.2	5.7	5.9	6.6	6.6	6.6	5.1	5.1	5.0	5.1	5.1	7.5	7.7	6.7	6.5	6.9
90.	7.3	7.3	7.0	6.5	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.6	7.5	6.7	6.7	6.8
100.	7.5	7.5	7.1	6.6	6.2	5.7	6.0	7.0	7.0	7.0	5.1	5.1	5.1	5.1	5.1	7.9	7.7	7.0	6.7	6.7
110.	8.0	7.6	7.4	6.4	6.0	5.5	5.8	7.2	7.2	7.2	5.6	5.4	5.3	5.3	5.4	8.0	7.9	7.3	6.8	6.7
120.	7.7	7.4	7.3	6.1	6.0	5.3	5.6	7.0	6.9	7.1	6.4	6.4	6.2	6.2	6.5	8.1	7.9	7.2	6.6	6.5
130.	6.6	6.5	6.4	5.7	5.5	5.0	5.2	6.1	6.1	6.0	7.1	7.1	6.8	6.9	6.9	7.2	6.8	6.8	6.6	6.4
140.	5.6	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.4	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.9	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.7	6.7	6.2	6.4	6.8	5.7	6.0	6.2	6.2	6.3
170.	5.3	5.4	5.7	5.9	5.9	5.2	5.1	5.2	5.1	5.1	6.6	6.6	6.0	6.7	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.9	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.9	5.7	6.1	6.4	6.4	6.5
190.	5.3	5.3	5.8	5.9	5.9	5.8	5.8	5.6	5.2	5.1	6.4	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.4	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.5	6.5	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.4	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.5	6.5	6.1	6.5	6.4	5.1	5.1	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.4	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.7	6.7	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.8	6.6	6.7	6.8	6.9	5.1	5.3	5.2	5.1	5.1
280.	5.3	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	7.0	6.6	6.9	7.0	7.1	5.1	5.3	5.3	5.1	5.1
290.	5.8	5.8	5.8	5.1	5.0	5.5	5.6	6.0	5.8	5.7	7.1	7.0	7.1	7.3	7.2	5.6	6.1	5.9	5.0	5.0
300.	7.1	7.0	7.0	5.6	5.2	5.7	6.1	7.1	6.7	6.6	6.9	6.9	6.9	7.1	7.0	6.5	7.2	7.1	5.3	5.1
310.	8.0	7.9	7.9	6.1	5.6	6.1	6.6	7.9	7.4	7.3	6.1	6.1	6.0	6.2	6.1	7.1	8.0	7.9	5.8	5.5
320.	8.1	8.0	8.0	6.3	5.8	6.3	6.7	7.6	7.3	7.1	5.3	5.3	5.2	5.3	5.4	7.1	8.0	7.6	5.8	5.5
330.	7.6	7.6	7.5	6.2	5.9	6.5	6.9	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.2	6.8	7.6	7.1	6.0	5.4
340.	7.4	7.4	7.3	6.2	5.9	6.4	6.5	6.7	6.6	6.7	5.1	5.0	5.0	5.1	5.1	6.7	7.4	6.7	6.0	5.7
350.	7.2	7.1	7.0	6.1	5.9	6.3	6.4	6.5	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.7	7.1	6.4	6.0	5.7
360.	6.9	6.9	6.7	6.1	5.8	5.9	6.0	6.2	6.5	6.5	5.1	5.0	5.0	5.1	5.1	6.7	6.8	6.0	5.9	5.8
MAX	8.1	8.0	8.0	6.6	6.2	6.5	6.9	7.9	7.4	7.3	7.1	7.1	7.1	7.3	7.2	8.1	8.0	7.9	7.0	7.0
DEGR.	320	320	320	100	80	330	330	310	310	310	130	130	290	290	290	120	310	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.5	7.2	6.9	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.9	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.8	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.5	7.4	6.9	6.8	6.5	5.2	5.4	6.0	6.5	6.4	6.7	6.7	6.1	5.2	5.2
40.	6.8	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.3	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.2	5.0	5.0	5.0	5.1	5.1	6.9	6.9	6.6	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.3	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.2	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.4	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.9	6.7	6.5	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.1	5.8	5.6
110.	5.5	5.7	7.0	6.9	6.7	5.3	5.3	5.3	5.0	5.0	6.3	6.3	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.8	6.7	5.8	5.9	6.0	5.3	5.1	6.4	6.6	6.9	6.5	6.3
130.	5.1	5.3	6.2	6.2	6.2	6.4	6.5	6.7	5.5	5.3	6.7	6.8	7.6	7.0	6.8
140.	5.0	5.0	5.5	5.4	5.5	6.5	6.8	6.8	5.7	5.5	6.7	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.4	6.6	6.7	5.7	5.5	6.7	7.0	7.0	6.5	6.7
160.	5.0	5.1	5.1	5.1	5.1	6.4	6.6	6.6	5.8	5.5	6.8	7.0	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.3	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.7
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.8	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.1	6.2	6.0	5.7	5.6	7.2	7.3	7.1	7.0	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.2	6.2	6.1	5.9	5.8	7.5	7.5	7.3	7.0	6.9
210.	6.4	6.7	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.1	6.8
220.	7.4	7.8	7.2	5.7	5.3	6.5	7.0	7.3	7.2	7.1	7.1	7.3	7.0	6.6	6.4
230.	7.8	8.1	7.3	6.0	5.7	6.8	7.2	7.4	7.0	7.2	6.0	6.2	6.4	6.3	6.1
240.	7.6	7.7	7.0	6.1	5.8	7.0	7.2	6.9	6.9	6.6	5.6	5.9	6.1	6.1	6.1
250.	7.3	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.8	6.1	6.1	6.1
260.	7.0	7.2	6.1	5.9	5.8	6.9	6.8	6.7	6.7	6.6	5.6	5.7	6.1	6.3	6.3
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.6	6.4	5.6	5.8	6.2	6.4	6.4
280.	6.6	6.8	6.1	5.8	5.6	6.9	6.8	7.0	6.7	6.4	5.5	5.8	6.3	6.5	6.6
290.	6.6	6.7	6.6	6.1	6.0	7.0	6.8	7.2	6.5	6.4	5.4	5.7	6.4	6.5	6.7
300.	6.7	7.2	7.5	6.8	6.7	6.8	6.9	7.3	6.6	6.4	5.4	5.7	6.5	6.8	6.7
310.	7.2	7.7	7.8	7.5	7.2	6.0	6.2	6.6	6.1	5.9	5.0	5.2	5.9	6.0	6.0
320.	7.1	7.5	7.4	7.0	7.0	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.3	5.4
330.	7.2	7.4	6.9	6.7	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.2	7.3	6.7	6.5	6.9	5.6	5.7	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.4	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.5	7.2	6.9	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.8	8.1	7.8	7.5	7.2	7.0	7.2	7.4	7.2	7.2	7.6	7.5	7.6	7.1	6.9
DEGR.	230	230	310	310	310	240	230	230	220	230	210	200	130	210	140

THE HIGHEST CONCENTRATION OF 8.10 PPM OCCURRED AT RECEPTOR REC16.

1_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:37:50

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756147.4	********	*	68.	312.	AG	155.	100.0	1.0	20.0	0.31	3.4
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756728.4	********	*	613.	132.	AG	77.	100.0	1.0	10.0	1.05	31.2
4. MVP East	*	756253.6	********	756741.0	********	*	685.	45.	AG	143.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759525.2	********	*	144.	92.	AG	54.	100.0	1.0	10.0	0.53	7.3
7. MVP East T	*	759381.8	********	764311.1	********	*	4932.	92.	AG	67.	100.0	1.0	10.0	1.64	250.5
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754627.0	********	*	4671.	273.	AG	67.	100.0	1.0	10.0	1.61	237.3
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759584.7	********	*	157.	332.	AG	86.	100.0	1.0	10.0	0.72	8.0
12. Boston Ave. SB R	*	759646.0	********	759615.9	********	*	64.	332.	AG	86.	100.0	1.0	10.0	0.29	3.3
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760277.6	********	*	1213.	152.	AG	100.	100.0	1.0	10.0	1.37	61.6
16. College Ave WB	*	759720.8	********	760398.4	********	*	1168.	35.	AG	97.	100.0	1.0	10.0	1.30	59.3
17. Main St. SB	*	762042.2	********	761470.7	********	*	1860.	342.	AG	81.	100.0	1.0	10.0	1.30	94.5
18. Harvard St. EB	*	762026.6	********	760352.3	********	*	1908.	241.	AG	78.	100.0	1.0	10.0	1.29	96.9
19. Main st. NB	*	762078.3	********	762202.5	********	*	392.	162.	AG	81.	100.0	1.0	10.0	1.01	19.9
20. Harvard St. WB	*	762091.8	********	762963.2	********	*	913.	73.	AG	78.	100.0	1.0	10.0	1.11	46.4
21. Broadway EB R	*	762959.1	********	762873.5	********	*	93.	293.	AG	64.	100.0	1.0	10.0	0.39	4.7
22. Broadway EB TL	*	762965.1	********	762164.8	********	*	873.	294.	AG	88.	100.0	1.0	10.0	1.14	44.4
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764092.6	********	*	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	*	763115.6	********	763724.0	********	*	662.	113.	AG	176.	100.0	1.0	20.0	1.09	33.7
26. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	*	763008.3	********	762477.5	********	*	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764247.2	********	*	1002.	114.	AG	84.	100.0	1.0	10.0	1.18	50.9
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766140.3	********	*	1820.	142.	AG	60.	100.0	1.0	10.0	1.21	92.5
33. School St. SB	*	765002.3	********	765832.0	********	*	1922.	26.	AG	104.	100.0	1.0	10.0	2.06	97.6
34. Medford St. SEB	*	764967.1	********	764895.2	********	*	116.	322.	AG	60.	100.0	1.0	10.0	0.76	5.9
35. Prospect SB	*	765830.6	********	766083.1	********	*	488.	31.	AG	169.	100.0	1.0	20.0	1.04	24.8
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765108.2	********	*	1625.	206.	AG	276.	100.0	1.0	30.0	1.37	82.6
38. Somerville EB	*	765797.5	********	765682.4	********	*	128.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	*	766950.5	********	766683.3	********	*	1470.	350.	AG	213.	100.0	1.0	20.0	1.73	74.7
40. Washington St. EB	*	766952.8	********	756678.6	********	*	*****	249.	AG	99.	100.0	1.0	10.0	4.87	559.8
41. McGrath Hwy NB2 L	*	767105.3	********	767109.7	********	*	33.	172.	AG	92.	100.0	1.0	10.0	0.17	1.7
42. McGrath Hwy NB2 T	*	767119.9	********	767416.4	********	*	2415.	173.	AG	92.	100.0	1.0	10.0	1.56	122.7
43. Washington St. WB	*	767129.9	********	768314.5	********	*	1292.	67.	AG	284.	100.0	1.0	30.0	1.30	65.6
44. Camb. St at First L	*	770442.2	********	770346.0	********	*	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:37:50

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	*	770441.3	********	770319.6	********	*	124.	281.	AG	90.	100.0	1.0	10.0	0.70	6.3
46. First St NB TL	*	770491.0	********	770247.6	********	*	1637.	189.	AG	103.	100.0	1.0	10.0	1.68	83.2
47. East St SB R	*	770778.2	********	770779.2	********	*	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	*	770496.3	********	770465.4	********	*	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	*	770503.5	********	769475.5	********	*	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	*	770636.9	********	770765.1	********	*	167.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	*	770624.7	********	770973.9	********	*	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	*	770501.2	********	770014.9	********	*	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	*	770490.6	********	770675.4	********	*	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	*	770548.4	********	770504.4	********	*	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	*	770557.7	********	770500.0	********	*	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	*	756236.2	********	754979.9	********	*	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	*	756236.4	********	755664.5	********	*	961.	217.	AG	2520.	7.9	1.0	58.0		
58. MVP East	*	756236.3	********	756857.2	********	*	867.	46.	AG	2325.	7.9	1.0	66.0		
59. Boston Ave. South	*	756236.7	********	757224.6	********	*	1320.	132.	AG	995.	7.9	1.0	42.0		
60. Winthrop South	*	759337.5	********	759326.8	********	*	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	*	759337.5	********	759313.4	********	*	855.	358.	AG	1875.	8.0	1.0	42.0		
62. MVP West	*	759335.1	********	758131.8	********	*	1204.	272.	AG	2265.	7.9	1.0	66.0		
63. MVP East	*	759335.6	********	760246.6	********	*	913.	93.	AG	3225.	7.9	1.0	66.0		
64. South Street	*	761345.7	********	760087.5	********	*	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	*	761336.6	********	761454.9	********	*	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	*	761340.3	********	761346.3	********	*	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	*	759689.9	********	759291.3	********	*	834.	331.	AG	985.	7.9	1.0	54.0		
68. College Ave. EB	*	759682.8	********	759503.5	********	*	402.	206.	AG	741.	7.9	1.0	54.0		
69. College Ave. EB2	*	759494.1	********	759662.7	********	*	1634.	174.	AG	741.	7.9	1.0	54.0		
70. Boston Ave. NB	*	759638.3	********	760480.3	********	*	1710.	151.	AG	566.	7.9	1.0	42.0		
71. College Ave. WB	*	759667.3	********	760588.5	********	*	1597.	35.	AG	770.	7.9	1.0	42.0		
72. Main St. SB	*	762056.3	********	761788.3	********	*	898.	343.	AG	1150.	8.0	1.0	42.0		
73. Harvard St. EB	*	762057.7	********	760514.6	********	*	1752.	242.	AG	1295.	7.9	1.0	42.0		
74. Main St. NB	*	762056.8	********	762406.1	********	*	1071.	161.	AG	1100.	8.0	1.0	42.0		
75. Harvard St. WB	*	762057.1	********	763589.7	********	*	1603.	73.	AG	1225.	7.9	1.0	42.0		
76. Broadway St. EB	*	763029.8	********	761172.6	********	*	2021.	293.	AG	1780.	7.9	1.0	66.0		
77. Parking Lot NEB	*	763030.0	********	762877.3	********	*	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	*	763025.4	********	764069.8	********	*	2059.	150.	AG	875.	7.9	1.0	42.0		
79. Broadway St. WB	*	763030.1	********	764419.9	********	*	1513.	113.	AG	1381.	7.9	1.0	66.0		
80. Dexter St. SWB	*	763031.1	********	764132.1	********	*	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	*	763047.7	********	762503.6	********	*	1637.	341.	AG	570.	7.9	1.0	42.0		
82. Highland St. EB	*	763300.2	********	762029.2	********	*	1386.	293.	AG	945.	7.9	1.0	42.0		
83. Central St. NB	*	763299.4	********	762852.7	********	*	981.	207.	AG	645.	8.0	1.0	42.0		
84. Highland St. WB	*	763299.4	********	764576.9	********	*	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	*	763299.7	********	764053.4	********	*	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	*	764993.5	********	765926.1	********	*	1536.	143.	AG	1340.	7.9	1.0	42.0		
87. School St. SB	*	764992.8	********	765406.3	********	*	930.	26.	AG	520.	8.0	1.0	42.0		
88. Medford St. SEB	*	764996.8	********	764392.9	********	*	986.	322.	AG	1110.	7.9	1.0	42.0		
89. School St. NB	*	764991.8	********	764577.6	********	*	935.	206.	AG	520.	8.0	1.0	42.0		
90. Prospect St. SB	*	765833.6	********	765929.0	********	*	177.	33.	AG	2145.	8.0	1.0	66.0		
91. Sommerville Ave. EB	*	765828.2	********	765178.4	********	*	720.	295.	AG	2665.	7.9	1.0	66.0		
92. Prospect St. NB	*	765839.9	********	765452.5	********	*	858.	207.	AG	1425.	8.0	1.0	54.0		
93. Somerville Ave WB	*	765826.5	********	767169.2	********	*	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	*	766957.3	********	766833.9	********	*	714.	350.	AG	570.	7.9	1.0	42.0		
95. McGrath Highway NB1	*	767104.5	********	766885.0	********	*	694.	342.	AG	1300.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:37:50

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:37:50

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	330	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	560	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1290	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	445	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1085	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	305	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	109	3.0	340	1600	46.20	1	3
16. College Ave WB	*	135	106	3.0	370	1600	46.20	1	3
17. Main St. SB	*	120	78	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	76	3.0	670	1600	46.20	1	3
19. Main st. NB	*	120	78	3.0	500	1600	46.20	1	3
20. Harvard St. WB	*	120	76	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	62	3.0	275	1600	46.20	1	3
22. Broadway EB TL	*	120	85	3.0	455	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
25. Broadway St. WB	*	120	85	3.0	871	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	495	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	80	39	3.0	870	1600	46.20	1	3
33. School St. SB	*	80	67	3.0	330	1600	46.20	1	3
34. Medford St. SEB	*	80	39	3.0	545	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	915	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	89	3.0	1425	1600	46.20	1	3
38. Somerville EB	*	120	60	3.0	780	1600	46.20	1	3
39. McGrath Highway SB1	*	135	116	3.0	570	1600	46.20	1	3
40. Washington St. EB	*	135	108	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	135	103	3.0	1245	1600	46.20	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	87	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	100	3.0	335	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	940	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:37:50

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:37:50

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.5	5.3	5.2
10.	6.2	6.2	6.1	5.9	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.4	5.4	5.3
20.	6.2	6.2	6.3	5.8	5.6	5.3	5.5	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.4	5.4	5.4
30.	6.1	6.2	6.5	5.7	5.6	5.3	5.4	6.2	6.2	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.6	5.6	5.8	5.9
40.	5.9	6.1	6.5	5.7	5.5	5.1	5.3	6.2	6.2	6.0	5.8	5.8	5.8	5.1	5.0	5.2	5.8	6.2	6.2	6.1
50.	5.6	5.6	6.0	5.4	5.3	5.0	5.1	5.7	5.7	5.7	6.3	6.3	6.3	5.3	5.1	5.3	6.0	6.6	6.4	6.4
60.	5.3	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.4	6.5	6.4	5.5	5.3	5.5	6.2	6.5	6.2	6.3
70.	5.2	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.5	5.3	5.5	6.4	6.2	6.1	6.1
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	5.9
100.	5.2	5.2	5.6	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.3	6.1	5.9	5.9
110.	5.1	5.2	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.9	5.9	5.6	5.4	5.3	5.8	6.5	6.2	5.9	5.8
120.	5.1	5.2	5.7	5.7	5.7	5.3	5.3	5.3	5.0	5.0	5.9	5.9	5.9	5.7	5.5	5.9	6.4	6.3	5.9	5.8
130.	5.0	5.1	5.5	5.5	5.5	5.6	5.7	5.7	5.1	5.0	5.9	6.0	6.1	5.8	5.7	5.8	6.3	6.1	5.8	5.7
140.	5.0	5.0	5.4	5.3	5.3	5.8	5.9	5.9	5.2	5.1	6.0	6.1	6.2	5.8	5.8	5.5	5.8	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.7	5.9	5.8	5.2	5.1	6.0	6.1	6.1	5.7	5.8	5.3	5.4	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.7	5.7	5.7	5.2	5.2	6.1	6.1	5.9	5.7	5.6	5.2	5.5	5.7	5.7	5.7
170.	5.0	5.0	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.2	6.1	6.0	5.8	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.2	6.3	6.0	5.9	5.5	5.3	5.4	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.3	6.4	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.2	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	5.6	5.7	5.7	5.1	5.0	5.4	5.5	5.8	5.6	5.6	6.6	6.5	6.3	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	6.0	5.8	6.3	6.2	6.1	5.6	5.2	5.0	5.2	5.8	5.8	5.9
230.	6.2	6.2	6.2	5.4	5.3	5.7	5.8	6.4	6.1	6.1	5.9	5.9	5.7	5.3	5.2	5.0	5.0	5.4	5.5	5.4
240.	6.1	6.1	6.1	5.5	5.3	5.7	5.9	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	6.0	6.0	6.0	5.4	5.3	5.8	5.9	6.1	6.0	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.7	6.0	5.9	6.1	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.7	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.9	5.1	5.1	5.5	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.0	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.1	5.7	5.4	5.8	6.0	6.0	5.8	5.7	5.0	5.1	5.3	5.3	5.3	5.3	5.3	5.7	5.1	5.0
320.	5.8	5.8	6.1	5.9	5.7	5.7	5.7	5.9	5.8	5.7	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.8	5.8	6.1	5.8	5.8	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.5	6.0	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.7	5.3	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.4	5.8	5.1	5.1
350.	5.9	6.0	5.9	5.8	5.7	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.5	5.3	5.2
MAX	6.2	6.2	6.5	5.9	5.8	6.0	6.1	6.4	6.2	6.2	6.6	6.5	6.4	6.0	5.8	5.9	6.5	6.6	6.4	6.4
DEGR.	10	10	30	10	330	300	290	220	30	30	210	60	60	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.8	6.0	6.7	6.2	6.1	6.6	6.8	6.7	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.8	6.7	6.8	5.3	5.1
10.	5.9	6.1	6.8	6.4	6.4	5.9	6.1	6.2	5.9	5.9	5.0	5.0	5.5	5.4	5.5	7.0	7.0	7.0	5.5	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.8	5.0	5.0	5.1	5.1	5.2	6.8	6.8	6.8	5.6	5.4
30.	6.1	6.2	6.2	6.1	6.2	5.3	5.5	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.6	5.4
40.	6.2	6.1	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.4	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.2	5.4	5.2
60.	6.2	6.3	6.3	6.3	6.2	5.4	5.6	6.2	6.3	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.4	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.3	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.6	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.2	5.4	6.4	6.3	6.3	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.5	6.5	5.4	5.2	6.4	6.6	7.4	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.4	6.6	6.4	5.6	5.4	6.5	6.7	7.3	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.0	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.0	6.2	6.1	5.5	5.3	6.6	6.8	6.8	5.9	5.9
140.	5.3	5.3	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	5.9	6.0	6.0	5.5	5.4	6.7	6.7	6.5	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.1	5.1	5.0	5.1	6.0	6.0	5.9	5.5	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.6	7.0	7.0	6.7	6.1	5.9
170.	5.2	5.4	6.2	6.2	6.2	5.7	5.7	5.6	5.0	5.0	5.9	5.9	6.3	5.9	6.0	7.1	7.0	6.8	6.0	5.9
180.	5.1	5.3	5.9	6.1	6.1	6.3	6.4	6.2	5.2	5.1	6.1	6.3	6.7	6.4	6.5	6.7	6.5	6.4	5.9	5.7
190.	5.0	5.1	5.5	5.6	5.6	6.7	6.8	6.4	5.4	5.2	6.1	6.3	6.9	6.4	6.5	6.0	6.0	6.0	5.7	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.3	5.4	5.3	6.2	6.4	6.6	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.3	6.1	6.4	5.4	5.4	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.4	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.4	6.5	6.5	6.2	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.7	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.4	6.0	6.0	6.0
270.	6.0	6.0	5.8	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.4	6.4	6.8	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.4	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.4	6.4	6.4	6.5	5.5	5.7	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.0	6.0	5.9	5.4	5.3	6.3	6.4	6.2	6.3	6.5	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	5.9	5.7	5.4	5.3	6.4	6.5	6.2	6.3	6.4	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.2	6.4	6.5	6.2	6.4	6.3	5.4	5.5	6.1	6.0	6.1	5.1	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.7	6.4	6.4	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.4	6.7	6.8	6.8	6.4	6.3	5.3	5.5	6.4	6.3	6.4	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.8	6.1	5.8	5.8	6.9	7.0	7.0	6.3	6.1	5.2	5.4	6.4	6.3	6.4	6.1	6.0	6.1	5.1	5.0
360.	5.8	6.0	6.7	6.2	6.1	6.6	6.8	6.7	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.8	6.7	6.8	5.3	5.1
MAX	6.4	6.6	6.8	6.4	6.4	6.9	7.0	7.0	6.5	6.6	6.6	6.6	6.9	6.4	6.5	7.1	7.0	7.4	6.5	6.4
DEGR.	70	80	10	10	10	350	350	350	80	280	260	110	190	180	180	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.1	6.1	5.5	5.6	5.7	5.7	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.2	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.3	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.5	5.5	5.5	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.7	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.5	5.5	5.6	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.1	5.3	5.3	5.7	5.6	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.1	5.2	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.8	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.7	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.8	5.9	6.1	6.2	6.1	5.2	5.4	6.1	6.0	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.1	6.2	6.1	5.9	5.1	5.3	6.1	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.1	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.8	5.9	5.8	5.7	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	5.9
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.9	5.8
230.	5.1	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	5.9	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.8	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.0	5.7	5.5
280.	5.0	5.1	5.5	5.8	5.6	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.8	5.8	5.5	5.7
300.	5.1	5.1	5.1	5.3	5.2	5.8	5.9	6.0	5.4	5.1	5.9	6.0	5.6	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.8	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	5.9	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
MAX	6.0	6.2	6.2	6.2	6.2	5.9	6.0	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
DEGR.	170	180	170	140	140	30	30	10	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC38.

1_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:38:40

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756147.4	********	*	68.	312.	AG	155.	100.0	1.0	20.0	0.31	3.4
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756728.4	********	*	613.	132.	AG	77.	100.0	1.0	10.0	1.05	31.2
4. MVP East	*	756253.6	********	756741.0	********	*	685.	45.	AG	143.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759525.2	********	*	144.	92.	AG	54.	100.0	1.0	10.0	0.53	7.3
7. MVP East T	*	759381.8	********	764311.1	********	*	4932.	92.	AG	67.	100.0	1.0	10.0	1.64	250.5
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754627.0	********	*	4671.	273.	AG	67.	100.0	1.0	10.0	1.61	237.3
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759584.7	********	*	157.	332.	AG	86.	100.0	1.0	10.0	0.72	8.0
12. Boston Ave. SB R	*	759646.0	********	759615.9	********	*	64.	332.	AG	86.	100.0	1.0	10.0	0.29	3.3
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760277.6	********	*	1213.	152.	AG	100.	100.0	1.0	10.0	1.37	61.6
16. College Ave WB	*	759720.8	********	760398.4	********	*	1168.	35.	AG	97.	100.0	1.0	10.0	1.30	59.3
17. Main St. SB	*	762042.2	********	761470.7	********	*	1860.	342.	AG	81.	100.0	1.0	10.0	1.30	94.5
18. Harvard St. EB	*	762026.6	********	760352.3	********	*	1908.	241.	AG	78.	100.0	1.0	10.0	1.29	96.9
19. Main st. NB	*	762078.3	********	762202.5	********	*	392.	162.	AG	81.	100.0	1.0	10.0	1.01	19.9
20. Harvard St. WB	*	762091.8	********	762963.2	********	*	913.	73.	AG	78.	100.0	1.0	10.0	1.11	46.4
21. Broadway EB R	*	762959.1	********	762873.5	********	*	93.	293.	AG	64.	100.0	1.0	10.0	0.39	4.7
22. Broadway EB TL	*	762965.1	********	762164.8	********	*	873.	294.	AG	88.	100.0	1.0	10.0	1.14	44.4
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764092.6	********	*	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	*	763115.6	********	763724.0	********	*	662.	113.	AG	176.	100.0	1.0	20.0	1.09	33.7
26. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	*	763008.3	********	762477.5	********	*	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764247.2	********	*	1002.	114.	AG	84.	100.0	1.0	10.0	1.18	50.9
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766140.3	********	*	1820.	142.	AG	60.	100.0	1.0	10.0	1.21	92.5
33. School St. SB	*	765002.3	********	765832.0	********	*	1922.	26.	AG	104.	100.0	1.0	10.0	2.06	97.6
34. Medford St. SEB	*	764967.1	********	764895.2	********	*	116.	322.	AG	60.	100.0	1.0	10.0	0.76	5.9
35. Prospect SB	*	765830.6	********	766083.1	********	*	488.	31.	AG	169.	100.0	1.0	20.0	1.04	24.8
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765108.2	********	*	1625.	206.	AG	276.	100.0	1.0	30.0	1.37	82.6
38. Somerville EB	*	765797.5	********	765682.4	********	*	128.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	*	766950.5	********	766683.3	********	*	1470.	350.	AG	213.	100.0	1.0	20.0	1.73	74.7
40. Washington St. EB	*	766952.8	********	756678.6	********	*	*****	249.	AG	99.	100.0	1.0	10.0	4.87	559.8
41. McGrath Hwy NB2 L	*	767105.3	********	767109.7	********	*	33.	172.	AG	92.	100.0	1.0	10.0	0.17	1.7
42. McGrath Hwy NB2 T	*	767119.9	********	767416.4	********	*	2415.	173.	AG	92.	100.0	1.0	10.0	1.56	122.7
43. Washington St. WB	*	767129.9	********	768314.5	********	*	1292.	67.	AG	284.	100.0	1.0	30.0	1.30	65.6
44. Camb. St at First L	*	770442.2	********	770346.0	********	*	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:38:40

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	90.	100.0	1.0	10.0	0.70	6.3
46. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	103.	100.0	1.0	10.0	1.68	83.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2520.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	995.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1875.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2265.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:38:40

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:38:40

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	330	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	560	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1290	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	445	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1085	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	305	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	109	3.0	340	1600	46.20	1	3
16. College Ave WB	*	135	106	3.0	370	1600	46.20	1	3
17. Main St. SB	*	120	78	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	76	3.0	670	1600	46.20	1	3
19. Main st. NB	*	120	78	3.0	500	1600	46.20	1	3
20. Harvard St. WB	*	120	76	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	62	3.0	275	1600	46.20	1	3
22. Broadway EB TL	*	120	85	3.0	455	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
25. Broadway St. WB	*	120	85	3.0	871	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	495	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	80	39	3.0	870	1600	46.20	1	3
33. School St. SB	*	80	67	3.0	330	1600	46.20	1	3
34. Medford St. SEB	*	80	39	3.0	545	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	915	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	89	3.0	1425	1600	46.20	1	3
38. Somerville EB	*	120	60	3.0	780	1600	46.20	1	3
39. McGrath Highway SB1	*	135	116	3.0	570	1600	46.20	1	3
40. Washington St. EB	*	135	108	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	135	103	3.0	1245	1600	46.20	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	87	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	100	3.0	335	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	940	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:38:40

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	5.9	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.0	5.0	5.0	5.0	5.5	5.9	5.4	5.3	5.2
20.	6.0	5.8	5.5	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.7	5.5	5.5	5.4
30.	5.8	5.6	5.4	5.5	5.4	5.2	5.2	5.4	5.6	5.6	5.6	5.6	5.5	5.0	5.0	5.4	5.9	5.7	5.7	5.5
40.	5.3	5.4	5.3	5.3	5.3	5.0	5.1	5.2	5.4	5.4	5.8	5.8	5.8	5.2	5.0	5.6	5.9	5.8	5.6	5.5
50.	5.3	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.1	5.1	5.9	5.9	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.1	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.1	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.6	5.2	5.3	5.4
80.	5.1	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.3	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.3	5.5	5.6
140.	5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.5	5.5	5.5	5.5	5.5	5.2	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.0	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.3	5.3	5.3	5.6	5.6	5.3	5.2	5.1	5.5	5.6	5.5	5.4	5.5	5.8	5.6	5.7	5.6	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.3	5.2	5.1	5.6	5.7	5.5	5.5	5.7	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.1	5.8	5.8	5.6	5.5	5.7	5.2	5.3	5.5	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.0	5.5	5.5	5.4	5.3	5.1	5.7	5.7	5.6	5.5	5.4	5.2	5.3	5.7	5.6	5.4
200.	5.2	5.4	5.3	5.1	5.1	5.5	5.3	5.3	5.3	5.2	5.8	5.8	5.5	5.5	5.4	5.1	5.2	5.3	5.4	5.3
210.	5.3	5.5	5.5	5.0	5.1	5.4	5.4	5.4	5.2	5.3	5.8	5.6	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.3	5.7	5.6	5.1	5.0	5.3	5.5	5.4	5.4	5.4	5.5	5.4	5.3	5.4	5.3	5.0	5.0	5.2	5.1	5.1
230.	5.4	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.4	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.0
240.	5.3	5.7	5.4	5.2	5.0	5.4	5.4	5.2	5.4	5.5	5.1	5.2	5.2	5.4	5.3	5.1	5.1	5.0	5.0	5.0
250.	5.3	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.3	5.5	5.1	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.3	5.7	5.2	5.3	5.1	5.5	5.2	5.1	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.7	5.2	5.3	5.1	5.7	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.0	5.1	5.0	5.0	5.0
280.	5.4	5.7	5.2	5.3	5.1	5.5	5.2	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.2	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.2	5.2	5.6	5.5	5.1	5.2	5.4	5.3	5.2	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.3	5.3	5.6	5.2	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.3	5.3	5.3	5.5	5.3	5.8	5.4	5.5	5.0	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.4	5.5	5.4	5.3	5.7	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.1	5.2	5.1	5.0
340.	5.5	5.8	5.6	5.5	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.5	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	6.3	5.5	5.1	5.1
360.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	5.9	5.7	5.6	5.6	5.7	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.5	5.7	6.0	6.3	5.8	5.7	5.6
DEGR.	10	10	10	0	10	270	160	320	20	20	50	50	40	170	170	150	340	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.1	5.8	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.7	5.7	5.3	5.2
20.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	6.0	5.8	5.8	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.8	5.7	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
50.	5.9	6.0	5.8	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.5	5.1	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.8	5.6	5.8	5.5	5.5	5.1	5.1	5.7	5.7	5.7	5.7	5.8	5.7	5.1	5.0	5.5	5.6	6.1	6.0	5.8
80.	5.3	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.9	5.9	5.9	5.3	5.1	5.6	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.2	5.9	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.9
100.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.8
120.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.5	5.3	5.2	5.9	6.0	5.7	5.6	5.6
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.7	5.5
140.	5.1	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.9	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.8	5.7	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	6.0	6.0	6.1	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.6	6.0	5.6	5.7	6.0	5.9	5.8	5.5	5.4
170.	5.0	5.0	5.4	5.4	5.3	5.8	5.8	5.8	5.1	5.1	5.6	5.7	6.0	5.8	5.8	5.5	5.6	5.7	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.2	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.1	5.7	5.8	5.9	5.7	5.7	5.2	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.7	5.7	5.8	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.7	5.7
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.3	5.7	5.6	5.2	5.3	5.9	5.8	5.8
240.	5.8	5.8	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	6.0	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.5
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.6	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.8	5.6	5.8	5.6	5.8	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.7	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	6.0	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.4	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.7	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.9	5.7	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	6.0	6.0	6.0	5.2	5.2
360.	5.7	5.8	6.1	5.8	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.9	5.8	6.0	6.0	6.1	5.8	5.8	6.2	6.2	6.3	5.9	5.8	6.0	6.0	6.2	6.0	5.9
DEGR.	30	50	0	350	0	330	330	250	60	60	240	240	230	180	170	150	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.30 PPM OCCURRED AT RECEPTOR REC33.

1_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:39:13

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756147.4	********	68.	312.	AG	155.	100.0	1.0	20.0	0.31	3.4
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756728.4	********	613.	132.	AG	77.	100.0	1.0	10.0	1.05	31.2
4. MVP East	756253.6	********	756741.0	********	685.	45.	AG	143.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759525.2	********	144.	92.	AG	54.	100.0	1.0	10.0	0.53	7.3
7. MVP East T	759381.8	********	764311.1	********	4932.	92.	AG	67.	100.0	1.0	10.0	1.64	250.5
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754627.0	********	4671.	273.	AG	67.	100.0	1.0	10.0	1.61	237.3
10. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	86.	100.0	1.0	10.0	0.72	8.0
12. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	86.	100.0	1.0	10.0	0.29	3.3
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	100.	100.0	1.0	10.0	1.37	61.6
16. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	97.	100.0	1.0	10.0	1.30	59.3
17. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	81.	100.0	1.0	10.0	1.30	94.5
18. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	78.	100.0	1.0	10.0	1.29	96.9
19. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	81.	100.0	1.0	10.0	1.01	19.9
20. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	78.	100.0	1.0	10.0	1.11	46.4
21. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	64.	100.0	1.0	10.0	0.39	4.7
22. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	88.	100.0	1.0	10.0	1.14	44.4
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	176.	100.0	1.0	20.0	1.09	33.7
26. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	84.	100.0	1.0	10.0	1.18	50.9
31. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	60.	100.0	1.0	10.0	1.21	92.5
33. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	104.	100.0	1.0	10.0	2.06	97.6
34. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	60.	100.0	1.0	10.0	0.76	5.9
35. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	169.	100.0	1.0	20.0	1.04	24.8
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	276.	100.0	1.0	30.0	1.37	82.6
38. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	213.	100.0	1.0	20.0	1.73	74.7
40. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.87	559.8
41. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	92.	100.0	1.0	10.0	0.17	1.7
42. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	92.	100.0	1.0	10.0	1.56	122.7
43. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	284.	100.0	1.0	30.0	1.30	65.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:39:13

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	90.	100.0	1.0	10.0	0.70	6.3
46. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	103.	100.0	1.0	10.0	1.68	83.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2520.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	995.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1875.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2265.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:39:13

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:39:13

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	330	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	560	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1290	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	445	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1085	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	305	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	109	3.0	340	1600	46.20	1	3
16. College Ave WB	*	135	106	3.0	370	1600	46.20	1	3
17. Main St. SB	*	120	78	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	76	3.0	670	1600	46.20	1	3
19. Main st. NB	*	120	78	3.0	500	1600	46.20	1	3
20. Harvard St. WB	*	120	76	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	62	3.0	275	1600	46.20	1	3
22. Broadway EB TL	*	120	85	3.0	455	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
25. Broadway St. WB	*	120	85	3.0	871	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	495	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	80	39	3.0	870	1600	46.20	1	3
33. School St. SB	*	80	67	3.0	330	1600	46.20	1	3
34. Medford St. SEB	*	80	39	3.0	545	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	915	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	89	3.0	1425	1600	46.20	1	3
38. Somerville EB	*	120	60	3.0	780	1600	46.20	1	3
39. McGrath Highway SB1	*	135	116	3.0	570	1600	46.20	1	3
40. Washington St. EB	*	135	108	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	135	103	3.0	1245	1600	46.20	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	87	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	100	3.0	335	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	940	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.6	5.4	5.7	5.8	5.8	5.7	5.6	5.4	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.2	5.7	5.8	5.8	5.6	5.8	5.4	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.7	5.7	5.5	5.7	5.5	5.5	5.5	5.7	5.7	5.1	5.1	5.1	5.5	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.8	5.5	5.5	5.6	5.7	5.7	5.1	5.1	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.3	5.3	5.5	5.6	5.8	5.6	5.8	5.4	5.5	5.6	5.7	5.6	5.0	5.1	5.3	5.5	5.5
50.	5.7	6.1	5.7	5.3	5.4	5.4	5.5	5.7	5.6	5.8	5.4	5.4	5.7	5.6	5.6	5.0	5.1	5.3	5.4	5.3
60.	5.8	6.1	5.6	5.5	5.5	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.1	5.2	5.1
70.	5.8	6.2	5.8	5.6	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.1	5.7	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.5	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.8	5.8	5.4	5.5	5.9	5.9	5.9	5.2	5.2	5.1	5.0	5.0
100.	6.1	6.4	6.1	5.8	5.6	5.4	5.6	6.1	5.9	5.8	5.3	5.5	6.0	6.0	6.0	5.4	5.4	5.4	5.0	5.0
110.	6.1	6.2	5.9	5.6	5.5	5.3	5.4	6.2	5.8	5.7	5.1	5.3	5.9	5.9	5.9	5.9	5.9	5.8	5.2	5.0
120.	5.7	5.8	5.8	5.5	5.4	5.2	5.3	6.0	5.6	5.5	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.4	5.2
130.	5.5	5.6	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.4	5.2
140.	5.3	5.4	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.3	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.8	5.8	5.7	5.4	5.2	6.2	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.0	6.0	5.6	5.6	5.4
180.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.3	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.4	5.3	5.3
210.	5.0	5.1	5.2	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.5
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	5.9	5.7	5.5	5.4
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.6	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.2	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.9	5.9	5.9	5.6
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	5.9	5.5	5.3	5.8	5.9	5.9	5.8	5.7	6.0	5.8	5.8	5.7	5.5
300.	6.0	6.3	6.1	5.3	5.1	5.4	5.7	6.1	5.6	5.5	6.0	6.0	6.1	5.9	6.0	5.6	5.7	5.6	5.6	5.4
310.	6.0	6.3	6.1	5.4	5.3	5.6	5.8	6.0	5.7	5.5	5.9	6.0	6.1	5.7	5.8	5.4	5.3	5.4	5.5	5.5
320.	5.9	6.2	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.5	5.8	5.9	5.8	5.8	6.0	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.8	5.9	5.8	5.7	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.7	6.1	5.8	5.5	5.3	5.6	5.8	6.1	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.1	5.7	5.6	5.4	5.8	5.8	6.0	5.8	5.8	5.2	5.5	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.6	5.4	5.7	5.8	5.8	5.7	5.6	5.4	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.1	6.4	6.1	5.8	5.6	5.8	5.8	6.2	5.9	5.8	6.0	6.0	6.1	6.0	6.0	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	100	100	350	0	110	100	10	300	300	300	100	100	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.8	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	5.9	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.7
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	5.9	5.6	5.9	6.0	6.2	6.0	5.9	6.1
40.	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.8	5.9
50.	5.4	5.4	5.3	5.1	5.0	5.4	5.6	5.3	5.3	5.2	5.4	6.1	5.8	5.6	5.8	6.0	6.3	6.0	5.9	5.9
60.	5.4	5.4	5.3	5.1	5.1	5.5	5.6	5.3	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.6	5.8	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.3	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.8	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.5	5.6	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.6	5.6	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.6	5.1	5.3	5.4	6.1	6.2	5.9	5.6	5.9	6.5	6.5	5.6	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.7	5.7	5.6	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.6	5.8	5.7
110.	5.3	5.5	5.5	5.3	5.1	5.8	5.9	6.1	5.9	5.8	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.5	5.6	5.8	5.5	5.3	5.9	6.0	6.2	6.1	5.9	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.5	6.1	6.0	6.1	6.0	6.1	5.8	5.9	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.7	5.8	5.5	5.2	6.1	6.1	6.1	5.9	5.9	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.1	6.0	6.1	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.5	5.5	5.7	5.6
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.8	5.6	5.7	5.1	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.5	5.4	5.6	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.6	5.6
200.	5.6	5.3	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.6	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	5.9	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.3	5.7	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.4	5.4	5.6	5.5	6.0	5.2	5.3	5.4	5.3	5.0	5.1	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.4	5.7	5.6	5.6	6.0	5.1	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.2	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.7	5.6	5.3	5.4	5.8	5.7	5.8	5.7	5.6	5.2	5.2	5.2	5.1	5.3	5.2	5.0	5.0
270.	5.4	5.6	5.7	5.7	5.6	5.3	5.4	5.9	5.9	5.9	5.5	5.7	5.4	5.4	5.4	5.2	5.6	5.5	5.0	5.0
280.	5.3	5.6	5.7	5.7	5.5	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.4	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.6	5.5	5.1	5.3	5.9	5.9	5.9	5.7	5.7	5.6	5.5	5.6	5.5	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.5	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.6	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	5.9	5.9	5.9	5.9	5.5	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.5	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.5	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.8	5.8	5.8	5.3	5.2	5.6	5.9	6.1	5.4	6.1	5.6	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2	5.5	6.0	6.2	5.4	6.2	5.7	6.1	5.5	5.4	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.8	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.1	6.1	6.2	6.1	6.1	6.3	6.4	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	260	170	150	140	120	120	130	110	110	0	310	0	70	70	40	80	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.8	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.7	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.6	5.7	5.7	5.7	5.6	6.0	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.8	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.2	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.7
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.1
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.7	6.1	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.9	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.9	5.4	5.3	5.2	5.4	5.9	6.2	5.6
200.	5.9	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.7	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.3	5.5	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.5	5.9	6.4	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.3	5.5
240.	5.7	5.7	5.5	5.3	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.3	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.0	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.3	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.4	5.7	5.6	5.3	5.6	6.1	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.9
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.5	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.7	5.6	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.4	6.3	5.3	5.2	5.2	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.4	5.8	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.8	6.0	6.1	5.7	5.6	5.8	6.2	6.4	6.3	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.2	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.0	5.7	5.7	5.7	6.0	6.0	6.0	6.1	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.0	6.1	5.6	5.8	5.8	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.0	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.3	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.2	6.3	6.2
DEGR.	340	340	330	320	0	0	330	320	320	320	290	290	290	270	260	210	200	270	200	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

1_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:40:44

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	86.	100.0	1.0	10.0	0.72	8.0
3. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	86.	100.0	1.0	10.0	0.29	3.3
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	100.	100.0	1.0	10.0	1.37	61.6
7. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	97.	100.0	1.0	10.0	1.30	59.3
8. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	81.	100.0	1.0	10.0	1.30	94.5
9. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	78.	100.0	1.0	10.0	1.29	96.9
10. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	81.	100.0	1.0	10.0	1.01	19.9
11. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	78.	100.0	1.0	10.0	1.11	46.4
12. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	64.	100.0	1.0	10.0	0.39	4.7
13. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	88.	100.0	1.0	10.0	1.14	44.4
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	176.	100.0	1.0	20.0	1.09	33.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	84.	100.0	1.0	10.0	1.18	50.9
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	60.	100.0	1.0	10.0	1.21	92.5
24. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	104.	100.0	1.0	10.0	2.06	97.6
25. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	60.	100.0	1.0	10.0	0.76	5.9
26. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	169.	100.0	1.0	20.0	1.04	24.8
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	276.	100.0	1.0	30.0	1.37	82.6
29. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	213.	100.0	1.0	20.0	1.73	74.7
31. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.87	559.8
32. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	92.	100.0	1.0	10.0	0.17	1.7
33. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	92.	100.0	1.0	10.0	1.56	122.7
34. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	284.	100.0	1.0	30.0	1.30	65.6
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	147.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	147.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	112.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:40:44

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	63.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	101.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	90.	100.0	1.0	10.0	0.70	6.3
51. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	103.	100.0	1.0	10.0	1.68	83.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:40:44

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3235.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3470.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3250.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	305	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	109	3.0	340	1600	46.20	1	3
7. College Ave WB	*	135	106	3.0	370	1600	46.20	1	3
8. Main St. SB	*	120	78	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	76	3.0	670	1600	46.20	1	3
10. Main st. NB	*	120	78	3.0	500	1600	46.20	1	3
11. Harvard St. WB	*	120	76	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	62	3.0	275	1600	46.20	1	3
13. Broadway EB TL	*	120	85	3.0	455	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
16. Broadway St. WB	*	120	85	3.0	871	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	495	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	80	39	3.0	870	1600	46.20	1	3
24. School St. SB	*	80	67	3.0	330	1600	46.20	1	3
25. Medford St. SEB	*	80	39	3.0	545	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	915	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	89	3.0	1425	1600	46.20	1	3
29. Somerville EB	*	120	60	3.0	780	1600	46.20	1	3
30. McGrath Highway SB1	*	135	116	3.0	570	1600	46.20	1	3
31. Washington St. EB	*	135	108	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	135	103	3.0	1245	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	87	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	100	3.0	335	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	950	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	940	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:40:44

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.5	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.4	5.5	5.4	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.4	5.4
30.	5.5	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.2	5.3	5.4	5.4	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.5
50.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.6
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.6	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.7	5.7	5.6	5.6	5.6
90.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.9	5.6	5.6	5.6
100.	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.4	5.4	5.2	6.0	5.9	5.9	5.5	5.5
110.	5.1	5.2	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.7	6.0	5.5	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.7	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.3	5.3	5.8	5.7	5.6	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.7	5.2	5.2	5.3	5.3	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.4
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.6	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.5	5.2	5.2	5.4	5.5	5.5	5.5	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.4	5.6	5.8	5.5	5.5	5.2	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.6	5.4	5.4	5.4	5.6	5.8	5.5	5.3	5.0	5.2	5.5	5.5	5.5
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.8	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.7	5.7	5.7	5.2	5.1	5.5	5.6	5.6	5.5	5.4	5.2	5.4	5.6	5.3	5.3	5.0	5.0	5.1	5.2	5.2
230.	5.5	5.6	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.8	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.3	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.3	5.2	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.7	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.5	5.5	5.3	5.3	5.3	5.0	5.0
290.	5.4	5.5	6.0	5.7	5.5	5.6	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.5	5.5	5.6	5.6	5.7	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.7	5.3	5.4	5.5	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.8	5.8	5.9	5.1	5.1
310.	5.5	5.6	5.8	5.6	5.7	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1
330.	5.6	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
350.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.8	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	290	100	100	250	280	120	220	200	210	190	120	130	120	100	90	110	70	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.8	5.1	5.2	5.4	5.4	5.4	5.1	5.0	5.2	5.1	5.0	5.4	5.5	5.4	5.2	5.1
10.	5.4	5.5	5.9	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.3	5.0	5.0	5.3	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.6	5.6	5.6	5.1	5.0	5.3	5.6	5.7	5.5	5.4
30.	5.4	5.4	5.6	5.5	5.4	5.0	5.1	5.3	5.3	5.4	5.9	5.8	5.8	5.2	5.1	5.4	5.7	5.8	5.6	5.5
40.	5.1	5.3	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.8	5.3	5.1	5.4	5.8	5.8	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.5	5.7	5.6	5.4	5.3
60.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.6	5.2	5.2	5.5	5.7	5.5	5.3	5.3
70.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.4	5.7	5.5	5.4	5.3
80.	5.1	5.3	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.5	5.2	5.1	5.4	5.7	5.5	5.3	5.3
90.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.4	5.7	5.5	5.4	5.2
100.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.5	5.7	5.5	5.4	5.2
110.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.6	5.7	5.6	5.4	5.2
120.	5.2	5.3	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.7	5.6	5.7	5.4	5.3
130.	5.2	5.3	5.9	5.9	5.9	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.6	5.4	5.9	5.9	5.9	5.4	5.2
140.	5.1	5.2	5.8	5.8	5.8	5.6	5.6	5.6	5.1	5.0	5.4	5.6	5.8	5.9	5.6	5.8	5.7	5.8	5.3	5.2
150.	5.0	5.1	5.6	5.6	5.6	5.9	5.9	5.8	5.3	5.1	5.7	5.7	6.0	5.8	5.8	5.6	5.6	5.7	5.2	5.1
160.	5.0	5.0	5.3	5.2	5.2	5.9	5.9	5.8	5.3	5.2	5.8	5.9	5.8	5.6	5.6	5.3	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2	5.8	5.9	5.7	5.7	5.5	5.0	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.8	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.0	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	5.8	5.8	5.7	5.5	5.3	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4	5.7	5.5	5.6	5.4	5.3	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.4	5.4	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.7	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.4	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.8	5.7	5.7	5.5	5.4	5.1	5.2	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.3	5.4	5.4	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.2	5.3	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.7	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.4	5.4	5.1	5.0
330.	5.2	5.2	5.8	5.7	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.5	5.7	5.6	5.1	5.1
340.	5.2	5.3	5.9	5.7	5.8	5.2	5.4	5.4	5.3	5.4	5.0	5.0	5.2	5.2	5.1	5.5	5.7	5.7	5.2	5.1
350.	5.3	5.4	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.4	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.8	5.8	5.1	5.2	5.4	5.4	5.4	5.1	5.0	5.2	5.1	5.0	5.4	5.5	5.4	5.2	5.1
MAX	5.5	5.6	5.9	5.9	5.9	5.9	5.9	5.8	5.5	5.5	5.9	5.9	6.0	5.9	5.8	5.9	5.9	5.9	5.6	5.5
DEGR.	20	20	10	130	130	150	150	150	10	10	30	40	150	140	150	130	130	130	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC16.

1_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:41:21

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	86.	100.0	1.0	10.0	0.72	8.0
3. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	86.	100.0	1.0	10.0	0.29	3.3
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	100.	100.0	1.0	10.0	1.37	61.6
7. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	97.	100.0	1.0	10.0	1.30	59.3
8. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	81.	100.0	1.0	10.0	1.30	94.5
9. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	78.	100.0	1.0	10.0	1.29	96.9
10. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	81.	100.0	1.0	10.0	1.01	19.9
11. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	78.	100.0	1.0	10.0	1.11	46.4
12. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	64.	100.0	1.0	10.0	0.39	4.7
13. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	88.	100.0	1.0	10.0	1.14	44.4
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	176.	100.0	1.0	20.0	1.09	33.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	84.	100.0	1.0	10.0	1.18	50.9
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	60.	100.0	1.0	10.0	1.21	92.5
24. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	104.	100.0	1.0	10.0	2.06	97.6
25. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	60.	100.0	1.0	10.0	0.76	5.9
26. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	169.	100.0	1.0	20.0	1.04	24.8
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	276.	100.0	1.0	30.0	1.37	82.6
29. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	213.	100.0	1.0	20.0	1.73	74.7
31. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.87	559.8
32. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	92.	100.0	1.0	10.0	0.17	1.7
33. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	92.	100.0	1.0	10.0	1.56	122.7
34. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	284.	100.0	1.0	30.0	1.30	65.6
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	147.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	147.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	112.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	63.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	101.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	90.	100.0	1.0	10.0	0.70	6.3
51. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	103.	100.0	1.0	10.0	1.68	83.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3235.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3470.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3250.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	305	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	109	3.0	340	1600	46.20	1	3
7. College Ave WB	*	135	106	3.0	370	1600	46.20	1	3
8. Main St. SB	*	120	78	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	76	3.0	670	1600	46.20	1	3
10. Main st. NB	*	120	78	3.0	500	1600	46.20	1	3
11. Harvard St. WB	*	120	76	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	62	3.0	275	1600	46.20	1	3
13. Broadway EB TL	*	120	85	3.0	455	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
16. Broadway St. WB	*	120	85	3.0	871	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	495	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	80	39	3.0	870	1600	46.20	1	3
24. School St. SB	*	80	67	3.0	330	1600	46.20	1	3
25. Medford St. SEB	*	80	39	3.0	545	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	915	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	89	3.0	1425	1600	46.20	1	3
29. Somerville EB	*	120	60	3.0	780	1600	46.20	1	3
30. McGrath Highway SB1	*	135	116	3.0	570	1600	46.20	1	3
31. Washington St. EB	*	135	108	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	135	103	3.0	1245	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	87	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	100	3.0	335	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	950	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	940	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:41:21

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.7	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.7	6.0	6.2	5.7	5.7	7.0	7.1	6.2	6.1	5.9	5.5	5.5	6.1	6.1	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.3	6.1	6.1	6.9	7.0	6.3	6.2	5.8	5.4	5.3	6.1	6.0	5.8	5.4	5.5	5.4	5.0	5.0
30.	5.7	6.1	6.8	6.3	6.5	6.3	6.4	6.2	6.1	6.0	5.5	5.2	5.9	5.9	5.6	5.7	5.9	6.0	5.1	5.0
40.	5.8	6.4	6.9	6.5	7.1	6.0	6.2	6.1	6.1	5.9	5.5	5.3	5.6	5.8	5.6	6.0	6.4	6.4	5.1	5.0
50.	5.9	6.6	6.4	6.8	7.0	5.7	5.9	5.7	6.1	5.9	5.6	5.2	5.3	5.5	5.7	6.1	6.5	6.6	5.3	5.1
60.	6.3	6.6	6.5	6.9	7.1	5.9	6.0	6.1	6.3	6.1	5.7	5.6	5.5	5.6	5.8	6.2	6.6	6.6	5.5	5.1
70.	6.9	7.2	6.6	7.1	7.0	5.6	6.0	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	7.0	6.8	6.1	5.6
80.	6.8	7.0	6.5	6.9	6.6	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.6	6.4	6.8	6.9	6.6	6.0	5.7
90.	6.8	7.1	6.5	6.7	6.3	5.3	5.3	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.6	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.6	6.2	5.2	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.1	5.8
110.	7.0	6.7	6.9	6.5	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.7	6.6	6.2	5.1	5.3	5.8	5.6	5.6	6.4	6.6	6.5	5.5	5.8	7.0	6.5	7.2	6.6	6.6
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.4	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.6
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.8	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.4	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.4	6.2	5.5	5.6	6.9	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.9	6.5	6.5	6.5	6.2
170.	5.6	5.8	6.5	6.6	6.4	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	7.0	6.6	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.5	5.2	5.2	5.3	5.0	5.0	5.8	6.1	5.9	5.5	5.7	7.0	6.8	6.7	6.5	6.2
190.	5.6	5.7	6.8	6.9	6.7	5.5	5.5	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.3	7.0	7.1	6.5	6.2
200.	5.4	5.6	6.7	6.8	6.6	6.2	6.1	6.3	5.1	5.1	5.9	6.1	6.6	6.2	6.0	7.2	7.2	7.2	6.3	6.0
210.	5.2	5.4	6.3	6.4	6.0	6.8	6.8	7.0	5.4	5.2	6.0	6.4	7.0	6.5	6.4	7.0	6.9	6.7	6.2	5.8
220.	5.2	5.1	5.6	5.6	5.4	7.0	7.0	7.1	5.7	5.4	6.2	6.7	7.0	6.6	6.7	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.5	5.1	6.8	6.8	6.9	5.7	5.4	6.2	6.7	6.5	6.4	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.3	5.4	5.2	6.7	6.8	6.8	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.5	5.6	6.0	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	6.8	6.5	5.9	5.6	6.7	6.8	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.8
260.	5.1	5.1	5.1	5.1	5.3	6.5	6.7	6.4	6.0	5.5	6.7	6.7	6.1	6.4	6.6	5.3	5.5	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.5	6.1	5.8	5.5	6.9	6.7	6.4	6.2	6.5	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.4	6.4	6.0	5.6	6.8	6.7	6.5	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.7	5.8	5.9	5.1	5.2	6.2	6.5	6.7	6.3	5.8	6.6	6.5	6.6	6.0	6.3	5.1	5.2	6.0	6.0	6.0
300.	6.0	6.3	6.4	5.2	5.3	6.4	6.7	7.1	6.3	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.7	5.6
310.	6.1	6.4	6.5	5.3	5.4	6.4	6.7	6.9	6.2	6.1	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.4	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	7.1	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.8	7.0	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	6.0	5.4	5.5	6.8	7.1	6.3	6.2	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.1
360.	5.7	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.2	6.9	7.1	7.1	7.0	7.1	7.1	6.4	6.1	6.9	6.8	7.0	6.6	6.7	7.3	7.2	7.2	6.6	6.6
DEGR.	100	70	40	70	40	0	350	220	70	300	270	240	210	220	220	190	200	120	130	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.3	6.3	6.2	5.4	5.2	5.9	6.1	6.3	5.9	5.7	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.3	6.3	6.1	5.5	5.3	6.1	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.3	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.4	6.2	6.2	6.0	5.6	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.1	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.4	5.4	6.2	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.5	5.1	5.1	5.1	5.0	5.0
40.	5.9	5.9	5.6	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.8	6.6	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.9	5.9	5.8	5.7	5.4	6.7	6.5	6.1	5.8	5.7	5.4	5.6	5.8	6.8	6.9	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	5.9	5.9	6.6	6.5	6.1	5.6	5.5	5.2	5.4	5.6	6.8	6.8	6.1	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.8	5.8	6.3	6.3	5.9	5.4	5.3	5.0	5.2	5.2	6.3	6.3	6.9	6.9	7.0	5.5	5.2
80.	6.4	6.6	5.7	5.7	5.7	5.9	5.7	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.2	7.2	7.2	5.7	5.5
90.	6.4	6.3	5.4	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	6.9	7.0	5.8	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.2	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.7	6.7	6.8	5.7	5.5
110.	6.2	6.0	5.2	5.8	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.1	5.1	6.5	6.6	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.4	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.1	6.0	5.7	6.1	6.0	5.5	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.1	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.8	5.2	5.3	5.5	5.5	5.5	5.3	5.2	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.6	5.1	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.4	5.4	5.4	5.7	5.7	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.2	5.2	5.9	5.9	5.4	5.3	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.1	5.1	5.1	6.0	6.0	5.5	5.3	5.2	6.6	6.7	6.0	5.7	5.6
200.	5.3	5.4	5.5	5.6	5.7	5.2	5.1	5.1	5.0	5.0	5.9	5.9	5.3	5.4	5.3	6.7	6.6	5.9	5.5	5.6
210.	5.3	5.5	5.7	5.9	5.9	5.2	5.2	5.1	5.0	5.0	5.8	5.8	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.5	5.5	5.7	6.0	5.9	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.2	5.4	5.2	6.9	6.6	6.1	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.2	5.6	5.8	5.5	5.8	5.5	7.1	6.7	6.1	5.8	5.8
240.	5.4	5.4	5.8	6.2	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	6.0	6.8	6.5	6.1	5.9	5.8
250.	5.2	5.3	5.4	5.7	5.7	6.5	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.6
260.	5.0	5.0	5.4	5.5	5.5	6.6	6.6	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.1	6.4	6.3	6.2	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.9	5.4	5.3	5.8	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.5	6.1	6.4	5.2	5.2	5.6	5.5	5.7
310.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.8	5.5	5.6	6.2	6.3	5.2	5.2	5.5	5.6	5.7
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.8	5.9	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.2	5.5	5.6	5.6
340.	5.6	5.6	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	5.9	5.7	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	5.9	6.0	6.0	5.2	5.1	5.8	5.9	6.3	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.3	6.3	6.2	5.4	5.2	5.9	6.1	6.3	5.9	5.7	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.4	6.6	6.2	6.2	6.1	6.7	6.6	6.3	5.9	5.7	6.2	6.1	5.9	6.8	6.9	7.2	7.2	7.2	5.9	5.8
DEGR.	80	70	0	240	230	50	260	0	0	0	330	260	330	50	50	80	80	80	240	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC16.

1_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:42:12

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	86.	100.0	1.0	10.0	0.72	8.0
3. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	86.	100.0	1.0	10.0	0.29	3.3
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	100.	100.0	1.0	10.0	1.37	61.6
7. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	97.	100.0	1.0	10.0	1.30	59.3
8. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	81.	100.0	1.0	10.0	1.30	94.5
9. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	78.	100.0	1.0	10.0	1.29	96.9
10. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	81.	100.0	1.0	10.0	1.01	19.9
11. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	78.	100.0	1.0	10.0	1.11	46.4
12. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	64.	100.0	1.0	10.0	0.39	4.7
13. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	88.	100.0	1.0	10.0	1.14	44.4
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	176.	100.0	1.0	20.0	1.09	33.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	84.	100.0	1.0	10.0	1.18	50.9
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	60.	100.0	1.0	10.0	1.21	92.5
24. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	104.	100.0	1.0	10.0	2.06	97.6
25. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	60.	100.0	1.0	10.0	0.76	5.9
26. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	169.	100.0	1.0	20.0	1.04	24.8
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	276.	100.0	1.0	30.0	1.37	82.6
29. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	213.	100.0	1.0	20.0	1.73	74.7
31. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.87	559.8
32. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	92.	100.0	1.0	10.0	0.17	1.7
33. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	92.	100.0	1.0	10.0	1.56	122.7
34. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	284.	100.0	1.0	30.0	1.30	65.6
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	147.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	147.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	112.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:42:12

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	63.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	101.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	90.	100.0	1.0	10.0	0.70	6.3
51. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	103.	100.0	1.0	10.0	1.68	83.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:42:12

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3235.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3470.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3250.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	305	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	109	3.0	340	1600	46.20	1	3
7. College Ave WB	*	135	106	3.0	370	1600	46.20	1	3
8. Main St. SB	*	120	78	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	76	3.0	670	1600	46.20	1	3
10. Main st. NB	*	120	78	3.0	500	1600	46.20	1	3
11. Harvard St. WB	*	120	76	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	62	3.0	275	1600	46.20	1	3
13. Broadway EB TL	*	120	85	3.0	455	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
16. Broadway St. WB	*	120	85	3.0	871	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	495	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	80	39	3.0	870	1600	46.20	1	3
24. School St. SB	*	80	67	3.0	330	1600	46.20	1	3
25. Medford St. SEB	*	80	39	3.0	545	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	915	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	89	3.0	1425	1600	46.20	1	3
29. Somerville EB	*	120	60	3.0	780	1600	46.20	1	3
30. McGrath Highway SB1	*	135	116	3.0	570	1600	46.20	1	3
31. Washington St. EB	*	135	108	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	135	103	3.0	1245	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	87	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	100	3.0	335	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	950	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	940	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.2	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.3	6.6	6.1	6.0	5.8
30.	6.8	6.8	6.5	6.0	6.1	5.6	5.7	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.6	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.0	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.1	7.3	7.0	6.8	6.7
60.	6.8	6.8	6.3	6.4	6.1	5.5	5.7	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.2	7.3	6.9	6.4	6.6
70.	7.0	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.5	6.6	6.5	6.7
80.	7.1	7.1	6.7	6.3	6.1	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.4	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.6	7.4	7.2	6.5	6.2	5.7	6.0	7.0	6.9	6.9	5.1	5.1	5.1	5.1	5.1	7.9	7.7	6.9	6.7	6.6
110.	7.7	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.1	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.7	6.6
120.	7.7	7.2	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.1	6.2	6.3	8.0	7.8	7.1	6.6	6.5
130.	6.6	6.5	6.4	5.6	5.5	5.0	5.1	6.1	6.1	6.0	6.9	7.0	6.8	6.9	6.9	7.1	6.8	6.6	6.6	6.4
140.	5.5	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.2
170.	5.3	5.4	5.7	5.9	5.8	5.2	5.1	5.2	5.1	5.0	6.5	6.5	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.2	5.2	5.8	5.9	5.8	5.8	5.7	5.6	5.2	5.1	6.3	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.3	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.3	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.4	6.4	6.1	6.5	6.4	5.0	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.3	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.6	6.6	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.7	6.5	6.6	6.8	6.9	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	7.0	6.9	5.1	5.3	5.3	5.1	5.1
290.	5.7	5.7	5.7	5.1	5.0	5.5	5.6	6.0	5.8	5.6	7.0	6.9	7.0	7.1	7.0	5.5	5.8	5.8	5.0	5.0
300.	6.9	7.0	6.9	5.5	5.2	5.7	6.0	7.0	6.7	6.6	6.9	6.7	6.8	7.0	7.0	6.3	6.9	6.9	5.3	5.1
310.	7.9	7.9	7.8	5.9	5.5	6.0	6.4	7.7	7.4	7.2	6.1	6.0	5.9	6.0	6.1	6.8	7.6	7.6	5.6	5.5
320.	7.9	7.9	7.8	6.2	5.8	6.3	6.7	7.6	7.2	6.9	5.3	5.3	5.2	5.3	5.3	6.6	7.6	7.4	5.7	5.5
330.	7.6	7.5	7.5	6.1	5.8	6.4	6.7	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.1	6.4	7.3	7.0	5.8	5.4
340.	7.4	7.4	7.3	6.2	5.9	6.4	6.5	6.7	6.6	6.6	5.1	5.0	5.0	5.1	5.1	6.2	7.1	6.7	5.9	5.5
350.	7.1	7.1	6.9	6.1	5.9	6.3	6.4	6.4	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	7.0	6.4	5.9	5.6
360.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
MAX	7.9	7.9	7.8	6.5	6.2	6.4	6.7	7.7	7.4	7.2	7.1	7.0	7.0	7.1	7.0	8.0	7.8	7.6	7.0	7.0
DEGR.	310	310	310	100	100	330	320	310	310	310	140	130	290	290	290	110	110	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.7	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.7	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.3	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.2	5.0	5.0	5.0	5.1	5.1	6.9	6.8	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.2	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.4	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.6	6.8	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.6	6.6	5.8	5.8	5.9	5.3	5.1	6.4	6.5	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.1	6.2	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.5	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.3	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.3	6.6	6.7	5.7	5.4	6.7	6.9	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.3	6.6	6.6	5.7	5.4	6.8	6.9	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.2	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.2	7.3	7.1	7.0	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.8
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.0	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.2	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.2	6.3	6.2	5.8
240.	7.5	7.6	7.0	6.1	5.8	6.8	7.1	6.8	6.9	6.6	5.6	5.9	6.0	6.1	5.8
250.	7.2	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.5	5.7	6.2	6.2	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.5	6.3	5.5	5.6	6.2	6.3	6.1
290.	6.6	6.7	6.5	6.1	5.9	6.8	6.6	7.1	6.4	6.4	5.4	5.6	6.3	6.3	6.4
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.7	6.3	6.5	6.5
310.	7.0	7.5	7.7	7.2	7.1	6.0	6.2	6.6	6.0	5.9	5.0	5.2	5.8	5.9	5.9
320.	7.1	7.4	7.3	6.8	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.3
330.	7.1	7.3	6.9	6.6	6.7	5.5	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.3	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.7	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	6.9	7.1	7.3	7.1	7.2	7.6	7.5	7.5	7.0	6.9
DEGR.	20	230	310	310	310	250	230	220	220	230	210	200	130	190	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

2A_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:43:45

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756140.3	********	77.	312.	AG	182.	100.0	1.0	20.0	0.48	3.9
2. MVP West	756216.0	********	753411.8	********	4556.	218.	AG	58.	100.0	1.0	10.0	1.52	231.5
3. Boston Ave South	756271.8	********	757967.7	********	2278.	132.	AG	91.	100.0	1.0	10.0	1.54	115.7
4. MVP East	756253.6	********	756406.0	********	214.	45.	AG	116.	100.0	1.0	20.0	0.86	10.9
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	54.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764206.9	********	4828.	92.	AG	67.	100.0	1.0	10.0	1.63	245.3
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	753949.8	********	5349.	273.	AG	67.	100.0	1.0	10.0	1.70	271.7
10. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	90.	100.0	1.0	10.0	0.71	6.5
46. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	103.	100.0	1.0	10.0	1.71	85.9
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	98.	100.0	1.0	10.0	0.81	6.4
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2415.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2320.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3270.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:43:45

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	340	1600	46.20	1	3
2. MVP West	*	113	53	3.0	1185	1600	46.20	1	3
3. Boston Ave South	*	113	83	3.0	545	1600	46.20	1	3
4. MVP East	*	113	53	3.0	1345	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1100	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1150	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
29. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
31. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	87	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	100	3.0	340	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	215	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 6.0	6.1	6.1	5.9	5.8	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.5	5.4	5.2
10.	* 6.2	6.1	6.0	5.9	5.7	5.2	5.4	5.9	5.9	5.8	5.1	5.1	5.1	5.0	5.0	5.2	5.8	5.4	5.4	5.3
20.	* 6.2	6.1	6.3	5.7	5.6	5.2	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.8	5.4	5.5	5.5
30.	* 6.1	6.2	6.4	5.6	5.5	5.2	5.3	6.1	6.0	5.9	5.2	5.2	5.2	5.0	5.0	5.2	5.8	5.6	5.8	5.8
40.	* 5.9	6.0	6.3	5.6	5.5	5.1	5.2	6.0	6.0	5.9	5.6	5.7	5.7	5.1	5.0	5.2	5.9	6.1	6.2	6.0
50.	* 5.5	5.6	6.0	5.4	5.3	5.0	5.1	5.6	5.6	5.6	5.9	6.1	6.2	5.2	5.1	5.3	6.0	6.4	6.3	6.4
60.	* 5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.1	6.2	6.3	5.4	5.2	5.4	6.2	6.4	6.3	6.2
70.	* 5.3	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.1	6.2	6.2	5.5	5.2	5.4	6.4	6.1	6.1	6.1
80.	* 5.2	5.3	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	6.0	6.1	6.0	5.4	5.3	5.5	6.3	6.2	6.1	6.0
90.	* 5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.9	6.0	5.8	5.4	5.3	5.6	6.5	6.0	5.9	6.0
100.	* 5.2	5.2	5.6	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.8	5.4	5.3	5.7	6.5	6.1	5.9	5.9
110.	* 5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.2	5.0	5.0	5.8	5.8	5.6	5.4	5.3	5.9	6.6	6.2	5.9	5.9
120.	* 5.2	5.2	5.7	5.7	5.7	5.4	5.4	5.4	5.0	5.0	5.8	5.8	5.9	5.7	5.6	5.9	6.6	6.3	5.9	5.9
130.	* 5.0	5.2	5.6	5.6	5.6	5.8	5.8	5.8	5.2	5.0	5.9	6.1	6.2	5.8	5.7	5.8	6.4	6.2	5.9	5.7
140.	* 5.0	5.0	5.4	5.3	5.3	6.0	6.0	6.0	5.2	5.2	6.1	6.1	6.2	5.9	5.9	5.6	5.9	5.9	5.7	5.7
150.	* 5.0	5.0	5.1	5.1	5.1	5.8	5.9	5.8	5.2	5.2	6.0	6.0	6.1	5.9	5.8	5.4	5.5	5.7	5.7	5.7
160.	* 5.0	5.0	5.1	5.0	5.0	5.8	5.8	5.8	5.2	5.2	6.0	6.0	6.0	5.9	5.7	5.2	5.4	5.7	5.7	5.7
170.	* 5.0	5.1	5.1	5.0	5.0	5.6	5.7	5.6	5.2	5.2	6.1	6.1	6.0	5.9	5.6	5.2	5.4	5.8	5.8	5.8
180.	* 5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.3	5.3	6.2	6.2	6.0	6.0	5.4	5.2	5.4	5.9	5.9	5.9
190.	* 5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.3	6.2	6.1	6.1	5.4	5.2	5.5	6.0	6.0	6.0
200.	* 5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.5	5.4	5.3	6.4	6.5	6.3	6.1	5.5	5.3	5.5	6.1	6.1	6.2
210.	* 5.6	5.7	5.7	5.1	5.0	5.5	5.6	5.9	5.6	5.5	6.5	6.5	6.3	6.0	5.4	5.2	5.4	6.2	6.2	6.2
220.	* 6.0	6.1	6.2	5.3	5.1	5.7	5.9	6.3	6.1	5.8	6.3	6.3	6.1	5.6	5.2	5.0	5.1	5.8	5.9	5.8
230.	* 6.2	6.2	6.3	5.4	5.3	5.8	5.9	6.3	6.1	6.2	5.9	5.8	5.7	5.5	5.2	5.0	5.0	5.3	5.4	5.4
240.	* 6.0	6.1	6.1	5.5	5.3	5.8	6.0	6.2	6.0	6.0	5.5	5.4	5.5	5.4	5.2	5.0	5.0	5.1	5.1	5.1
250.	* 5.9	5.9	5.9	5.4	5.2	5.8	6.0	6.1	6.1	6.2	5.3	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	* 5.8	5.8	5.8	5.4	5.2	5.8	6.0	5.9	6.0	6.1	5.2	5.3	5.6	5.3	5.2	5.0	5.0	5.1	5.1	5.1
270.	* 5.7	5.7	5.8	5.4	5.2	5.8	5.9	6.1	6.0	5.9	5.2	5.3	5.7	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	* 5.7	5.7	5.6	5.3	5.2	5.9	6.0	6.0	6.0	5.9	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	* 5.7	5.7	5.8	5.3	5.3	6.0	6.2	6.2	5.8	5.8	5.1	5.1	5.7	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	* 5.7	5.7	6.0	5.6	5.4	6.1	6.2	6.2	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.3	5.5	5.0	5.0
310.	* 5.7	5.8	6.2	5.8	5.6	6.0	6.0	6.1	5.9	5.8	5.0	5.1	5.5	5.3	5.3	5.3	5.5	5.9	5.1	5.0
320.	* 5.8	5.8	6.2	5.9	5.7	5.7	5.7	6.0	5.8	5.8	5.0	5.0	5.2	5.2	5.2	5.4	5.7	6.1	5.1	5.1
330.	* 5.8	5.9	6.1	5.8	5.8	5.5	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.7	6.1	5.1	5.1
340.	* 5.8	5.9	6.1	5.7	5.8	5.3	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.3	5.7	5.9	5.2	5.1
350.	* 6.0	6.0	5.9	5.8	5.8	5.3	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.8	5.7	5.3	5.2
360.	* 6.0	6.1	6.1	5.9	5.8	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.5	5.4	5.2
MAX	* 6.2	6.2	6.4	5.9	5.8	6.1	6.2	6.3	6.1	6.2	6.5	6.5	6.3	6.1	5.9	5.9	6.6	6.4	6.3	6.4
DEGR.	* 10	30	30	0	0	300	290	220	220	230	210	200	60	190	140	110	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.9	6.1	6.7	6.2	6.1	6.6	6.7	6.7	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.8	6.6	6.8	5.3	5.1
10.	5.9	6.1	6.8	6.4	6.4	5.9	6.1	6.3	5.9	5.9	5.0	5.0	5.5	5.4	5.5	7.0	7.0	7.0	5.5	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.8	5.0	5.0	5.1	5.1	5.2	6.8	6.8	6.8	5.6	5.4
30.	6.1	6.1	6.2	6.1	6.2	5.3	5.5	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.6	5.4
40.	6.2	6.2	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.4	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.2	5.4	5.3
60.	6.2	6.3	6.4	6.3	6.2	5.4	5.6	6.2	6.3	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.3	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.6	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.1	5.4	6.4	6.4	6.4	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.5	6.6	5.4	5.2	6.4	6.6	7.4	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.5	6.6	6.5	5.6	5.4	6.5	6.6	7.2	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.1	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.1	6.2	6.2	5.5	5.3	6.6	6.8	6.8	5.9	5.9
140.	5.3	5.4	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	6.0	6.1	6.0	5.5	5.4	6.7	6.7	6.6	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.1	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.6	7.0	7.0	6.7	6.1	5.9
170.	5.2	5.4	6.2	6.2	6.2	5.7	5.7	5.6	5.0	5.0	5.9	5.9	6.3	5.9	6.0	7.2	7.0	6.8	6.0	5.9
180.	5.1	5.3	5.9	6.1	6.1	6.3	6.4	6.2	5.2	5.1	6.1	6.3	6.8	6.4	6.5	6.7	6.5	6.4	5.9	5.7
190.	5.0	5.1	5.5	5.6	5.6	6.7	6.8	6.4	5.4	5.2	6.1	6.3	6.9	6.4	6.5	6.0	6.0	6.0	5.7	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.3	5.4	5.3	6.2	6.4	6.6	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.3	6.1	6.4	5.4	5.4	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.5	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.5	6.5	6.6	6.3	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.8	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.5	6.0	6.0	6.0
270.	6.0	6.0	5.9	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.4	6.4	6.8	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.5	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.5	6.4	6.4	6.6	5.5	5.7	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.1	6.1	5.9	5.5	5.3	6.3	6.4	6.3	6.3	6.5	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	5.9	5.8	5.4	5.3	6.4	6.5	6.2	6.4	6.4	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.2	6.4	6.5	6.2	6.4	6.3	5.4	5.5	6.1	6.0	6.1	5.1	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.7	6.4	6.5	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.4	6.7	6.8	6.8	6.4	6.3	5.3	5.5	6.4	6.3	6.4	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.8	6.1	5.8	5.8	6.9	7.0	7.0	6.3	6.1	5.2	5.4	6.4	6.3	6.4	6.1	6.0	6.1	5.1	5.0
360.	5.9	6.1	6.7	6.2	6.1	6.6	6.7	6.7	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.8	6.6	6.8	5.3	5.1
MAX	6.4	6.6	6.8	6.4	6.4	6.9	7.0	7.0	6.5	6.6	6.6	6.6	6.9	6.4	6.5	7.2	7.0	7.4	6.5	6.4
DEGR.	70	80	10	10	10	350	350	350	80	280	260	110	190	180	180	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.2	6.2	5.6	5.6	5.8	5.8	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.3	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.6	5.6	5.6	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.6	5.6	5.7	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.1	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.2	5.3	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.9	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.8	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.9	6.0	6.1	6.3	6.1	5.2	5.4	6.1	6.1	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.2	6.2	6.1	5.9	5.1	5.3	6.2	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.2	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.9	6.0	5.8	5.8	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	6.0
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	6.0	5.8
230.	5.1	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	6.0	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.8	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.1	5.8	5.6
280.	5.0	5.1	5.5	5.8	5.6	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.8	5.8	5.6	5.7
300.	5.1	5.1	5.1	5.3	5.2	5.8	5.9	6.0	5.4	5.1	6.0	6.1	5.7	5.6	5.7
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.8	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	6.0	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
MAX	6.0	6.2	6.2	6.3	6.2	5.9	6.0	6.3	6.2	6.2	6.1	6.1	6.1	6.0	6.0
DEGR.	170	170	170	160	130	30	30	20	10	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC38.

2A_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:44:25

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756140.3	********	*	77.	312.	AG	182.	100.0	1.0	20.0	0.48	3.9
2. MVP West	*	756216.0	********	753411.8	********	*	4556.	218.	AG	58.	100.0	1.0	10.0	1.52	231.5
3. Boston Ave South	*	756271.8	********	757967.7	********	*	2278.	132.	AG	91.	100.0	1.0	10.0	1.54	115.7
4. MVP East	*	756253.6	********	756406.0	********	*	214.	45.	AG	116.	100.0	1.0	20.0	0.86	10.9
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759521.9	********	*	140.	92.	AG	54.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	*	759381.8	********	764206.9	********	*	4828.	92.	AG	67.	100.0	1.0	10.0	1.63	245.3
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	753949.8	********	*	5349.	273.	AG	67.	100.0	1.0	10.0	1.70	271.7
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	*	770442.2	********	770346.0	********	*	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	90.	100.0	1.0	10.0	0.71	6.5
46. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	103.	100.0	1.0	10.0	1.71	85.9
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	98.	100.0	1.0	10.0	0.81	6.4
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2415.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2320.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3270.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	340	1600	46.20	1	3
2. MVP West	*	113	53	3.0	1185	1600	46.20	1	3
3. Boston Ave South	*	113	83	3.0	545	1600	46.20	1	3
4. MVP East	*	113	53	3.0	1345	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1100	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1150	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
29. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
31. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	87	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	100	3.0	340	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:44:25

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	215	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	6.0	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.5	5.9	5.5	5.4	5.2
20.	6.0	5.8	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.8	5.5	5.5	5.4
30.	5.9	5.7	5.5	5.6	5.4	5.2	5.2	5.4	5.7	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.9	5.7	5.7	5.5
40.	5.5	5.5	5.4	5.4	5.4	5.0	5.2	5.2	5.5	5.5	5.8	5.8	5.8	5.2	5.2	5.6	5.9	5.8	5.7	5.5
50.	5.4	5.2	5.1	5.4	5.4	5.0	5.0	5.0	5.2	5.2	5.9	5.9	5.8	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.4	5.4	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.7	5.3	5.3	5.4
80.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.5	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	5.4	5.4	5.6	5.6
140.	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.6	5.6	5.6	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.4	5.4	5.3	6.0	5.6	5.7	5.5	5.6
160.	5.0	5.0	5.4	5.4	5.3	5.6	5.6	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.6	5.8	5.7	5.7	5.6	5.4
170.	5.0	5.0	5.2	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.8	5.8	5.6	5.6	5.7	5.2	5.3	5.5	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.1	5.5	5.5	5.4	5.3	5.1	5.7	5.8	5.6	5.5	5.5	5.2	5.3	5.7	5.6	5.4
200.	5.3	5.5	5.3	5.1	5.1	5.6	5.4	5.3	5.3	5.2	5.8	5.7	5.6	5.5	5.4	5.1	5.2	5.3	5.4	5.3
210.	5.3	5.5	5.5	5.1	5.1	5.5	5.4	5.4	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.3	5.7	5.6	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.1	5.2	5.1	5.1
230.	5.4	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.5	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.1	5.1	5.1	5.0
240.	5.3	5.7	5.4	5.2	5.0	5.4	5.4	5.3	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.0	5.0
250.	5.3	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.5	5.5	5.2	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.3	5.7	5.2	5.3	5.1	5.5	5.3	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.7	5.2	5.3	5.1	5.7	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.0
280.	5.4	5.7	5.2	5.3	5.1	5.6	5.3	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.5	5.1	5.2	5.5	5.4	5.4	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.3	5.3	5.6	5.3	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.6	5.5	5.1	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.5	5.6	5.4	5.4	5.8	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.2	5.2	5.1	5.0
340.	5.5	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.6	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.2	5.1
360.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	6.0	5.7	5.7	5.7	5.7	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.6	5.7	6.0	6.4	5.8	5.7	5.6
DEGR.	10	10	10	140	140	270	160	320	20	20	50	50	40	180	170	130	350	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	5.9	5.8	5.8	5.7	5.7	5.2	5.2	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.6	5.6	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
50.	5.9	6.0	5.8	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.5	5.1	5.3	5.7	5.7	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.7	5.6	5.7	5.5	5.5	5.1	5.2	5.7	5.7	5.7	5.8	5.8	5.8	5.1	5.0	5.5	5.6	6.1	5.9	5.8
80.	5.3	5.5	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	6.0	5.9	5.3	5.1	5.6	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.8
100.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.7	5.8	5.7	5.8	5.7
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.2	5.9	6.0	5.7	5.7	5.6
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.7	5.5
140.	5.1	5.2	5.7	5.7	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.8	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.6	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	5.9	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.5	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.6	5.9	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1	5.6	5.6	5.9	5.7	5.7	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.2	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.1	5.6	5.8	5.8	5.7	5.7	5.3	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.1	5.6	5.7	5.8	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.6
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.7	5.7	5.7
230.	5.4	5.4	5.3	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.0	6.0	6.2	5.7	5.6	5.2	5.3	5.8	5.8	5.8
240.	5.8	5.7	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.4
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.7	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.6	5.6	5.8	5.6	5.7	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.6	5.7	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	5.9	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.3	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.6	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.7	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.8	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.7	5.9	6.0	6.1	5.7	5.8	6.2	6.2	6.2	5.9	5.8	5.9	6.0	6.2	5.9	5.9
DEGR.	60	50	340	0	0	320	330	250	50	60	240	240	230	180	200	0	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC17.

2A_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:45: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756140.3	********	77.	312.	AG	182.	100.0	1.0	20.0	0.48	3.9
2. MVP West	756216.0	********	753411.8	********	4556.	218.	AG	58.	100.0	1.0	10.0	1.52	231.5
3. Boston Ave South	756271.8	********	757967.7	********	2278.	132.	AG	91.	100.0	1.0	10.0	1.54	115.7
4. MVP East	756253.6	********	756406.0	********	214.	45.	AG	116.	100.0	1.0	20.0	0.86	10.9
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	54.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764206.9	********	4828.	92.	AG	67.	100.0	1.0	10.0	1.63	245.3
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	753949.8	********	5349.	273.	AG	67.	100.0	1.0	10.0	1.70	271.7
10. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:45: 4

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	90.	100.0	1.0	10.0	0.71	6.5
46. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	103.	100.0	1.0	10.0	1.71	85.9
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	98.	100.0	1.0	10.0	0.81	6.4
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2415.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2320.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3270.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:45: 4

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:45: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	340	1600	46.20	1	3
2. MVP West	*	113	53	3.0	1185	1600	46.20	1	3
3. Boston Ave South	*	113	83	3.0	545	1600	46.20	1	3
4. MVP East	*	113	53	3.0	1345	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1100	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1150	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
29. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
31. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	87	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	100	3.0	340	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:45: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	215	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:45: 4

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.5	5.4	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.3	5.7	5.8	5.8	5.6	5.8	5.3	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.7	5.7	5.5	5.8	5.4	5.5	5.5	5.7	5.7	5.1	5.1	5.1	5.5	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.7	5.4	5.5	5.6	5.7	5.7	5.1	5.1	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.3	5.3	5.5	5.6	5.8	5.6	5.7	5.3	5.5	5.6	5.7	5.6	5.0	5.1	5.3	5.5	5.5
50.	5.7	6.1	5.7	5.3	5.4	5.4	5.5	5.7	5.6	5.7	5.3	5.4	5.7	5.6	5.6	5.0	5.1	5.3	5.4	5.3
60.	5.8	6.0	5.6	5.5	5.6	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.1	5.2	5.2
70.	5.8	6.1	5.8	5.6	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.0	5.6	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.8	5.8	5.4	5.6	5.9	5.9	5.9	5.2	5.2	5.2	5.0	5.0
100.	6.1	6.4	6.1	5.8	5.6	5.4	5.6	6.2	5.9	5.8	5.3	5.5	6.0	6.0	6.0	5.4	5.4	5.4	5.0	5.0
110.	6.0	6.2	5.9	5.6	5.5	5.3	5.4	6.2	5.8	5.7	5.2	5.3	5.9	5.9	5.9	5.9	5.9	5.8	5.2	5.0
120.	5.8	5.8	5.8	5.5	5.4	5.2	5.3	6.0	5.7	5.6	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.4	5.2
130.	5.4	5.6	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.5	5.2
140.	5.3	5.4	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.4	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.9	5.8	5.8	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.4	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.4	5.4	5.3
210.	5.0	5.1	5.2	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.6
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	5.9	5.7	5.5	5.5
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.5	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.2	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.8	5.9	5.9	5.6
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	5.9	5.5	5.3	5.8	6.0	5.9	5.8	5.7	6.0	5.8	5.8	5.7	5.5
300.	6.0	6.3	6.1	5.3	5.1	5.4	5.7	6.1	5.6	5.5	6.1	6.0	6.1	5.9	5.9	5.6	5.6	5.6	5.6	5.4
310.	6.0	6.3	6.1	5.4	5.3	5.6	5.8	6.0	5.6	5.5	6.0	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.9	6.2	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.6	5.8	5.9	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.7	5.9	5.8	5.8	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.6	6.0	5.7	5.4	5.3	5.6	5.8	6.1	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.0	5.7	5.6	5.3	5.8	5.8	6.0	5.8	5.8	5.2	5.5	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.5	5.4	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.1	6.4	6.1	5.8	5.6	5.8	5.8	6.2	5.9	5.8	6.1	6.0	6.1	6.0	6.0	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	100	60	350	0	100	100	10	300	290	300	100	100	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	5.9	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.7
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	5.9	5.6	5.9	6.0	6.2	6.0	5.9	6.1
40.	5.2	5.2	5.2	5.0	5.0	5.5	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.2	6.1	5.9	5.9
50.	5.4	5.4	5.3	5.1	5.0	5.4	5.6	5.3	5.3	5.2	5.4	6.1	5.8	5.6	5.8	6.0	6.3	6.0	5.9	5.8
60.	5.4	5.4	5.3	5.1	5.1	5.5	5.6	5.3	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.6	5.9	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.3	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.8	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.7	5.7	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.6	5.1	5.3	5.4	6.1	6.2	5.9	5.6	5.9	6.5	6.5	5.6	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.6	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.6	5.8	5.7
110.	5.3	5.5	5.5	5.3	5.1	5.9	5.9	6.1	5.8	5.8	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.5	5.6	5.8	5.5	5.3	5.9	6.0	6.2	6.1	6.0	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.5	6.0	6.0	6.1	6.0	6.1	5.8	5.9	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.7	5.8	5.5	5.3	6.1	6.1	6.1	5.9	5.9	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.1	6.0	6.1	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.5	5.5	5.7	5.6
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.7	5.6	5.6	5.0	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.5	5.4	5.6	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.6	5.6
200.	5.6	5.3	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.6	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	6.0	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.3	5.7	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.3	5.4	5.5	5.5	6.0	5.2	5.3	5.4	5.3	5.0	5.1	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.3	5.6	5.5	5.5	6.0	5.2	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.2	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.8	5.8	5.7	5.6	5.2	5.2	5.2	5.1	5.4	5.2	5.0	5.0
270.	5.4	5.5	5.7	5.7	5.6	5.3	5.4	5.8	5.8	5.9	5.5	5.7	5.4	5.5	5.4	5.3	5.6	5.5	5.0	5.0
280.	5.3	5.5	5.7	5.7	5.5	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.5	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.6	5.5	5.1	5.3	5.8	5.9	5.9	5.7	5.7	5.6	5.5	5.6	5.6	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.6	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.7	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	5.9	5.9	5.9	5.9	5.6	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.4	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.7	5.8	5.7	5.3	5.2	5.6	5.9	6.1	5.4	6.1	5.8	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2	5.5	6.0	6.2	5.4	6.2	5.8	6.1	5.5	5.4	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.1	6.1	6.2	6.1	6.1	6.3	6.4	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	270	170	150	140	120	120	130	110	110	0	310	0	70	70	40	80	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.7	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.6	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.5	5.7	5.7	5.7	5.6	5.9	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.8	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.1	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.6
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.0
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.7	6.1	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.8	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.8	5.4	5.3	5.2	5.4	5.9	6.2	5.6
200.	5.9	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.7	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.3	5.5	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.5	5.9	6.3	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.4	5.5
240.	5.7	5.7	5.5	5.3	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.4	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.0	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.3	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.4	5.7	5.6	5.3	5.6	6.1	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.2	5.6	5.8
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.5	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.7	5.6	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.3	6.3	5.3	5.2	5.2	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.4	5.8	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.1	6.1	5.7	5.6	5.8	6.2	6.4	6.3	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.2	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.0	5.7	5.7	5.7	6.0	6.0	6.0	6.0	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.8	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.3	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.2	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	290	290	270	260	210	200	270	230	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

2A_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:46:43

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	*	769756.4	********	767393.7	********	*	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.6	********	*	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	*	769858.1	********	771043.4	********	*	1441.	125.	AG	147.	100.0	1.0	20.0	1.18	73.2
39. Msgr Obrien L	*	771462.2	********	767835.4	********	*	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	*	771449.0	********	771332.6	********	*	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	*	771477.7	********	770263.9	********	*	1913.	219.	AG	98.	100.0	1.0	10.0	1.60	97.2
42. Charlestown NB T	*	771490.8	********	769053.8	********	*	3853.	219.	AG	196.	100.0	1.0	20.0	2.28	195.7
43. Charlestown NB R	*	771500.8	********	770695.7	********	*	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	*	771572.2	********	774298.4	********	*	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:46:43

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	101.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	90.	100.0	1.0	10.0	0.71	6.5
51. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	103.	100.0	1.0	10.0	1.71	85.9
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	98.	100.0	1.0	10.0	0.81	6.4
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3912.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2693.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3465.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
20. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
22. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1382	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	425	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1215	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	87	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	100	3.0	340	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	955	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	925	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	215	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.4	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.4	5.5	5.3	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4
30.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.5
50.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.5
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.6	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.6	5.7	5.6	5.6	5.6
90.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.8	5.6	5.5	5.4
100.	5.1	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.4	5.3	5.2	6.0	5.9	5.9	5.5	5.4
110.	5.1	5.1	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.7	6.0	5.4	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.7	5.5	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.7	5.2	5.2	5.3	5.3	5.6	5.6	5.4	5.2	5.2	5.3	5.3	5.3
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.2	5.2	5.4	5.4	5.4	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.4	5.6	5.8	5.5	5.4	5.1	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.4	5.6	5.8	5.5	5.3	5.0	5.2	5.5	5.5	5.5
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.7	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.6	5.5	5.4	5.2	5.4	5.6	5.3	5.3	5.0	5.0	5.1	5.2	5.2
230.	5.5	5.5	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.4	5.3	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.2	5.2	5.1	5.1	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.7	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.3	5.3	5.3	5.0	5.0
290.	5.4	5.5	5.9	5.7	5.4	5.5	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.5	5.4	5.5	5.6	5.6	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.6	5.3	5.4	5.4	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1
310.	5.5	5.5	5.7	5.5	5.7	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.1	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.2	5.1
330.	5.5	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.6	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
350.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.7	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	300	100	100	120	280	120	220	200	210	190	120	130	120	100	100	110	70	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.1	5.0	5.6	5.6	5.4	5.1	5.1
10.	5.4	5.6	5.9	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.4	5.4	5.4	5.6	5.6	5.5	5.1	5.0	5.5	5.6	5.7	5.4	5.4
30.	5.4	5.4	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.3	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.8	5.6	5.5
40.	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.8	5.8	5.2	5.1	5.6	5.7	5.8	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.7	5.6	5.7	5.4	5.3
60.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.7	5.7	5.5	5.3	5.3
70.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.5	5.2	5.1	5.6	5.7	5.5	5.4	5.3
90.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.6	5.7	5.5	5.3	5.2
100.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.6	5.7	5.5	5.3	5.2
110.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.7	5.7	5.6	5.3	5.2
120.	5.1	5.2	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.8	5.6	5.7	5.3	5.2
130.	5.1	5.2	5.8	5.8	5.8	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.5	5.5	5.4	5.8	5.8	5.8	5.3	5.2
140.	5.1	5.2	5.8	5.8	5.8	5.5	5.5	5.5	5.1	5.0	5.4	5.5	5.8	5.8	5.5	5.7	5.7	5.8	5.2	5.2
150.	5.0	5.1	5.5	5.5	5.5	5.8	5.8	5.8	5.2	5.1	5.6	5.6	5.9	5.7	5.6	5.5	5.4	5.6	5.2	5.1
160.	5.0	5.0	5.3	5.2	5.2	5.8	5.8	5.8	5.2	5.1	5.7	5.9	5.8	5.6	5.6	5.2	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.1	5.7	5.8	5.7	5.7	5.5	5.1	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.8	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.1	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.2	5.3	5.8	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.7	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.4	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.4	5.5	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.8	5.6	5.7	5.5	5.4	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.4	5.4	5.4	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.3	5.3	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.6	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.5	5.4	5.1	5.0
330.	5.2	5.2	5.8	5.7	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.6	5.7	5.6	5.1	5.1
340.	5.3	5.3	5.8	5.7	5.8	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.1	5.6	5.7	5.6	5.2	5.1
350.	5.3	5.4	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.5	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.1	5.0	5.6	5.6	5.4	5.1	5.1
MAX	5.5	5.6	5.9	5.9	5.8	5.8	5.8	5.8	5.5	5.5	5.9	5.9	5.9	5.8	5.6	5.8	5.8	5.8	5.6	5.5
DEGR.	20	10	10	350	0	150	150	150	10	10	40	160	150	140	150	120	130	30	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC16.

2A_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:47:24

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771043.4	********	1441.	125.	AG	147.	100.0	1.0	20.0	1.18	73.2
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770263.9	********	1913.	219.	AG	98.	100.0	1.0	10.0	1.60	97.2
42. Charlestown NB T	771490.8	********	769053.8	********	3853.	219.	AG	196.	100.0	1.0	20.0	2.28	195.7
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:47:24

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	101.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	90.	100.0	1.0	10.0	0.71	6.5
51. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	103.	100.0	1.0	10.0	1.71	85.9
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	98.	100.0	1.0	10.0	0.81	6.4
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:47:24

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3912.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2693.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3465.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:47:24

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
20. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
22. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1382	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	425	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1215	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	87	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	100	3.0	340	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	955	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	925	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	215	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.7	6.0	6.0	5.5	5.6	7.0	7.0	6.2	6.3	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.7	6.0	6.2	5.7	5.6	6.9	7.0	6.2	6.3	5.9	5.5	5.4	6.1	6.0	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.4	6.1	6.1	6.9	7.1	6.3	6.1	5.8	5.4	5.3	6.1	6.0	5.7	5.4	5.4	5.4	5.0	5.0
30.	5.7	6.1	6.8	6.2	6.6	6.3	6.5	6.2	6.2	6.0	5.5	5.3	5.9	6.0	5.7	5.6	5.9	6.0	5.0	5.0
40.	5.8	6.4	6.8	6.5	7.0	5.9	6.3	6.2	6.2	5.9	5.5	5.3	5.7	5.8	5.6	6.0	6.4	6.5	5.1	5.0
50.	5.9	6.5	6.4	6.7	7.0	5.6	6.1	5.7	6.2	5.9	5.6	5.2	5.3	5.6	5.7	6.1	6.5	6.6	5.3	5.1
60.	6.3	6.6	6.5	6.9	7.1	5.8	6.2	6.1	6.4	6.1	5.7	5.6	5.4	5.6	5.9	6.2	6.6	6.7	5.5	5.1
70.	6.9	7.2	6.6	7.1	7.1	5.6	6.2	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	6.9	6.8	6.1	5.6
80.	6.9	7.0	6.5	6.8	6.5	5.3	5.6	6.1	6.0	5.7	5.2	5.5	5.4	5.7	6.4	6.8	6.9	6.6	6.1	5.7
90.	6.9	7.0	6.5	6.7	6.3	5.3	5.5	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.6	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.7	6.3	5.3	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.1	5.8
110.	7.0	6.8	6.9	6.6	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.8	6.6	6.2	5.1	5.3	5.8	5.6	5.6	6.4	6.6	6.6	5.5	5.8	7.0	6.5	7.2	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.5	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.5
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.8	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.2	6.4	6.2	5.5	5.6	6.7	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.9	6.5	6.5	6.5	6.2
170.	5.6	5.8	6.5	6.6	6.4	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	6.9	6.7	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.4	5.2	5.2	5.3	5.0	5.0	5.9	6.1	5.9	5.5	5.7	7.0	6.8	6.7	6.5	6.1
190.	5.6	5.7	6.8	6.9	6.6	5.5	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.2	7.0	7.0	6.5	6.2
200.	5.4	5.5	6.7	6.8	6.6	6.1	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.2	7.2	7.2	6.3	6.0
210.	5.2	5.4	6.3	6.3	6.0	6.8	6.8	6.9	5.4	5.2	6.0	6.4	7.0	6.5	6.4	7.0	6.9	6.7	6.1	5.8
220.	5.2	5.1	5.5	5.6	5.4	7.0	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.6	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.2	6.7	6.8	6.9	5.7	5.4	6.2	6.8	6.5	6.4	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.3	5.4	5.2	6.7	7.0	6.8	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.5	5.6	6.0	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	7.0	6.5	6.0	5.5	6.8	6.8	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.8
260.	5.1	5.1	5.1	5.1	5.4	6.5	6.9	6.4	6.0	5.5	6.7	6.7	6.1	6.4	6.5	5.3	5.5	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.6	6.1	5.9	5.4	6.9	6.7	6.4	6.2	6.5	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.6	6.4	6.0	5.6	6.8	6.7	6.5	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.7	5.8	5.9	5.1	5.3	6.3	6.7	6.7	6.3	5.8	6.6	6.5	6.6	6.0	6.3	5.1	5.2	6.0	6.0	5.9
300.	6.0	6.3	6.4	5.2	5.3	6.4	6.8	7.0	6.4	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.5	5.3	5.4	6.4	6.7	6.9	6.3	6.1	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.4	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	7.0	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.7	7.0	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.4	5.5	6.8	7.1	6.3	6.2	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.1
360.	5.7	6.0	6.0	5.5	5.6	7.0	7.0	6.2	6.3	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.2	6.9	7.1	7.1	7.0	7.1	7.1	6.4	6.1	6.9	6.8	7.0	6.6	6.6	7.2	7.2	7.2	6.6	6.5
DEGR.	100	70	110	70	60	0	350	220	60	300	270	230	210	220	220	190	200	120	130	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.4	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.3	6.3	6.1	5.5	5.3	6.1	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.3	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.4	6.2	6.2	6.0	5.6	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.1	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.5	5.4	6.2	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.5	5.1	5.1	5.1	5.0	5.0
40.	6.0	6.0	5.7	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.7	6.7	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.9	6.0	5.8	5.7	5.4	6.7	6.6	6.1	5.7	5.8	5.4	5.6	5.8	6.8	6.9	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	6.0	5.9	6.6	6.5	6.1	5.6	5.5	5.2	5.4	5.7	6.9	6.8	6.2	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.7	5.8	6.3	6.3	5.9	5.4	5.3	5.0	5.2	5.3	6.3	6.3	6.9	7.0	7.0	5.5	5.3
80.	6.5	6.6	5.7	5.7	5.7	6.0	5.8	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.2	7.3	7.3	5.8	5.5
90.	6.4	6.3	5.3	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	7.0	7.0	5.9	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.8	6.7	6.7	5.7	5.5
110.	6.2	5.9	5.2	5.8	5.8	5.2	5.3	5.3	5.4	5.4	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.5	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.2	6.0	5.7	6.1	6.0	5.6	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.2	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.8	5.2	5.3	5.5	5.5	5.6	5.3	5.3	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.7	5.2	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.3	5.4	5.4	5.8	5.7	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.2	5.2	5.9	6.0	5.4	5.4	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.7	5.2	5.1	5.1	5.1	5.1	5.9	5.9	5.5	5.3	5.2	6.7	6.7	6.0	5.7	5.6
200.	5.3	5.4	5.6	5.7	5.7	5.2	5.2	5.1	5.0	5.0	5.9	5.9	5.3	5.4	5.3	6.7	6.6	5.9	5.5	5.6
210.	5.4	5.5	5.7	5.9	5.9	5.2	5.2	5.2	5.1	5.1	5.8	5.7	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.5	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.7	5.9	5.3	5.5	5.2	6.9	6.7	6.2	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.1	5.6	5.7	5.5	5.8	5.5	7.1	6.8	6.2	5.8	5.8
240.	5.4	5.4	5.8	6.2	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	6.0	6.9	6.5	6.1	5.9	5.8
250.	5.2	5.3	5.4	5.7	5.7	6.5	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.5
260.	5.0	5.0	5.3	5.5	5.5	6.6	6.5	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.1	6.4	6.3	6.1	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.9	5.4	5.3	5.7	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.5	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.8	5.6	5.6	6.2	6.4	5.2	5.2	5.5	5.6	5.7
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.3	5.5	5.6	5.6
340.	5.6	5.6	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	5.9	5.9	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	6.0	6.1	6.0	5.2	5.1	5.8	5.9	6.3	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.4	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.5	6.6	6.3	6.2	6.1	6.7	6.6	6.3	5.9	5.8	6.2	6.1	5.9	6.9	6.9	7.2	7.3	7.3	5.9	5.8
DEGR.	80	70	0	240	230	50	50	0	0	50	330	260	330	60	50	80	80	80	90	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC37.

2A_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:48: 5

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771043.4	********	1441.	125.	AG	147.	100.0	1.0	20.0	1.18	73.2
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770263.9	********	1913.	219.	AG	98.	100.0	1.0	10.0	1.60	97.2
42. Charlestown NB T	771490.8	********	769053.8	********	3853.	219.	AG	196.	100.0	1.0	20.0	2.28	195.7
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:48: 5

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2 *	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	* 771581.4	********	771722.2	******** *	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	* 771588.6	********	771705.8	******** *	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	* 771546.2	********	772082.8	******** *	1040.	31.	AG	101.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	* 771535.3	********	774767.3	******** *	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	* 770442.2	********	770346.0	******** *	98.	280.	AG	90.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	* 770441.3	********	770316.4	******** *	127.	281.	AG	90.	100.0	1.0	10.0	0.71	6.5
51. First St NB TL	* 770491.0	********	770239.6	******** *	1691.	189.	AG	103.	100.0	1.0	10.0	1.71	85.9
52. East St SB R	* 770778.2	********	770779.2	******** *	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	* 770496.3	********	770465.4	******** *	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	* 770503.5	********	769457.7	******** *	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	* 770636.9	********	770763.0	******** *	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	* 770624.7	********	770973.9	******** *	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	* 770501.2	********	770014.9	******** *	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	* 770490.6	********	770675.4	******** *	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	* 770548.4	********	770500.6	******** *	126.	202.	AG	98.	100.0	1.0	10.0	0.81	6.4
60. First Ext. NB T	* 770557.7	********	770500.0	******** *	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	* 761345.7	********	760087.5	******** *	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	* 761336.6	********	761454.9	******** *	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	* 761340.3	********	761346.3	******** *	842.	180.	AG	2880.	8.0	1.0	66.0		
64. Boston Ave. SB	* 759689.9	********	759291.3	******** *	834.	331.	AG	1055.	7.9	1.0	54.0		
65. College Ave. EB	* 759682.8	********	759503.5	******** *	402.	206.	AG	761.	7.9	1.0	54.0		
66. College Ave. EB2	* 759494.1	********	759662.7	******** *	1634.	174.	AG	761.	7.9	1.0	54.0		
67. Boston Ave. NB	* 759638.3	********	760480.3	******** *	1710.	151.	AG	636.	7.9	1.0	42.0		
68. College Ave. WB	* 759667.3	********	760588.5	******** *	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	* 762056.3	********	761788.3	******** *	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	* 762057.7	********	760514.6	******** *	1752.	242.	AG	1255.	7.9	1.0	42.0		
71. Main St. NB	* 762056.8	********	762406.1	******** *	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	* 762057.1	********	763589.7	******** *	1603.	73.	AG	1190.	7.9	1.0	42.0		
73. Broadway St. EB	* 763029.8	********	761172.6	******** *	2021.	293.	AG	1745.	7.9	1.0	66.0		
74. Parking Lot NEB	* 763030.0	********	762877.3	******** *	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	* 763025.4	********	764069.8	******** *	2059.	150.	AG	892.	7.9	1.0	42.0		
76. Broadway St. WB	* 763030.1	********	764419.9	******** *	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	* 763031.1	********	764132.1	******** *	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	* 763047.7	********	762503.6	******** *	1637.	341.	AG	569.	7.9	1.0	42.0		
79. Highland St. EB	* 763300.2	********	762029.2	******** *	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	* 763299.4	********	762852.7	******** *	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	* 763299.4	********	764576.9	******** *	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	* 763299.7	********	764053.4	******** *	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	* 764993.5	********	765926.1	******** *	1536.	143.	AG	1355.	7.9	1.0	42.0		
84. School St. SB	* 764992.8	********	765406.3	******** *	930.	26.	AG	530.	8.0	1.0	42.0		
85. Medford St. SEB	* 764996.8	********	764392.9	******** *	986.	322.	AG	1120.	7.9	1.0	42.0		
86. School St. NB	* 764991.8	********	764577.6	******** *	935.	206.	AG	525.	8.0	1.0	42.0		
87. Prospect St. SB	* 765833.6	********	765929.0	******** *	177.	33.	AG	2140.	8.0	1.0	66.0		
88. Sommerville Ave. EB	* 765828.2	********	765178.4	******** *	720.	295.	AG	2645.	7.9	1.0	66.0		
89. Prospect St. NB	* 765839.9	********	765452.5	******** *	858.	207.	AG	1430.	8.0	1.0	54.0		
90. Somerville Ave WB	* 765826.5	********	767169.2	******** *	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	* 766957.3	********	766833.9	******** *	714.	350.	AG	565.	7.9	1.0	42.0		
92. McGrath Highway NB1	* 767104.5	********	766885.0	******** *	694.	342.	AG	1295.	7.9	1.0	42.0		
93. Washington St. EB	* 766982.4	********	766385.3	******** *	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	* 766381.6	********	765898.7	******** *	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	* 766962.2	********	767150.7	******** *	1031.	169.	AG	565.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:48: 5

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3912.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2693.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3465.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:48: 5

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
20. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
22. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1382	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	425	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1215	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	87	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:48: 5

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	100	3.0	340	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	955	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	925	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	215	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.2	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.3	6.6	6.1	6.0	5.8
30.	6.8	6.8	6.5	6.0	6.1	5.6	5.7	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.6	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.0	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.1	7.2	7.0	6.8	6.7
60.	6.8	6.8	6.3	6.4	6.1	5.5	5.7	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.1	7.3	6.9	6.4	6.6
70.	7.0	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.4	6.6	6.5	6.7
80.	7.1	7.0	6.7	6.3	6.1	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.4	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.6	7.4	7.2	6.5	6.2	5.7	6.0	7.0	7.0	6.9	5.1	5.1	5.1	5.1	5.1	7.9	7.7	6.9	6.7	6.6
110.	7.7	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.0	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.7	6.6
120.	7.7	7.2	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.1	6.2	6.3	8.0	7.8	7.1	6.6	6.5
130.	6.6	6.5	6.4	5.6	5.5	5.0	5.1	6.1	6.1	6.0	6.9	7.0	6.8	6.8	6.9	7.1	6.8	6.6	6.6	6.4
140.	5.5	5.7	5.5	5.7	5.8	5.2	5.1	5.3	5.4	5.3	7.1	7.0	6.7	6.6	6.7	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.2
170.	5.3	5.4	5.7	5.9	5.8	5.2	5.1	5.2	5.0	5.0	6.5	6.5	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.2	5.2	5.8	5.9	5.8	5.8	5.7	5.6	5.2	5.1	6.3	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.3	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	6.9
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.3	6.4	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.4	6.4	6.1	6.5	6.4	5.0	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.3	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	6.6	6.4	6.5	6.6	6.6	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.7	6.5	6.6	6.8	6.9	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	7.0	6.9	5.1	5.3	5.3	5.1	5.1
290.	5.8	5.8	5.7	5.1	5.0	5.5	5.6	6.0	5.8	5.7	7.0	7.0	7.0	7.1	7.0	5.5	5.8	5.8	5.0	5.0
300.	7.0	7.0	7.0	5.5	5.2	5.7	6.0	7.0	6.7	6.6	6.9	6.8	6.8	7.0	7.0	6.3	6.8	6.9	5.3	5.1
310.	7.9	7.9	7.9	5.9	5.5	6.0	6.4	7.7	7.4	7.2	6.1	6.0	5.9	6.0	6.1	6.7	7.7	7.6	5.7	5.5
320.	7.9	7.9	7.8	6.1	5.8	6.3	6.7	7.6	7.2	6.9	5.3	5.3	5.2	5.3	5.3	6.6	7.6	7.4	5.7	5.5
330.	7.6	7.6	7.5	6.1	5.8	6.4	6.7	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.1	6.4	7.3	7.0	5.8	5.3
340.	7.4	7.4	7.3	6.2	5.9	6.4	6.5	6.7	6.6	6.6	5.1	5.0	5.0	5.1	5.1	6.2	7.1	6.7	5.9	5.5
350.	7.1	7.1	6.9	6.1	5.9	6.3	6.4	6.5	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	7.0	6.4	5.9	5.6
360.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
MAX	7.9	7.9	7.9	6.5	6.2	6.4	6.7	7.7	7.4	7.2	7.1	7.0	7.0	7.1	7.0	8.0	7.8	7.6	7.0	7.0
DEGR.	310	310	310	100	100	330	320	310	310	310	140	130	290	290	290	110	110	310	210	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.7	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.7	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.3	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.1	5.0	5.0	5.0	5.1	5.1	6.9	6.9	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.2	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.4	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.6	6.8	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.6	6.6	5.8	5.8	5.9	5.3	5.1	6.4	6.6	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.1	6.2	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.5	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.3	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.2	6.6	6.7	5.7	5.4	6.7	6.9	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.2	6.5	6.6	5.7	5.4	6.8	6.9	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.2	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.2	7.3	7.1	6.9	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.7
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.0	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.2	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.1	6.3	6.2	5.8
240.	7.4	7.6	7.0	6.1	5.8	6.8	7.1	6.8	6.9	6.6	5.6	5.9	6.0	6.1	5.8
250.	7.2	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.5	5.7	6.2	6.2	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.5	6.3	5.4	5.6	6.2	6.3	6.1
290.	6.6	6.7	6.5	6.1	5.9	6.8	6.7	7.0	6.4	6.4	5.4	5.6	6.3	6.3	6.4
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.7	6.3	6.5	6.4
310.	7.0	7.5	7.7	7.2	7.1	6.0	6.2	6.6	6.0	5.9	5.0	5.1	5.8	5.9	5.9
320.	7.1	7.4	7.3	6.7	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.3
330.	7.1	7.3	6.9	6.6	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.3	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.7	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	6.9	7.1	7.3	7.1	7.2	7.6	7.5	7.5	7.0	6.9
DEGR.	20	230	310	310	310	250	230	220	220	230	210	200	130	200	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

2B_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:50:18

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.5	********	*	72.	312.	AG	159.	100.0	1.0	20.0	0.34	3.6
2. MVP West	*	756216.0	********	752532.9	********	*	5984.	218.	AG	69.	100.0	1.0	10.0	1.85	304.0
3. Boston Ave South	*	756271.8	********	756816.1	********	*	731.	132.	AG	80.	100.0	1.0	10.0	1.08	37.1
4. MVP East	*	756253.6	********	756677.8	********	*	596.	45.	AG	138.	100.0	1.0	20.0	1.04	30.3
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759521.9	********	*	140.	92.	AG	54.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	*	759381.8	********	764154.8	********	*	4776.	92.	AG	67.	100.0	1.0	10.0	1.62	242.6
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754366.5	********	*	4932.	273.	AG	67.	100.0	1.0	10.0	1.64	250.5
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:50:18

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2545.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2390.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2275.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:50:18

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:50:18

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	77	3.0	340	1600	46.20	1	3
2. MVP West	*	120	67	3.0	1180	1600	46.20	1	3
3. Boston Ave South	*	120	77	3.0	545	1600	46.20	1	3
4. MVP East	*	120	67	3.0	1325	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1095	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1110	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
29. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
31. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:50:18

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
10.	* 6.2	6.2	6.1	5.9	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.3
20.	* 6.2	6.2	6.4	5.8	5.6	5.3	5.6	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.4	5.4	5.4
30.	* 6.1	6.3	6.5	5.7	5.6	5.3	5.4	6.2	6.2	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.7	5.6	5.8	5.9
40.	* 5.9	6.1	6.5	5.7	5.5	5.1	5.3	6.1	6.1	6.1	5.8	5.9	5.9	5.1	5.0	5.2	5.9	6.2	6.2	6.0
50.	* 5.6	5.6	6.0	5.4	5.3	5.0	5.1	5.7	5.7	5.7	6.2	6.4	6.3	5.3	5.1	5.3	6.0	6.6	6.4	6.4
60.	* 5.3	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.4	6.4	6.4	5.5	5.3	5.5	6.2	6.5	6.3	6.3
70.	* 5.2	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.5	5.3	5.5	6.4	6.2	6.1	6.1
80.	* 5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	* 5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	5.9
100.	* 5.2	5.2	5.6	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.4	6.1	5.9	5.9
110.	* 5.2	5.2	5.6	5.6	5.6	5.1	5.2	5.1	5.0	5.0	5.9	5.9	5.6	5.4	5.3	5.8	6.5	6.2	5.9	5.9
120.	* 5.1	5.2	5.7	5.7	5.7	5.3	5.4	5.3	5.0	5.0	5.9	5.9	5.9	5.7	5.5	5.9	6.5	6.3	5.9	5.8
130.	* 5.0	5.1	5.5	5.5	5.5	5.7	5.7	5.7	5.1	5.0	5.9	6.1	6.1	5.8	5.7	5.8	6.3	6.1	5.8	5.7
140.	* 5.0	5.0	5.4	5.3	5.3	5.9	5.9	5.9	5.2	5.1	6.1	6.2	6.2	5.9	5.8	5.5	5.9	5.9	5.7	5.7
150.	* 5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.2	6.1	6.1	6.1	5.8	5.8	5.3	5.4	5.7	5.7	5.7
160.	* 5.0	5.0	5.1	5.0	5.0	5.7	5.8	5.7	5.2	5.2	6.1	6.1	5.9	5.9	5.6	5.2	5.5	5.7	5.7	5.7
170.	* 5.0	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.2	6.2	6.0	5.9	5.6	5.2	5.4	5.8	5.8	5.8
180.	* 5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.3	5.3	6.2	6.3	6.0	5.9	5.4	5.2	5.4	5.9	5.9	5.9
190.	* 5.1	5.1	5.1	5.0	5.0	5.5	5.6	5.5	5.3	5.3	6.3	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	* 5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.3	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	* 5.6	5.7	5.7	5.1	5.0	5.4	5.5	5.8	5.6	5.6	6.6	6.5	6.4	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	* 6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	6.0	5.8	6.4	6.2	6.1	5.7	5.2	5.0	5.2	5.8	5.8	5.9
230.	* 6.2	6.2	6.3	5.4	5.3	5.7	5.8	6.4	6.1	6.1	6.0	5.9	5.7	5.4	5.2	5.0	5.0	5.4	5.5	5.5
240.	* 6.1	6.1	6.1	5.5	5.3	5.7	6.0	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	* 6.0	6.0	6.0	5.4	5.3	5.8	6.0	6.1	6.0	6.2	5.2	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	* 5.8	5.8	5.8	5.4	5.2	5.8	6.0	5.9	6.0	6.2	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	* 5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.1	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	* 5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	* 5.7	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.8	5.1	5.1	5.6	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	* 5.7	5.7	6.0	5.5	5.4	6.0	6.1	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	* 5.7	5.8	6.2	5.8	5.5	5.8	6.0	6.0	5.9	5.7	5.0	5.1	5.4	5.3	5.3	5.3	5.4	5.9	5.1	5.0
320.	* 5.8	5.8	6.2	5.9	5.7	5.7	5.7	6.0	5.8	5.8	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	* 5.8	5.9	6.1	5.8	5.9	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.6	6.0	5.1	5.1
340.	* 5.8	5.9	6.1	5.7	5.7	5.3	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.8	5.1	5.1
350.	* 5.9	6.0	5.9	5.8	5.8	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.7	5.3	5.2
360.	* 6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
MAX	* 6.2	6.3	6.5	5.9	5.9	6.0	6.1	6.4	6.2	6.2	6.6	6.5	6.4	6.0	5.8	5.9	6.5	6.6	6.4	6.4
DEGR.	* 10	30	30	10	330	300	300	220	30	30	210	200	60	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.8	6.0	6.7	6.2	6.1	6.6	6.7	6.7	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.8	6.6	6.8	5.3	5.1
10.	5.9	6.1	6.8	6.4	6.4	5.9	6.1	6.2	5.9	5.9	5.0	5.0	5.5	5.4	5.5	7.0	7.0	7.0	5.5	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.8	5.0	5.0	5.1	5.1	5.2	6.8	6.8	6.8	5.6	5.4
30.	6.1	6.1	6.2	6.1	6.2	5.3	5.5	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.6	5.4
40.	6.2	6.1	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.4	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.2	5.4	5.2
60.	6.2	6.3	6.3	6.3	6.2	5.4	5.6	6.2	6.3	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.3	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.6	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.1	5.4	6.4	6.3	6.3	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.4	6.5	5.4	5.2	6.4	6.6	7.4	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.4	6.6	6.4	5.6	5.4	6.5	6.6	7.2	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.0	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.0	6.2	6.1	5.5	5.3	6.6	6.8	6.8	5.9	5.9
140.	5.3	5.3	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	5.9	6.0	6.0	5.5	5.4	6.7	6.7	6.5	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.1	5.1	5.0	5.1	6.0	6.0	5.9	5.5	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.6	7.0	7.0	6.7	6.1	5.9
170.	5.2	5.4	6.2	6.2	6.2	5.7	5.7	5.6	5.0	5.0	5.9	5.9	6.3	5.9	6.0	7.1	7.0	6.8	6.0	5.9
180.	5.1	5.3	5.9	6.1	6.1	6.3	6.4	6.2	5.2	5.1	6.1	6.3	6.7	6.4	6.5	6.7	6.5	6.4	5.9	5.7
190.	5.0	5.1	5.5	5.6	5.6	6.7	6.8	6.4	5.4	5.2	6.1	6.3	6.9	6.4	6.5	6.0	6.0	6.0	5.7	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.3	5.4	5.3	6.2	6.4	6.6	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.3	6.1	6.4	5.4	5.4	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.4	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.4	6.5	6.5	6.2	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.8	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.4	6.0	6.0	6.0
270.	6.0	6.0	5.8	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.4	6.4	6.8	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.4	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.5	6.4	6.4	6.5	5.5	5.7	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.0	6.0	5.9	5.4	5.3	6.3	6.4	6.2	6.3	6.5	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	5.9	5.7	5.4	5.3	6.4	6.5	6.2	6.3	6.4	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.2	6.4	6.5	6.2	6.4	6.3	5.4	5.5	6.1	6.0	6.1	5.1	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.7	6.4	6.4	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.4	6.7	6.8	6.8	6.4	6.3	5.3	5.5	6.4	6.3	6.4	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.8	6.1	5.8	5.8	6.9	7.0	7.0	6.3	6.1	5.2	5.4	6.4	6.3	6.4	6.1	6.0	6.1	5.1	5.0
360.	5.8	6.0	6.7	6.2	6.1	6.6	6.7	6.7	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.8	6.6	6.8	5.3	5.1
MAX	6.4	6.6	6.8	6.4	6.4	6.9	7.0	7.0	6.5	6.6	6.6	6.6	6.9	6.4	6.5	7.1	7.0	7.4	6.5	6.4
DEGR.	70	80	10	10	10	350	350	350	80	280	260	110	190	180	180	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.2	6.2	5.6	5.6	5.8	5.8	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.3	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.6	5.6	5.6	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.6	5.6	5.7	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.1	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.2	5.3	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.9	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.8	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.9	6.0	6.1	6.3	6.1	5.2	5.4	6.1	6.1	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.2	6.2	6.1	5.9	5.1	5.3	6.2	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.2	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.9	6.0	5.8	5.8	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	6.0
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	6.0	5.8
230.	5.1	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	6.0	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.8	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.1	5.8	5.6
280.	5.0	5.1	5.5	5.8	5.6	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.8	5.8	5.6	5.7
300.	5.1	5.1	5.1	5.3	5.2	5.8	5.9	6.0	5.4	5.1	5.9	6.1	5.7	5.6	5.7
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.8	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	6.0	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
MAX	6.0	6.2	6.2	6.3	6.2	5.9	6.0	6.3	6.2	6.2	6.1	6.1	6.1	6.0	6.0
DEGR.	170	170	170	160	130	30	30	20	10	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC38.

2B_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:14

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.5	********	*	72.	312.	AG	159.	100.0	1.0	20.0	0.34	3.6
2. MVP West	*	756216.0	********	752532.9	********	*	5984.	218.	AG	69.	100.0	1.0	10.0	1.85	304.0
3. Boston Ave South	*	756271.8	********	756816.1	********	*	731.	132.	AG	80.	100.0	1.0	10.0	1.08	37.1
4. MVP East	*	756253.6	********	756677.8	********	*	596.	45.	AG	138.	100.0	1.0	20.0	1.04	30.3
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759521.9	********	*	140.	92.	AG	54.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	*	759381.8	********	764154.8	********	*	4776.	92.	AG	67.	100.0	1.0	10.0	1.62	242.6
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754366.5	********	*	4932.	273.	AG	67.	100.0	1.0	10.0	1.64	250.5
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:14

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2545.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2390.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2275.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:14

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:14

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	77	3.0	340	1600	46.20	1	3
2. MVP West	*	120	67	3.0	1180	1600	46.20	1	3
3. Boston Ave South	*	120	77	3.0	545	1600	46.20	1	3
4. MVP East	*	120	67	3.0	1325	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1095	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1110	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
29. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
31. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:14

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	6.0	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.5	5.9	5.5	5.4	5.2
20.	6.0	5.8	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.8	5.5	5.5	5.4
30.	5.9	5.7	5.5	5.6	5.4	5.2	5.2	5.4	5.7	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.9	5.7	5.7	5.5
40.	5.5	5.5	5.4	5.4	5.4	5.0	5.2	5.2	5.5	5.5	5.8	5.8	5.8	5.2	5.2	5.6	5.9	5.8	5.7	5.5
50.	5.4	5.2	5.1	5.4	5.4	5.0	5.0	5.0	5.2	5.2	5.9	5.9	5.8	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.4	5.4	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.7	5.3	5.3	5.4
80.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.5	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	5.4	5.4	5.6	5.6
140.	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.6	5.6	5.6	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.4	5.4	5.3	6.0	5.6	5.7	5.5	5.6
160.	5.0	5.0	5.4	5.4	5.3	5.6	5.6	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.6	5.8	5.7	5.7	5.6	5.4
170.	5.0	5.0	5.2	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.8	5.8	5.6	5.6	5.7	5.2	5.3	5.5	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.1	5.5	5.5	5.4	5.3	5.1	5.7	5.8	5.6	5.5	5.5	5.2	5.3	5.7	5.6	5.4
200.	5.3	5.5	5.3	5.1	5.1	5.6	5.4	5.3	5.3	5.2	5.8	5.7	5.6	5.5	5.4	5.1	5.2	5.3	5.4	5.3
210.	5.3	5.5	5.5	5.1	5.1	5.5	5.4	5.4	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.3	5.7	5.6	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.1	5.2	5.1	5.1
230.	5.4	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.5	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.1	5.1	5.1	5.0
240.	5.3	5.7	5.4	5.2	5.0	5.4	5.4	5.3	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.0	5.0
250.	5.3	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.5	5.5	5.2	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.3	5.7	5.2	5.3	5.1	5.5	5.3	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.7	5.2	5.3	5.1	5.7	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.0
280.	5.4	5.7	5.2	5.3	5.1	5.6	5.3	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.5	5.1	5.2	5.5	5.4	5.4	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.3	5.3	5.6	5.3	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.6	5.5	5.1	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.5	5.6	5.4	5.4	5.8	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.2	5.2	5.1	5.0
340.	5.5	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.6	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.2	5.1
360.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	6.0	5.7	5.7	5.7	5.7	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.6	5.7	6.0	6.4	5.8	5.7	5.6
DEGR.	10	10	10	140	140	270	160	320	20	20	50	50	40	180	170	130	350	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	5.9	5.8	5.8	5.7	5.7	5.2	5.2	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.6	5.6	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
50.	5.9	6.0	5.8	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.5	5.1	5.3	5.7	5.7	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.7	5.6	5.7	5.5	5.5	5.1	5.2	5.7	5.7	5.7	5.8	5.8	5.8	5.1	5.0	5.5	5.6	6.1	5.9	5.8
80.	5.3	5.5	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	6.0	5.9	5.3	5.1	5.6	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.8
100.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.7	5.8	5.7	5.8	5.7
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.2	5.9	6.0	5.7	5.7	5.6
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.7	5.5
140.	5.1	5.2	5.7	5.7	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.8	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.6	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	5.9	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.5	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.6	5.9	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1	5.6	5.6	5.9	5.7	5.7	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.2	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.1	5.6	5.8	5.8	5.7	5.7	5.3	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.1	5.6	5.7	5.8	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.6
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.7	5.7	5.7
230.	5.4	5.4	5.3	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.0	6.0	6.2	5.7	5.6	5.2	5.3	5.8	5.8	5.8
240.	5.8	5.7	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.4
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.7	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.6	5.6	5.8	5.6	5.7	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.6	5.7	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	5.9	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.3	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.6	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.7	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.8	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.7	5.9	6.0	6.1	5.7	5.8	6.2	6.2	6.2	5.9	5.8	5.9	6.0	6.2	5.9	5.9
DEGR.	60	50	340	0	0	320	330	250	50	60	240	240	230	180	200	0	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC17.

2B_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:51

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.5	********	*	72.	312.	AG	159.	100.0	1.0	20.0	0.34	3.6
2. MVP West	*	756216.0	********	752532.9	********	*	5984.	218.	AG	69.	100.0	1.0	10.0	1.85	304.0
3. Boston Ave South	*	756271.8	********	756816.1	********	*	731.	132.	AG	80.	100.0	1.0	10.0	1.08	37.1
4. MVP East	*	756253.6	********	756677.8	********	*	596.	45.	AG	138.	100.0	1.0	20.0	1.04	30.3
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	173.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759521.9	********	*	140.	92.	AG	54.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	*	759381.8	********	764154.8	********	*	4776.	92.	AG	67.	100.0	1.0	10.0	1.62	242.6
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754366.5	********	*	4932.	273.	AG	67.	100.0	1.0	10.0	1.64	250.5
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:51:51

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2545.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2390.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2275.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	77	3.0	340	1600	46.20	1	3
2. MVP West	*	120	67	3.0	1180	1600	46.20	1	3
3. Boston Ave South	*	120	77	3.0	545	1600	46.20	1	3
4. MVP East	*	120	67	3.0	1325	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	59	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	73	3.0	1095	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	73	3.0	1110	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
29. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
31. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.5	5.4	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.3	5.7	5.8	5.8	5.6	5.8	5.3	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.7	5.7	5.5	5.8	5.4	5.5	5.5	5.7	5.7	5.1	5.1	5.1	5.5	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.7	5.4	5.5	5.6	5.7	5.7	5.1	5.1	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.3	5.3	5.5	5.6	5.8	5.6	5.7	5.3	5.5	5.6	5.7	5.6	5.0	5.1	5.3	5.5	5.5
50.	5.7	6.1	5.7	5.3	5.4	5.4	5.5	5.7	5.6	5.7	5.3	5.4	5.7	5.6	5.6	5.0	5.1	5.3	5.4	5.3
60.	5.8	6.0	5.6	5.5	5.6	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.1	5.2	5.2
70.	5.8	6.1	5.8	5.6	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.0	5.6	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.8	5.8	5.4	5.6	5.9	5.9	5.9	5.2	5.2	5.2	5.0	5.0
100.	6.1	6.4	6.1	5.8	5.6	5.4	5.6	6.2	5.9	5.8	5.3	5.5	6.0	6.0	6.0	5.4	5.4	5.4	5.0	5.0
110.	6.0	6.2	5.9	5.6	5.5	5.3	5.4	6.2	5.8	5.7	5.2	5.3	5.9	5.9	5.9	5.9	5.9	5.8	5.2	5.0
120.	5.8	5.8	5.8	5.5	5.4	5.2	5.3	6.0	5.7	5.6	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.4	5.2
130.	5.4	5.6	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.5	5.2
140.	5.3	5.4	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.4	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.9	5.8	5.8	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.4	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.4	5.4	5.3
210.	5.0	5.1	5.2	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.6
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	5.9	5.7	5.5	5.5
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.5	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.2	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.8	5.9	5.9	5.6
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	5.9	5.5	5.3	5.8	6.0	5.9	5.8	5.7	6.0	5.8	5.8	5.7	5.5
300.	6.0	6.3	6.1	5.3	5.1	5.4	5.7	6.1	5.6	5.5	6.1	6.0	6.1	5.9	5.9	5.6	5.6	5.6	5.6	5.4
310.	6.0	6.3	6.1	5.4	5.3	5.6	5.8	6.0	5.6	5.5	6.0	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.9	6.2	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.6	5.8	5.9	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.7	5.9	5.8	5.8	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.6	6.0	5.7	5.4	5.3	5.6	5.8	6.1	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.0	5.7	5.6	5.3	5.8	5.8	6.0	5.8	5.8	5.2	5.5	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.5	5.4	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.1	6.4	6.1	5.8	5.6	5.8	5.8	6.2	5.9	5.8	6.1	6.0	6.1	6.0	6.0	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	100	60	350	0	100	100	10	300	290	300	100	100	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	6.0	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.8
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	5.9	5.6	5.9	6.0	6.2	6.0	5.9	6.1
40.	5.2	5.2	5.2	5.0	5.0	5.5	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.9	5.9
50.	5.4	5.4	5.3	5.1	5.0	5.4	5.6	5.3	5.3	5.2	5.4	6.1	5.9	5.6	5.9	6.1	6.4	6.0	5.9	5.8
60.	5.4	5.4	5.3	5.1	5.1	5.5	5.6	5.3	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.8	5.9	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.3	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.9	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.7	5.7	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.6	5.1	5.3	5.4	6.1	6.2	5.9	5.6	5.9	6.5	6.6	5.7	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.6	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.7	5.8	5.7
110.	5.3	5.5	5.5	5.3	5.1	5.9	5.9	6.1	5.8	5.8	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.5	5.6	5.8	5.5	5.3	5.9	6.0	6.2	6.1	6.0	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.5	6.0	6.0	6.1	6.0	6.1	5.8	6.0	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.7	5.8	5.5	5.3	6.1	6.1	6.1	5.9	5.9	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.1	6.0	6.1	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.5	5.5	5.7	5.7
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.7	5.6	5.6	5.0	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.5	5.4	5.6	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.7	5.6
200.	5.6	5.3	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.6	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	6.0	5.4	5.4	5.5	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.3	5.7	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.3	5.4	5.5	5.5	6.0	5.2	5.3	5.5	5.3	5.0	5.1	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.3	5.6	5.5	5.5	6.0	5.2	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.2	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.1	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.8	5.8	5.7	5.6	5.2	5.3	5.2	5.2	5.3	5.2	5.0	5.0
270.	5.4	5.5	5.7	5.7	5.6	5.3	5.4	5.8	5.8	5.9	5.5	5.7	5.5	5.5	5.5	5.3	5.6	5.5	5.0	5.0
280.	5.3	5.5	5.7	5.7	5.5	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.6	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.6	5.5	5.1	5.3	5.8	5.9	5.9	5.7	5.7	5.6	5.5	5.6	5.7	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.7	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.8	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	6.0	5.9	5.9	5.9	5.7	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.4	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.7	5.8	5.7	5.3	5.2	5.6	5.9	6.1	5.4	6.1	5.8	6.1	5.5	5.5	5.4
350.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2	5.5	6.0	6.2	5.4	6.2	5.8	6.1	5.5	5.5	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.1	6.1	6.2	6.1	6.1	6.3	6.4	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	270	170	150	140	120	120	130	110	110	0	310	0	70	60	40	10	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.7	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.6	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.5	5.7	5.7	5.7	5.6	5.9	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.8	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.1	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.6
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.0
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.7	6.1	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.8	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.8	5.4	5.3	5.2	5.4	5.9	6.2	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.7	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.3	5.5	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.5	5.9	6.3	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.4	5.5
240.	5.7	5.7	5.5	5.4	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.4	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.1	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.4	5.7	5.6	5.3	5.6	6.1	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.8
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.6	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.3	6.3	5.3	5.2	5.2	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.5	5.8	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.1	6.1	5.7	5.6	5.8	6.2	6.4	6.3	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.2	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.1	5.7	5.7	5.7	6.0	6.0	6.0	6.0	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.8	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.3	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.2	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	290	280	270	260	210	200	270	230	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

2B_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:52:40

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	147.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:52:40

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:52:40

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3922.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2703.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3365.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:52:40

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
20. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
22. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:52:40

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	955	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	925	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:52:40

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.4	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.4	5.5	5.3	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4
30.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.5
50.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.5
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.6	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.6	5.7	5.6	5.6	5.6
90.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.8	5.6	5.5	5.4
100.	5.1	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.4	5.3	5.2	6.0	5.9	5.9	5.5	5.4
110.	5.1	5.1	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.7	6.0	5.4	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.7	5.5	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.7	5.2	5.2	5.3	5.3	5.6	5.6	5.4	5.2	5.2	5.3	5.3	5.3
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.2	5.2	5.4	5.4	5.4	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.4	5.6	5.8	5.5	5.4	5.1	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.4	5.6	5.8	5.5	5.3	5.0	5.2	5.5	5.5	5.5
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.7	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.6	5.5	5.4	5.2	5.4	5.6	5.3	5.3	5.0	5.0	5.1	5.2	5.2
230.	5.5	5.5	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.4	5.3	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.2	5.2	5.1	5.1	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.7	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.3	5.3	5.3	5.0	5.0
290.	5.4	5.5	5.9	5.7	5.4	5.5	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.5	5.4	5.5	5.6	5.6	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.6	5.3	5.4	5.4	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1
310.	5.5	5.5	5.7	5.5	5.7	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.1	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.2	5.1
330.	5.5	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.6	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
350.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.7	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	300	100	100	120	280	120	220	200	210	190	120	130	120	100	100	110	70	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.1	5.0	5.6	5.6	5.4	5.1	5.1
10.	5.4	5.6	5.9	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.4	5.4	5.4	5.6	5.6	5.5	5.1	5.0	5.5	5.6	5.7	5.4	5.4
30.	5.4	5.4	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.3	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.8	5.6	5.5
40.	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.8	5.8	5.2	5.1	5.6	5.7	5.8	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.7	5.6	5.7	5.4	5.3
60.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.7	5.7	5.5	5.3	5.3
70.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.5	5.2	5.1	5.6	5.7	5.5	5.4	5.3
90.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.6	5.7	5.5	5.3	5.2
100.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.6	5.7	5.5	5.3	5.2
110.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.7	5.7	5.6	5.3	5.2
120.	5.1	5.2	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.8	5.6	5.7	5.3	5.2
130.	5.1	5.2	5.8	5.8	5.8	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.5	5.5	5.4	5.8	5.8	5.8	5.3	5.2
140.	5.1	5.2	5.8	5.8	5.8	5.5	5.5	5.5	5.1	5.0	5.4	5.5	5.8	5.8	5.5	5.7	5.7	5.8	5.2	5.2
150.	5.0	5.1	5.5	5.5	5.5	5.8	5.8	5.8	5.2	5.1	5.6	5.6	5.9	5.7	5.6	5.5	5.4	5.6	5.2	5.1
160.	5.0	5.0	5.3	5.2	5.2	5.8	5.8	5.8	5.2	5.1	5.7	5.9	5.8	5.6	5.6	5.2	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.1	5.7	5.8	5.7	5.7	5.5	5.1	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.8	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.1	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.2	5.3	5.8	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.7	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.4	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.4	5.5	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.8	5.6	5.7	5.5	5.4	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.4	5.4	5.4	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.3	5.3	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.6	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.5	5.4	5.1	5.0
330.	5.2	5.2	5.8	5.7	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.6	5.7	5.6	5.1	5.1
340.	5.3	5.3	5.8	5.7	5.8	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.1	5.6	5.7	5.6	5.2	5.1
350.	5.3	5.4	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.5	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.1	5.0	5.6	5.6	5.4	5.1	5.1
MAX	5.5	5.6	5.9	5.9	5.8	5.8	5.8	5.8	5.5	5.5	5.9	5.9	5.9	5.8	5.6	5.8	5.8	5.8	5.6	5.5
DEGR.	20	10	10	350	0	150	150	150	10	10	40	160	150	140	150	120	130	30	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC16.

2B_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:53:16

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	147.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:53:16

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:53:16

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3922.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2703.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3365.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:53:16

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
20. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
22. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:53:16

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	955	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	925	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 16:53:16

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.7	6.0	6.0	5.5	5.6	7.0	7.0	6.2	6.3	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.7	6.0	6.2	5.7	5.6	6.9	7.0	6.2	6.3	5.9	5.5	5.4	6.1	6.0	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.4	6.1	6.1	6.9	7.1	6.3	6.1	5.8	5.4	5.3	6.1	6.0	5.7	5.4	5.4	5.4	5.0	5.0
30.	5.7	6.1	6.8	6.2	6.6	6.3	6.5	6.2	6.2	6.0	5.5	5.3	5.9	6.0	5.7	5.6	5.9	6.0	5.0	5.0
40.	5.8	6.4	6.8	6.5	7.0	5.9	6.3	6.2	6.2	5.9	5.5	5.3	5.7	5.8	5.6	6.0	6.4	6.5	5.1	5.0
50.	5.9	6.5	6.4	6.7	7.0	5.6	6.1	5.7	6.2	5.9	5.6	5.2	5.3	5.6	5.7	6.1	6.5	6.6	5.3	5.1
60.	6.3	6.6	6.5	6.9	7.1	5.8	6.2	6.1	6.4	6.1	5.7	5.6	5.4	5.6	5.9	6.2	6.6	6.7	5.5	5.1
70.	6.9	7.2	6.6	7.1	7.1	5.6	6.2	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	6.9	6.8	6.1	5.6
80.	6.9	7.0	6.5	6.8	6.5	5.3	5.6	6.1	6.0	5.7	5.2	5.5	5.4	5.7	6.4	6.8	6.9	6.6	6.1	5.7
90.	6.9	7.0	6.5	6.7	6.3	5.3	5.5	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.6	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.7	6.3	5.3	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.1	5.8
110.	7.0	6.8	6.9	6.6	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.8	6.6	6.2	5.1	5.3	5.8	5.6	5.6	6.4	6.6	6.6	5.5	5.8	7.0	6.5	7.2	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.5	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.5
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.8	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.2	6.4	6.2	5.5	5.6	6.7	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.9	6.5	6.5	6.5	6.2
170.	5.6	5.8	6.5	6.6	6.4	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	6.9	6.7	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.4	5.2	5.2	5.3	5.0	5.0	5.9	6.1	5.9	5.5	5.7	7.0	6.8	6.7	6.5	6.1
190.	5.6	5.7	6.8	6.9	6.6	5.5	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.2	7.0	7.0	6.5	6.2
200.	5.4	5.5	6.7	6.8	6.6	6.1	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.2	7.2	7.2	6.3	6.0
210.	5.2	5.4	6.3	6.3	6.0	6.8	6.8	6.9	5.4	5.2	6.0	6.4	7.0	6.5	6.4	7.0	6.9	6.7	6.1	5.8
220.	5.2	5.1	5.5	5.6	5.4	7.0	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.6	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.2	6.7	6.8	6.9	5.7	5.4	6.2	6.8	6.5	6.4	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.3	5.4	5.2	6.7	7.0	6.8	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.5	5.6	6.0	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	7.0	6.5	6.0	5.5	6.8	6.8	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.8
260.	5.1	5.1	5.1	5.1	5.4	6.5	6.9	6.4	6.0	5.5	6.7	6.7	6.1	6.4	6.5	5.3	5.5	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.6	6.1	5.9	5.4	6.9	6.7	6.4	6.2	6.5	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.6	6.4	6.0	5.6	6.8	6.7	6.5	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.7	5.8	5.9	5.1	5.3	6.3	6.7	6.7	6.3	5.8	6.6	6.5	6.6	6.0	6.3	5.1	5.2	6.0	6.0	5.9
300.	6.0	6.3	6.4	5.2	5.3	6.4	6.8	7.0	6.4	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.5	5.3	5.4	6.4	6.7	6.9	6.3	6.1	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.4	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	7.0	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.7	7.0	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.4	5.5	6.8	7.1	6.3	6.2	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.1
360.	5.7	6.0	6.0	5.5	5.6	7.0	7.0	6.2	6.3	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.2	6.9	7.1	7.1	7.0	7.1	7.1	6.4	6.1	6.9	6.8	7.0	6.6	6.6	7.2	7.2	7.2	6.6	6.5
DEGR.	100	70	110	70	60	0	350	220	60	300	270	230	210	220	220	190	200	120	130	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.4	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.3	6.3	6.1	5.5	5.3	6.1	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.3	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.4	6.2	6.2	6.0	5.6	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.1	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.5	5.4	6.2	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.5	5.1	5.1	5.1	5.0	5.0
40.	6.0	6.0	5.7	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.7	6.7	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.9	6.0	5.8	5.7	5.4	6.7	6.6	6.1	5.7	5.8	5.4	5.6	5.8	6.8	6.9	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	6.0	5.9	6.6	6.5	6.1	5.6	5.5	5.2	5.4	5.7	6.9	6.8	6.2	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.7	5.8	6.3	6.3	5.9	5.4	5.3	5.0	5.2	5.3	6.3	6.3	6.9	7.0	7.0	5.5	5.3
80.	6.5	6.6	5.7	5.7	5.7	6.0	5.8	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.2	7.3	7.3	5.8	5.5
90.	6.4	6.3	5.3	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	7.0	7.0	5.9	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.8	6.7	6.7	5.7	5.5
110.	6.2	5.9	5.2	5.8	5.8	5.2	5.3	5.3	5.4	5.4	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.5	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.2	6.0	5.7	6.1	6.0	5.6	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.2	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.8	5.2	5.3	5.5	5.5	5.6	5.3	5.3	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.7	5.2	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.3	5.4	5.4	5.8	5.7	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.2	5.2	5.9	6.0	5.4	5.4	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.7	5.2	5.1	5.1	5.1	5.1	5.9	5.9	5.5	5.3	5.2	6.7	6.7	6.0	5.7	5.6
200.	5.3	5.4	5.6	5.7	5.7	5.2	5.2	5.1	5.0	5.0	5.9	5.9	5.3	5.4	5.3	6.7	6.6	5.9	5.5	5.6
210.	5.4	5.5	5.7	5.9	5.9	5.2	5.2	5.2	5.1	5.1	5.8	5.7	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.5	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.7	5.9	5.3	5.5	5.2	6.9	6.7	6.2	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.1	5.6	5.7	5.5	5.8	5.5	7.1	6.8	6.2	5.8	5.8
240.	5.4	5.4	5.8	6.2	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	6.0	6.9	6.5	6.1	5.9	5.8
250.	5.2	5.3	5.4	5.7	5.7	6.5	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.5
260.	5.0	5.0	5.3	5.5	5.5	6.6	6.5	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.1	6.4	6.3	6.1	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.9	5.4	5.3	5.7	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.5	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.8	5.6	5.6	6.2	6.4	5.2	5.2	5.5	5.6	5.7
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.3	5.5	5.6	5.6
340.	5.6	5.6	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	5.9	5.9	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	6.0	6.1	6.0	5.2	5.1	5.8	5.9	6.3	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.4	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.5	6.6	6.3	6.2	6.1	6.7	6.6	6.3	5.9	5.8	6.2	6.1	5.9	6.9	6.9	7.2	7.3	7.3	5.9	5.8
DEGR.	80	70	0	240	230	50	50	0	0	50	330	260	330	60	50	80	80	80	90	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC37.

2B_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:53:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	86.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	86.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	99.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	99.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	80.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	80.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	58.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	89.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	99.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	178.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	118.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	110.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	81.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	81.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	81.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	81.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	50.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	101.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	50.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	169.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	213.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	273.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	217.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	96.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	94.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	288.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	147.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:53:41

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.69	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	178.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	134.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3922.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2703.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3365.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:53:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	46.20	1	3
20. Central St NB	*	90	59	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	46.20	1	3
22. Central St. SB	*	90	59	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	335	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	905	1600	46.20	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 16:53:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	955	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	925	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.2	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.3	6.6	6.1	6.0	5.8
30.	6.8	6.8	6.5	6.0	6.1	5.6	5.7	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.6	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.0	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.1	7.2	7.0	6.8	6.7
60.	6.8	6.8	6.4	6.4	6.1	5.5	5.7	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.1	7.3	6.9	6.4	6.6
70.	7.0	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.4	6.6	6.5	6.7
80.	7.2	7.1	6.7	6.3	6.1	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.4	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.6	7.4	7.2	6.5	6.2	5.7	6.0	7.0	7.0	6.9	5.1	5.1	5.1	5.1	5.1	7.9	7.7	6.8	6.7	6.6
110.	7.8	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.0	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.7	6.6
120.	7.7	7.3	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.2	6.2	6.3	8.0	7.9	7.1	6.6	6.5
130.	6.6	6.5	6.4	5.6	5.5	5.0	5.1	6.1	6.1	6.0	6.9	7.0	6.8	6.9	6.9	7.1	6.8	6.6	6.6	6.4
140.	5.5	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.3
170.	5.3	5.4	5.7	5.9	5.8	5.2	5.1	5.2	5.1	5.0	6.5	6.6	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.3	5.2	5.8	5.9	5.8	5.8	5.7	5.6	5.2	5.1	6.3	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.3	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.3	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.4	6.4	6.1	6.5	6.4	5.0	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.3	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.6	6.7	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.7	6.5	6.6	6.8	6.9	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	7.0	6.9	5.1	5.3	5.3	5.1	5.1
290.	5.8	5.8	5.7	5.1	5.0	5.5	5.6	6.0	5.8	5.7	7.0	7.0	7.0	7.1	7.0	5.5	5.8	5.8	5.0	5.0
300.	7.0	7.0	7.0	5.5	5.2	5.7	6.0	7.0	6.7	6.6	6.9	6.8	6.8	7.0	7.0	6.3	6.8	6.9	5.3	5.1
310.	7.9	7.9	7.9	5.9	5.5	6.0	6.4	7.7	7.4	7.2	6.1	6.0	5.9	6.0	6.1	6.8	7.7	7.6	5.7	5.5
320.	7.9	7.9	7.8	6.2	5.8	6.3	6.7	7.6	7.2	6.9	5.3	5.3	5.2	5.3	5.3	6.6	7.6	7.4	5.7	5.5
330.	7.6	7.6	7.5	6.1	5.8	6.4	6.7	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.1	6.4	7.3	7.0	5.8	5.4
340.	7.4	7.4	7.3	6.2	5.9	6.4	6.5	6.7	6.6	6.6	5.1	5.0	5.0	5.1	5.1	6.2	7.1	6.7	5.9	5.5
350.	7.1	7.1	6.9	6.1	5.9	6.3	6.4	6.5	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	7.0	6.4	5.9	5.6
360.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
MAX	7.9	7.9	7.9	6.5	6.2	6.4	6.7	7.7	7.4	7.2	7.1	7.0	7.0	7.1	7.0	8.0	7.9	7.6	7.0	7.0
DEGR.	310	310	310	100	100	330	320	310	310	310	140	130	290	290	290	110	120	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.7	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.7	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.3	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.1	5.0	5.0	5.0	5.1	5.1	6.9	6.9	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.2	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.4	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.6	6.8	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.6	6.6	5.8	5.8	5.9	5.3	5.1	6.4	6.6	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.1	6.1	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.5	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.3	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.2	6.6	6.7	5.7	5.4	6.7	6.9	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.2	6.5	6.6	5.7	5.4	6.8	6.9	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.2	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.2	7.3	7.1	6.9	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.8
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.1	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.2	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.1	6.3	6.2	5.8
240.	7.5	7.6	7.0	6.1	5.8	6.9	7.1	6.8	6.9	6.6	5.6	5.9	6.0	6.1	5.8
250.	7.3	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.5	5.7	6.2	6.2	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.5	6.3	5.5	5.6	6.2	6.3	6.1
290.	6.6	6.7	6.5	6.1	5.9	6.8	6.7	7.1	6.4	6.4	5.4	5.6	6.3	6.3	6.4
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.7	6.3	6.5	6.4
310.	7.0	7.5	7.7	7.2	7.1	6.0	6.2	6.6	6.0	5.9	5.0	5.1	5.8	5.9	5.9
320.	7.1	7.4	7.3	6.7	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.3
330.	7.1	7.3	6.9	6.6	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.6	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.4	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.7	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	6.9	7.1	7.3	7.1	7.2	7.6	7.5	7.5	7.1	6.9
DEGR.	20	230	310	310	310	240	230	220	220	230	210	200	130	210	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

3_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 4:39

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.3	********	*	71.	312.	AG	155.	100.0	1.0	20.0	0.32	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	77.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756718.7	********	*	654.	45.	AG	143.	100.0	1.0	20.0	1.05	33.2
5. Winthrop North	*	759327.2	********	759301.9	********	*	896.	358.	AG	171.	100.0	1.0	20.0	1.12	45.5
6. MVP East RT	*	759381.7	********	759541.7	********	*	160.	93.	AG	56.	100.0	1.0	10.0	0.59	8.1
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759318.8	********	*	1024.	181.	AG	202.	100.0	1.0	20.0	1.32	52.0
9. MVP West	*	759293.5	********	754605.5	********	*	4693.	273.	AG	68.	100.0	1.0	10.0	1.62	238.4
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759581.4	********	*	164.	332.	AG	87.	100.0	1.0	10.0	0.75	8.3
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.9	********	*	120.	207.	AG	87.	100.0	1.0	10.0	0.56	6.1
15. Boston Ave. NB	*	759699.9	********	760416.4	********	*	1505.	152.	AG	98.	100.0	1.0	10.0	1.43	76.4
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761426.7	********	*	2003.	342.	AG	82.	100.0	1.0	10.0	1.34	101.8
18. Harvard St. EB	*	762026.6	********	760202.6	********	*	2078.	241.	AG	77.	100.0	1.0	10.0	1.31	105.6
19. Main st. NB	*	762078.3	********	762174.5	********	*	303.	162.	AG	82.	100.0	1.0	10.0	0.99	15.4
20. Harvard St. WB	*	762091.8	********	762827.2	********	*	770.	73.	AG	77.	100.0	1.0	10.0	1.08	39.1
21. Broadway EB R	*	762959.1	********	762880.3	********	*	86.	293.	AG	59.	100.0	1.0	10.0	0.36	4.4
22. Broadway EB TL	*	762965.1	********	762043.6	********	*	1006.	294.	AG	89.	100.0	1.0	10.0	1.18	51.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764224.2	********	*	2297.	150.	AG	100.	100.0	1.0	10.0	1.82	116.7
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763696.2	********	*	818.	47.	AG	118.	100.0	1.0	10.0	6.15	41.6
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764294.7	********	*	1054.	114.	AG	84.	100.0	1.0	10.0	1.19	53.6
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766359.9	********	*	2178.	142.	AG	62.	100.0	1.0	10.0	1.26	110.6
33. School St. SB	*	765002.3	********	765834.3	********	*	1927.	26.	AG	102.	100.0	1.0	10.0	1.94	97.9
34. Medford St. SEB	*	764967.1	********	764889.7	********	*	125.	322.	AG	62.	100.0	1.0	10.0	0.79	6.4
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765185.8	********	*	1450.	206.	AG	273.	100.0	1.0	30.0	1.31	73.7
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756778.6	********	*	*****	249.	AG	99.	100.0	1.0	10.0	4.83	554.4
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	91.	100.0	1.0	10.0	0.15	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768275.4	********	*	1249.	67.	AG	284.	100.0	1.0	30.0	1.29	63.4
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 4:39

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	102.	100.0	1.0	10.0	1.60	78.6
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	178.	100.0	1.0	20.0	1.22	60.2
50. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	134.	100.0	1.0	20.0	0.68	8.2
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	98.	100.0	1.0	10.0	0.79	6.1
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2510.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2320.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1900.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3245.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 4:39

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	345	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1285	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	985	1600	46.20	1	3
6. MVP East RT	*	135	61	3.0	480	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	110	3.0	625	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1075	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	310	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	231	1600	46.20	1	3
15. Boston Ave. NB	*	135	107	3.0	390	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
17. Main St. SB	*	120	79	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	75	3.0	700	1600	46.20	1	3
19. Main st. NB	*	120	79	3.0	475	1600	46.20	1	3
20. Harvard St. WB	*	120	75	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	57	3.0	275	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	455	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	435	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	80	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	500	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	80	40	3.0	885	1600	46.20	1	3
33. School St. SB	*	80	66	3.0	350	1600	46.20	1	3
34. Medford St. SEB	*	80	40	3.0	550	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1415	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
40. Washington St. EB	*	135	108	3.0	1255	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
43. Washington St. WB	*	135	103	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	340	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	945	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	910	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 4:39

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	210	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 4:39

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.0	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
10.	6.2	6.2	6.1	5.9	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.3
20.	6.2	6.2	6.3	5.8	5.6	5.3	5.5	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.4
30.	6.1	6.2	6.6	5.7	5.6	5.3	5.4	6.2	6.2	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.7	5.6	5.8	5.9
40.	5.9	6.1	6.5	5.7	5.5	5.1	5.3	6.2	6.2	6.0	5.8	5.8	5.8	5.1	5.0	5.2	5.8	6.2	6.1	6.1
50.	5.6	5.6	6.0	5.5	5.4	5.0	5.1	5.7	5.7	5.7	6.3	6.3	6.3	5.3	5.1	5.3	6.0	6.6	6.4	6.3
60.	5.3	5.4	5.6	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.5	6.5	6.4	5.5	5.3	5.5	6.2	6.5	6.2	6.3
70.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.5	5.3	5.5	6.4	6.2	6.1	6.1
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	5.9
100.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.3	6.1	5.9	5.9
110.	5.1	5.2	5.6	5.6	5.6	5.1	5.2	5.1	5.0	5.0	5.9	5.9	5.7	5.4	5.3	5.8	6.5	6.2	5.9	5.9
120.	5.1	5.2	5.7	5.7	5.7	5.3	5.4	5.3	5.0	5.0	5.9	5.9	5.9	5.7	5.5	5.9	6.5	6.4	5.9	5.8
130.	5.0	5.1	5.6	5.5	5.5	5.7	5.7	5.7	5.1	5.0	5.9	6.0	6.1	5.8	5.7	5.9	6.3	6.1	5.8	5.7
140.	5.0	5.0	5.4	5.3	5.3	5.9	5.9	5.9	5.2	5.1	6.0	6.1	6.3	5.8	5.8	5.5	5.9	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.2	5.2	6.1	6.2	6.1	5.8	5.8	5.3	5.4	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.7	5.7	5.7	5.2	5.2	6.1	6.1	5.9	5.8	5.6	5.2	5.5	5.7	5.7	5.7
170.	5.0	5.0	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.1	6.1	6.0	5.9	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.2	6.3	6.0	5.9	5.5	5.3	5.4	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.5	5.6	5.5	5.3	5.3	6.3	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.2	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	5.6	5.7	5.7	5.1	5.0	5.4	5.6	5.8	5.6	5.6	6.5	6.4	6.3	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	5.9	5.8	6.3	6.2	6.1	5.6	5.2	5.0	5.2	5.8	5.8	5.9
230.	6.2	6.2	6.2	5.4	5.3	5.8	5.9	6.5	6.1	6.1	5.9	5.8	5.7	5.4	5.2	5.0	5.0	5.4	5.5	5.4
240.	6.1	6.1	6.1	5.5	5.3	5.7	5.9	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	6.0	6.0	6.0	5.4	5.3	5.8	5.9	6.1	6.0	6.1	5.2	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.8	6.0	5.9	6.1	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.1	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.9	5.1	5.1	5.6	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.1	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.7	5.4	5.8	6.1	6.0	5.9	5.7	5.0	5.1	5.4	5.3	5.3	5.3	5.4	5.8	5.1	5.0
320.	5.8	5.8	6.1	5.9	5.7	5.7	5.8	5.9	5.8	5.7	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.8	5.9	6.1	5.8	5.8	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.6	6.0	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.8	5.3	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.8	5.1	5.1
350.	5.9	6.0	5.9	5.8	5.7	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.0	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
MAX	6.2	6.2	6.6	5.9	5.8	6.0	6.1	6.5	6.2	6.2	6.5	6.5	6.4	6.0	5.8	5.9	6.5	6.6	6.4	6.3
DEGR.	10	10	30	10	330	300	300	230	30	30	60	60	60	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.8	5.9	6.7	6.2	6.1	6.8	6.8	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.7	6.8	5.2	5.0
10.	5.9	6.1	6.8	6.4	6.4	6.0	6.1	6.2	5.9	5.9	5.0	5.0	5.5	5.4	5.5	7.0	7.0	7.0	5.4	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.2	6.8	6.7	6.8	5.6	5.4
30.	6.1	6.2	6.2	6.1	6.2	5.4	5.5	5.7	5.9	5.9	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.5	5.4
40.	6.2	6.1	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.4	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.1	6.2	5.4	5.3
60.	6.2	6.3	6.3	6.3	6.2	5.4	5.6	6.2	6.3	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.4	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.4	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.6	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.2	5.4	6.4	6.3	6.3	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.6	6.5	5.4	5.2	6.4	6.6	7.3	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.4	6.6	6.6	5.6	5.4	6.5	6.7	7.3	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.0	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	6.6	6.8	6.8	5.9	5.9
140.	5.3	5.3	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	6.0	6.1	6.0	5.5	5.4	6.7	6.7	6.5	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.1	5.1	5.1	5.1	6.0	6.0	5.9	5.6	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.1	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.5	7.1	7.0	6.7	6.1	5.9
170.	5.1	5.3	6.1	6.2	6.2	5.7	5.7	5.6	5.0	5.0	5.9	5.9	6.3	5.9	5.9	7.2	7.0	6.7	5.9	5.8
180.	5.1	5.2	5.9	6.0	6.0	6.3	6.4	6.2	5.1	5.0	6.1	6.3	6.8	6.4	6.4	6.7	6.6	6.4	5.8	5.7
190.	5.0	5.0	5.4	5.6	5.6	6.7	6.8	6.4	5.4	5.1	6.0	6.3	6.8	6.4	6.5	6.1	6.0	6.0	5.6	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.2	5.4	5.3	6.2	6.4	6.5	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.4	6.1	6.3	5.4	5.5	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.4	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.3	6.5	6.5	6.3	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.7	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.4	6.0	6.0	6.0
270.	6.0	6.0	5.8	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.5	6.4	6.7	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.4	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.4	6.4	6.4	6.6	5.5	5.7	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.0	6.0	5.9	5.4	5.3	6.3	6.4	6.2	6.3	6.5	5.4	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	6.0	5.7	5.4	5.3	6.3	6.5	6.2	6.3	6.4	5.4	5.5	6.0	6.0	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.3	6.4	6.5	6.2	6.4	6.3	5.4	5.6	6.0	6.0	6.1	5.1	5.0	5.1	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.7	6.4	6.5	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.3	6.8	6.8	6.8	6.4	6.2	5.3	5.5	6.3	6.3	6.4	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.7	6.1	5.8	5.8	6.9	7.0	6.9	6.3	6.1	5.2	5.4	6.4	6.4	6.4	6.1	6.1	6.1	5.0	5.0
360.	5.8	5.9	6.7	6.2	6.1	6.8	6.8	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.7	6.8	5.2	5.0
MAX	6.4	6.6	6.8	6.4	6.4	6.9	7.0	6.9	6.5	6.6	6.6	6.6	6.8	6.4	6.5	7.2	7.0	7.3	6.5	6.4
DEGR.	70	80	10	10	10	350	350	350	80	280	260	100	180	180	190	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.1	6.1	5.5	5.6	5.7	5.7	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.2	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.3	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.5	5.5	5.5	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.7	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.5	5.5	5.6	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.1	5.3	5.3	5.7	5.6	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.1	5.2	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.8	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.7	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.8	5.9	6.1	6.2	6.1	5.2	5.4	6.1	6.0	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.1	6.2	6.1	5.9	5.1	5.3	6.1	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.1	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.8	5.9	5.8	5.7	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	5.9
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.9	5.8
230.	5.1	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	5.9	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.8	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.0	5.7	5.5
280.	5.0	5.1	5.5	5.8	5.6	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.8	5.8	5.5	5.7
300.	5.1	5.1	5.1	5.3	5.2	5.8	5.9	6.0	5.4	5.1	5.9	6.0	5.6	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.8	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	5.9	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
MAX	6.0	6.2	6.2	6.2	6.2	5.9	6.0	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
DEGR.	170	180	170	140	140	30	30	10	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC38.

3_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:13

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.3	********	*	71.	312.	AG	155.	100.0	1.0	20.0	0.32	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	77.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756718.7	********	*	654.	45.	AG	143.	100.0	1.0	20.0	1.05	33.2
5. Winthrop North	*	759327.2	********	759301.9	********	*	896.	358.	AG	171.	100.0	1.0	20.0	1.12	45.5
6. MVP East RT	*	759381.7	********	759541.7	********	*	160.	93.	AG	56.	100.0	1.0	10.0	0.59	8.1
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759318.8	********	*	1024.	181.	AG	202.	100.0	1.0	20.0	1.32	52.0
9. MVP West	*	759293.5	********	754605.5	********	*	4693.	273.	AG	68.	100.0	1.0	10.0	1.62	238.4
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759581.4	********	*	164.	332.	AG	87.	100.0	1.0	10.0	0.75	8.3
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.9	********	*	120.	207.	AG	87.	100.0	1.0	10.0	0.56	6.1
15. Boston Ave. NB	*	759699.9	********	760416.4	********	*	1505.	152.	AG	98.	100.0	1.0	10.0	1.43	76.4
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761426.7	********	*	2003.	342.	AG	82.	100.0	1.0	10.0	1.34	101.8
18. Harvard St. EB	*	762026.6	********	760202.6	********	*	2078.	241.	AG	77.	100.0	1.0	10.0	1.31	105.6
19. Main st. NB	*	762078.3	********	762174.5	********	*	303.	162.	AG	82.	100.0	1.0	10.0	0.99	15.4
20. Harvard St. WB	*	762091.8	********	762827.2	********	*	770.	73.	AG	77.	100.0	1.0	10.0	1.08	39.1
21. Broadway EB R	*	762959.1	********	762880.3	********	*	86.	293.	AG	59.	100.0	1.0	10.0	0.36	4.4
22. Broadway EB TL	*	762965.1	********	762043.6	********	*	1006.	294.	AG	89.	100.0	1.0	10.0	1.18	51.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764224.2	********	*	2297.	150.	AG	100.	100.0	1.0	10.0	1.82	116.7
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763696.2	********	*	818.	47.	AG	118.	100.0	1.0	10.0	6.15	41.6
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764294.7	********	*	1054.	114.	AG	84.	100.0	1.0	10.0	1.19	53.6
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766359.9	********	*	2178.	142.	AG	62.	100.0	1.0	10.0	1.26	110.6
33. School St. SB	*	765002.3	********	765834.3	********	*	1927.	26.	AG	102.	100.0	1.0	10.0	1.94	97.9
34. Medford St. SEB	*	764967.1	********	764889.7	********	*	125.	322.	AG	62.	100.0	1.0	10.0	0.79	6.4
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765185.8	********	*	1450.	206.	AG	273.	100.0	1.0	30.0	1.31	73.7
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756778.6	********	*	*****	249.	AG	99.	100.0	1.0	10.0	4.83	554.4
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	91.	100.0	1.0	10.0	0.15	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768275.4	********	*	1249.	67.	AG	284.	100.0	1.0	30.0	1.29	63.4
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:13

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	102.	100.0	1.0	10.0	1.60	78.6
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	178.	100.0	1.0	20.0	1.22	60.2
50. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	134.	100.0	1.0	20.0	0.68	8.2
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	98.	100.0	1.0	10.0	0.79	6.1
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2510.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2320.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1900.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3245.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:13

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:13

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	345	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1285	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	985	1600	46.20	1	3
6. MVP East RT	*	135	61	3.0	480	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	110	3.0	625	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1075	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	310	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	231	1600	46.20	1	3
15. Boston Ave. NB	*	135	107	3.0	390	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
17. Main St. SB	*	120	79	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	75	3.0	700	1600	46.20	1	3
19. Main st. NB	*	120	79	3.0	475	1600	46.20	1	3
20. Harvard St. WB	*	120	75	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	57	3.0	275	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	455	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	435	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	80	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	500	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	80	40	3.0	885	1600	46.20	1	3
33. School St. SB	*	80	66	3.0	350	1600	46.20	1	3
34. Medford St. SEB	*	80	40	3.0	550	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1415	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
40. Washington St. EB	*	135	108	3.0	1255	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
43. Washington St. WB	*	135	103	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	340	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	945	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	910	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:13

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	210	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	5.9	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.0	5.0	5.0	5.0	5.5	5.9	5.4	5.4	5.2
20.	6.0	5.7	5.5	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.8	5.5	5.5	5.4
30.	5.9	5.5	5.5	5.6	5.4	5.2	5.2	5.4	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.4	5.9	5.7	5.6	5.5
40.	5.4	5.5	5.3	5.4	5.4	5.0	5.2	5.2	5.5	5.5	5.9	5.8	5.8	5.2	5.1	5.6	5.9	5.8	5.6	5.5
50.	5.4	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.2	5.2	5.9	5.9	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.6	5.3	5.3	5.4
80.	5.2	5.2	5.2	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.3	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.5	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.6	5.6
140.	5.2	5.2	5.7	5.7	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.6	5.6	5.5	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.4	5.4	5.3	6.0	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.4	5.4	5.3	5.6	5.6	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.6	5.8	5.7	5.7	5.6	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.8	5.8	5.6	5.5	5.7	5.2	5.3	5.5	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.0	5.5	5.5	5.4	5.3	5.1	5.7	5.8	5.6	5.5	5.5	5.2	5.3	5.7	5.6	5.4
200.	5.2	5.4	5.3	5.1	5.1	5.6	5.4	5.3	5.3	5.2	5.8	5.8	5.6	5.5	5.4	5.1	5.2	5.3	5.4	5.3
210.	5.3	5.5	5.5	5.0	5.1	5.3	5.4	5.5	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.3	5.7	5.6	5.0	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.0	5.2	5.1	5.1
230.	5.3	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.4	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.1	5.1	5.1	5.0
240.	5.3	5.7	5.4	5.2	5.0	5.4	5.4	5.2	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.0	5.0
250.	5.3	5.7	5.3	5.2	5.1	5.5	5.3	5.2	5.5	5.5	5.2	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.3	5.7	5.2	5.3	5.1	5.5	5.2	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.3	5.7	5.2	5.3	5.1	5.6	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.0
280.	5.4	5.7	5.2	5.3	5.1	5.6	5.3	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.2	5.0	5.0	5.0
290.	5.4	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.5	5.1	5.2	5.5	5.4	5.3	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.3	5.3	5.6	5.3	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.5	5.5	5.0	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.5	5.6	5.4	5.4	5.7	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.2	5.2	5.1	5.0
340.	5.6	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.8	5.6	5.6	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.1	5.1
360.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	5.9	5.7	5.7	5.6	5.6	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.5	5.7	6.0	6.4	5.8	5.6	5.6
DEGR.	10	10	10	140	10	160	160	320	20	20	40	50	40	170	170	150	350	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	6.0	5.8	5.8	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.8	5.7	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.3
50.	5.9	6.0	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.5	5.1	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.8	5.6	5.8	5.5	5.5	5.1	5.1	5.7	5.7	5.8	5.7	5.8	5.7	5.1	5.0	5.5	5.6	6.1	6.0	5.8
80.	5.3	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.9	5.9	5.9	5.3	5.1	5.6	5.8	6.2	5.9	6.0
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.2	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.9
100.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.8	5.8	5.7	5.7	5.8
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.5	5.3	5.2	5.9	6.0	5.8	5.6	5.5
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.6	5.5
140.	5.1	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	6.0	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.7	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	6.0	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.7	6.0	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.4	5.3	5.3	5.8	5.8	5.8	5.1	5.1	5.6	5.6	6.0	5.8	5.7	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.2	5.3	5.5	5.4	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.1	5.6	5.8	5.9	5.7	5.7	5.2	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.1	5.7	5.8	5.9	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.8	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.8	5.7
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.3	5.7	5.6	5.2	5.3	5.9	5.8	5.8
240.	5.9	5.7	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	6.0	6.0	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.5
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.8	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
300.	5.6	5.5	5.4	5.3	5.2	5.7	5.6	5.8	5.7	5.8	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.2	5.1	5.8	5.6	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0
330.	5.6	5.5	5.7	5.5	5.5	6.0	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.4	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.7	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.8	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.9	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.8	6.0	6.0	6.1	5.8	5.8	6.2	6.2	6.3	5.9	5.8	6.0	6.0	6.2	6.0	6.0
DEGR.	30	50	340	0	0	330	330	250	60	60	240	240	230	180	200	150	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC17.

3_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:51

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.3	********	*	71.	312.	AG	155.	100.0	1.0	20.0	0.32	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	77.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756718.7	********	*	654.	45.	AG	143.	100.0	1.0	20.0	1.05	33.2
5. Winthrop North	*	759327.2	********	759301.9	********	*	896.	358.	AG	171.	100.0	1.0	20.0	1.12	45.5
6. MVP East RT	*	759381.7	********	759541.7	********	*	160.	93.	AG	56.	100.0	1.0	10.0	0.59	8.1
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759318.8	********	*	1024.	181.	AG	202.	100.0	1.0	20.0	1.32	52.0
9. MVP West	*	759293.5	********	754605.5	********	*	4693.	273.	AG	68.	100.0	1.0	10.0	1.62	238.4
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759581.4	********	*	164.	332.	AG	87.	100.0	1.0	10.0	0.75	8.3
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.9	********	*	120.	207.	AG	87.	100.0	1.0	10.0	0.56	6.1
15. Boston Ave. NB	*	759699.9	********	760416.4	********	*	1505.	152.	AG	98.	100.0	1.0	10.0	1.43	76.4
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761426.7	********	*	2003.	342.	AG	82.	100.0	1.0	10.0	1.34	101.8
18. Harvard St. EB	*	762026.6	********	760202.6	********	*	2078.	241.	AG	77.	100.0	1.0	10.0	1.31	105.6
19. Main st. NB	*	762078.3	********	762174.5	********	*	303.	162.	AG	82.	100.0	1.0	10.0	0.99	15.4
20. Harvard St. WB	*	762091.8	********	762827.2	********	*	770.	73.	AG	77.	100.0	1.0	10.0	1.08	39.1
21. Broadway EB R	*	762959.1	********	762880.3	********	*	86.	293.	AG	59.	100.0	1.0	10.0	0.36	4.4
22. Broadway EB TL	*	762965.1	********	762043.6	********	*	1006.	294.	AG	89.	100.0	1.0	10.0	1.18	51.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764224.2	********	*	2297.	150.	AG	100.	100.0	1.0	10.0	1.82	116.7
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763696.2	********	*	818.	47.	AG	118.	100.0	1.0	10.0	6.15	41.6
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764294.7	********	*	1054.	114.	AG	84.	100.0	1.0	10.0	1.19	53.6
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766359.9	********	*	2178.	142.	AG	62.	100.0	1.0	10.0	1.26	110.6
33. School St. SB	*	765002.3	********	765834.3	********	*	1927.	26.	AG	102.	100.0	1.0	10.0	1.94	97.9
34. Medford St. SEB	*	764967.1	********	764889.7	********	*	125.	322.	AG	62.	100.0	1.0	10.0	0.79	6.4
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765185.8	********	*	1450.	206.	AG	273.	100.0	1.0	30.0	1.31	73.7
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756778.6	********	*	*****	249.	AG	99.	100.0	1.0	10.0	4.83	554.4
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	91.	100.0	1.0	10.0	0.15	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768275.4	********	*	1249.	67.	AG	284.	100.0	1.0	30.0	1.29	63.4
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:51

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	102.	100.0	1.0	10.0	1.60	78.6
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	178.	100.0	1.0	20.0	1.22	60.2
50. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	134.	100.0	1.0	20.0	0.68	8.2
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	98.	100.0	1.0	10.0	0.79	6.1
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2510.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2320.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1900.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3245.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:51

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:51

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	345	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1285	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	985	1600	46.20	1	3
6. MVP East RT	*	135	61	3.0	480	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	110	3.0	625	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1075	1600	46.20	1	3
10. South St	*	120	90	3.0	665	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	310	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	231	1600	46.20	1	3
15. Boston Ave. NB	*	135	107	3.0	390	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
17. Main St. SB	*	120	79	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	75	3.0	700	1600	46.20	1	3
19. Main st. NB	*	120	79	3.0	475	1600	46.20	1	3
20. Harvard St. WB	*	120	75	3.0	575	1600	46.20	1	3
21. Broadway EB R	*	120	57	3.0	275	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	455	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	435	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	80	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	500	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	80	40	3.0	885	1600	46.20	1	3
33. School St. SB	*	80	66	3.0	350	1600	46.20	1	3
34. Medford St. SEB	*	80	40	3.0	550	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1415	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
40. Washington St. EB	*	135	108	3.0	1255	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
43. Washington St. WB	*	135	103	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	340	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	945	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	910	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:51

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	210	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 5:51

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.6	5.4	5.7	5.8	5.8	5.6	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.3	5.7	5.8	5.8	5.6	5.8	5.4	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.7	5.7	5.6	5.8	5.4	5.5	5.5	5.7	5.7	5.1	5.1	5.1	5.5	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.7	5.5	5.5	5.6	5.7	5.7	5.1	5.2	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.4	5.3	5.6	5.6	5.8	5.6	5.8	5.4	5.5	5.6	5.7	5.6	5.0	5.1	5.3	5.5	5.5
50.	5.7	6.1	5.7	5.3	5.4	5.4	5.5	5.7	5.7	5.7	5.4	5.4	5.7	5.6	5.6	5.0	5.1	5.3	5.4	5.3
60.	5.8	6.0	5.6	5.5	5.6	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.7	5.7	5.6	5.0	5.0	5.1	5.2	5.2
70.	5.8	6.2	5.8	5.6	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.2	5.6	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.5	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.9	5.8	5.4	5.6	5.9	5.9	5.9	5.2	5.2	5.2	5.0	5.0
100.	6.1	6.4	6.1	5.8	5.6	5.4	5.6	6.3	6.0	5.8	5.3	5.5	6.0	6.0	6.0	5.4	5.4	5.4	5.0	5.0
110.	6.1	6.2	6.0	5.6	5.5	5.3	5.4	6.2	5.8	5.7	5.2	5.3	5.9	5.9	5.9	5.9	5.9	5.8	5.2	5.0
120.	5.8	5.9	5.8	5.5	5.4	5.2	5.3	6.0	5.7	5.6	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.4	5.2
130.	5.4	5.6	5.5	5.4	5.4	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.5	5.2
140.	5.3	5.3	5.6	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.4	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.9	5.8	5.8	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.8	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.4	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.4	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.1	5.1	5.2	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
210.	5.0	5.1	5.2	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.5
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	5.9	5.7	5.5	5.5
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.6	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.5	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.2	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.9	5.9	5.9	5.7
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	6.0	5.5	5.3	5.8	6.0	5.9	5.8	5.7	6.0	5.8	5.8	5.8	5.5
300.	6.0	6.3	6.1	5.3	5.1	5.4	5.7	6.1	5.6	5.5	6.0	6.0	6.1	5.9	6.0	5.7	5.6	5.6	5.6	5.4
310.	6.0	6.3	6.1	5.4	5.3	5.6	5.8	6.0	5.7	5.5	5.9	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.9	6.2	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.6	5.8	5.9	5.8	5.8	6.0	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.8	5.9	5.8	5.8	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.7	6.1	5.8	5.4	5.3	5.6	5.9	6.1	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.0	5.7	5.6	5.4	5.9	5.8	6.0	5.8	5.8	5.2	5.5	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.6	5.4	5.7	5.8	5.8	5.6	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.1	6.4	6.1	5.8	5.6	5.9	5.9	6.3	6.0	5.8	6.0	6.0	6.1	6.0	6.0	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	100	60	350	340	100	100	10	300	290	300	100	100	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	5.9	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.7
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	5.9	5.6	5.9	6.0	6.2	6.0	5.9	6.1
40.	5.2	5.2	5.2	5.0	5.0	5.5	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.9	5.9
50.	5.4	5.4	5.3	5.1	5.0	5.4	5.5	5.3	5.3	5.2	5.4	6.1	5.8	5.6	5.8	6.1	6.4	6.0	5.9	5.9
60.	5.4	5.4	5.3	5.1	5.1	5.5	5.5	5.3	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.8	5.8	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.4	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.8	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.6	5.6	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.5	5.1	5.3	5.4	6.1	6.2	5.9	5.6	5.9	6.5	6.5	5.6	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.7	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.6	5.8	5.7
110.	5.3	5.5	5.5	5.3	5.1	5.9	5.9	6.1	5.8	5.8	6.3	6.3	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.5	5.7	5.8	5.5	5.3	5.9	6.0	6.2	6.1	6.0	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.5	6.0	6.0	6.1	6.0	6.1	5.8	5.9	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.7	5.8	5.6	5.3	6.0	6.1	6.1	5.9	5.9	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.1	6.0	6.2	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.4	5.5	5.7	5.6
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.8	5.6	5.6	5.1	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.5	5.4	5.7	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.6	5.6
200.	5.6	5.3	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.6	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	6.0	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.4	5.7	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.4	5.4	5.5	5.5	6.0	5.2	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.4	5.7	5.6	5.6	6.0	5.1	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.2	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.7	5.6	5.3	5.4	5.8	5.8	5.8	5.7	5.6	5.2	5.2	5.2	5.1	5.3	5.2	5.0	5.0
270.	5.4	5.6	5.7	5.7	5.6	5.3	5.4	5.9	5.9	5.9	5.5	5.7	5.4	5.5	5.4	5.3	5.6	5.5	5.0	5.0
280.	5.3	5.6	5.7	5.7	5.6	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.5	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.7	5.5	5.1	5.4	5.9	5.9	5.9	5.7	5.7	5.6	5.5	5.6	5.6	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.1	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.6	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.7	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	5.9	5.9	5.9	5.9	5.6	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.4	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.7	5.8	5.8	5.3	5.2	5.6	5.9	6.1	5.4	6.1	5.8	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.8	5.9	5.7	5.3	5.2	5.5	6.0	6.2	5.4	6.2	5.8	6.1	5.5	5.4	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.1	6.1	6.2	6.1	6.1	6.3	6.3	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	260	170	150	140	120	120	130	110	110	0	310	0	70	60	40	80	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.7	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.7	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.6	5.7	5.7	5.7	5.6	6.0	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.8	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.2	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.6
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.0
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.7	6.1	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.8	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.8	5.4	5.3	5.2	5.4	5.9	6.1	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.6	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.2	5.5	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.0	5.0	5.0	5.5	5.9	6.3	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.3	5.5
240.	5.7	5.7	5.5	5.3	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.4	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.0	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.4	5.7	5.6	5.3	5.6	6.1	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.8
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.5	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.7	5.6	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.4	6.3	5.3	5.2	5.2	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.4	5.8	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.1	6.1	5.6	5.6	5.8	6.2	6.4	6.3	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.1	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.0	5.7	5.7	5.7	6.0	6.0	6.0	6.0	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.8	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.3	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.2	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	290	290	270	260	210	220	270	240	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

3_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:16

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759581.4	********	164.	332.	AG	87.	100.0	1.0	10.0	0.75	8.3
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.9	********	120.	207.	AG	87.	100.0	1.0	10.0	0.56	6.1
6. Boston Ave. NB	759699.9	********	760416.4	********	1505.	152.	AG	98.	100.0	1.0	10.0	1.43	76.4
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761426.7	********	2003.	342.	AG	82.	100.0	1.0	10.0	1.34	101.8
9. Harvard St. EB	762026.6	********	760202.6	********	2078.	241.	AG	77.	100.0	1.0	10.0	1.31	105.6
10. Main st. NB	762078.3	********	762174.5	********	303.	162.	AG	82.	100.0	1.0	10.0	0.99	15.4
11. Harvard St. WB	762091.8	********	762827.2	********	770.	73.	AG	77.	100.0	1.0	10.0	1.08	39.1
12. Broadway EB R	762959.1	********	762880.3	********	86.	293.	AG	59.	100.0	1.0	10.0	0.36	4.4
13. Broadway EB TL	762965.1	********	762043.6	********	1006.	294.	AG	89.	100.0	1.0	10.0	1.18	51.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764224.2	********	2297.	150.	AG	100.	100.0	1.0	10.0	1.82	116.7
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763696.2	********	818.	47.	AG	118.	100.0	1.0	10.0	6.15	41.6
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764294.7	********	1054.	114.	AG	84.	100.0	1.0	10.0	1.19	53.6
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766359.9	********	2178.	142.	AG	62.	100.0	1.0	10.0	1.26	110.6
24. School St. SB	765002.3	********	765834.3	********	1927.	26.	AG	102.	100.0	1.0	10.0	1.94	97.9
25. Medford St. SEB	764967.1	********	764889.7	********	125.	322.	AG	62.	100.0	1.0	10.0	0.79	6.4
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765185.8	********	1450.	206.	AG	273.	100.0	1.0	30.0	1.31	73.7
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756778.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.83	554.4
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	91.	100.0	1.0	10.0	0.15	1.5
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768275.4	********	1249.	67.	AG	284.	100.0	1.0	30.0	1.29	63.4
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	147.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	147.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771333.0	********	140.	304.	AG	245.	100.0	1.0	30.0	0.68	7.1
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:16

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	102.	100.0	1.0	10.0	1.60	78.6
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	178.	100.0	1.0	20.0	1.22	60.2
55. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	134.	100.0	1.0	20.0	0.68	8.2
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	98.	100.0	1.0	10.0	0.79	6.1
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:16

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3230.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	310	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	231	1600	46.20	1	3
6. Boston Ave. NB	*	135	107	3.0	390	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
8. Main St. SB	*	120	79	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	75	3.0	700	1600	46.20	1	3
10. Main st. NB	*	120	79	3.0	475	1600	46.20	1	3
11. Harvard St. WB	*	120	75	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	57	3.0	275	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	455	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	435	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	80	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	500	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	80	40	3.0	885	1600	46.20	1	3
24. School St. SB	*	80	66	3.0	350	1600	46.20	1	3
25. Medford St. SEB	*	80	40	3.0	550	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1415	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
31. Washington St. EB	*	135	108	3.0	1255	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
34. Washington St. WB	*	135	103	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	975	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	340	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	945	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	910	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	210	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:16

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.5	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.4	5.5	5.4	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.4	5.4
30.	5.5	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.2	5.3	5.4	5.4	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.5
50.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.6
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.6	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.7	5.7	5.6	5.6	5.6
90.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.9	5.6	5.6	5.6
100.	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.4	5.4	5.2	6.0	5.9	5.9	5.5	5.5
110.	5.1	5.2	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.7	6.0	5.5	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.3	5.3	5.8	5.7	5.6	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.7	5.2	5.2	5.3	5.3	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.4
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.6	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.4	5.6	5.8	5.5	5.5	5.2	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.6	5.4	5.4	5.4	5.6	5.8	5.5	5.3	5.0	5.2	5.5	5.5	5.5
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.8	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.7	5.7	5.7	5.2	5.1	5.5	5.6	5.6	5.5	5.4	5.2	5.4	5.6	5.3	5.3	5.0	5.0	5.1	5.2	5.2
230.	5.5	5.6	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.8	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.3	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.3	5.2	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.7	5.8	5.6	5.2	5.2	5.1	5.1	5.7	5.5	5.5	5.3	5.3	5.3	5.0	5.0
290.	5.4	5.5	6.0	5.7	5.5	5.6	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.5	5.5	5.6	5.6	5.7	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.7	5.3	5.4	5.5	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.8	5.8	5.9	5.1	5.1
310.	5.5	5.6	5.8	5.6	5.7	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1
330.	5.6	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
350.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.8	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	290	100	100	250	280	120	220	200	210	190	120	130	120	100	90	110	70	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.1	5.0	5.4	5.6	5.4	5.2	5.1
10.	5.4	5.6	5.9	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.3	5.0	5.0	5.3	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.6	5.6	5.6	5.1	5.0	5.3	5.6	5.7	5.5	5.4
30.	5.4	5.4	5.6	5.5	5.4	5.0	5.1	5.3	5.4	5.4	5.8	5.8	5.8	5.2	5.1	5.4	5.7	5.8	5.6	5.5
40.	5.1	5.3	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.8	5.8	5.8	5.3	5.1	5.4	5.7	5.8	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.5	5.7	5.7	5.4	5.3
60.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.5	5.4	5.3
70.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.5	5.7	5.5	5.5	5.3
90.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.6	5.7	5.5	5.4	5.2
100.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.2
110.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.7	5.7	5.6	5.4	5.2
120.	5.2	5.3	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.8	5.6	5.7	5.4	5.3
130.	5.2	5.3	5.9	5.9	5.9	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.6	5.4	6.0	5.9	5.9	5.4	5.3
140.	5.1	5.3	5.9	5.9	5.8	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.9	5.9	5.6	5.8	5.7	5.8	5.3	5.2
150.	5.0	5.1	5.6	5.6	5.6	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.8	5.8	5.6	5.6	5.7	5.3	5.2
160.	5.0	5.0	5.3	5.2	5.2	5.9	5.9	5.8	5.3	5.2	5.8	5.9	5.8	5.6	5.6	5.3	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2	5.8	5.9	5.7	5.7	5.5	5.1	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.8	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.1	5.0	5.6	5.6	5.5	5.3	5.1	5.8	5.9	5.7	5.5	5.5	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.6	5.5	5.5	5.2	5.3	5.8	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4	5.6	5.5	5.6	5.4	5.3	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.5	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.1	5.5	5.6	5.4	5.4	5.5	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.5	5.5	5.1	5.2	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.7	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.8	5.7	5.7	5.5	5.4	5.1	5.2	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.4	5.4	5.4	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.3	5.3	5.0	5.0
320.	5.1	5.2	5.7	5.7	5.5	5.7	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.5	5.4	5.1	5.0
330.	5.2	5.2	5.9	5.7	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.5	5.7	5.7	5.1	5.1
340.	5.3	5.4	5.9	5.7	5.8	5.2	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.1	5.5	5.7	5.7	5.2	5.1
350.	5.3	5.4	5.8	5.9	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.4	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.1	5.0	5.4	5.6	5.4	5.2	5.1
MAX	5.5	5.6	5.9	5.9	5.9	5.9	5.9	5.9	5.5	5.5	5.8	5.9	6.0	5.9	5.8	6.0	5.9	5.9	5.6	5.5
DEGR.	20	10	10	130	130	150	150	150	10	10	30	160	150	140	150	130	130	130	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC16.

3_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:54

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759581.4	********	164.	332.	AG	87.	100.0	1.0	10.0	0.75	8.3
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.9	********	120.	207.	AG	87.	100.0	1.0	10.0	0.56	6.1
6. Boston Ave. NB	759699.9	********	760416.4	********	1505.	152.	AG	98.	100.0	1.0	10.0	1.43	76.4
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761426.7	********	2003.	342.	AG	82.	100.0	1.0	10.0	1.34	101.8
9. Harvard St. EB	762026.6	********	760202.6	********	2078.	241.	AG	77.	100.0	1.0	10.0	1.31	105.6
10. Main st. NB	762078.3	********	762174.5	********	303.	162.	AG	82.	100.0	1.0	10.0	0.99	15.4
11. Harvard St. WB	762091.8	********	762827.2	********	770.	73.	AG	77.	100.0	1.0	10.0	1.08	39.1
12. Broadway EB R	762959.1	********	762880.3	********	86.	293.	AG	59.	100.0	1.0	10.0	0.36	4.4
13. Broadway EB TL	762965.1	********	762043.6	********	1006.	294.	AG	89.	100.0	1.0	10.0	1.18	51.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764224.2	********	2297.	150.	AG	100.	100.0	1.0	10.0	1.82	116.7
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763696.2	********	818.	47.	AG	118.	100.0	1.0	10.0	6.15	41.6
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764294.7	********	1054.	114.	AG	84.	100.0	1.0	10.0	1.19	53.6
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766359.9	********	2178.	142.	AG	62.	100.0	1.0	10.0	1.26	110.6
24. School St. SB	765002.3	********	765834.3	********	1927.	26.	AG	102.	100.0	1.0	10.0	1.94	97.9
25. Medford St. SEB	764967.1	********	764889.7	********	125.	322.	AG	62.	100.0	1.0	10.0	0.79	6.4
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765185.8	********	1450.	206.	AG	273.	100.0	1.0	30.0	1.31	73.7
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756778.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.83	554.4
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	91.	100.0	1.0	10.0	0.15	1.5
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768275.4	********	1249.	67.	AG	284.	100.0	1.0	30.0	1.29	63.4
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	147.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	147.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771333.0	********	140.	304.	AG	245.	100.0	1.0	30.0	0.68	7.1
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:54

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	102.	100.0	1.0	10.0	1.60	78.6
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	178.	100.0	1.0	20.0	1.22	60.2
55. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	134.	100.0	1.0	20.0	0.68	8.2
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	98.	100.0	1.0	10.0	0.79	6.1
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3230.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	310	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	231	1600	46.20	1	3
6. Boston Ave. NB	*	135	107	3.0	390	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
8. Main St. SB	*	120	79	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	75	3.0	700	1600	46.20	1	3
10. Main st. NB	*	120	79	3.0	475	1600	46.20	1	3
11. Harvard St. WB	*	120	75	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	57	3.0	275	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	455	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	435	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	80	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	500	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	80	40	3.0	885	1600	46.20	1	3
24. School St. SB	*	80	66	3.0	350	1600	46.20	1	3
25. Medford St. SEB	*	80	40	3.0	550	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1415	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
31. Washington St. EB	*	135	108	3.0	1255	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
34. Washington St. WB	*	135	103	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	975	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	340	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	945	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	910	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	210	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 6:54

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.7	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.6	6.0	6.2	5.7	5.7	6.9	7.0	6.2	6.1	5.9	5.5	5.5	6.1	6.1	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.3	6.1	6.1	6.9	7.0	6.3	6.1	5.8	5.4	5.3	6.1	6.0	5.7	5.4	5.5	5.4	5.0	5.0
30.	5.7	6.1	6.8	6.3	6.6	6.3	6.5	6.2	6.1	5.9	5.5	5.2	5.9	5.9	5.6	5.7	5.8	6.0	5.0	5.0
40.	5.7	6.4	6.8	6.5	7.0	6.0	6.2	6.1	6.1	5.9	5.5	5.3	5.7	5.8	5.6	6.0	6.4	6.4	5.1	5.0
50.	5.8	6.6	6.4	6.7	7.0	5.6	6.0	5.7	6.2	5.9	5.6	5.2	5.3	5.5	5.7	6.2	6.5	6.6	5.3	5.1
60.	6.3	6.6	6.5	6.9	7.1	5.9	6.1	6.1	6.4	6.1	5.7	5.6	5.4	5.6	5.8	6.1	6.6	6.6	5.5	5.1
70.	6.9	7.2	6.6	7.1	7.1	5.6	6.1	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	7.0	6.8	6.0	5.6
80.	6.9	6.9	6.5	6.8	6.5	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.6	6.4	6.8	6.9	6.6	6.0	5.7
90.	6.9	7.0	6.5	6.7	6.3	5.3	5.4	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.7	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.6	6.2	5.2	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.1	5.8
110.	7.0	6.7	6.9	6.5	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.7	6.6	6.2	5.1	5.3	5.8	5.6	5.6	6.4	6.6	6.5	5.5	5.8	7.1	6.5	7.2	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.4	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.6
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.8	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.4	6.2	5.5	5.6	6.8	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.2	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.9	6.5	6.4	6.5	6.2
170.	5.6	5.8	6.5	6.6	6.4	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	7.0	6.6	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.4	5.2	5.2	5.3	5.0	5.0	5.8	6.1	5.9	5.5	5.7	7.1	6.8	6.7	6.5	6.2
190.	5.6	5.7	6.8	6.9	6.6	5.4	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.2	7.0	7.0	6.5	6.2
200.	5.4	5.5	6.7	6.8	6.5	6.1	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.3	7.2	7.2	6.3	6.0
210.	5.2	5.4	6.3	6.3	6.0	6.8	6.7	6.9	5.4	5.2	6.0	6.4	7.0	6.5	6.4	6.9	6.8	6.7	6.0	5.8
220.	5.2	5.1	5.5	5.6	5.4	6.9	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.6	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.1	6.7	6.8	6.9	5.7	5.4	6.2	6.7	6.5	6.4	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.3	5.4	5.2	6.7	6.9	6.8	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.5	5.6	5.9	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	6.9	6.5	6.0	5.6	6.7	6.8	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.8
260.	5.1	5.1	5.1	5.1	5.4	6.5	6.8	6.4	6.0	5.5	6.7	6.7	6.1	6.2	6.4	5.3	5.4	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.6	6.1	5.9	5.5	6.9	6.7	6.4	6.2	6.4	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.5	6.4	6.0	5.6	6.8	6.7	6.4	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.7	5.8	5.9	5.1	5.3	6.2	6.6	6.6	6.3	5.8	6.6	6.5	6.7	6.0	6.2	5.1	5.2	6.0	5.9	5.9
300.	6.0	6.3	6.4	5.2	5.3	6.4	6.7	7.0	6.4	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.5	5.3	5.3	6.4	6.7	6.8	6.2	6.2	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.4	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	6.9	6.2	6.1	6.0	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.7	7.0	6.2	6.2	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.4	5.5	6.8	7.1	6.3	6.2	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.0
360.	5.7	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.2	6.9	7.1	7.1	7.0	7.1	7.1	6.4	6.2	6.9	6.8	7.0	6.6	6.6	7.3	7.2	7.2	6.6	6.6
DEGR.	100	70	110	70	60	0	350	220	60	310	270	240	210	220	220	200	200	120	130	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.3	6.3	6.2	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.2	6.2	6.1	5.5	5.3	6.0	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.3	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.4	6.3	6.2	6.0	5.6	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.1	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.4	5.3	6.2	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.5	5.1	5.1	5.1	5.0	5.0
40.	5.9	5.9	5.6	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.7	6.6	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.8	5.8	5.7	5.7	5.4	6.7	6.5	6.1	5.7	5.6	5.4	5.6	5.8	6.8	6.9	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	5.8	5.9	6.5	6.5	6.1	5.6	5.5	5.2	5.4	5.6	6.8	6.8	6.1	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.7	5.8	6.3	6.3	5.8	5.4	5.3	5.0	5.2	5.2	6.3	6.3	6.9	6.9	7.0	5.5	5.2
80.	6.4	6.6	5.7	5.7	5.7	5.9	5.7	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.1	7.2	7.2	5.7	5.5
90.	6.4	6.3	5.4	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	6.9	7.0	5.7	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.2	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.7	6.7	6.7	5.7	5.5
110.	6.1	5.9	5.2	5.8	5.8	5.2	5.3	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.5	6.5	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.4	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.1	6.0	5.7	6.0	6.0	5.4	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.1	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.7	5.2	5.3	5.5	5.5	5.5	5.3	5.2	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.6	5.1	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.3	5.3	5.4	5.8	5.7	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.1	5.2	5.9	5.9	5.4	5.3	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.1	5.1	5.1	5.9	5.9	5.5	5.3	5.2	6.5	6.6	6.0	5.6	5.6
200.	5.3	5.3	5.5	5.6	5.7	5.2	5.1	5.1	5.0	5.0	5.9	5.9	5.3	5.4	5.3	6.7	6.6	5.9	5.5	5.6
210.	5.3	5.5	5.7	5.9	5.9	5.2	5.2	5.1	5.0	5.0	5.7	5.7	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.4	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.2	5.4	5.2	6.9	6.6	6.1	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.1	5.6	5.7	5.5	5.8	5.5	7.1	6.7	6.1	5.8	5.8
240.	5.4	5.4	5.8	6.1	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	6.0	6.8	6.5	6.1	5.8	5.8
250.	5.2	5.2	5.4	5.7	5.7	6.6	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.6
260.	5.0	5.0	5.4	5.5	5.5	6.6	6.6	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.1	6.4	6.3	6.2	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.9	5.4	5.3	5.8	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.4	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.7	5.8	5.8	5.4	5.3	5.8	5.6	5.6	6.2	6.3	5.2	5.2	5.5	5.6	5.7
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.8	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.1	5.9	5.9	6.4	6.3	5.1	5.3	5.5	5.6	5.6
340.	5.5	5.6	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	5.9	5.7	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	5.9	5.9	5.9	5.2	5.1	5.8	5.9	6.2	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.3	6.3	6.2	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.4	6.6	6.2	6.1	6.1	6.7	6.6	6.3	5.9	5.7	6.2	6.1	5.9	6.8	6.9	7.1	7.2	7.2	5.8	5.8
DEGR.	80	70	0	230	230	50	260	0	0	30	340	260	330	50	50	230	80	80	170	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC16.

3_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 7:48

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	186.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759581.4	********	164.	332.	AG	87.	100.0	1.0	10.0	0.75	8.3
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.9	********	120.	207.	AG	87.	100.0	1.0	10.0	0.56	6.1
6. Boston Ave. NB	759699.9	********	760416.4	********	1505.	152.	AG	98.	100.0	1.0	10.0	1.43	76.4
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761426.7	********	2003.	342.	AG	82.	100.0	1.0	10.0	1.34	101.8
9. Harvard St. EB	762026.6	********	760202.6	********	2078.	241.	AG	77.	100.0	1.0	10.0	1.31	105.6
10. Main st. NB	762078.3	********	762174.5	********	303.	162.	AG	82.	100.0	1.0	10.0	0.99	15.4
11. Harvard St. WB	762091.8	********	762827.2	********	770.	73.	AG	77.	100.0	1.0	10.0	1.08	39.1
12. Broadway EB R	762959.1	********	762880.3	********	86.	293.	AG	59.	100.0	1.0	10.0	0.36	4.4
13. Broadway EB TL	762965.1	********	762043.6	********	1006.	294.	AG	89.	100.0	1.0	10.0	1.18	51.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764224.2	********	2297.	150.	AG	100.	100.0	1.0	10.0	1.82	116.7
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763696.2	********	818.	47.	AG	118.	100.0	1.0	10.0	6.15	41.6
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764294.7	********	1054.	114.	AG	84.	100.0	1.0	10.0	1.19	53.6
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	84.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766359.9	********	2178.	142.	AG	62.	100.0	1.0	10.0	1.26	110.6
24. School St. SB	765002.3	********	765834.3	********	1927.	26.	AG	102.	100.0	1.0	10.0	1.94	97.9
25. Medford St. SEB	764967.1	********	764889.7	********	125.	322.	AG	62.	100.0	1.0	10.0	0.79	6.4
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765185.8	********	1450.	206.	AG	273.	100.0	1.0	30.0	1.31	73.7
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	126.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756778.6	********	*****	249.	AG	99.	100.0	1.0	10.0	4.83	554.4
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	91.	100.0	1.0	10.0	0.15	1.5
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768275.4	********	1249.	67.	AG	284.	100.0	1.0	30.0	1.29	63.4
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	147.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	147.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771333.0	********	140.	304.	AG	245.	100.0	1.0	30.0	0.68	7.1
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 7:48

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	102.	100.0	1.0	10.0	1.60	78.6
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	178.	100.0	1.0	20.0	1.22	60.2
55. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	134.	100.0	1.0	20.0	0.68	8.2
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	98.	100.0	1.0	10.0	0.79	6.1
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17: 7:48

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3230.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	665	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	310	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	231	1600	46.20	1	3
6. Boston Ave. NB	*	135	107	3.0	390	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
8. Main St. SB	*	120	79	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	75	3.0	700	1600	46.20	1	3
10. Main st. NB	*	120	79	3.0	475	1600	46.20	1	3
11. Harvard St. WB	*	120	75	3.0	575	1600	46.20	1	3
12. Broadway EB R	*	120	57	3.0	275	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	455	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	435	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	80	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	500	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	80	40	3.0	885	1600	46.20	1	3
24. School St. SB	*	80	66	3.0	350	1600	46.20	1	3
25. Medford St. SEB	*	80	40	3.0	550	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1415	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
31. Washington St. EB	*	135	108	3.0	1255	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
34. Washington St. WB	*	135	103	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	975	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	340	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	945	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	910	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	210	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.1	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.3	6.6	6.1	6.0	5.8
30.	6.8	6.8	6.5	6.0	6.1	5.6	5.7	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.6	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.9	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.1	7.2	7.0	6.8	6.7
60.	6.8	6.8	6.3	6.4	6.1	5.5	5.7	6.3	6.3	6.4	5.0	5.0	5.0	5.0	5.0	7.2	7.3	6.9	6.4	6.6
70.	7.0	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.5	6.6	6.5	6.7
80.	7.1	7.1	6.7	6.3	6.1	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.4	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.6	7.4	7.2	6.5	6.2	5.7	6.0	7.0	7.0	6.9	5.1	5.1	5.1	5.1	5.1	7.9	7.7	6.9	6.7	6.6
110.	7.7	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.0	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.7	6.6
120.	7.7	7.2	7.2	6.1	5.9	5.3	5.6	7.0	7.0	7.1	6.4	6.3	6.1	6.2	6.3	8.0	7.8	7.1	6.6	6.5
130.	6.6	6.5	6.4	5.6	5.5	5.0	5.1	6.1	6.1	6.0	6.9	7.0	6.8	6.9	6.9	7.2	6.8	6.6	6.6	6.4
140.	5.5	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.2
170.	5.3	5.4	5.7	5.9	5.8	5.2	5.1	5.2	5.1	5.0	6.5	6.5	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.2	5.2	5.8	5.9	5.8	5.8	5.7	5.6	5.2	5.1	6.3	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.3	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.3	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.4	6.4	6.1	6.5	6.4	5.0	5.1	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.3	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.6	6.6	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.7	6.5	6.6	6.8	6.9	5.1	5.3	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	6.9	6.9	5.1	5.3	5.3	5.1	5.1
290.	5.7	5.7	5.7	5.1	5.0	5.5	5.6	6.0	5.8	5.6	7.0	6.9	7.0	7.1	7.0	5.5	5.9	5.8	5.0	5.0
300.	6.9	6.9	6.9	5.5	5.2	5.7	6.0	7.0	6.7	6.6	6.9	6.7	6.8	7.0	6.9	6.2	7.0	6.9	5.3	5.1
310.	7.8	7.8	7.8	5.9	5.5	6.0	6.4	7.7	7.4	7.2	6.1	6.0	5.9	6.0	6.1	6.8	7.6	7.6	5.6	5.4
320.	7.9	7.9	7.8	6.2	5.8	6.3	6.7	7.6	7.2	6.9	5.3	5.3	5.2	5.3	5.3	6.6	7.7	7.4	5.7	5.5
330.	7.6	7.5	7.5	6.1	5.8	6.4	6.7	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.1	6.4	7.4	7.0	5.8	5.4
340.	7.4	7.4	7.3	6.2	5.8	6.4	6.5	6.7	6.6	6.6	5.1	5.0	5.0	5.1	5.1	6.2	7.1	6.7	5.9	5.5
350.	7.1	7.1	6.9	6.1	5.9	6.3	6.4	6.5	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	7.0	6.4	5.9	5.6
360.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
MAX	7.9	7.9	7.8	6.5	6.2	6.4	6.7	7.7	7.4	7.2	7.1	7.0	7.0	7.1	7.0	8.0	7.8	7.6	7.0	7.0
DEGR.	320	320	310	100	100	330	320	310	310	310	140	130	290	290	290	110	110	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.7	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.3	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.2	5.0	5.0	5.0	5.1	5.1	6.9	6.9	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.2	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.4	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.7	6.8	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.6	6.6	5.8	5.8	5.9	5.3	5.1	6.4	6.6	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.1	6.2	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.5	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.3	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.3	6.6	6.7	5.7	5.4	6.7	6.9	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.3	6.6	6.6	5.7	5.4	6.8	7.0	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.2	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.1	7.3	7.1	6.9	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.8
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.1	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.2	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.1	6.3	6.2	5.8
240.	7.4	7.6	7.0	6.1	5.8	6.9	7.1	6.7	6.9	6.6	5.6	5.9	6.0	6.1	5.8
250.	7.3	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.5	5.7	6.2	6.2	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.5	6.3	5.5	5.6	6.2	6.3	6.1
290.	6.6	6.7	6.4	6.1	5.8	6.8	6.7	7.1	6.4	6.4	5.4	5.6	6.3	6.3	6.4
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.6	6.2	6.5	6.5
310.	7.0	7.5	7.7	7.2	7.1	6.0	6.2	6.6	6.0	5.9	5.0	5.2	5.8	5.9	5.9
320.	7.1	7.4	7.3	6.7	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.3
330.	7.1	7.3	6.9	6.6	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.4	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	6.9	7.1	7.3	7.1	7.2	7.6	7.5	7.5	7.1	6.9
DEGR.	20	230	310	310	310	240	230	220	220	230	210	200	130	210	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

4_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 8:55

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	155.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752428.7	********	*	6154.	218.	AG	71.	100.0	1.0	10.0	1.91	312.6
3. Boston Ave South	*	756271.8	********	756689.4	********	*	561.	132.	AG	77.	100.0	1.0	10.0	1.04	28.5
4. MVP East	*	756253.6	********	756941.0	********	*	966.	45.	AG	143.	100.0	1.0	20.0	1.10	49.1
5. Winthrop North	*	759327.2	********	759300.4	********	*	949.	358.	AG	171.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	*	759381.7	********	759529.1	********	*	147.	93.	AG	57.	100.0	1.0	10.0	0.54	7.5
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759317.0	********	*	1093.	181.	AG	204.	100.0	1.0	20.0	1.36	55.5
9. MVP West	*	759293.5	********	753823.6	********	*	5476.	273.	AG	68.	100.0	1.0	10.0	1.73	278.2
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759601.4	********	*	77.	207.	AG	86.	100.0	1.0	10.0	0.35	3.9
14. College Ave. EB TR	*	759648.1	********	759593.5	********	*	119.	207.	AG	86.	100.0	1.0	10.0	0.54	6.0
15. Boston Ave. NB	*	759699.9	********	760449.3	********	*	1574.	152.	AG	99.	100.0	1.0	10.0	1.48	79.9
16. College Ave WB	*	759720.8	********	760665.2	********	*	1627.	35.	AG	99.	100.0	1.0	10.0	1.50	82.7
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763139.9	********	*	1098.	73.	AG	80.	100.0	1.0	10.0	1.15	55.8
21. Broadway EB R	*	762959.1	********	762875.0	********	*	92.	293.	AG	64.	100.0	1.0	10.0	0.38	4.7
22. Broadway EB TL	*	762965.1	********	761999.7	********	*	1054.	294.	AG	90.	100.0	1.0	10.0	1.20	53.5
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764035.0	********	*	1913.	150.	AG	98.	100.0	1.0	10.0	1.60	97.2
25. Broadway St. WB	*	763115.6	********	763869.6	********	*	821.	113.	AG	180.	100.0	1.0	20.0	1.14	41.7
26. Dexter St. SWB	*	763101.5	********	763610.3	********	*	700.	47.	AG	118.	100.0	1.0	10.0	5.38	35.6
27. Medford St. SB	*	763008.3	********	762477.5	********	*	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	*	763277.6	********	763108.3	********	*	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	*	763301.4	********	763148.5	********	*	347.	206.	AG	78.	100.0	1.0	10.0	1.02	17.6
30. Highland St. WB	*	763328.5	********	763875.5	********	*	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	*	763311.4	********	763332.9	********	*	47.	27.	AG	78.	100.0	1.0	10.0	0.30	2.4
32. Medford St. NWB	*	765022.2	********	765238.6	********	*	352.	142.	AG	50.	100.0	1.0	10.0	0.99	17.9
33. School St. SB	*	765002.3	********	765636.0	********	*	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	*	764967.1	********	764873.7	********	*	151.	322.	AG	50.	100.0	1.0	10.0	0.64	7.7
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765190.5	********	*	1439.	206.	AG	273.	100.0	1.0	30.0	1.31	73.1
38. Somerville EB	*	765797.5	********	765682.0	********	*	128.	296.	AG	126.	100.0	1.0	20.0	0.54	6.5
39. McGrath Highway SB1	*	766950.5	********	766656.5	********	*	1618.	350.	AG	217.	100.0	1.0	20.0	2.03	82.2
40. Washington St. EB	*	766952.8	********	757247.1	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.27	528.8
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767438.0	********	*	2591.	173.	AG	94.	100.0	1.0	10.0	1.69	131.6
43. Washington St. WB	*	767129.9	********	768484.3	********	*	1477.	67.	AG	288.	100.0	1.0	30.0	1.40	75.0
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 8:55

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	134.	100.0	1.0	20.0	0.70	8.4
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2405.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1005.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1140.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1860.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2330.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3280.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 8:55

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	350	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1170	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	555	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1345	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	111	3.0	615	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1150	1600	46.20	1	3
10. South St	*	120	90	3.0	670	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	231	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	385	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	390	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	580	1600	46.20	1	3
21. Broadway EB R	*	120	62	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	87	3.0	447	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	95	3.0	425	1600	46.20	1	3
25. Broadway St. WB	*	120	87	3.0	851	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	70	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
29. Central St NB	*	90	57	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
31. Central St. SB	*	90	57	3.0	150	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	880	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	575	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1410	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	770	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	540	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1250	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1230	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	930	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
10.	6.2	6.2	6.1	5.9	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.3
20.	6.2	6.2	6.4	5.8	5.6	5.3	5.6	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.4	5.4	5.5
30.	6.2	6.3	6.6	5.8	5.6	5.3	5.5	6.3	6.3	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.7	5.6	5.8	5.9
40.	6.0	6.1	6.5	5.7	5.6	5.2	5.3	6.2	6.2	6.2	5.8	5.9	5.9	5.2	5.0	5.2	5.9	6.2	6.2	6.1
50.	5.6	5.6	6.2	5.4	5.3	5.0	5.1	5.8	5.8	5.7	6.3	6.4	6.4	5.3	5.2	5.4	6.1	6.6	6.5	6.5
60.	5.3	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.5	6.5	6.5	5.5	5.3	5.5	6.2	6.6	6.4	6.3
70.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.6	5.3	5.5	6.4	6.2	6.2	6.1
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	6.0
100.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.4	6.1	5.9	5.9
110.	5.1	5.2	5.6	5.6	5.6	5.1	5.2	5.1	5.0	5.0	5.9	5.9	5.6	5.4	5.3	5.8	6.5	6.2	5.9	5.8
120.	5.1	5.2	5.7	5.7	5.7	5.3	5.4	5.3	5.0	5.0	5.9	5.9	5.9	5.7	5.5	5.9	6.5	6.3	5.9	5.8
130.	5.0	5.1	5.6	5.5	5.5	5.7	5.7	5.7	5.1	5.0	6.0	6.1	6.0	5.8	5.7	5.8	6.3	6.1	5.8	5.7
140.	5.0	5.0	5.4	5.3	5.2	5.8	5.9	5.9	5.2	5.1	6.1	6.2	6.3	5.8	5.8	5.5	5.8	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.8	5.9	5.8	5.2	5.1	6.0	6.1	6.1	5.8	5.8	5.3	5.4	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.7	5.7	5.7	5.2	5.2	6.1	6.1	5.9	5.9	5.6	5.2	5.5	5.7	5.7	5.7
170.	5.0	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.2	6.2	6.0	5.9	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.2	6.3	6.0	5.9	5.5	5.3	5.4	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.5	5.6	5.5	5.3	5.3	6.4	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.2	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	5.6	5.7	5.7	5.1	5.0	5.4	5.5	5.8	5.6	5.6	6.6	6.5	6.4	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	6.0	5.8	6.4	6.2	6.1	5.7	5.2	5.0	5.2	5.8	5.9	5.9
230.	6.2	6.2	6.3	5.4	5.3	5.8	5.9	6.5	6.1	6.2	6.0	5.9	5.7	5.4	5.2	5.0	5.0	5.4	5.5	5.5
240.	6.1	6.1	6.1	5.5	5.3	5.7	5.9	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	6.0	6.0	6.0	5.4	5.3	5.8	5.9	6.1	6.0	6.1	5.2	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.8	6.0	5.9	6.1	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.8	5.4	5.2	5.8	5.9	6.1	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.7	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.9	5.1	5.1	5.6	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.2	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.8	5.5	5.8	6.0	6.1	6.0	5.8	5.0	5.1	5.4	5.3	5.3	5.3	5.4	5.8	5.1	5.0
320.	5.8	5.8	6.2	5.9	5.7	5.7	5.7	6.0	5.9	5.8	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.8	5.9	6.1	5.8	5.9	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.6	6.0	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.7	5.3	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.8	5.1	5.1
350.	5.9	6.0	5.9	5.8	5.7	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
MAX	6.2	6.3	6.6	5.9	5.9	6.0	6.2	6.5	6.3	6.2	6.6	6.5	6.5	6.0	5.8	5.9	6.5	6.6	6.5	6.5
DEGR.	10	30	30	10	330	300	300	230	30	30	210	60	60	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.9	6.0	6.7	6.2	6.1	6.7	6.7	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.8	5.2	5.1
10.	5.9	6.1	6.8	6.4	6.4	6.0	6.1	6.3	5.9	5.9	5.0	5.0	5.5	5.4	5.5	7.0	7.0	7.0	5.4	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.6	5.7	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.2	6.8	6.7	6.8	5.6	5.4
30.	6.1	6.1	6.2	6.1	6.2	5.4	5.5	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.5	5.4
40.	6.2	6.2	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.3	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.1	6.2	5.4	5.3
60.	6.2	6.3	6.4	6.3	6.2	5.4	5.6	6.2	6.3	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.3	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.7	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.2	5.4	6.4	6.4	6.4	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.1	5.9	5.8	5.0	5.1	5.9	5.8	5.8	6.4	6.6	6.6	5.4	5.2	6.4	6.6	7.3	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.5	6.6	6.6	5.6	5.4	6.5	6.6	7.2	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.1	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.1	6.2	6.2	5.5	5.3	6.5	6.8	6.8	5.9	5.9
140.	5.3	5.4	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	6.1	6.1	6.1	5.5	5.4	6.7	6.7	6.6	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.1	5.1	5.1	5.1	5.1	6.0	6.0	5.9	5.6	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.5	7.0	7.0	6.7	6.1	5.9
170.	5.1	5.3	6.1	6.2	6.2	5.7	5.8	5.6	5.0	5.0	5.9	5.9	6.3	5.9	5.9	7.2	7.0	6.7	6.0	5.8
180.	5.1	5.2	5.9	6.0	6.1	6.4	6.4	6.2	5.1	5.1	6.1	6.3	6.8	6.4	6.5	6.7	6.5	6.4	5.9	5.8
190.	5.0	5.0	5.5	5.6	5.6	6.7	6.8	6.4	5.4	5.1	6.0	6.4	6.8	6.4	6.5	6.1	6.0	6.0	5.6	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.3	5.4	5.3	6.2	6.4	6.6	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.3	6.1	6.3	5.4	5.5	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.3	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.5	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.5	6.5	6.6	6.3	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.8	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.5	6.0	6.0	6.0
270.	6.0	6.0	5.9	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.5	6.4	6.8	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.5	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.5	6.4	6.4	6.6	5.5	5.7	6.1	5.8	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.1	6.1	5.9	5.5	5.3	6.3	6.4	6.3	6.3	6.5	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	5.9	5.8	5.4	5.3	6.4	6.5	6.2	6.4	6.4	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.3	6.5	6.5	6.2	6.4	6.4	5.4	5.5	6.0	6.0	6.1	5.1	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.7	6.4	6.5	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.3	6.8	6.8	6.8	6.4	6.2	5.2	5.5	6.3	6.3	6.4	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.7	6.1	5.8	5.8	6.9	6.9	6.9	6.3	6.1	5.2	5.4	6.4	6.3	6.4	6.1	6.0	6.1	5.0	5.0
360.	5.9	6.0	6.7	6.2	6.1	6.7	6.7	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.8	5.2	5.1
MAX	6.4	6.7	6.8	6.4	6.4	6.9	6.9	6.9	6.5	6.6	6.6	6.6	6.8	6.4	6.5	7.2	7.0	7.3	6.5	6.4
DEGR.	70	80	10	10	10	350	350	350	80	280	260	100	180	180	180	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.2	6.2	5.6	5.6	5.8	5.8	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.3	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.6	5.6	5.6	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.6	5.6	5.7	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.2	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.2	5.3	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.9	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.8	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.9	6.0	6.1	6.3	6.1	5.2	5.4	6.1	6.1	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.2	6.2	6.1	5.9	5.1	5.3	6.2	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.2	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.9	6.0	5.8	5.8	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	6.0
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	6.0	5.8
230.	5.2	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	6.0	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.9	5.2	5.2	5.2	5.0	5.0	5.7	5.7	6.1	5.8	5.6
280.	5.0	5.1	5.5	5.8	5.7	5.4	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.5	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.9	5.9	5.6	5.7
300.	5.1	5.1	5.1	5.3	5.3	5.9	5.9	6.0	5.4	5.1	6.0	6.1	5.7	5.6	5.7
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.9	5.8	5.3	5.4	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.5	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	6.0	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
MAX	6.0	6.2	6.2	6.3	6.2	5.9	6.0	6.3	6.2	6.2	6.1	6.1	6.1	6.0	6.0
DEGR.	170	170	170	160	120	30	30	20	10	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC38.

4_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 9:30

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	155.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752428.7	********	*	6154.	218.	AG	71.	100.0	1.0	10.0	1.91	312.6
3. Boston Ave South	*	756271.8	********	756689.4	********	*	561.	132.	AG	77.	100.0	1.0	10.0	1.04	28.5
4. MVP East	*	756253.6	********	756941.0	********	*	966.	45.	AG	143.	100.0	1.0	20.0	1.10	49.1
5. Winthrop North	*	759327.2	********	759300.4	********	*	949.	358.	AG	171.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	*	759381.7	********	759529.1	********	*	147.	93.	AG	57.	100.0	1.0	10.0	0.54	7.5
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759317.0	********	*	1093.	181.	AG	204.	100.0	1.0	20.0	1.36	55.5
9. MVP West	*	759293.5	********	753823.6	********	*	5476.	273.	AG	68.	100.0	1.0	10.0	1.73	278.2
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759601.4	********	*	77.	207.	AG	86.	100.0	1.0	10.0	0.35	3.9
14. College Ave. EB TR	*	759648.1	********	759593.5	********	*	119.	207.	AG	86.	100.0	1.0	10.0	0.54	6.0
15. Boston Ave. NB	*	759699.9	********	760449.3	********	*	1574.	152.	AG	99.	100.0	1.0	10.0	1.48	79.9
16. College Ave WB	*	759720.8	********	760665.2	********	*	1627.	35.	AG	99.	100.0	1.0	10.0	1.50	82.7
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763139.9	********	*	1098.	73.	AG	80.	100.0	1.0	10.0	1.15	55.8
21. Broadway EB R	*	762959.1	********	762875.0	********	*	92.	293.	AG	64.	100.0	1.0	10.0	0.38	4.7
22. Broadway EB TL	*	762965.1	********	761999.7	********	*	1054.	294.	AG	90.	100.0	1.0	10.0	1.20	53.5
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764035.0	********	*	1913.	150.	AG	98.	100.0	1.0	10.0	1.60	97.2
25. Broadway St. WB	*	763115.6	********	763869.6	********	*	821.	113.	AG	180.	100.0	1.0	20.0	1.14	41.7
26. Dexter St. SWB	*	763101.5	********	763610.3	********	*	700.	47.	AG	118.	100.0	1.0	10.0	5.38	35.6
27. Medford St. SB	*	763008.3	********	762477.5	********	*	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	*	763277.6	********	763108.3	********	*	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	*	763301.4	********	763148.5	********	*	347.	206.	AG	78.	100.0	1.0	10.0	1.02	17.6
30. Highland St. WB	*	763328.5	********	763875.5	********	*	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	*	763311.4	********	763332.9	********	*	47.	27.	AG	78.	100.0	1.0	10.0	0.30	2.4
32. Medford St. NWB	*	765022.2	********	765238.6	********	*	352.	142.	AG	50.	100.0	1.0	10.0	0.99	17.9
33. School St. SB	*	765002.3	********	765636.0	********	*	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	*	764967.1	********	764873.7	********	*	151.	322.	AG	50.	100.0	1.0	10.0	0.64	7.7
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765190.5	********	*	1439.	206.	AG	273.	100.0	1.0	30.0	1.31	73.1
38. Somerville EB	*	765797.5	********	765682.0	********	*	128.	296.	AG	126.	100.0	1.0	20.0	0.54	6.5
39. McGrath Highway SB1	*	766950.5	********	766656.5	********	*	1618.	350.	AG	217.	100.0	1.0	20.0	2.03	82.2
40. Washington St. EB	*	766952.8	********	757247.1	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.27	528.8
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767438.0	********	*	2591.	173.	AG	94.	100.0	1.0	10.0	1.69	131.6
43. Washington St. WB	*	767129.9	********	768484.3	********	*	1477.	67.	AG	288.	100.0	1.0	30.0	1.40	75.0
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 9:30

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	134.	100.0	1.0	20.0	0.70	8.4
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2405.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1005.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1140.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1860.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2330.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3280.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 9:30

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	350	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1170	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	555	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1345	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	111	3.0	615	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1150	1600	46.20	1	3
10. South St	*	120	90	3.0	670	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	231	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	385	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	390	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	580	1600	46.20	1	3
21. Broadway EB R	*	120	62	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	87	3.0	447	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	95	3.0	425	1600	46.20	1	3
25. Broadway St. WB	*	120	87	3.0	851	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	70	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
29. Central St NB	*	90	57	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
31. Central St. SB	*	90	57	3.0	150	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	880	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	575	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1410	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	770	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	540	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1250	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1230	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	930	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17: 9:30

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	5.9	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.5	5.9	5.4	5.4	5.2
20.	6.0	5.7	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.8	5.5	5.5	5.4
30.	5.9	5.5	5.5	5.6	5.4	5.2	5.2	5.4	5.7	5.6	5.6	5.6	5.6	5.1	5.0	5.4	5.9	5.7	5.7	5.5
40.	5.5	5.5	5.3	5.4	5.4	5.0	5.2	5.2	5.5	5.5	5.8	5.8	5.8	5.2	5.1	5.6	5.9	5.8	5.7	5.5
50.	5.4	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.2	5.2	5.9	5.9	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.6	5.3	5.3	5.4
80.	5.2	5.2	5.2	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.3	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.5	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	5.4	5.2	5.6	5.6
140.	5.2	5.2	5.7	5.7	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.6	5.6	5.5	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.4	5.4	5.3	6.0	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.4	5.4	5.3	5.6	5.6	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.6	5.8	5.7	5.7	5.6	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.8	5.8	5.6	5.5	5.7	5.2	5.3	5.4	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.0	5.5	5.5	5.4	5.3	5.1	5.7	5.8	5.6	5.5	5.5	5.2	5.3	5.7	5.6	5.4
200.	5.3	5.4	5.3	5.1	5.1	5.6	5.4	5.3	5.3	5.2	5.8	5.7	5.6	5.5	5.4	5.1	5.2	5.3	5.4	5.3
210.	5.3	5.5	5.5	5.0	5.1	5.3	5.4	5.4	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.3	5.7	5.6	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.0	5.2	5.1	5.1
230.	5.3	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.4	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.1	5.1	5.1	5.0
240.	5.2	5.7	5.4	5.2	5.0	5.4	5.4	5.2	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.0	5.0
250.	5.2	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.5	5.5	5.2	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.3	5.7	5.2	5.3	5.1	5.5	5.2	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.3	5.7	5.2	5.3	5.1	5.6	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.0
280.	5.4	5.7	5.2	5.3	5.1	5.6	5.3	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.2	5.0	5.0	5.0
290.	5.4	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.5	5.1	5.2	5.5	5.4	5.4	5.1	5.2	5.0	5.0	5.0
300.	5.4	5.7	5.3	5.3	5.3	5.6	5.3	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.5	5.6	5.4	5.4	5.8	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.2	5.2	5.1	5.0
340.	5.5	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.6	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.1	5.1
360.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	5.9	5.7	5.7	5.6	5.6	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.5	5.7	6.0	6.4	5.8	5.7	5.6
DEGR.	10	0	10	140	10	160	160	320	20	20	50	50	40	170	170	130	350	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	5.9	5.8	5.8	5.7	5.7	5.2	5.2	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.6	5.6	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
50.	5.9	6.0	5.8	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.5	5.1	5.3	5.7	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.7	5.6	5.7	5.5	5.5	5.1	5.2	5.7	5.7	5.7	5.8	5.8	5.8	5.1	5.0	5.5	5.7	6.1	5.9	5.8
80.	5.3	5.5	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	6.0	5.9	5.3	5.1	5.6	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.8
100.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.7	5.8	5.7	5.8	5.7
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.2	5.9	6.0	5.7	5.7	5.6
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.7	5.5
140.	5.1	5.2	5.7	5.7	5.6	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.8	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.6	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	5.9	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.5	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.6	5.9	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1	5.6	5.6	5.9	5.7	5.7	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.2	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.1	5.6	5.8	5.8	5.7	5.7	5.3	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.1	5.6	5.7	5.8	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.6
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.7	5.7	5.7
230.	5.4	5.4	5.3	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.3	5.7	5.6	5.2	5.3	5.8	5.8	5.8
240.	5.8	5.7	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.4
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.6	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.7	5.6	5.8	5.6	5.7	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.7	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	5.9	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.3	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.6	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.7	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.8	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.7	5.9	6.0	6.1	5.8	5.8	6.2	6.2	6.3	5.9	5.8	5.9	6.0	6.2	5.9	5.9
DEGR.	60	50	340	0	0	320	330	250	60	60	240	240	230	180	200	0	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC17.

4_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:14

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	155.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752428.7	********	*	6154.	218.	AG	71.	100.0	1.0	10.0	1.91	312.6
3. Boston Ave South	*	756271.8	********	756689.4	********	*	561.	132.	AG	77.	100.0	1.0	10.0	1.04	28.5
4. MVP East	*	756253.6	********	756941.0	********	*	966.	45.	AG	143.	100.0	1.0	20.0	1.10	49.1
5. Winthrop North	*	759327.2	********	759300.4	********	*	949.	358.	AG	171.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	*	759381.7	********	759529.1	********	*	147.	93.	AG	57.	100.0	1.0	10.0	0.54	7.5
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759317.0	********	*	1093.	181.	AG	204.	100.0	1.0	20.0	1.36	55.5
9. MVP West	*	759293.5	********	753823.6	********	*	5476.	273.	AG	68.	100.0	1.0	10.0	1.73	278.2
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759601.4	********	*	77.	207.	AG	86.	100.0	1.0	10.0	0.35	3.9
14. College Ave. EB TR	*	759648.1	********	759593.5	********	*	119.	207.	AG	86.	100.0	1.0	10.0	0.54	6.0
15. Boston Ave. NB	*	759699.9	********	760449.3	********	*	1574.	152.	AG	99.	100.0	1.0	10.0	1.48	79.9
16. College Ave WB	*	759720.8	********	760665.2	********	*	1627.	35.	AG	99.	100.0	1.0	10.0	1.50	82.7
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763139.9	********	*	1098.	73.	AG	80.	100.0	1.0	10.0	1.15	55.8
21. Broadway EB R	*	762959.1	********	762875.0	********	*	92.	293.	AG	64.	100.0	1.0	10.0	0.38	4.7
22. Broadway EB TL	*	762965.1	********	761999.7	********	*	1054.	294.	AG	90.	100.0	1.0	10.0	1.20	53.5
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764035.0	********	*	1913.	150.	AG	98.	100.0	1.0	10.0	1.60	97.2
25. Broadway St. WB	*	763115.6	********	763869.6	********	*	821.	113.	AG	180.	100.0	1.0	20.0	1.14	41.7
26. Dexter St. SWB	*	763101.5	********	763610.3	********	*	700.	47.	AG	118.	100.0	1.0	10.0	5.38	35.6
27. Medford St. SB	*	763008.3	********	762477.5	********	*	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	*	763277.6	********	763108.3	********	*	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	*	763301.4	********	763148.5	********	*	347.	206.	AG	78.	100.0	1.0	10.0	1.02	17.6
30. Highland St. WB	*	763328.5	********	763875.5	********	*	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	*	763311.4	********	763332.9	********	*	47.	27.	AG	78.	100.0	1.0	10.0	0.30	2.4
32. Medford St. NWB	*	765022.2	********	765238.6	********	*	352.	142.	AG	50.	100.0	1.0	10.0	0.99	17.9
33. School St. SB	*	765002.3	********	765636.0	********	*	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	*	764967.1	********	764873.7	********	*	151.	322.	AG	50.	100.0	1.0	10.0	0.64	7.7
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765190.5	********	*	1439.	206.	AG	273.	100.0	1.0	30.0	1.31	73.1
38. Somerville EB	*	765797.5	********	765682.0	********	*	128.	296.	AG	126.	100.0	1.0	20.0	0.54	6.5
39. McGrath Highway SB1	*	766950.5	********	766656.5	********	*	1618.	350.	AG	217.	100.0	1.0	20.0	2.03	82.2
40. Washington St. EB	*	766952.8	********	757247.1	********	*	*****	249.	AG	96.	100.0	1.0	10.0	4.27	528.8
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767438.0	********	*	2591.	173.	AG	94.	100.0	1.0	10.0	1.69	131.6
43. Washington St. WB	*	767129.9	********	768484.3	********	*	1477.	67.	AG	288.	100.0	1.0	30.0	1.40	75.0
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:14

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	134.	100.0	1.0	20.0	0.70	8.4
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2405.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1005.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1140.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1860.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2330.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3280.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:14

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	350	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1170	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	555	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1345	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	435	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	111	3.0	615	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1150	1600	46.20	1	3
10. South St	*	120	90	3.0	670	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	94	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	94	3.0	231	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	385	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	390	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	580	1600	46.20	1	3
21. Broadway EB R	*	120	62	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	87	3.0	447	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	95	3.0	425	1600	46.20	1	3
25. Broadway St. WB	*	120	87	3.0	851	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	70	1600	46.20	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
29. Central St NB	*	90	57	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
31. Central St. SB	*	90	57	3.0	150	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	880	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	575	1600	46.20	1	3
35. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	88	3.0	1410	1600	46.20	1	3
38. Somerville EB	*	120	61	3.0	770	1600	46.20	1	3
39. McGrath Highway SB1	*	120	105	3.0	540	1600	46.20	1	3
40. Washington St. EB	*	120	93	3.0	1250	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1230	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	930	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:14

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:14

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.6	5.3	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.3	5.7	5.8	5.8	5.6	5.8	5.4	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.7	5.7	5.5	5.8	5.4	5.5	5.5	5.7	5.7	5.1	5.1	5.1	5.5	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.8	5.4	5.5	5.5	5.7	5.6	5.1	5.1	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.3	5.3	5.5	5.6	5.8	5.6	5.7	5.3	5.4	5.6	5.6	5.6	5.0	5.1	5.3	5.5	5.5
50.	5.7	6.1	5.7	5.3	5.4	5.4	5.5	5.7	5.6	5.7	5.3	5.4	5.7	5.6	5.6	5.0	5.0	5.3	5.3	5.3
60.	5.8	6.1	5.6	5.5	5.5	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.1	5.2	5.1
70.	5.8	6.1	5.8	5.6	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.8	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.1	5.6	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.9	5.8	5.4	5.6	5.9	5.9	5.9	5.2	5.2	5.2	5.0	5.0
100.	6.1	6.4	6.1	5.7	5.6	5.4	5.6	6.2	5.9	5.8	5.3	5.5	6.0	6.0	6.0	5.4	5.4	5.4	5.0	5.0
110.	6.1	6.2	6.0	5.6	5.5	5.3	5.4	6.2	5.8	5.7	5.2	5.3	5.9	5.9	5.9	5.9	5.9	5.8	5.2	5.0
120.	5.6	5.8	5.8	5.5	5.4	5.2	5.3	6.0	5.8	5.6	5.0	5.1	5.5	5.5	5.5	6.3	6.3	6.1	5.4	5.2
130.	5.5	5.6	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	6.0	5.5	5.3
140.	5.3	5.4	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.3	5.4	5.1	5.1	6.2	6.1	5.9	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.7	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.8	5.8	5.6	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.3	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.4	5.4	5.3
210.	5.0	5.1	5.2	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.5
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	6.0	5.7	5.4	5.4
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.5	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.2	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.8	5.9	5.9	5.7
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	5.9	5.5	5.3	5.8	6.0	5.9	5.8	5.7	6.0	5.8	5.8	5.8	5.5
300.	6.0	6.3	6.1	5.3	5.1	5.4	5.7	6.1	5.6	5.5	6.0	6.0	6.1	5.9	5.9	5.6	5.6	5.6	5.6	5.4
310.	6.0	6.4	6.1	5.4	5.3	5.6	5.8	6.0	5.6	5.5	5.9	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.9	6.2	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.5	5.8	5.9	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.8	5.9	5.8	5.8	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.6	6.0	5.8	5.5	5.3	5.6	5.8	6.1	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.1	5.7	5.6	5.3	5.8	5.8	6.0	5.8	5.8	5.2	5.4	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.6	5.3	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.1	6.4	6.1	5.7	5.6	5.8	5.8	6.2	5.9	5.8	6.0	6.0	6.1	6.0	6.0	6.3	6.3	6.1	5.9	5.8
DEGR.	100	100	100	90	100	350	0	100	90	10	300	290	300	100	100	120	120	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	6.0	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.8
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	5.9	5.6	5.9	6.0	6.2	6.0	5.9	6.1
40.	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.9	5.9
50.	5.4	5.4	5.3	5.1	5.0	5.4	5.6	5.3	5.3	5.2	5.4	6.1	5.9	5.6	5.9	6.1	6.4	6.0	5.9	5.9
60.	5.4	5.4	5.3	5.1	5.1	5.4	5.6	5.3	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.8	5.9	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.3	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.9	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.5	5.6	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.7	5.7	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.6	5.1	5.3	5.3	6.1	6.2	5.9	5.6	5.9	6.5	6.6	5.7	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.6	5.6	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.7	5.8	5.7
110.	5.3	5.5	5.5	5.3	5.1	5.9	5.9	6.1	5.8	5.8	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.5	5.6	5.8	5.5	5.3	5.9	6.0	6.2	6.1	6.0	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.8	5.4	5.5	6.1	6.0	6.1	6.0	6.1	5.8	6.0	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.7	5.8	5.5	5.3	6.1	6.1	6.1	5.9	5.9	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.7	5.6	5.5	6.1	6.0	6.1	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.5	5.5	5.7	5.7
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.6	5.5	5.5	5.7	5.6	5.7	5.1	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.5	5.4	5.6	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.6	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.7	5.6
200.	5.6	5.3	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.6	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	6.0	5.4	5.4	5.5	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.3	5.7	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.3	5.4	5.6	5.5	6.0	5.2	5.3	5.5	5.3	5.0	5.1	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.3	5.6	5.5	5.5	6.0	5.2	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.2	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.1	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.6	5.6	5.3	5.4	5.8	5.8	5.8	5.7	5.6	5.2	5.3	5.2	5.2	5.3	5.2	5.0	5.0
270.	5.4	5.5	5.7	5.7	5.6	5.3	5.4	5.8	5.9	5.9	5.5	5.7	5.5	5.5	5.5	5.3	5.6	5.5	5.0	5.0
280.	5.4	5.6	5.7	5.7	5.6	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.6	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.7	5.5	5.1	5.3	5.9	5.9	5.9	5.7	5.7	5.6	5.5	5.6	5.7	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.7	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.8	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	6.0	5.9	5.9	5.9	5.7	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.5	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.8	5.8	5.7	5.3	5.2	5.6	5.9	6.1	5.4	6.1	5.8	6.1	5.5	5.5	5.4
350.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2	5.5	6.0	6.2	5.4	6.2	5.8	6.1	5.5	5.5	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.1	6.1	6.2	6.1	6.1	6.3	6.4	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	270	200	150	140	120	120	130	110	110	0	310	0	70	60	40	10	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.8	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.7	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.6	5.7	5.7	5.7	5.6	5.9	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.8	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.2	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.6
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.1
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.7	6.1	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.9	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.9	5.4	5.3	5.2	5.4	5.9	6.2	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.7	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.3	5.5	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.5	5.9	6.3	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.4	5.5
240.	5.7	5.7	5.5	5.4	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.4	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.1	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.4	5.7	5.6	5.3	5.6	6.1	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.1	5.7	5.8
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.6	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.3	6.3	5.3	5.2	5.2	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.5	5.8	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.1	6.1	5.7	5.6	5.8	6.2	6.4	6.3	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.2	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.1	5.7	5.7	5.7	6.0	6.0	6.0	6.0	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.8	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.3	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.1	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	290	280	270	260	210	200	210	230	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

4_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:42

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761030.2	********	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759601.4	********	77.	207.	AG	86.	100.0	1.0	10.0	0.35	3.9
5. College Ave. EB TR	759648.1	********	759593.5	********	119.	207.	AG	86.	100.0	1.0	10.0	0.54	6.0
6. Boston Ave. NB	759699.9	********	760449.3	********	1574.	152.	AG	99.	100.0	1.0	10.0	1.48	79.9
7. College Ave WB	759720.8	********	760665.2	********	1627.	35.	AG	99.	100.0	1.0	10.0	1.50	82.7
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763139.9	********	1098.	73.	AG	80.	100.0	1.0	10.0	1.15	55.8
12. Broadway EB R	762959.1	********	762875.0	********	92.	293.	AG	64.	100.0	1.0	10.0	0.38	4.7
13. Broadway EB TL	762965.1	********	761999.7	********	1054.	294.	AG	90.	100.0	1.0	10.0	1.20	53.5
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764035.0	********	1913.	150.	AG	98.	100.0	1.0	10.0	1.60	97.2
16. Broadway St. WB	763115.6	********	763869.6	********	821.	113.	AG	180.	100.0	1.0	20.0	1.14	41.7
17. Dexter St. SWB	763101.5	********	763610.3	********	700.	47.	AG	118.	100.0	1.0	10.0	5.38	35.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763148.5	********	347.	206.	AG	78.	100.0	1.0	10.0	1.02	17.6
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763332.9	********	47.	27.	AG	78.	100.0	1.0	10.0	0.30	2.4
23. Medford St. NWB	765022.2	********	765238.6	********	352.	142.	AG	50.	100.0	1.0	10.0	0.99	17.9
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764873.7	********	151.	322.	AG	50.	100.0	1.0	10.0	0.64	7.7
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765190.5	********	1439.	206.	AG	273.	100.0	1.0	30.0	1.31	73.1
29. Somerville EB	765797.5	********	765682.0	********	128.	296.	AG	126.	100.0	1.0	20.0	0.54	6.5
30. McGrath Highway SB1	766950.5	********	766656.5	********	1618.	350.	AG	217.	100.0	1.0	20.0	2.03	82.2
31. Washington St. EB	766952.8	********	757247.1	********	*****	249.	AG	96.	100.0	1.0	10.0	4.27	528.8
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767438.0	********	2591.	173.	AG	94.	100.0	1.0	10.0	1.69	131.6
34. Washington St. WB	767129.9	********	768484.3	********	1477.	67.	AG	288.	100.0	1.0	30.0	1.40	75.0
35. Msgr Obrien EB	769756.4	********	767419.5	********	2838.	305.	AG	147.	100.0	1.0	20.0	1.41	144.2
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	147.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:10:42

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	134.	100.0	1.0	20.0	0.70	8.4
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3916.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3225.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	670	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	231	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	385	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	390	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	580	1600	46.20	1	3
12. Broadway EB R	*	120	62	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	87	3.0	447	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	95	3.0	425	1600	46.20	1	3
16. Broadway St. WB	*	120	87	3.0	851	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	70	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
20. Central St NB	*	90	57	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
22. Central St. SB	*	90	57	3.0	150	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	880	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	575	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1410	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	770	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	540	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1250	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1230	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1651	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	950	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	930	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.4	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.5	5.4	5.3	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4
30.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.3	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.5
50.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.5
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.6	5.5	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.6	5.7	5.6	5.5	5.5
90.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.8	5.6	5.5	5.5
100.	5.1	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.5	5.4	5.2	6.0	5.9	5.9	5.5	5.4
110.	5.1	5.1	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.8	6.0	5.4	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.7	5.5	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.7	5.2	5.2	5.4	5.4	5.6	5.6	5.4	5.2	5.2	5.3	5.3	5.3
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.5	5.2	5.2	5.4	5.4	5.4	5.6	5.6	5.1	5.2	5.3	5.3	5.3
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.7	5.1	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.5	5.1	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.4	5.1	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.3	5.7	5.8	5.5	5.4	5.1	5.1	5.5	5.5	5.5
200.	5.2	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.3	5.3	5.4	5.6	5.8	5.4	5.3	5.0	5.1	5.4	5.4	5.4
210.	5.4	5.6	5.6	5.1	5.0	5.4	5.5	5.7	5.4	5.3	5.5	5.6	5.7	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.6	5.5	5.3	5.2	5.4	5.5	5.3	5.3	5.0	5.0	5.1	5.2	5.2
230.	5.5	5.6	5.6	5.2	5.1	5.5	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.1	5.6	5.7	5.6	5.5	5.3	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.4	5.2	5.2	5.7	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.6	5.7	5.6	5.5	5.3	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.6	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.2	5.3	5.3	5.0	5.0
290.	5.4	5.5	5.8	5.7	5.4	5.5	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.4	5.4	5.5	5.6	5.6	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.6	5.3	5.3	5.4	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1
310.	5.5	5.5	5.7	5.5	5.6	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.6	5.8	5.8	5.1	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.2	5.1
330.	5.5	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.5	5.6	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
350.	5.6	5.7	5.5	5.6	5.6	5.1	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.7	5.8	5.7	5.5	5.3	5.5	5.7	5.8	5.7	5.7	6.0	5.9	6.0	5.5	5.6
DEGR.	10	10	300	100	100	120	280	120	220	200	210	190	120	130	120	100	100	110	40	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.1	5.0	5.6	5.6	5.4	5.2	5.1
10.	5.4	5.6	6.0	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.4	5.4	5.4	5.6	5.5	5.5	5.1	5.0	5.5	5.6	5.7	5.4	5.4
30.	5.4	5.4	5.7	5.5	5.4	5.0	5.0	5.3	5.2	5.3	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.8	5.6	5.5
40.	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.8	5.6	5.5
50.	5.1	5.2	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.7	5.6	5.7	5.4	5.3
60.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.7	5.7	5.5	5.4	5.3
70.	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.6	5.7	5.5	5.4	5.3
90.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.6	5.7	5.5	5.3	5.2
100.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.6	5.7	5.5	5.3	5.2
110.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.7	5.7	5.6	5.3	5.2
120.	5.1	5.2	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.8	5.6	5.7	5.3	5.2
130.	5.1	5.2	5.8	5.8	5.8	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.5	5.4	5.8	5.8	5.8	5.3	5.2
140.	5.1	5.2	5.8	5.8	5.8	5.6	5.5	5.5	5.1	5.0	5.4	5.5	5.8	5.8	5.5	5.7	5.7	5.8	5.3	5.2
150.	5.0	5.1	5.5	5.5	5.5	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.9	5.7	5.6	5.5	5.4	5.6	5.2	5.1
160.	5.0	5.0	5.3	5.3	5.2	5.8	5.8	5.8	5.3	5.1	5.7	5.9	5.8	5.6	5.6	5.2	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.1	5.7	5.8	5.7	5.7	5.5	5.1	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.7	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.1	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.5	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.2	5.3	5.8	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.3	5.4	5.4	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.4	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.4	5.5	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.6	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.8	5.6	5.7	5.5	5.4	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.5	5.4	5.4	5.8	5.6	5.8	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.3	5.3	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.6	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.6	5.5	5.4	5.5	5.4	5.1	5.0
330.	5.2	5.2	5.9	5.7	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.6	5.7	5.6	5.1	5.1
340.	5.3	5.4	5.8	5.7	5.8	5.2	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.6	5.7	5.6	5.2	5.1
350.	5.3	5.4	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.1	5.0	5.6	5.6	5.4	5.2	5.1
MAX	5.5	5.6	6.0	5.9	5.8	5.8	5.8	5.8	5.5	5.5	5.8	5.9	5.9	5.8	5.6	5.8	5.8	5.8	5.6	5.5
DEGR.	20	10	10	350	0	150	150	150	10	10	30	160	150	140	150	120	130	30	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC23.

4_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:11: 7

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761030.2	********	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759601.4	********	77.	207.	AG	86.	100.0	1.0	10.0	0.35	3.9
5. College Ave. EB TR	759648.1	********	759593.5	********	119.	207.	AG	86.	100.0	1.0	10.0	0.54	6.0
6. Boston Ave. NB	759699.9	********	760449.3	********	1574.	152.	AG	99.	100.0	1.0	10.0	1.48	79.9
7. College Ave WB	759720.8	********	760665.2	********	1627.	35.	AG	99.	100.0	1.0	10.0	1.50	82.7
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763139.9	********	1098.	73.	AG	80.	100.0	1.0	10.0	1.15	55.8
12. Broadway EB R	762959.1	********	762875.0	********	92.	293.	AG	64.	100.0	1.0	10.0	0.38	4.7
13. Broadway EB TL	762965.1	********	761999.7	********	1054.	294.	AG	90.	100.0	1.0	10.0	1.20	53.5
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764035.0	********	1913.	150.	AG	98.	100.0	1.0	10.0	1.60	97.2
16. Broadway St. WB	763115.6	********	763869.6	********	821.	113.	AG	180.	100.0	1.0	20.0	1.14	41.7
17. Dexter St. SWB	763101.5	********	763610.3	********	700.	47.	AG	118.	100.0	1.0	10.0	5.38	35.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763148.5	********	347.	206.	AG	78.	100.0	1.0	10.0	1.02	17.6
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763332.9	********	47.	27.	AG	78.	100.0	1.0	10.0	0.30	2.4
23. Medford St. NWB	765022.2	********	765238.6	********	352.	142.	AG	50.	100.0	1.0	10.0	0.99	17.9
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764873.7	********	151.	322.	AG	50.	100.0	1.0	10.0	0.64	7.7
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765190.5	********	1439.	206.	AG	273.	100.0	1.0	30.0	1.31	73.1
29. Somerville EB	765797.5	********	765682.0	********	128.	296.	AG	126.	100.0	1.0	20.0	0.54	6.5
30. McGrath Highway SB1	766950.5	********	766656.5	********	1618.	350.	AG	217.	100.0	1.0	20.0	2.03	82.2
31. Washington St. EB	766952.8	********	757247.1	********	*****	249.	AG	96.	100.0	1.0	10.0	4.27	528.8
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767438.0	********	2591.	173.	AG	94.	100.0	1.0	10.0	1.69	131.6
34. Washington St. WB	767129.9	********	768484.3	********	1477.	67.	AG	288.	100.0	1.0	30.0	1.40	75.0
35. Msgr Obrien EB	769756.4	********	767419.5	********	2838.	305.	AG	147.	100.0	1.0	20.0	1.41	144.2
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	147.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:11: 7

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	134.	100.0	1.0	20.0	0.70	8.4
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:11: 7

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3916.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3225.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:11: 7

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	670	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	231	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	385	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	390	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	580	1600	46.20	1	3
12. Broadway EB R	*	120	62	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	87	3.0	447	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	95	3.0	425	1600	46.20	1	3
16. Broadway St. WB	*	120	87	3.0	851	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	70	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
20. Central St NB	*	90	57	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
22. Central St. SB	*	90	57	3.0	150	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	880	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	575	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1410	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	770	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	540	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1250	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1230	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1651	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:11: 7

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	950	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	930	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.6	6.0	6.2	5.7	5.7	7.0	7.1	6.2	6.1	5.9	5.5	5.5	6.1	6.1	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.3	6.1	6.1	6.9	7.0	6.3	6.1	5.8	5.4	5.3	6.1	6.0	5.7	5.4	5.5	5.4	5.0	5.0
30.	5.7	6.1	6.8	6.3	6.5	6.3	6.4	6.2	6.1	5.9	5.5	5.3	5.9	5.9	5.7	5.7	5.8	6.0	5.0	5.0
40.	5.7	6.4	6.8	6.5	7.0	6.0	6.2	6.2	6.1	5.9	5.5	5.3	5.7	5.8	5.6	6.0	6.5	6.4	5.1	5.0
50.	5.8	6.6	6.4	6.6	7.0	5.7	5.9	5.7	6.1	5.9	5.6	5.2	5.3	5.6	5.7	6.2	6.5	6.6	5.3	5.1
60.	6.3	6.6	6.5	6.9	7.1	5.8	6.0	6.1	6.3	6.1	5.7	5.6	5.4	5.6	5.9	6.1	6.6	6.7	5.5	5.1
70.	6.9	7.2	6.6	7.1	7.0	5.6	6.0	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	7.0	6.8	6.0	5.6
80.	6.9	6.9	6.5	6.9	6.5	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.7	6.4	6.8	6.9	6.6	6.1	5.7
90.	6.8	7.0	6.5	6.6	6.3	5.3	5.4	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.7	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.6	6.2	5.2	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.1	5.8
110.	7.0	6.7	6.9	6.5	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.7	6.6	6.2	5.1	5.3	5.8	5.6	5.6	6.4	6.6	6.5	5.5	5.7	7.1	6.5	7.2	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.4	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.5
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.7	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.4	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.4	6.2	5.5	5.6	6.7	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.9	6.5	6.4	6.5	6.2
170.	5.6	5.8	6.4	6.6	6.3	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	6.8	6.6	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.5	5.2	5.2	5.2	5.0	5.0	5.8	6.1	5.9	5.5	5.7	7.1	6.8	6.7	6.5	6.1
190.	5.6	5.7	6.8	6.9	6.6	5.5	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.2	7.0	7.0	6.5	6.2
200.	5.4	5.5	6.7	6.8	6.6	6.1	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.3	7.2	7.1	6.3	6.0
210.	5.2	5.4	6.3	6.3	6.0	6.8	6.8	6.9	5.4	5.2	6.0	6.4	7.0	6.5	6.4	6.9	6.8	6.7	6.0	5.8
220.	5.2	5.1	5.5	5.6	5.4	7.0	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.6	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.1	6.7	6.8	6.9	5.7	5.4	6.2	6.7	6.5	6.3	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.3	5.4	5.2	6.7	6.9	6.7	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.5	5.6	5.9	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	6.8	6.5	6.0	5.5	6.7	6.7	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.7
260.	5.1	5.1	5.1	5.1	5.3	6.5	6.8	6.4	6.0	5.5	6.7	6.7	6.1	6.2	6.4	5.3	5.4	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.5	6.1	5.8	5.4	6.9	6.7	6.3	6.2	6.4	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.5	6.4	6.0	5.6	6.8	6.7	6.4	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.6	5.8	5.9	5.1	5.2	6.2	6.5	6.6	6.3	5.8	6.6	6.5	6.7	6.0	6.2	5.1	5.2	6.0	5.9	5.9
300.	6.0	6.3	6.4	5.2	5.3	6.4	6.7	7.0	6.3	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.5	5.3	5.3	6.4	6.7	6.8	6.2	6.2	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.4	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	7.0	6.2	6.1	6.0	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.8	7.0	6.2	6.2	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.4	5.5	6.8	7.1	6.3	6.1	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.0
360.	5.6	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.2	6.9	7.1	7.1	7.0	7.1	7.1	6.4	6.2	6.9	6.8	7.0	6.6	6.6	7.3	7.2	7.2	6.6	6.5
DEGR.	100	70	110	70	60	0	350	220	70	310	270	240	210	220	220	200	200	120	130	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.3	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.2	6.2	6.0	5.5	5.2	6.0	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.3	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.3	6.1	6.2	6.0	5.6	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.0	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.4	5.3	6.2	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.5	5.1	5.1	5.1	5.0	5.0
40.	5.9	5.9	5.7	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.7	6.7	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.8	5.9	5.7	5.7	5.4	6.6	6.6	6.1	5.7	5.7	5.4	5.6	5.8	6.8	6.8	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	5.9	5.8	6.5	6.5	6.1	5.6	5.5	5.2	5.4	5.7	6.9	6.8	6.2	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.7	5.8	6.3	6.3	5.8	5.4	5.3	5.0	5.2	5.3	6.3	6.3	6.9	7.0	7.0	5.5	5.3
80.	6.5	6.6	5.7	5.7	5.7	5.9	5.8	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.2	7.3	7.3	5.8	5.5
90.	6.4	6.3	5.3	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	7.0	7.0	5.8	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.8	6.7	6.7	5.7	5.5
110.	6.1	5.9	5.2	5.8	5.8	5.2	5.3	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.5	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.1	6.0	5.7	6.0	5.9	5.5	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.2	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.7	5.2	5.3	5.4	5.4	5.5	5.3	5.2	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.7	5.2	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.3	5.3	5.4	5.8	5.7	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.1	5.2	6.0	6.0	5.4	5.3	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.1	5.1	5.1	5.9	5.8	5.5	5.3	5.2	6.6	6.6	6.0	5.6	5.6
200.	5.3	5.3	5.5	5.6	5.7	5.2	5.1	5.1	5.0	5.0	5.9	5.8	5.3	5.4	5.3	6.7	6.6	5.9	5.5	5.6
210.	5.3	5.5	5.7	5.9	5.9	5.2	5.2	5.1	5.0	5.0	5.7	5.7	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.4	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.6	5.8	5.2	5.4	5.2	6.9	6.7	6.0	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.1	5.6	5.7	5.5	5.8	5.5	7.0	6.8	6.1	5.8	5.8
240.	5.4	5.4	5.8	6.1	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	5.9	6.9	6.5	6.1	5.8	5.8
250.	5.2	5.2	5.4	5.7	5.7	6.5	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.5
260.	5.0	5.0	5.3	5.5	5.5	6.6	6.5	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.1	6.4	6.3	6.1	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.9	5.4	5.3	5.7	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.5	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.7	5.8	5.8	5.4	5.3	5.9	5.6	5.6	6.2	6.4	5.2	5.2	5.5	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.9	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.3	5.5	5.6	5.6
340.	5.5	5.5	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	5.9	5.9	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	6.0	5.9	5.9	5.2	5.1	5.8	5.9	6.3	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.3	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.5	6.6	6.3	6.1	6.1	6.6	6.6	6.3	5.9	5.7	6.2	6.1	5.9	6.9	6.8	7.2	7.3	7.3	5.8	5.8
DEGR.	80	70	0	230	230	50	50	0	0	30	330	260	330	60	50	80	80	80	80	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC37.

4_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:11:54

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761030.2	********	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	86.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	86.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759601.4	********	77.	207.	AG	86.	100.0	1.0	10.0	0.35	3.9
5. College Ave. EB TR	759648.1	********	759593.5	********	119.	207.	AG	86.	100.0	1.0	10.0	0.54	6.0
6. Boston Ave. NB	759699.9	********	760449.3	********	1574.	152.	AG	99.	100.0	1.0	10.0	1.48	79.9
7. College Ave WB	759720.8	********	760665.2	********	1627.	35.	AG	99.	100.0	1.0	10.0	1.50	82.7
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	80.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	80.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763139.9	********	1098.	73.	AG	80.	100.0	1.0	10.0	1.15	55.8
12. Broadway EB R	762959.1	********	762875.0	********	92.	293.	AG	64.	100.0	1.0	10.0	0.38	4.7
13. Broadway EB TL	762965.1	********	761999.7	********	1054.	294.	AG	90.	100.0	1.0	10.0	1.20	53.5
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764035.0	********	1913.	150.	AG	98.	100.0	1.0	10.0	1.60	97.2
16. Broadway St. WB	763115.6	********	763869.6	********	821.	113.	AG	180.	100.0	1.0	20.0	1.14	41.7
17. Dexter St. SWB	763101.5	********	763610.3	********	700.	47.	AG	118.	100.0	1.0	10.0	5.38	35.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	110.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763148.5	********	347.	206.	AG	78.	100.0	1.0	10.0	1.02	17.6
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763332.9	********	47.	27.	AG	78.	100.0	1.0	10.0	0.30	2.4
23. Medford St. NWB	765022.2	********	765238.6	********	352.	142.	AG	50.	100.0	1.0	10.0	0.99	17.9
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764873.7	********	151.	322.	AG	50.	100.0	1.0	10.0	0.64	7.7
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	171.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765190.5	********	1439.	206.	AG	273.	100.0	1.0	30.0	1.31	73.1
29. Somerville EB	765797.5	********	765682.0	********	128.	296.	AG	126.	100.0	1.0	20.0	0.54	6.5
30. McGrath Highway SB1	766950.5	********	766656.5	********	1618.	350.	AG	217.	100.0	1.0	20.0	2.03	82.2
31. Washington St. EB	766952.8	********	757247.1	********	*****	249.	AG	96.	100.0	1.0	10.0	4.27	528.8
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767438.0	********	2591.	173.	AG	94.	100.0	1.0	10.0	1.69	131.6
34. Washington St. WB	767129.9	********	768484.3	********	1477.	67.	AG	288.	100.0	1.0	30.0	1.40	75.0
35. Msgr Obrien EB	769756.4	********	767419.5	********	2838.	305.	AG	147.	100.0	1.0	20.0	1.41	144.2
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	147.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:11:54

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	171.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	101.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	91.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	178.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	134.	100.0	1.0	20.0	0.70	8.4
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:11:54

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3916.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3225.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:11:54

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	670	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	94	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	94	3.0	231	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	385	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	390	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	650	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	480	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	580	1600	46.20	1	3
12. Broadway EB R	*	120	62	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	87	3.0	447	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	95	3.0	425	1600	46.20	1	3
16. Broadway St. WB	*	120	87	3.0	851	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	70	1600	46.20	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
20. Central St NB	*	90	57	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
22. Central St. SB	*	90	57	3.0	150	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	880	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	575	1600	46.20	1	3
26. Prospect SB	*	120	83	3.0	885	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	88	3.0	1410	1600	46.20	1	3
29. Somerville EB	*	120	61	3.0	770	1600	46.20	1	3
30. McGrath Highway SB1	*	120	105	3.0	540	1600	46.20	1	3
31. Washington St. EB	*	120	93	3.0	1250	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1230	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1651	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:11:54

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	950	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	930	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.2	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.3	6.6	6.1	6.0	5.8
30.	6.8	6.8	6.5	6.0	6.1	5.6	5.7	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.7	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.0	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.1	7.2	7.0	6.8	6.7
60.	6.8	6.8	6.3	6.4	6.1	5.5	5.7	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.2	7.3	6.9	6.4	6.6
70.	7.0	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.4	6.6	6.5	6.7
80.	7.1	7.1	6.7	6.3	6.1	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.4	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.6	7.4	7.2	6.5	6.2	5.7	6.0	7.0	6.9	6.9	5.1	5.1	5.1	5.1	5.1	7.9	7.7	6.9	6.7	6.6
110.	7.7	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.0	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.7	6.6
120.	7.7	7.2	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.1	6.2	6.3	8.0	7.8	7.1	6.6	6.5
130.	6.6	6.4	6.4	5.6	5.5	5.0	5.1	6.1	6.1	6.0	6.9	7.0	6.8	6.9	6.9	7.2	6.8	6.6	6.6	6.4
140.	5.5	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.2
170.	5.3	5.4	5.7	5.9	5.8	5.2	5.1	5.2	5.1	5.0	6.5	6.5	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.2	5.2	5.8	5.9	5.8	5.8	5.7	5.6	5.2	5.1	6.3	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.3	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.3	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.4	6.4	6.1	6.5	6.4	5.0	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.3	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.6	6.6	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.7	6.5	6.6	6.8	6.9	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	7.0	6.9	5.1	5.3	5.3	5.1	5.1
290.	5.7	5.7	5.7	5.1	5.0	5.5	5.6	6.0	5.8	5.6	7.0	6.9	7.0	7.1	7.0	5.5	5.8	5.8	5.0	5.0
300.	6.9	7.0	6.9	5.5	5.2	5.7	6.0	7.0	6.7	6.6	6.9	6.7	6.8	7.0	7.0	6.3	7.0	6.9	5.3	5.1
310.	7.9	7.9	7.8	5.9	5.5	6.0	6.4	7.7	7.4	7.2	6.1	6.0	5.9	6.0	6.1	6.8	7.6	7.6	5.6	5.5
320.	7.9	7.9	7.8	6.1	5.8	6.3	6.7	7.6	7.2	6.9	5.3	5.3	5.2	5.3	5.3	6.6	7.7	7.4	5.7	5.5
330.	7.6	7.5	7.5	6.1	5.8	6.4	6.7	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.1	6.4	7.4	7.0	5.8	5.4
340.	7.4	7.4	7.3	6.2	5.9	6.4	6.5	6.7	6.6	6.6	5.1	5.0	5.0	5.1	5.1	6.2	7.1	6.7	5.9	5.5
350.	7.1	7.1	6.9	6.1	5.9	6.3	6.4	6.4	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.3	7.0	6.4	5.9	5.6
360.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
MAX	7.9	7.9	7.8	6.5	6.2	6.4	6.7	7.7	7.4	7.2	7.1	7.0	7.0	7.1	7.0	8.0	7.8	7.6	7.0	7.0
DEGR.	310	310	310	100	100	330	320	310	310	310	140	130	290	290	290	110	110	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.7	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.3	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.1	5.0	5.0	5.0	5.1	5.1	6.9	6.9	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.2	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.4	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.7	6.8	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.6	6.6	5.8	5.8	5.9	5.3	5.1	6.4	6.6	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.1	6.2	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.5	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.3	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.2	6.6	6.7	5.7	5.4	6.7	6.9	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.2	6.5	6.6	5.7	5.4	6.8	7.0	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.2	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.1	7.3	7.1	6.9	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.8
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.1	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.2	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.1	6.3	6.2	5.8
240.	7.4	7.6	7.0	6.1	5.8	6.9	7.1	6.7	6.9	6.6	5.6	5.9	6.0	6.1	5.8
250.	7.3	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.5	5.7	6.2	6.3	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.5	6.3	5.5	5.6	6.2	6.3	6.1
290.	6.6	6.7	6.5	6.1	5.9	6.8	6.7	7.1	6.4	6.4	5.4	5.6	6.3	6.3	6.4
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.7	6.3	6.5	6.4
310.	7.0	7.5	7.7	7.2	7.1	6.0	6.2	6.6	6.0	5.9	5.0	5.1	5.8	5.9	5.9
320.	7.1	7.4	7.3	6.7	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.3
330.	7.1	7.3	6.9	6.6	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.4	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	6.9	7.1	7.3	7.1	7.2	7.6	7.5	7.5	7.1	6.9
DEGR.	20	230	310	310	310	240	230	220	220	230	210	200	130	210	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

Alt-5A -- 7_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:21:48

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756143.0	********	*	74.	312.	AG	182.	100.0	1.0	20.0	0.46	3.7
2. MVP West	*	756216.0	********	753443.5	********	*	4505.	218.	AG	58.	100.0	1.0	10.0	1.52	228.8
3. Boston Ave South	*	756271.8	********	758046.3	********	*	2384.	132.	AG	91.	100.0	1.0	10.0	1.57	121.1
4. MVP East	*	756253.6	********	756410.7	********	*	221.	45.	AG	116.	100.0	1.0	20.0	0.87	11.2
5. Winthrop North	*	759327.2	********	759307.3	********	*	704.	358.	AG	167.	100.0	1.0	20.0	1.08	35.8
6. MVP East RT	*	759381.7	********	759513.9	********	*	132.	92.	AG	50.	100.0	1.0	10.0	0.50	6.7
7. MVP East T	*	759381.8	********	764824.1	********	*	5445.	92.	AG	69.	100.0	1.0	10.0	1.74	276.6
8. Winthrop South	*	759345.1	********	759303.0	********	*	1639.	181.	AG	211.	100.0	1.0	20.0	1.76	83.3
9. MVP West	*	759293.5	********	753906.0	********	*	5393.	273.	AG	69.	100.0	1.0	10.0	1.74	274.0
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	96.	100.0	1.0	10.0	1.08	25.9
12. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	96.	100.0	1.0	10.0	0.44	3.8
13. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	96.	100.0	1.0	10.0	0.54	4.7
14. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	96.	100.0	1.0	10.0	0.83	8.1
15. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	96.	100.0	1.0	10.0	1.30	61.3
16. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	92.	100.0	1.0	10.0	1.10	33.4
17. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	88.	100.0	1.0	10.0	1.69	151.3
18. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	82.	100.0	1.0	10.0	1.46	122.9
19. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	88.	100.0	1.0	10.0	1.28	69.1
20. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	82.	100.0	1.0	10.0	1.37	101.7
21. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	73.	100.0	1.0	10.0	0.43	5.1
22. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	99.	100.0	1.0	10.0	1.84	130.4
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	116.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	99.	100.0	1.0	10.0	1.68	107.6
25. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	197.	100.0	1.0	20.0	1.63	101.1
26. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	116.	100.0	1.0	10.0	1.92	23.4
27. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	104.	100.0	1.0	10.0	1.33	44.0
28. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	81.	100.0	1.0	10.0	0.94	9.6
29. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	81.	100.0	1.0	10.0	1.09	33.7
30. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	81.	100.0	1.0	10.0	1.06	28.4
31. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	81.	100.0	1.0	10.0	0.29	2.1
32. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	74.	100.0	1.0	10.0	1.69	199.9
33. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	94.	100.0	1.0	10.0	1.24	43.1
34. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	74.	100.0	1.0	10.0	1.09	35.3
35. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	180.	100.0	1.0	20.0	1.20	52.3
36. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	218.	100.0	1.0	20.0	2.07	74.5
37. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	259.	100.0	1.0	30.0	1.11	38.8
38. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	141.	100.0	1.0	20.0	0.63	6.7
39. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	229.	100.0	1.0	20.0	4.42	120.0
40. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	90.	100.0	1.0	10.0	3.40	496.8
41. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	110.	100.0	1.0	10.0	0.46	1.8
42. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	110.	100.0	1.0	10.0	4.38	231.6
43. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	232.	100.0	1.0	30.0	0.76	9.5
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:21:48

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	178.	100.0	1.0	20.0	1.20	56.5
50. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	134.	100.0	1.0	20.0	0.73	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	840.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2590.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2420.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2340.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2395.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:21:48

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:21:48

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	325	1600	46.20	1	3
2. MVP West	*	113	53	3.0	1180	1600	46.20	1	3
3. Boston Ave South	*	113	83	3.0	555	1600	46.20	1	3
4. MVP East	*	113	53	3.0	1360	1600	46.20	1	3
5. Winthrop North	*	135	91	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	55	3.0	440	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1135	1600	46.20	1	3
8. Winthrop South	*	135	115	3.0	625	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1130	1600	46.20	1	3
10. South St	*	120	90	3.0	670	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	105	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	105	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	105	3.0	160	1600	46.20	1	3
14. College Ave. EB TR	*	135	105	3.0	246	1600	46.20	1	3
15. Boston Ave. NB	*	135	105	3.0	385	1600	46.20	1	3
16. College Ave WB	*	135	100	3.0	390	1600	46.20	1	3
17. Main St. SB	*	92	65	3.0	645	1600	46.20	1	3
18. Harvard St. EB	*	92	61	3.0	660	1600	46.20	1	3
19. Main st. NB	*	92	65	3.0	490	1600	46.20	1	3
20. Harvard St. WB	*	92	61	3.0	620	1600	46.20	1	3
21. Broadway EB R	*	122	72	3.0	255	1600	46.20	1	3
22. Broadway EB TL	*	122	97	3.0	482	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	122	97	3.0	440	1600	46.20	1	3
25. Broadway St. WB	*	122	97	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	122	102	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	86	56	3.0	435	1600	46.20	1	3
29. Central St NB	*	86	56	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	86	56	3.0	495	1600	46.20	1	3
31. Central St. SB	*	86	56	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	70	42	3.0	885	1600	46.20	1	3
33. School St. SB	*	70	53	3.0	340	1600	46.20	1	3
34. Medford St. SEB	*	70	42	3.0	570	1600	46.20	1	3
35. Prospect SB	*	109	79	3.0	880	1600	46.20	1	3
36. Sommerville WB	*	109	96	3.0	485	1600	46.20	1	3
37. Prospect NB	*	109	76	3.0	1375	1600	46.20	1	3
38. Somerville EB	*	109	62	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	133	123	3.0	530	1600	46.20	1	3
40. Washington St. EB	*	133	97	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	46.20	1	3
43. Washington St. WB	*	133	83	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	930	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	975	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:21:48

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.9	5.8	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.5	5.4	5.2
10.	6.2	6.1	6.0	5.9	5.7	5.2	5.4	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.4	5.4	5.3
20.	6.2	6.1	6.3	5.7	5.6	5.2	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.8	5.4	5.5	5.5
30.	6.1	6.2	6.4	5.6	5.5	5.2	5.3	6.1	6.0	5.9	5.2	5.2	5.3	5.0	5.0	5.2	5.8	5.6	5.8	5.8
40.	5.9	6.0	6.3	5.6	5.5	5.1	5.2	6.0	6.0	5.9	5.6	5.7	5.8	5.1	5.0	5.2	5.9	6.1	6.2	6.0
50.	5.5	5.6	6.0	5.4	5.3	5.0	5.1	5.6	5.6	5.6	5.9	6.1	6.2	5.2	5.1	5.3	6.0	6.4	6.3	6.4
60.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.1	6.3	6.3	5.4	5.2	5.4	6.2	6.4	6.3	6.2
70.	5.3	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.1	6.2	6.2	5.5	5.2	5.4	6.4	6.1	6.1	6.1
80.	5.2	5.3	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	6.1	6.1	6.0	5.4	5.3	5.5	6.3	6.2	6.1	6.0
90.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.9	6.0	5.8	5.4	5.3	5.6	6.5	6.0	5.9	6.0
100.	5.2	5.2	5.6	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.8	5.4	5.3	5.7	6.5	6.1	5.9	5.9
110.	5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.2	5.0	5.0	5.8	5.8	5.6	5.4	5.3	5.9	6.6	6.2	5.9	5.9
120.	5.2	5.2	5.7	5.7	5.7	5.4	5.4	5.4	5.0	5.0	5.8	5.8	5.9	5.7	5.6	5.9	6.6	6.3	5.9	5.9
130.	5.0	5.2	5.6	5.6	5.6	5.8	5.8	5.8	5.2	5.0	5.9	6.1	6.2	5.8	5.7	5.8	6.4	6.2	5.9	5.7
140.	5.0	5.0	5.4	5.3	5.3	5.9	6.0	6.0	5.2	5.2	6.1	6.1	6.2	5.9	5.9	5.6	5.9	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.8	5.9	5.8	5.2	5.2	6.0	6.0	6.1	5.8	5.8	5.4	5.5	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.8	5.8	5.8	5.2	5.2	6.0	6.0	6.0	5.9	5.7	5.2	5.4	5.7	5.7	5.7
170.	5.0	5.1	5.1	5.0	5.0	5.6	5.7	5.6	5.2	5.2	6.1	6.1	6.0	5.8	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.3	5.3	6.2	6.2	6.0	6.1	5.4	5.2	5.5	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.3	6.2	6.2	6.1	5.4	5.2	5.5	6.0	6.0	6.0
200.	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.5	5.4	5.3	6.4	6.5	6.3	6.1	5.5	5.3	5.5	6.1	6.2	6.3
210.	5.7	5.7	5.7	5.1	5.0	5.5	5.6	5.9	5.6	5.5	6.5	6.5	6.3	6.0	5.4	5.2	5.4	6.2	6.3	6.2
220.	6.0	6.1	6.2	5.3	5.1	5.7	5.9	6.3	6.1	5.8	6.3	6.3	6.1	5.6	5.2	5.0	5.1	5.8	5.9	5.9
230.	6.2	6.2	6.3	5.4	5.3	5.8	5.9	6.3	6.1	6.3	5.9	5.8	5.7	5.4	5.2	5.0	5.0	5.4	5.4	5.4
240.	6.0	6.1	6.1	5.5	5.3	5.8	6.0	6.2	6.0	6.0	5.5	5.4	5.5	5.4	5.2	5.0	5.0	5.1	5.1	5.1
250.	5.9	5.9	5.9	5.4	5.2	5.8	6.1	6.1	6.1	6.2	5.3	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.8	6.0	5.9	6.0	6.1	5.2	5.3	5.6	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.8	5.8	5.4	5.2	5.8	5.9	6.1	6.0	5.9	5.2	5.3	5.7	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.6	5.3	5.2	5.8	5.9	6.0	6.0	5.9	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.7	5.7	5.7	5.3	5.3	6.0	6.1	6.2	5.8	5.8	5.1	5.1	5.5	5.3	5.3	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.6	5.4	6.1	6.2	6.2	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.8	5.7	5.8	6.0	6.1	5.9	5.8	5.0	5.1	5.3	5.3	5.3	5.3	5.4	5.8	5.1	5.0
320.	5.8	5.8	6.2	5.9	5.7	5.7	5.7	6.0	5.8	5.8	5.0	5.0	5.2	5.2	5.2	5.4	5.6	6.1	5.1	5.1
330.	5.8	5.9	6.1	5.8	5.8	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.7	6.1	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.8	5.3	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.9	5.2	5.1
350.	5.9	6.0	5.9	5.8	5.8	5.3	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.7	5.8	5.3	5.2
360.	6.0	6.1	6.1	5.9	5.8	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.5	5.4	5.2
MAX	6.2	6.2	6.4	5.9	5.8	6.1	6.2	6.3	6.1	6.3	6.5	6.5	6.3	6.1	5.9	5.9	6.6	6.4	6.3	6.4
DEGR.	10	30	30	0	0	300	300	220	220	230	210	200	60	180	140	110	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.8	6.0	6.7	6.2	6.1	6.6	6.5	6.5	6.0	5.7	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.7	5.2	5.0
10.	5.9	6.1	6.7	6.2	6.3	5.9	6.0	6.1	5.7	5.6	5.0	5.0	5.5	5.4	5.5	7.0	6.9	6.9	5.4	5.2
20.	6.0	6.2	6.6	6.1	6.2	5.4	5.6	5.6	5.7	5.6	5.0	5.0	5.1	5.1	5.2	6.8	6.7	6.7	5.5	5.3
30.	6.1	6.1	6.2	6.0	6.1	5.2	5.4	5.5	5.7	5.6	5.0	5.0	5.1	5.1	5.1	6.5	6.5	6.5	5.5	5.4
40.	6.1	6.2	6.0	6.0	6.2	5.2	5.4	5.8	5.8	5.7	5.0	5.0	5.0	5.0	5.1	6.3	6.3	6.3	5.4	5.3
50.	6.0	6.2	6.0	6.1	6.0	5.2	5.4	5.8	5.8	5.7	5.1	5.1	5.1	5.0	5.0	6.2	6.1	6.1	5.4	5.3
60.	6.2	6.2	6.2	6.3	6.1	5.3	5.4	5.9	6.0	5.9	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.3
70.	6.3	6.2	6.3	6.3	6.1	5.3	5.5	6.1	6.0	6.0	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.2	5.5	5.3
80.	6.3	6.5	6.5	6.2	6.1	5.3	5.4	6.2	6.1	6.1	5.4	5.3	5.3	5.0	5.0	6.1	6.1	6.3	5.7	5.5
90.	6.3	6.2	6.4	6.1	6.0	5.2	5.3	6.1	6.0	6.0	5.7	5.8	5.8	5.2	5.0	6.1	6.3	6.8	6.1	6.0
100.	5.9	5.9	5.9	5.9	5.8	5.0	5.1	5.6	5.6	5.6	6.1	6.1	6.2	5.3	5.2	6.3	6.5	7.2	6.3	6.2
110.	5.4	5.4	5.6	5.8	5.8	5.0	5.0	5.2	5.2	5.2	6.1	6.2	6.2	5.4	5.3	6.4	6.4	7.0	6.1	6.0
120.	5.3	5.4	5.4	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.9	6.0	6.0	5.4	5.3	6.4	6.6	6.8	6.0	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.9	5.9	5.4	5.2	6.5	6.6	6.6	5.9	5.9
140.	5.3	5.4	5.8	6.0	6.0	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.4	5.3	6.6	6.6	6.5	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.2	5.0	5.0	5.0	5.7	5.8	5.7	5.5	5.3	6.8	6.8	6.5	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.6	5.7	5.8	5.5	5.5	7.0	6.9	6.7	6.1	5.9
170.	5.2	5.4	6.2	6.2	6.2	5.7	5.8	5.7	5.1	5.0	5.7	5.8	6.1	5.8	6.0	7.1	6.9	6.9	6.0	5.9
180.	5.1	5.3	6.0	6.1	6.1	6.4	6.5	6.2	5.2	5.1	5.9	6.1	6.6	6.4	6.4	6.8	6.6	6.5	5.9	5.8
190.	5.0	5.1	5.5	5.6	5.6	6.8	6.8	6.5	5.4	5.2	5.9	6.1	6.7	6.4	6.5	6.2	6.0	6.0	5.7	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.8	6.3	5.4	5.3	6.0	6.2	6.4	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.5	5.9	5.5	5.3	6.0	6.2	6.2	6.1	6.3	5.4	5.5	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.4	5.3	6.1	6.2	6.1	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.1	6.1	6.1	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.1	5.4	5.4	5.4	6.1	5.9	6.3	6.3	6.1	5.2	5.5	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.2	6.2	6.6	6.3	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.7	5.6	5.5	6.4	6.2	6.7	6.3	6.2	5.3	5.5	6.0	6.0	6.0
270.	6.0	6.0	5.9	5.2	5.1	6.1	6.2	6.2	6.0	6.0	6.2	6.3	6.8	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.5	6.1	6.4	5.8	5.9	6.4	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.5	6.3	6.2	6.2	5.4	5.6	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.1	6.1	5.9	5.5	5.3	6.3	6.4	6.2	6.1	6.2	5.3	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	6.0	6.0	5.8	5.4	5.3	6.4	6.5	6.1	6.1	6.2	5.4	5.5	5.9	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.3	6.5	6.5	6.1	6.2	6.1	5.4	5.5	6.0	6.0	6.0	5.2	5.0	5.0	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.6	6.3	6.3	6.1	5.3	5.5	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.3	6.8	6.9	6.6	6.2	6.0	5.2	5.5	6.3	6.3	6.3	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.7	6.1	5.8	5.7	6.9	7.0	6.8	6.1	5.9	5.2	5.3	6.4	6.3	6.4	6.1	5.9	6.1	5.0	5.0
360.	5.8	6.0	6.7	6.2	6.1	6.6	6.5	6.5	6.0	5.7	5.0	5.2	6.0	6.0	6.0	6.8	6.6	6.7	5.2	5.0
MAX	6.3	6.5	6.7	6.3	6.3	6.9	7.0	6.8	6.3	6.4	6.4	6.3	6.8	6.4	6.5	7.1	6.9	7.2	6.3	6.2
DEGR.	70	80	0	60	10	350	350	350	330	280	260	270	270	180	190	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.2	6.2	5.6	5.6	5.8	5.8	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.3	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	6.0	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.7	5.0	5.0	5.0	5.0	5.0
90.	5.6	5.6	5.6	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.6	5.6	5.7	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.2	5.3	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.2	5.3	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.9	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.8	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.9	6.0	6.1	6.3	6.1	5.2	5.4	6.1	6.1	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.2	6.2	6.1	5.9	5.1	5.3	6.2	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.2	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.9	6.0	5.8	5.8	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.1	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	6.0
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	6.0	5.8
230.	5.2	5.4	5.6	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	6.0	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.1	5.8	5.7
270.	5.0	5.2	5.7	6.0	5.9	5.2	5.2	5.2	5.0	5.0	5.7	5.7	6.1	5.8	5.6
280.	5.0	5.1	5.5	5.8	5.7	5.4	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.0	5.0	5.2	5.5	5.4	5.6	5.7	5.8	5.2	5.0	5.7	5.9	5.9	5.6	5.6
300.	5.0	5.0	5.0	5.2	5.3	5.8	5.8	5.9	5.3	5.1	5.9	6.0	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.7	5.8	5.8	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.5	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.4	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	6.0	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	6.0	5.9	5.9
MAX	6.0	6.2	6.2	6.3	6.2	5.9	6.0	6.3	6.2	6.2	6.1	6.1	6.1	6.0	6.0
DEGR.	170	170	170	160	120	30	30	20	10	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.20 PPM OCCURRED AT RECEPTOR REC38.

Alt-5A -- 7_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:17

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756143.0	********	*	74.	312.	AG	182.	100.0	1.0	20.0	0.46	3.7
2. MVP West	*	756216.0	********	753443.5	********	*	4505.	218.	AG	58.	100.0	1.0	10.0	1.52	228.8
3. Boston Ave South	*	756271.8	********	758046.3	********	*	2384.	132.	AG	91.	100.0	1.0	10.0	1.57	121.1
4. MVP East	*	756253.6	********	756410.7	********	*	221.	45.	AG	116.	100.0	1.0	20.0	0.87	11.2
5. Winthrop North	*	759327.2	********	759307.3	********	*	704.	358.	AG	167.	100.0	1.0	20.0	1.08	35.8
6. MVP East RT	*	759381.7	********	759513.9	********	*	132.	92.	AG	50.	100.0	1.0	10.0	0.50	6.7
7. MVP East T	*	759381.8	********	764824.1	********	*	5445.	92.	AG	69.	100.0	1.0	10.0	1.74	276.6
8. Winthrop South	*	759345.1	********	759303.0	********	*	1639.	181.	AG	211.	100.0	1.0	20.0	1.76	83.3
9. MVP West	*	759293.5	********	753906.0	********	*	5393.	273.	AG	69.	100.0	1.0	10.0	1.74	274.0
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	96.	100.0	1.0	10.0	1.08	25.9
12. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	96.	100.0	1.0	10.0	0.44	3.8
13. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	96.	100.0	1.0	10.0	0.54	4.7
14. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	96.	100.0	1.0	10.0	0.83	8.1
15. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	96.	100.0	1.0	10.0	1.30	61.3
16. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	92.	100.0	1.0	10.0	1.10	33.4
17. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	88.	100.0	1.0	10.0	1.69	151.3
18. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	82.	100.0	1.0	10.0	1.46	122.9
19. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	88.	100.0	1.0	10.0	1.28	69.1
20. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	82.	100.0	1.0	10.0	1.37	101.7
21. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	73.	100.0	1.0	10.0	0.43	5.1
22. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	99.	100.0	1.0	10.0	1.84	130.4
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	116.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	99.	100.0	1.0	10.0	1.68	107.6
25. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	197.	100.0	1.0	20.0	1.63	101.1
26. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	116.	100.0	1.0	10.0	1.92	23.4
27. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	104.	100.0	1.0	10.0	1.33	44.0
28. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	81.	100.0	1.0	10.0	0.94	9.6
29. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	81.	100.0	1.0	10.0	1.09	33.7
30. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	81.	100.0	1.0	10.0	1.06	28.4
31. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	81.	100.0	1.0	10.0	0.29	2.1
32. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	74.	100.0	1.0	10.0	1.69	199.9
33. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	94.	100.0	1.0	10.0	1.24	43.1
34. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	74.	100.0	1.0	10.0	1.09	35.3
35. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	180.	100.0	1.0	20.0	1.20	52.3
36. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	218.	100.0	1.0	20.0	2.07	74.5
37. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	259.	100.0	1.0	30.0	1.11	38.8
38. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	141.	100.0	1.0	20.0	0.63	6.7
39. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	229.	100.0	1.0	20.0	4.42	120.0
40. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	90.	100.0	1.0	10.0	3.40	496.8
41. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	110.	100.0	1.0	10.0	0.46	1.8
42. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	110.	100.0	1.0	10.0	4.38	231.6
43. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	232.	100.0	1.0	30.0	0.76	9.5
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:17

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	178.	100.0	1.0	20.0	1.20	56.5
50. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	134.	100.0	1.0	20.0	0.73	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	840.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2590.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2420.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2340.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2395.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:17

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:17

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	325	1600	46.20	1	3
2. MVP West	*	113	53	3.0	1180	1600	46.20	1	3
3. Boston Ave South	*	113	83	3.0	555	1600	46.20	1	3
4. MVP East	*	113	53	3.0	1360	1600	46.20	1	3
5. Winthrop North	*	135	91	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	55	3.0	440	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1135	1600	46.20	1	3
8. Winthrop South	*	135	115	3.0	625	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1130	1600	46.20	1	3
10. South St	*	120	90	3.0	670	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	105	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	105	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	105	3.0	160	1600	46.20	1	3
14. College Ave. EB TR	*	135	105	3.0	246	1600	46.20	1	3
15. Boston Ave. NB	*	135	105	3.0	385	1600	46.20	1	3
16. College Ave WB	*	135	100	3.0	390	1600	46.20	1	3
17. Main St. SB	*	92	65	3.0	645	1600	46.20	1	3
18. Harvard St. EB	*	92	61	3.0	660	1600	46.20	1	3
19. Main st. NB	*	92	65	3.0	490	1600	46.20	1	3
20. Harvard St. WB	*	92	61	3.0	620	1600	46.20	1	3
21. Broadway EB R	*	122	72	3.0	255	1600	46.20	1	3
22. Broadway EB TL	*	122	97	3.0	482	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	122	97	3.0	440	1600	46.20	1	3
25. Broadway St. WB	*	122	97	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	122	102	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	86	56	3.0	435	1600	46.20	1	3
29. Central St NB	*	86	56	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	86	56	3.0	495	1600	46.20	1	3
31. Central St. SB	*	86	56	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	70	42	3.0	885	1600	46.20	1	3
33. School St. SB	*	70	53	3.0	340	1600	46.20	1	3
34. Medford St. SEB	*	70	42	3.0	570	1600	46.20	1	3
35. Prospect SB	*	109	79	3.0	880	1600	46.20	1	3
36. Sommerville WB	*	109	96	3.0	485	1600	46.20	1	3
37. Prospect NB	*	109	76	3.0	1375	1600	46.20	1	3
38. Somerville EB	*	109	62	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	133	123	3.0	530	1600	46.20	1	3
40. Washington St. EB	*	133	97	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	46.20	1	3
43. Washington St. WB	*	133	83	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	930	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	975	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:17

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.1	6.1	5.7	5.6	5.5	5.1	5.2	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	6.3	5.5	5.2	5.2
10.	6.1	6.1	5.6	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.6	6.1	5.5	5.5	5.3
20.	6.1	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.6	5.6	5.2	5.2	5.2	5.0	5.0	5.5	6.0	5.5	5.5	5.3
30.	5.9	5.7	5.5	5.5	5.4	5.1	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.0	5.0	5.5	5.9	5.6	5.7	5.5
40.	5.5	5.4	5.2	5.4	5.4	5.0	5.1	5.2	5.4	5.4	5.8	5.8	5.7	5.2	5.1	5.5	5.9	5.7	5.7	5.5
50.	5.4	5.2	5.1	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.4	5.2	5.2	5.7	5.7	5.3	5.3	5.5
80.	5.2	5.2	5.2	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.7	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.8	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.5	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.1	5.4	5.7
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	5.4	5.2	5.5	5.7
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	6.2	5.4	5.3	5.6	5.7
140.	5.2	5.2	5.7	5.7	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	6.2	5.5	5.5	5.6	5.7
150.	5.0	5.2	5.6	5.6	5.5	5.5	5.5	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.2	5.6	5.7	5.5	5.6
160.	5.0	5.0	5.4	5.4	5.3	5.6	5.6	5.3	5.2	5.1	5.5	5.7	5.5	5.4	5.6	6.0	5.7	5.6	5.6	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.6	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.7	5.8	5.7	5.6	5.7	5.3	5.3	5.5	5.6	5.6
190.	5.3	5.3	5.3	5.1	5.1	5.6	5.5	5.4	5.3	5.1	5.7	5.8	5.6	5.5	5.6	5.2	5.3	5.8	5.6	5.5
200.	5.5	5.5	5.6	5.1	5.1	5.6	5.4	5.4	5.3	5.2	5.8	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4
210.	5.6	5.6	5.5	5.1	5.1	5.3	5.4	5.5	5.3	5.3	5.8	5.7	5.5	5.5	5.4	5.1	5.1	5.2	5.2	5.2
220.	5.7	5.9	5.7	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.5	5.4	5.0	5.1	5.2	5.1	5.1
230.	5.7	5.9	5.6	5.2	5.0	5.4	5.5	5.3	5.5	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.1	5.1	5.1	5.0
240.	5.7	5.9	5.4	5.2	5.0	5.5	5.5	5.3	5.4	5.5	5.3	5.3	5.2	5.4	5.4	5.1	5.1	5.1	5.0	5.0
250.	5.6	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.5	5.5	5.2	5.3	5.2	5.4	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.6	5.8	5.2	5.3	5.1	5.6	5.3	5.2	5.4	5.6	5.2	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.5	5.7	5.2	5.3	5.2	5.6	5.2	5.1	5.4	5.6	5.2	5.2	5.4	5.4	5.4	5.1	5.1	5.0	5.0	5.0
280.	5.5	5.7	5.2	5.3	5.2	5.5	5.3	5.2	5.6	5.6	5.2	5.2	5.4	5.4	5.4	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.6	5.2	5.2	5.6	5.5	5.5	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.4	5.4	5.6	5.3	5.4	5.6	5.6	5.2	5.2	5.6	5.5	5.5	5.1	5.3	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.6	5.5	5.6	5.1	5.2	5.5	5.5	5.5	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.5	5.5	5.1	5.2	5.5	5.5	5.5	5.5	6.0	5.1	5.0	5.0
330.	5.6	5.7	5.5	5.5	5.6	5.5	5.5	6.0	5.5	5.4	5.0	5.1	5.3	5.3	5.3	5.7	6.3	5.3	5.1	5.0
340.	5.7	5.9	5.7	5.7	5.6	5.2	5.5	5.7	5.3	5.4	5.0	5.0	5.2	5.2	5.2	5.8	6.5	5.5	5.2	5.1
350.	5.8	6.0	5.7	5.7	5.6	5.2	5.5	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.8	6.5	5.6	5.3	5.2
360.	6.1	6.1	5.7	5.6	5.5	5.1	5.2	5.3	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	6.3	5.5	5.2	5.2
MAX	6.1	6.1	5.7	5.7	5.6	5.6	5.6	6.0	5.6	5.6	5.8	5.8	5.7	5.6	5.7	6.2	6.5	5.8	5.7	5.7
DEGR.	0	0	0	140	10	160	160	330	20	20	40	40	40	180	170	130	340	190	30	110

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.1	5.8	5.8	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.7	5.7	5.3	5.2
20.	5.8	5.9	5.8	5.8	5.7	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	6.0	5.8	5.8	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.8	5.7	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3
50.	5.9	6.0	5.9	5.8	5.7	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.6	5.5	5.6	5.4	5.4
60.	6.0	5.9	6.0	5.8	5.7	5.2	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.6	5.5	5.8	5.7	5.6
70.	5.8	5.6	5.9	5.7	5.6	5.1	5.2	5.7	5.7	5.8	5.8	5.8	5.8	5.2	5.0	5.6	5.7	6.1	6.0	5.8
80.	5.3	5.5	5.7	5.5	5.5	5.0	5.0	5.4	5.4	5.5	6.0	6.1	6.1	5.3	5.2	5.8	5.8	6.3	6.0	6.0
90.	5.3	5.3	5.5	5.5	5.5	5.0	5.0	5.1	5.1	5.2	6.0	6.0	5.9	5.3	5.2	5.8	5.9	6.0	5.7	5.9
100.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.8	5.9	5.9	5.7	5.8
110.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.8	5.9	5.7	5.8	5.8
120.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.9	6.0	5.9	5.7	5.7
130.	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	5.9	5.8	5.7
140.	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.0	6.0	6.0	5.7	5.6
150.	5.2	5.2	5.8	5.8	5.7	5.4	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.4	5.4	6.0	6.0	6.1	5.8	5.6
160.	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0	5.5	5.7	6.0	5.6	5.7	6.1	5.9	5.9	5.7	5.4
170.	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.8	5.2	5.2	5.7	5.7	6.0	5.8	5.8	5.6	5.7	5.7	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.9	5.9	5.8	5.3	5.2	5.7	5.8	6.0	6.0	5.8	5.3	5.4	5.5	5.5	5.5
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.3	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.2	5.8	5.8	5.9	5.9	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2	5.9	5.9	6.0	5.8	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.8	5.9	6.0	5.8	5.7	5.2	5.3	5.8	5.8	5.7
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.4	6.1	6.1	6.3	5.8	5.7	5.2	5.3	6.0	5.9	5.8
240.	5.9	5.8	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.2	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	6.0	6.0	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.6	5.4	5.0	5.0	5.5	5.5	5.5
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.7	5.6	5.5	5.6	5.5	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.7	5.6	5.6	5.3	5.2	5.7	5.8	5.7	5.6	5.7	5.3	5.3	5.4	5.5	5.5	5.0	5.0	5.1	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.8	5.8	5.7	5.7	5.8	5.2	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
300.	5.6	5.5	5.4	5.3	5.2	5.9	5.7	5.8	5.7	5.8	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.2	5.8	5.8	5.9	5.7	5.7	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.1	5.0	5.0
330.	5.6	5.6	5.7	5.5	5.5	6.0	6.0	6.0	5.6	5.6	5.2	5.2	5.8	5.7	5.7	5.4	5.4	5.4	5.0	5.0
340.	5.5	5.7	6.1	5.8	5.7	5.9	5.8	6.0	5.6	5.5	5.1	5.2	5.7	5.7	5.7	5.8	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.9	5.8	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	6.0	5.2	5.2
360.	5.7	5.8	6.1	5.8	5.8	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.3	5.2
MAX	6.0	6.0	6.1	5.9	5.8	6.0	6.0	6.1	5.8	5.8	6.2	6.2	6.3	6.0	5.8	6.1	6.0	6.3	6.0	6.0
DEGR.	30	50	0	350	0	330	330	250	60	60	240	240	230	180	170	160	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.50 PPM OCCURRED AT RECEPTOR REC17.

Alt-5A -- 7_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:50

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756143.0	********	*	74.	312.	AG	182.	100.0	1.0	20.0	0.46	3.7
2. MVP West	*	756216.0	********	753443.5	********	*	4505.	218.	AG	58.	100.0	1.0	10.0	1.52	228.8
3. Boston Ave South	*	756271.8	********	758046.3	********	*	2384.	132.	AG	91.	100.0	1.0	10.0	1.57	121.1
4. MVP East	*	756253.6	********	756410.7	********	*	221.	45.	AG	116.	100.0	1.0	20.0	0.87	11.2
5. Winthrop North	*	759327.2	********	759307.3	********	*	704.	358.	AG	167.	100.0	1.0	20.0	1.08	35.8
6. MVP East RT	*	759381.7	********	759513.9	********	*	132.	92.	AG	50.	100.0	1.0	10.0	0.50	6.7
7. MVP East T	*	759381.8	********	764824.1	********	*	5445.	92.	AG	69.	100.0	1.0	10.0	1.74	276.6
8. Winthrop South	*	759345.1	********	759303.0	********	*	1639.	181.	AG	211.	100.0	1.0	20.0	1.76	83.3
9. MVP West	*	759293.5	********	753906.0	********	*	5393.	273.	AG	69.	100.0	1.0	10.0	1.74	274.0
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	96.	100.0	1.0	10.0	1.08	25.9
12. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	96.	100.0	1.0	10.0	0.44	3.8
13. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	96.	100.0	1.0	10.0	0.54	4.7
14. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	96.	100.0	1.0	10.0	0.83	8.1
15. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	96.	100.0	1.0	10.0	1.30	61.3
16. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	92.	100.0	1.0	10.0	1.10	33.4
17. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	88.	100.0	1.0	10.0	1.69	151.3
18. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	82.	100.0	1.0	10.0	1.46	122.9
19. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	88.	100.0	1.0	10.0	1.28	69.1
20. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	82.	100.0	1.0	10.0	1.37	101.7
21. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	73.	100.0	1.0	10.0	0.43	5.1
22. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	99.	100.0	1.0	10.0	1.84	130.4
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	116.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	99.	100.0	1.0	10.0	1.68	107.6
25. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	197.	100.0	1.0	20.0	1.63	101.1
26. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	116.	100.0	1.0	10.0	1.92	23.4
27. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	104.	100.0	1.0	10.0	1.33	44.0
28. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	81.	100.0	1.0	10.0	0.94	9.6
29. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	81.	100.0	1.0	10.0	1.09	33.7
30. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	81.	100.0	1.0	10.0	1.06	28.4
31. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	81.	100.0	1.0	10.0	0.29	2.1
32. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	74.	100.0	1.0	10.0	1.69	199.9
33. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	94.	100.0	1.0	10.0	1.24	43.1
34. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	74.	100.0	1.0	10.0	1.09	35.3
35. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	180.	100.0	1.0	20.0	1.20	52.3
36. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	218.	100.0	1.0	20.0	2.07	74.5
37. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	259.	100.0	1.0	30.0	1.11	38.8
38. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	141.	100.0	1.0	20.0	0.63	6.7
39. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	229.	100.0	1.0	20.0	4.42	120.0
40. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	90.	100.0	1.0	10.0	3.40	496.8
41. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	110.	100.0	1.0	10.0	0.46	1.8
42. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	110.	100.0	1.0	10.0	4.38	231.6
43. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	232.	100.0	1.0	30.0	0.76	9.5
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:50

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	178.	100.0	1.0	20.0	1.20	56.5
50. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	134.	100.0	1.0	20.0	0.73	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	840.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2590.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2420.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2340.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2395.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:50

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	113	83	3.0	325	1600	46.20	1	3
2. MVP West	*	113	53	3.0	1180	1600	46.20	1	3
3. Boston Ave South	*	113	83	3.0	555	1600	46.20	1	3
4. MVP East	*	113	53	3.0	1360	1600	46.20	1	3
5. Winthrop North	*	135	91	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	55	3.0	440	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1135	1600	46.20	1	3
8. Winthrop South	*	135	115	3.0	625	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1130	1600	46.20	1	3
10. South St	*	120	90	3.0	670	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	105	3.0	320	1600	46.20	1	3
12. Boston Ave. SB R	*	135	105	3.0	130	1600	46.20	1	3
13. College Ave EB L	*	135	105	3.0	160	1600	46.20	1	3
14. College Ave. EB TR	*	135	105	3.0	246	1600	46.20	1	3
15. Boston Ave. NB	*	135	105	3.0	385	1600	46.20	1	3
16. College Ave WB	*	135	100	3.0	390	1600	46.20	1	3
17. Main St. SB	*	92	65	3.0	645	1600	46.20	1	3
18. Harvard St. EB	*	92	61	3.0	660	1600	46.20	1	3
19. Main st. NB	*	92	65	3.0	490	1600	46.20	1	3
20. Harvard St. WB	*	92	61	3.0	620	1600	46.20	1	3
21. Broadway EB R	*	122	72	3.0	255	1600	46.20	1	3
22. Broadway EB TL	*	122	97	3.0	482	1600	46.20	1	3
23. Parking Lot	*	122	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	122	97	3.0	440	1600	46.20	1	3
25. Broadway St. WB	*	122	97	3.0	856	1600	46.20	1	3
26. Dexter St. SWB	*	122	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	122	102	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	86	56	3.0	435	1600	46.20	1	3
29. Central St NB	*	86	56	3.0	505	1600	46.20	1	3
30. Highland St. WB	*	86	56	3.0	495	1600	46.20	1	3
31. Central St. SB	*	86	56	3.0	135	1600	46.20	1	3
32. Medford St. NWB	*	70	42	3.0	885	1600	46.20	1	3
33. School St. SB	*	70	53	3.0	340	1600	46.20	1	3
34. Medford St. SEB	*	70	42	3.0	570	1600	46.20	1	3
35. Prospect SB	*	109	79	3.0	880	1600	46.20	1	3
36. Sommerville WB	*	109	96	3.0	485	1600	46.20	1	3
37. Prospect NB	*	109	76	3.0	1375	1600	46.20	1	3
38. Somerville EB	*	109	62	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	133	123	3.0	530	1600	46.20	1	3
40. Washington St. EB	*	133	97	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	46.20	1	3
43. Washington St. WB	*	133	83	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	330	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	930	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	975	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:50

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:22:50

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.1	5.7	5.6	5.4	5.9	5.8	5.8	5.6	5.6	5.5	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.1	5.6	5.5	5.3	5.7	5.8	5.8	5.6	5.9	5.5	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.1	5.6	5.4	5.2	5.5	5.7	5.7	5.5	5.8	5.5	5.5	5.5	5.7	5.6	5.1	5.1	5.1	5.4	5.4
30.	5.7	6.1	5.5	5.3	5.1	5.5	5.8	5.7	5.6	5.9	5.4	5.5	5.5	5.7	5.6	5.0	5.1	5.2	5.5	5.5
40.	5.7	6.1	5.6	5.4	5.3	5.6	5.6	5.8	5.6	5.8	5.4	5.4	5.6	5.6	5.6	5.0	5.1	5.3	5.4	5.4
50.	5.7	6.2	5.7	5.3	5.4	5.5	5.5	5.6	5.6	5.8	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.2	5.3	5.3
60.	5.8	6.1	5.6	5.5	5.5	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.7	5.8	5.8	5.0	5.0	5.1	5.1	5.1
70.	5.8	6.2	5.8	5.6	5.5	5.3	5.5	5.7	5.7	5.8	5.4	5.5	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
80.	5.9	6.3	5.7	5.7	5.6	5.4	5.5	5.8	5.8	5.8	5.4	5.6	5.9	5.9	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.2	5.8	5.7	5.6	5.5	5.5	6.0	5.9	5.8	5.4	5.6	6.0	6.0	6.0	5.2	5.2	5.2	5.0	5.0
100.	6.3	6.6	6.2	5.8	5.7	5.5	5.7	6.2	6.1	5.9	5.4	5.6	6.1	6.1	6.1	5.5	5.5	5.4	5.0	5.0
110.	6.2	6.3	6.1	5.7	5.6	5.4	5.5	6.3	5.9	5.8	5.3	5.4	6.0	6.0	6.0	6.1	6.1	5.9	5.3	5.1
120.	5.9	6.0	5.9	5.6	5.4	5.2	5.4	6.1	5.8	5.7	5.1	5.2	5.6	5.6	5.6	6.4	6.4	6.2	5.5	5.3
130.	5.5	5.6	5.4	5.4	5.4	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.4	5.3	5.3	6.4	6.4	6.0	5.5	5.3
140.	5.3	5.4	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.4	5.4	5.1	5.1	6.2	6.2	5.9	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.7	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.9	5.8	5.7	5.4	5.2	6.3	6.3	5.7	5.7	5.5
170.	5.0	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.0	5.1	5.2	5.2	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.1	6.1	5.6	5.6	5.5
190.	5.0	5.1	5.2	5.2	5.1	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.4	5.2	5.2	6.1	6.1	5.5	5.5	5.4
200.	5.0	5.0	5.2	5.2	5.0	5.0	5.0	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	6.1	5.4	5.4	5.3
210.	5.0	5.0	5.2	5.1	5.0	5.0	5.1	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	6.1	5.5	5.3	5.3
220.	5.0	5.0	5.1	5.1	5.0	5.1	5.3	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	5.9	5.6	5.3	5.2
230.	5.0	5.0	5.0	5.0	5.0	5.2	5.4	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.1	5.9	5.7	5.4	5.4
240.	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.3	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.4
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.3	5.9	5.6	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.0	5.5	5.6	5.4	5.4	5.3	6.3	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.5	5.6	5.5	5.4	5.3	6.3	5.9	5.7	5.8	5.8
280.	5.3	5.5	5.4	5.0	5.0	5.3	5.4	5.5	5.2	5.1	5.5	5.7	5.7	5.6	5.4	6.3	5.9	6.0	5.9	5.7
290.	5.7	6.0	6.0	5.2	5.1	5.4	5.6	5.9	5.5	5.4	5.9	6.0	6.0	5.8	5.7	6.1	5.8	5.9	5.8	5.6
300.	6.0	6.4	6.2	5.3	5.2	5.5	5.7	6.1	5.7	5.5	6.0	6.0	6.2	5.9	6.0	5.8	5.6	5.5	5.6	5.4
310.	6.0	6.4	6.1	5.4	5.3	5.6	5.7	6.1	5.7	5.5	6.0	6.0	6.1	5.9	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.9	6.3	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.6	5.8	5.8	5.8	5.8	6.0	5.3	5.2	5.4	5.5	5.5
330.	5.8	6.2	5.6	5.3	5.3	5.6	5.9	5.9	5.8	5.8	5.8	5.7	5.9	5.8	6.0	5.3	5.3	5.4	5.5	5.3
340.	5.7	6.0	5.8	5.4	5.3	5.6	6.0	6.1	5.7	5.8	5.6	5.5	5.6	5.9	5.9	5.1	5.3	5.2	5.3	5.3
350.	5.6	6.1	5.7	5.6	5.3	5.8	5.9	6.0	5.8	5.8	5.2	5.4	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.1	5.7	5.6	5.4	5.9	5.8	5.8	5.6	5.6	5.5	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.3	6.6	6.2	5.8	5.7	5.9	6.0	6.3	6.1	5.9	6.0	6.0	6.2	6.1	6.1	6.4	6.4	6.2	5.9	5.8
DEGR.	100	100	100	100	100	0	340	110	100	10	300	290	300	100	100	120	120	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.5	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.3	5.2	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	5.9	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.7
30.	5.1	5.1	5.1	5.0	5.0	5.5	5.6	5.2	5.2	5.2	5.1	6.1	5.9	5.6	5.9	6.0	6.2	6.0	5.9	6.0
40.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.8	5.9
50.	5.3	5.3	5.3	5.1	5.0	5.4	5.4	5.2	5.2	5.2	5.4	6.1	6.0	5.6	6.0	6.1	6.4	6.0	5.9	5.8
60.	5.4	5.4	5.3	5.1	5.0	5.4	5.5	5.3	5.3	5.2	5.6	6.1	5.8	5.6	5.8	6.1	6.8	5.8	5.9	5.8
70.	5.4	5.4	5.2	5.1	5.1	5.5	5.5	5.3	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.8	5.9	5.8
80.	5.4	5.3	5.1	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.6	5.6	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.5	5.2	5.3	5.4	6.1	6.2	5.9	5.6	5.9	6.5	6.5	5.6	5.8	5.8
100.	5.3	5.3	5.3	5.1	5.1	5.6	5.7	5.7	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.6	5.8	5.7
110.	5.4	5.5	5.6	5.4	5.2	5.8	6.0	6.2	6.0	5.8	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.6	5.8	5.9	5.6	5.4	6.0	6.1	6.3	6.2	6.0	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.6	5.8	5.8	5.5	5.5	6.0	6.1	6.1	6.0	6.1	5.8	6.0	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.8	5.8	5.6	5.4	6.0	6.1	6.1	5.9	6.0	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.1	6.0	6.2	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.4	5.5	5.6	5.6
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.8	5.8	5.7	5.6	5.7	5.4	5.5	5.8	5.7	5.7	5.0	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.4	5.4	5.7	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.6	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.5	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.6	5.6
200.	5.6	5.3	5.6	5.6	5.6	5.3	5.4	5.5	5.6	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.5	5.4	5.6	5.6	5.7	5.3	5.3	5.5	5.6	5.5	5.9	5.4	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.4	5.4	5.6	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.2	5.2	5.5	5.6	5.6	5.3	5.4	5.5	5.6	5.5	6.0	5.2	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.4	5.7	5.7	5.6	6.0	5.1	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.3	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.7	5.7	5.8	5.6	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.7	5.7	5.6	5.3	5.4	5.9	5.8	5.8	5.7	5.6	5.2	5.2	5.2	5.1	5.3	5.2	5.0	5.0
270.	5.4	5.6	5.7	5.7	5.6	5.3	5.4	5.9	5.9	5.9	5.5	5.7	5.4	5.4	5.4	5.3	5.6	5.5	5.0	5.0
280.	5.4	5.6	5.8	5.7	5.6	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.5	6.1	5.7	5.1	5.0
290.	5.3	5.5	5.8	5.7	5.6	5.2	5.4	6.0	6.0	6.0	5.7	5.7	5.6	5.5	5.6	5.6	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.6	5.5	5.4	5.1	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.6	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.7	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.4	5.4	5.2	5.2	5.3	5.1	5.1	6.0	6.0	5.9	5.9	5.9	5.6	6.2	5.6	5.4	5.2
330.	5.1	5.2	5.5	5.5	5.6	5.4	5.4	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.7	5.7	5.7	5.3	5.1	5.6	5.9	6.1	5.4	6.1	5.8	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.8	5.8	5.6	5.2	5.2	5.5	6.0	6.2	5.4	6.2	5.8	6.1	5.5	5.4	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.5	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.9	5.7	5.7	6.1	6.1	6.3	6.2	6.1	6.3	6.4	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.0
DEGR.	160	150	120	260	170	150	120	120	120	130	110	110	0	310	0	70	60	40	80	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.8	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.8	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.6	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.5	5.7	5.7	5.7	5.6	6.0	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.9	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.1	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.7
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.1
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.8	6.2	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.9	5.4	5.3	5.2	5.4	5.9	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.9	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	6.0	5.4	5.3	5.2	5.4	5.9	6.1	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.6	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.4	5.6	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.0	5.0	5.0	5.5	5.9	6.4	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.7	5.7	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.3	5.5
240.	5.7	5.7	5.5	5.3	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.3	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.1	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.1	5.2	5.1	5.1	5.1	5.9	5.9	6.4	5.7	5.6	5.3	5.6	6.1	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.0	5.1	6.1	6.2	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.8
280.	5.6	5.6	5.6	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.6	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.6	5.6	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.4	6.3	5.3	5.2	5.1	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.4	5.8	5.8	5.7	5.6	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.0	6.1	5.6	5.6	5.8	6.2	6.4	6.4	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.3	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.0	5.7	5.7	5.7	6.0	6.0	6.0	6.1	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.0	6.1	5.6	5.8	5.8	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.8	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.0	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.4	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.2	6.3	6.2
DEGR.	340	340	330	320	0	0	330	320	320	320	290	290	280	270	260	210	220	270	200	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

Alt-5A -- 7_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:27

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761030.2	******** *	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	* 759658.7	********	759417.7	******** *	510.	332.	AG	96.	100.0	1.0	10.0	1.08	25.9
3. Boston Ave. SB R	* 759646.0	********	759611.1	******** *	75.	332.	AG	96.	100.0	1.0	10.0	0.44	3.8
4. College Ave EB L	* 759636.4	********	759594.7	******** *	92.	207.	AG	96.	100.0	1.0	10.0	0.54	4.7
5. College Ave. EB TR	* 759648.1	********	759575.2	******** *	159.	207.	AG	96.	100.0	1.0	10.0	0.83	8.1
6. Boston Ave. NB	* 759699.9	********	760274.1	******** *	1206.	152.	AG	96.	100.0	1.0	10.0	1.30	61.3
7. College Ave WB	* 759720.8	********	760102.8	******** *	658.	35.	AG	92.	100.0	1.0	10.0	1.10	33.4
8. Main St. SB	* 762042.2	********	761127.0	******** *	2979.	342.	AG	88.	100.0	1.0	10.0	1.69	151.3
9. Harvard St. EB	* 762026.6	********	759903.7	******** *	2419.	241.	AG	82.	100.0	1.0	10.0	1.46	122.9
10. Main st. NB	* 762078.3	********	762509.4	******** *	1359.	162.	AG	88.	100.0	1.0	10.0	1.28	69.1
11. Harvard St. WB	* 762091.8	********	764003.5	******** *	2003.	73.	AG	82.	100.0	1.0	10.0	1.37	101.7
12. Broadway EB R	* 762959.1	********	762866.8	******** *	100.	293.	AG	73.	100.0	1.0	10.0	0.43	5.1
13. Broadway EB TL	* 762965.1	********	760613.9	******** *	2566.	294.	AG	99.	100.0	1.0	10.0	1.84	130.4
14. Parking Lot	* 763003.3	********	762884.9	******** *	179.	222.	AG	116.	100.0	1.0	10.0	1.28	9.1
15. Medford St. NB	* 763093.0	********	764136.0	******** *	2118.	150.	AG	99.	100.0	1.0	10.0	1.68	107.6
16. Broadway St. WB	* 763115.6	********	764942.7	******** *	1990.	113.	AG	197.	100.0	1.0	20.0	1.63	101.1
17. Dexter St. SWB	* 763101.5	********	763435.8	******** *	460.	47.	AG	116.	100.0	1.0	10.0	1.92	23.4
18. Medford St. SB	* 763008.3	********	762735.2	******** *	865.	342.	AG	104.	100.0	1.0	10.0	1.33	44.0
19. Highland St. EB	* 763277.6	********	763104.1	******** *	189.	294.	AG	81.	100.0	1.0	10.0	0.94	9.6
20. Central St NB	* 763301.4	********	763009.2	******** *	663.	206.	AG	81.	100.0	1.0	10.0	1.09	33.7
21. Highland St. WB	* 763328.5	********	763840.7	******** *	559.	114.	AG	81.	100.0	1.0	10.0	1.06	28.4
22. Central St. SB	* 763311.4	********	763330.5	******** *	41.	27.	AG	81.	100.0	1.0	10.0	0.29	2.1
23. Medford St. NWB	* 765022.2	********	767439.5	******** *	3935.	142.	AG	74.	100.0	1.0	10.0	1.69	199.9
24. School St. SB	* 765002.3	********	765368.6	******** *	849.	26.	AG	94.	100.0	1.0	10.0	1.24	43.1
25. Medford St. SEB	* 764967.1	********	764536.8	******** *	695.	322.	AG	74.	100.0	1.0	10.0	1.09	35.3
26. Prospect SB	* 765830.6	********	766363.7	******** *	1030.	31.	AG	180.	100.0	1.0	20.0	1.20	52.3
27. Sommerville WB	* 765870.1	********	767187.0	******** *	1467.	116.	AG	218.	100.0	1.0	20.0	2.07	74.5
28. Prospect NB	* 765828.4	********	765490.3	******** *	763.	206.	AG	259.	100.0	1.0	30.0	1.11	38.8
29. Somerville EB	* 765797.5	********	765679.5	******** *	131.	296.	AG	141.	100.0	1.0	20.0	0.63	6.7
30. McGrath Highway SB1	* 766950.5	********	766521.0	******** *	2363.	350.	AG	229.	100.0	1.0	20.0	4.42	120.0
31. Washington St. EB	* 766952.8	********	757835.8	******** *	9779.	249.	AG	90.	100.0	1.0	10.0	3.40	496.8
32. McGrath Hwy NB2 L	* 767105.3	********	767110.0	******** *	35.	172.	AG	110.	100.0	1.0	10.0	0.46	1.8
33. McGrath Hwy NB2 T	* 767119.9	********	767679.5	******** *	4559.	173.	AG	110.	100.0	1.0	10.0	4.38	231.6
34. Washington St. WB	* 767129.9	********	767301.0	******** *	187.	67.	AG	232.	100.0	1.0	30.0	0.76	9.5
35. Msgr Obrien EB	* 769756.4	********	767694.3	******** *	2505.	305.	AG	147.	100.0	1.0	20.0	1.35	127.2
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.1	******** *	20.	189.	AG	106.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	* 769858.1	********	771232.3	******** *	1670.	125.	AG	147.	100.0	1.0	20.0	1.22	84.8
39. Msgr Obrien L	* 771462.2	********	767924.5	******** *	4295.	305.	AG	107.	100.0	1.0	10.0	3.63	218.2
40. Msgr Obrien WB T	* 771449.0	********	771334.4	******** *	139.	304.	AG	245.	100.0	1.0	30.0	0.67	7.0
41. Charlestown NB L	* 771477.7	********	770230.1	******** *	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	* 771490.8	********	769020.1	******** *	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774207.9	******** *	3187.	124.	AG	112.	100.0	1.0	10.0	4.03	161.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:27

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771743.7	********	196.	124.	AG	171.	100.0	1.0	20.0	0.87	10.0
46. Msgr Obrien WB R	771588.6	********	771703.1	********	138.	124.	AG	63.	100.0	1.0	10.0	0.58	7.0
47. Charlestown SB LT	771546.2	********	772027.6	********	933.	31.	AG	101.	100.0	1.0	10.0	1.31	47.4
48. Charlestown SB TR	771535.3	********	774709.8	********	5909.	32.	AG	101.	100.0	1.0	10.0	3.36	300.2
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	178.	100.0	1.0	20.0	1.20	56.5
55. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	134.	100.0	1.0	20.0	0.73	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1253.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3887.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2708.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3455.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3225.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:27

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	670	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	105	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	105	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	105	3.0	160	1600	46.20	1	3
5. College Ave. EB TR	*	135	105	3.0	246	1600	46.20	1	3
6. Boston Ave. NB	*	135	105	3.0	385	1600	46.20	1	3
7. College Ave WB	*	135	100	3.0	390	1600	46.20	1	3
8. Main St. SB	*	92	65	3.0	645	1600	46.20	1	3
9. Harvard St. EB	*	92	61	3.0	660	1600	46.20	1	3
10. Main st. NB	*	92	65	3.0	490	1600	46.20	1	3
11. Harvard St. WB	*	92	61	3.0	620	1600	46.20	1	3
12. Broadway EB R	*	122	72	3.0	255	1600	46.20	1	3
13. Broadway EB TL	*	122	97	3.0	482	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	122	97	3.0	440	1600	46.20	1	3
16. Broadway St. WB	*	122	97	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	122	102	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	86	56	3.0	435	1600	46.20	1	3
20. Central St NB	*	86	56	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	86	56	3.0	495	1600	46.20	1	3
22. Central St. SB	*	86	56	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	70	42	3.0	885	1600	46.20	1	3
24. School St. SB	*	70	53	3.0	340	1600	46.20	1	3
25. Medford St. SEB	*	70	42	3.0	570	1600	46.20	1	3
26. Prospect SB	*	109	79	3.0	880	1600	46.20	1	3
27. Sommerville WB	*	109	96	3.0	485	1600	46.20	1	3
28. Prospect NB	*	109	76	3.0	1375	1600	46.20	1	3
29. Somerville EB	*	109	62	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	133	123	3.0	530	1600	46.20	1	3
31. Washington St. EB	*	133	97	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	46.20	1	3
34. Washington St. WB	*	133	83	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1586	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1427	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	530	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	965	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	375	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	745	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	415	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	295	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	760	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:27

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	930	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	975	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:27

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.4	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.4	5.4	5.3	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.6	5.3	5.4
30.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.2	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
50.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.5
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.6	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.6	5.7	5.6	5.5	5.6
90.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.8	5.6	5.5	5.4
100.	5.1	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.4	5.4	5.2	6.0	5.9	5.9	5.5	5.4
110.	5.1	5.1	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.7	6.0	5.4	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.7	5.6	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.7	5.6	5.7	5.2	5.2	5.3	5.3	5.6	5.6	5.4	5.2	5.2	5.3	5.3	5.3
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.5	5.2	5.2	5.4	5.4	5.4	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.4	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.4	5.6	5.8	5.5	5.4	5.1	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.4	5.6	5.8	5.5	5.3	5.0	5.1	5.5	5.5	5.5
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.7	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.6	5.5	5.4	5.2	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.2	5.2
230.	5.5	5.5	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.3	5.3	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.6	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.6	5.4	5.2	5.3	5.3	5.0	5.0
290.	5.4	5.5	5.8	5.7	5.4	5.5	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.4	5.4	5.5	5.6	5.6	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.6	5.3	5.3	5.4	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1
310.	5.5	5.5	5.7	5.5	5.6	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.1	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.2	5.1
330.	5.5	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.6	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
350.	5.6	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
360.	5.6	5.6	5.6	5.5	5.5	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.7	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	300	100	100	120	280	120	220	200	210	190	120	130	120	100	100	110	70	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.9	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.1	5.0	5.7	5.7	5.5	5.3	5.2
10.	5.4	5.5	6.0	5.7	5.6	5.1	5.2	5.4	5.4	5.4	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.6	5.4	5.2
20.	5.4	5.5	5.7	5.7	5.5	5.0	5.2	5.4	5.4	5.4	5.5	5.5	5.5	5.0	5.0	5.6	5.5	5.7	5.4	5.4
30.	5.4	5.4	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.3	5.7	5.7	5.7	5.2	5.0	5.5	5.7	5.8	5.5	5.5
40.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.7	5.6	5.5
50.	5.1	5.3	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.4	5.3
60.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.7	5.7	5.5	5.4	5.3
70.	5.1	5.3	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.7	5.7	5.5	5.4	5.2
90.	5.2	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.7	5.7	5.5	5.4	5.3
100.	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.8	5.8	5.6	5.4	5.3
110.	5.2	5.3	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.8	5.8	5.7	5.4	5.3
120.	5.2	5.3	5.8	5.8	5.8	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.9	5.8	5.7	5.4	5.3
130.	5.2	5.3	5.9	5.9	5.9	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.6	5.5	6.1	5.9	5.9	5.4	5.3
140.	5.2	5.3	5.9	5.9	5.9	5.9	5.8	5.7	5.3	5.1	5.5	5.6	5.9	5.8	5.6	5.9	5.7	5.9	5.4	5.3
150.	5.0	5.1	5.6	5.6	5.6	6.0	5.9	5.9	5.3	5.2	5.7	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.2	5.1
160.	5.0	5.0	5.3	5.3	5.2	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.8	5.8	5.7	5.3	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.8	5.9	5.7	5.7	5.5	5.0	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.5	5.3	5.2	5.7	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.0	5.1	5.2	5.1	5.0	5.6	5.6	5.5	5.3	5.1	5.7	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.2	5.3	5.7	5.7	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.5	5.5	5.1	5.2	5.3	5.4	5.4	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.4	5.4	5.5	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.5	5.5	5.4	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.7	5.6	5.5	5.4	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.7	5.7	5.4	5.5	5.5	5.2	5.3	5.6	5.5	5.5	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.7	5.7	5.6	5.6	5.5	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.9	5.8	5.7	5.6	5.4	5.1	5.3	5.7	5.7	5.7	5.2	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.6	5.5	5.4	6.0	5.8	5.9	5.6	5.4	5.1	5.3	5.8	5.8	5.8	5.4	5.3	5.3	5.0	5.0
320.	5.1	5.2	5.8	5.7	5.6	5.8	5.6	5.7	5.4	5.3	5.0	5.1	5.7	5.7	5.6	5.7	5.7	5.5	5.1	5.0
330.	5.2	5.3	6.0	5.8	5.8	5.4	5.6	5.6	5.3	5.3	5.0	5.0	5.5	5.5	5.4	5.9	5.9	5.8	5.2	5.1
340.	5.3	5.4	5.9	5.7	5.8	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2
350.	5.4	5.5	5.8	5.9	5.8	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.7	5.6	5.3	5.2
360.	5.3	5.3	5.7	5.8	5.9	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.1	5.0	5.7	5.7	5.5	5.3	5.2
MAX	5.4	5.5	6.0	5.9	5.9	6.0	5.9	5.9	5.6	5.5	5.8	5.9	6.0	5.8	5.8	6.1	5.9	5.9	5.6	5.5
DEGR.	10	10	10	130	0	150	150	150	290	220	40	170	150	140	150	130	130	130	40	30

THE HIGHEST CONCENTRATION OF 6.10 PPM OCCURRED AT RECEPTOR REC36.

Alt-5A -- 7_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:57

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	96.	100.0	1.0	10.0	1.08	25.9
3. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	96.	100.0	1.0	10.0	0.44	3.8
4. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	96.	100.0	1.0	10.0	0.54	4.7
5. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	96.	100.0	1.0	10.0	0.83	8.1
6. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	96.	100.0	1.0	10.0	1.30	61.3
7. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	92.	100.0	1.0	10.0	1.10	33.4
8. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	88.	100.0	1.0	10.0	1.69	151.3
9. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	82.	100.0	1.0	10.0	1.46	122.9
10. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	88.	100.0	1.0	10.0	1.28	69.1
11. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	82.	100.0	1.0	10.0	1.37	101.7
12. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	73.	100.0	1.0	10.0	0.43	5.1
13. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	99.	100.0	1.0	10.0	1.84	130.4
14. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	116.	100.0	1.0	10.0	1.28	9.1
15. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	99.	100.0	1.0	10.0	1.68	107.6
16. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	197.	100.0	1.0	20.0	1.63	101.1
17. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	116.	100.0	1.0	10.0	1.92	23.4
18. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	104.	100.0	1.0	10.0	1.33	44.0
19. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	81.	100.0	1.0	10.0	0.94	9.6
20. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	81.	100.0	1.0	10.0	1.09	33.7
21. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	81.	100.0	1.0	10.0	1.06	28.4
22. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	81.	100.0	1.0	10.0	0.29	2.1
23. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	74.	100.0	1.0	10.0	1.69	199.9
24. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	94.	100.0	1.0	10.0	1.24	43.1
25. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	74.	100.0	1.0	10.0	1.09	35.3
26. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	180.	100.0	1.0	20.0	1.20	52.3
27. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	218.	100.0	1.0	20.0	2.07	74.5
28. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	259.	100.0	1.0	30.0	1.11	38.8
29. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	141.	100.0	1.0	20.0	0.63	6.7
30. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	229.	100.0	1.0	20.0	4.42	120.0
31. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	90.	100.0	1.0	10.0	3.40	496.8
32. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	110.	100.0	1.0	10.0	0.46	1.8
33. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	110.	100.0	1.0	10.0	4.38	231.6
34. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	232.	100.0	1.0	30.0	0.76	9.5
35. Msgr Obrien EB	*	769756.4	********	767694.3	********	*	2505.	305.	AG	147.	100.0	1.0	20.0	1.35	127.2
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.1	********	*	20.	189.	AG	106.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	*	769858.1	********	771232.3	********	*	1670.	125.	AG	147.	100.0	1.0	20.0	1.22	84.8
39. Msgr Obrien L	*	771462.2	********	767924.5	********	*	4295.	305.	AG	107.	100.0	1.0	10.0	3.63	218.2
40. Msgr Obrien WB T	*	771449.0	********	771334.4	********	*	139.	304.	AG	245.	100.0	1.0	30.0	0.67	7.0
41. Charlestown NB L	*	771477.7	********	770230.1	********	*	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	*	771490.8	********	769020.1	********	*	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	*	771500.8	********	770695.7	********	*	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	*	771572.2	********	774207.9	********	*	3187.	124.	AG	112.	100.0	1.0	10.0	4.03	161.9

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:57

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771743.7	********	196.	124.	AG	171.	100.0	1.0	20.0	0.87	10.0
46. Msgr Obrien WB R	771588.6	********	771703.1	********	138.	124.	AG	63.	100.0	1.0	10.0	0.58	7.0
47. Charlestown SB LT	771546.2	********	772027.6	********	933.	31.	AG	101.	100.0	1.0	10.0	1.31	47.4
48. Charlestown SB TR	771535.3	********	774709.8	********	5909.	32.	AG	101.	100.0	1.0	10.0	3.36	300.2
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	178.	100.0	1.0	20.0	1.20	56.5
55. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	134.	100.0	1.0	20.0	0.73	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1253.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3887.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2708.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3455.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3225.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:57

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	670	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	105	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	105	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	105	3.0	160	1600	46.20	1	3
5. College Ave. EB TR	*	135	105	3.0	246	1600	46.20	1	3
6. Boston Ave. NB	*	135	105	3.0	385	1600	46.20	1	3
7. College Ave WB	*	135	100	3.0	390	1600	46.20	1	3
8. Main St. SB	*	92	65	3.0	645	1600	46.20	1	3
9. Harvard St. EB	*	92	61	3.0	660	1600	46.20	1	3
10. Main st. NB	*	92	65	3.0	490	1600	46.20	1	3
11. Harvard St. WB	*	92	61	3.0	620	1600	46.20	1	3
12. Broadway EB R	*	122	72	3.0	255	1600	46.20	1	3
13. Broadway EB TL	*	122	97	3.0	482	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	122	97	3.0	440	1600	46.20	1	3
16. Broadway St. WB	*	122	97	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	122	102	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	86	56	3.0	435	1600	46.20	1	3
20. Central St NB	*	86	56	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	86	56	3.0	495	1600	46.20	1	3
22. Central St. SB	*	86	56	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	70	42	3.0	885	1600	46.20	1	3
24. School St. SB	*	70	53	3.0	340	1600	46.20	1	3
25. Medford St. SEB	*	70	42	3.0	570	1600	46.20	1	3
26. Prospect SB	*	109	79	3.0	880	1600	46.20	1	3
27. Sommerville WB	*	109	96	3.0	485	1600	46.20	1	3
28. Prospect NB	*	109	76	3.0	1375	1600	46.20	1	3
29. Somerville EB	*	109	62	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	133	123	3.0	530	1600	46.20	1	3
31. Washington St. EB	*	133	97	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	46.20	1	3
34. Washington St. WB	*	133	83	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1586	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1427	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	530	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	965	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	375	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	745	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	415	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	295	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	760	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:57

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	930	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	975	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:23:57

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	6.1	5.9	5.6	5.6	7.0	7.0	6.2	6.3	5.9	5.6	5.5	6.1	6.2	5.9	5.1	5.1	5.1	5.0	5.0
10.	5.6	6.1	6.2	5.7	5.7	6.9	7.0	6.3	6.2	5.9	5.5	5.5	6.1	6.1	5.9	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.1	6.4	6.1	6.2	6.9	7.0	6.4	6.3	6.0	5.6	5.5	6.2	6.2	6.0	5.6	5.5	5.5	5.0	5.0
30.	5.8	6.4	7.0	6.4	6.7	6.5	6.6	6.4	6.3	5.9	5.5	5.4	6.1	6.1	5.9	6.0	6.1	6.2	5.2	5.0
40.	5.8	6.7	7.0	6.6	7.1	6.1	6.3	6.1	6.2	5.9	5.5	5.3	5.7	5.8	5.7	6.2	6.5	6.6	5.3	5.2
50.	6.0	6.7	6.5	6.6	7.1	5.5	6.0	5.7	6.2	5.9	5.6	5.3	5.4	5.6	5.7	6.3	6.7	6.7	5.4	5.2
60.	6.4	6.8	6.3	6.8	6.9	5.7	6.0	6.0	6.3	6.0	5.5	5.5	5.3	5.5	5.8	6.2	6.7	6.6	5.6	5.2
70.	6.9	7.1	6.6	6.9	7.0	5.5	6.0	6.2	6.3	6.0	5.5	5.5	5.6	5.7	6.1	6.5	6.9	6.8	5.9	5.6
80.	7.0	7.0	6.5	6.8	6.5	5.3	5.6	6.1	5.9	5.7	5.2	5.5	5.4	5.6	6.3	6.8	6.8	6.6	6.0	5.7
90.	6.9	7.1	6.5	6.6	6.3	5.3	5.5	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.7	6.4	5.9	5.7
100.	7.1	7.1	6.7	6.7	6.3	5.3	5.4	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	7.0	6.3	6.4	5.8	5.8
110.	7.1	6.8	6.8	6.5	6.2	5.2	5.3	6.1	5.9	5.9	5.9	6.1	6.0	5.2	5.7	6.9	6.2	6.9	6.2	6.0
120.	6.5	6.6	6.6	6.5	6.1	5.1	5.3	5.9	5.7	5.7	6.5	6.7	6.6	5.6	5.7	7.1	6.5	7.3	6.6	6.5
130.	5.9	6.1	6.2	6.2	6.0	5.0	5.0	5.3	5.2	5.2	6.5	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.5
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.7	6.5	6.8	6.4	6.4
150.	5.5	5.7	6.2	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.2	6.4	6.3	5.5	5.6	6.7	6.6	6.4	6.3	6.3
160.	5.5	5.7	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.2	5.5	5.6	6.9	6.5	6.4	6.5	6.2
170.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	5.9	6.1	6.0	5.6	5.7	6.8	6.6	6.5	6.4	6.1
180.	5.5	5.7	6.5	6.6	6.4	5.2	5.1	5.2	5.0	5.0	5.9	6.1	5.9	5.6	5.7	7.0	6.9	6.7	6.5	6.0
190.	5.5	5.7	6.7	6.8	6.5	5.4	5.4	5.5	5.0	5.0	5.9	6.1	6.1	5.7	5.8	7.2	7.1	6.9	6.4	6.0
200.	5.3	5.4	6.6	6.6	6.4	5.9	6.0	6.2	5.1	5.0	5.9	6.2	6.6	6.1	5.9	7.2	7.0	7.0	6.2	5.8
210.	5.1	5.3	6.0	6.1	5.9	6.5	6.6	6.8	5.3	5.1	6.0	6.4	6.8	6.4	6.3	6.9	6.8	6.5	6.0	5.7
220.	5.2	5.1	5.5	5.6	5.4	6.8	6.8	7.0	5.6	5.3	6.2	6.7	6.9	6.5	6.6	6.3	6.0	6.2	5.9	5.7
230.	5.2	5.1	5.2	5.4	5.1	6.7	6.7	6.8	5.7	5.3	6.3	6.8	6.6	6.3	6.5	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.1	5.2	5.3	5.2	6.6	6.8	6.7	5.8	5.5	6.4	6.8	6.3	6.4	6.5	5.6	5.6	5.9	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.5	6.8	6.5	6.0	5.4	6.7	6.8	6.3	6.4	6.6	5.4	5.6	6.0	5.9	5.7
260.	5.1	5.1	5.1	5.1	5.4	6.4	6.8	6.3	5.9	5.5	6.7	6.6	6.1	6.2	6.4	5.3	5.4	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.2	6.6	6.1	5.8	5.4	6.8	6.7	6.3	6.3	6.4	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.5	6.3	6.0	5.6	6.9	6.7	6.5	6.1	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.6	5.8	5.9	5.1	5.2	6.2	6.6	6.7	6.2	5.9	6.7	6.6	6.7	6.0	6.2	5.1	5.2	6.0	5.9	5.9
300.	6.0	6.3	6.4	5.2	5.3	6.3	6.6	7.0	6.3	6.0	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.6	5.3	5.3	6.4	6.6	6.8	6.2	6.1	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.5	6.5	5.5	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.4	6.3	5.5	5.4	6.5	6.8	6.2	6.1	6.0	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.3	6.1	5.4	5.4	6.7	7.0	6.2	6.2	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.5	5.5	6.8	7.1	6.3	6.2	6.0	5.5	5.5	6.0	6.0	5.9	5.1	5.1	5.2	5.0	5.0
360.	5.6	6.1	5.9	5.6	5.6	7.0	7.0	6.2	6.3	5.9	5.6	5.5	6.1	6.2	5.9	5.1	5.1	5.1	5.0	5.0
MAX	7.1	7.1	7.0	6.9	7.1	7.0	7.1	7.0	6.3	6.1	6.9	6.8	6.9	6.5	6.6	7.2	7.1	7.3	6.6	6.5
DEGR.	100	100	30	70	40	0	350	220	0	310	280	230	220	220	220	190	190	120	130	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.4	6.4	6.3	5.5	5.2	5.9	6.2	6.3	5.9	5.6	5.7	5.5	5.5	6.0	6.1	5.1	5.1	5.0	5.0	5.1
10.	6.2	6.2	6.0	5.6	5.2	6.0	6.3	6.1	5.6	5.5	5.4	5.5	5.6	6.1	6.2	5.1	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.3	6.1	6.2	6.0	5.5	5.5	5.4	5.4	5.6	6.2	6.2	5.1	5.1	5.1	5.0	5.0
30.	6.1	6.1	5.6	5.5	5.3	6.2	6.3	5.8	5.6	5.6	5.3	5.3	5.5	6.3	6.2	5.2	5.1	5.1	5.0	5.0
40.	6.0	6.0	5.6	5.5	5.3	6.4	6.2	5.9	5.6	5.6	5.2	5.4	5.4	6.4	6.1	5.2	5.1	5.1	5.0	5.0
50.	5.9	5.8	5.6	5.6	5.3	6.5	6.4	5.9	5.5	5.5	5.2	5.3	5.5	6.4	6.1	5.3	5.2	5.3	5.0	5.0
60.	5.8	6.1	5.7	5.7	5.7	6.3	6.3	5.9	5.4	5.4	5.1	5.2	5.3	6.3	6.0	5.6	5.6	5.8	5.1	5.0
70.	6.0	6.3	5.8	5.5	5.6	6.1	6.1	5.6	5.4	5.3	5.0	5.1	5.1	5.9	5.8	6.0	6.2	6.4	5.2	5.1
80.	6.2	6.4	5.6	5.5	5.6	5.9	5.7	5.3	5.3	5.3	5.0	5.0	5.0	5.4	5.4	6.2	6.6	6.7	5.4	5.2
90.	6.2	6.2	5.3	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	6.2	6.5	6.7	5.4	5.2
100.	6.2	6.0	5.2	5.8	5.8	5.3	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.2	6.5	6.5	5.5	5.3
110.	6.2	5.9	5.2	5.8	5.8	5.2	5.4	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.2	6.3	6.4	5.6	5.3
120.	6.1	6.0	5.4	5.9	5.7	5.3	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.2	6.3	6.2	5.6	5.4
130.	6.1	5.9	5.6	6.0	5.9	5.4	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.1	6.2	6.0	5.6	5.4
140.	6.3	6.0	5.7	5.9	5.9	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.1	5.1	5.1	6.2	6.2	6.0	5.6	5.5
150.	6.1	6.0	5.8	5.9	5.7	5.2	5.3	5.4	5.4	5.4	5.2	5.2	5.1	5.1	5.1	6.2	6.2	5.9	5.6	5.5
160.	6.1	5.9	5.9	5.8	5.7	5.2	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.2	6.2	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.8	5.7	5.2	5.2	5.3	5.3	5.3	5.8	5.7	5.3	5.2	5.1	6.2	6.3	6.1	5.8	5.7
180.	5.5	5.6	5.8	5.7	5.7	5.2	5.2	5.2	5.2	5.3	6.0	6.0	5.4	5.4	5.2	6.4	6.3	6.0	5.8	5.7
190.	5.4	5.5	5.6	5.7	5.7	5.2	5.2	5.2	5.2	5.2	6.1	6.0	5.5	5.3	5.2	6.4	6.5	6.0	5.6	5.6
200.	5.4	5.4	5.6	5.7	5.7	5.2	5.2	5.2	5.1	5.1	5.9	6.0	5.5	5.5	5.3	6.5	6.5	6.0	5.6	5.6
210.	5.4	5.5	5.7	5.8	5.8	5.2	5.2	5.2	5.1	5.1	5.8	5.9	5.4	5.4	5.4	6.6	6.7	6.0	5.6	5.5
220.	5.4	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.8	5.9	5.4	5.5	5.3	6.7	6.6	6.1	5.8	5.8
230.	5.3	5.4	5.8	6.0	6.0	5.5	5.5	5.3	5.1	5.1	5.7	5.8	5.4	5.7	5.5	6.8	6.5	6.1	5.7	5.7
240.	5.3	5.4	5.8	6.1	6.1	6.1	6.1	5.8	5.1	5.1	5.7	6.1	5.6	5.7	5.7	6.6	6.3	6.0	5.7	5.7
250.	5.2	5.2	5.4	5.7	5.7	6.6	6.4	6.1	5.4	5.3	5.9	6.0	5.6	6.0	6.1	6.2	5.9	5.9	5.6	5.5
260.	5.1	5.1	5.2	5.5	5.5	6.6	6.5	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.4	5.5	5.4	5.6	5.6	5.6
270.	5.1	5.1	5.1	5.2	5.2	6.5	6.3	6.1	5.5	5.5	6.0	6.0	5.3	5.9	6.5	5.3	5.3	5.5	5.6	5.6
280.	5.1	5.1	5.1	5.1	5.1	6.2	6.2	6.0	5.4	5.3	5.9	5.7	5.2	5.9	6.4	5.3	5.3	5.5	5.5	5.5
290.	5.1	5.1	5.1	5.1	5.1	6.0	6.0	5.9	5.4	5.3	5.8	5.5	5.4	6.1	6.5	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.1	5.1	5.9	5.9	5.8	5.4	5.3	5.8	5.4	5.6	6.1	6.3	5.2	5.2	5.6	5.5	5.5
310.	5.0	5.0	5.0	5.0	5.0	5.7	5.8	5.8	5.4	5.3	5.9	5.6	5.6	6.1	6.2	5.2	5.3	5.5	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.0	5.8	5.8	6.2	6.2	5.3	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.7	5.6	5.5	6.3	5.9	5.9	6.3	6.4	5.2	5.4	5.5	5.7	5.8
340.	5.5	5.5	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	5.9	5.8	6.5	6.3	5.2	5.2	5.5	5.6	5.6
350.	6.0	6.0	6.0	5.3	5.1	5.8	6.0	6.3	5.9	5.7	5.9	5.8	5.7	6.1	6.1	5.1	5.2	5.2	5.2	5.4
360.	6.4	6.4	6.3	5.5	5.2	5.9	6.2	6.3	5.9	5.6	5.7	5.5	5.5	6.0	6.1	5.1	5.1	5.0	5.0	5.1
MAX	6.4	6.4	6.3	6.1	6.1	6.6	6.5	6.3	5.9	5.7	6.3	6.1	5.9	6.5	6.5	6.8	6.7	6.7	5.8	5.8
DEGR.	0	0	0	240	240	250	260	0	0	350	330	240	330	340	270	230	210	80	170	220

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC18.

Alt-5A -- 7_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:25: 6

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761030.2	******** *	274.	282.	AG	186.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	* 759658.7	********	759417.7	******** *	510.	332.	AG	96.	100.0	1.0	10.0	1.08	25.9
3. Boston Ave. SB R	* 759646.0	********	759611.1	******** *	75.	332.	AG	96.	100.0	1.0	10.0	0.44	3.8
4. College Ave EB L	* 759636.4	********	759594.7	******** *	92.	207.	AG	96.	100.0	1.0	10.0	0.54	4.7
5. College Ave. EB TR	* 759648.1	********	759575.2	******** *	159.	207.	AG	96.	100.0	1.0	10.0	0.83	8.1
6. Boston Ave. NB	* 759699.9	********	760274.1	******** *	1206.	152.	AG	96.	100.0	1.0	10.0	1.30	61.3
7. College Ave WB	* 759720.8	********	760102.8	******** *	658.	35.	AG	92.	100.0	1.0	10.0	1.10	33.4
8. Main St. SB	* 762042.2	********	761127.0	******** *	2979.	342.	AG	88.	100.0	1.0	10.0	1.69	151.3
9. Harvard St. EB	* 762026.6	********	759903.7	******** *	2419.	241.	AG	82.	100.0	1.0	10.0	1.46	122.9
10. Main st. NB	* 762078.3	********	762509.4	******** *	1359.	162.	AG	88.	100.0	1.0	10.0	1.28	69.1
11. Harvard St. WB	* 762091.8	********	764003.5	******** *	2003.	73.	AG	82.	100.0	1.0	10.0	1.37	101.7
12. Broadway EB R	* 762959.1	********	762866.8	******** *	100.	293.	AG	73.	100.0	1.0	10.0	0.43	5.1
13. Broadway EB TL	* 762965.1	********	760613.9	******** *	2566.	294.	AG	99.	100.0	1.0	10.0	1.84	130.4
14. Parking Lot	* 763003.3	********	762884.9	******** *	179.	222.	AG	116.	100.0	1.0	10.0	1.28	9.1
15. Medford St. NB	* 763093.0	********	764136.0	******** *	2118.	150.	AG	99.	100.0	1.0	10.0	1.68	107.6
16. Broadway St. WB	* 763115.6	********	764942.7	******** *	1990.	113.	AG	197.	100.0	1.0	20.0	1.63	101.1
17. Dexter St. SWB	* 763101.5	********	763435.8	******** *	460.	47.	AG	116.	100.0	1.0	10.0	1.92	23.4
18. Medford St. SB	* 763008.3	********	762735.2	******** *	865.	342.	AG	104.	100.0	1.0	10.0	1.33	44.0
19. Highland St. EB	* 763277.6	********	763104.1	******** *	189.	294.	AG	81.	100.0	1.0	10.0	0.94	9.6
20. Central St NB	* 763301.4	********	763009.2	******** *	663.	206.	AG	81.	100.0	1.0	10.0	1.09	33.7
21. Highland St. WB	* 763328.5	********	763840.7	******** *	559.	114.	AG	81.	100.0	1.0	10.0	1.06	28.4
22. Central St. SB	* 763311.4	********	763330.5	******** *	41.	27.	AG	81.	100.0	1.0	10.0	0.29	2.1
23. Medford St. NWB	* 765022.2	********	767439.5	******** *	3935.	142.	AG	74.	100.0	1.0	10.0	1.69	199.9
24. School St. SB	* 765002.3	********	765368.6	******** *	849.	26.	AG	94.	100.0	1.0	10.0	1.24	43.1
25. Medford St. SEB	* 764967.1	********	764536.8	******** *	695.	322.	AG	74.	100.0	1.0	10.0	1.09	35.3
26. Prospect SB	* 765830.6	********	766363.7	******** *	1030.	31.	AG	180.	100.0	1.0	20.0	1.20	52.3
27. Sommerville WB	* 765870.1	********	767187.0	******** *	1467.	116.	AG	218.	100.0	1.0	20.0	2.07	74.5
28. Prospect NB	* 765828.4	********	765490.3	******** *	763.	206.	AG	259.	100.0	1.0	30.0	1.11	38.8
29. Somerville EB	* 765797.5	********	765679.5	******** *	131.	296.	AG	141.	100.0	1.0	20.0	0.63	6.7
30. McGrath Highway SB1	* 766950.5	********	766521.0	******** *	2363.	350.	AG	229.	100.0	1.0	20.0	4.42	120.0
31. Washington St. EB	* 766952.8	********	757835.8	******** *	9779.	249.	AG	90.	100.0	1.0	10.0	3.40	496.8
32. McGrath Hwy NB2 L	* 767105.3	********	767110.0	******** *	35.	172.	AG	110.	100.0	1.0	10.0	0.46	1.8
33. McGrath Hwy NB2 T	* 767119.9	********	767679.5	******** *	4559.	173.	AG	110.	100.0	1.0	10.0	4.38	231.6
34. Washington St. WB	* 767129.9	********	767301.0	******** *	187.	67.	AG	232.	100.0	1.0	30.0	0.76	9.5
35. Msgr Obrien EB	* 769756.4	********	767694.3	******** *	2505.	305.	AG	147.	100.0	1.0	20.0	1.35	127.2
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.1	******** *	20.	189.	AG	106.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	* 769858.1	********	771232.3	******** *	1670.	125.	AG	147.	100.0	1.0	20.0	1.22	84.8
39. Msgr Obrien L	* 771462.2	********	767924.5	******** *	4295.	305.	AG	107.	100.0	1.0	10.0	3.63	218.2
40. Msgr Obrien WB T	* 771449.0	********	771334.4	******** *	139.	304.	AG	245.	100.0	1.0	30.0	0.67	7.0
41. Charlestown NB L	* 771477.7	********	770230.1	******** *	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	* 771490.8	********	769020.1	******** *	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774207.9	******** *	3187.	124.	AG	112.	100.0	1.0	10.0	4.03	161.9

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:25: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771743.7	********	196.	124.	AG	171.	100.0	1.0	20.0	0.87	10.0
46. Msgr Obrien WB R	771588.6	********	771703.1	********	138.	124.	AG	63.	100.0	1.0	10.0	0.58	7.0
47. Charlestown SB LT	771546.2	********	772027.6	********	933.	31.	AG	101.	100.0	1.0	10.0	1.31	47.4
48. Charlestown SB TR	771535.3	********	774709.8	********	5909.	32.	AG	101.	100.0	1.0	10.0	3.36	300.2
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	102.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	178.	100.0	1.0	20.0	1.20	56.5
55. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	134.	100.0	1.0	20.0	0.73	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	98.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:25: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1253.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3887.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2708.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3455.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3225.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:25: 6

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	670	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	105	3.0	320	1600	46.20	1	3
3. Boston Ave. SB R	*	135	105	3.0	130	1600	46.20	1	3
4. College Ave EB L	*	135	105	3.0	160	1600	46.20	1	3
5. College Ave. EB TR	*	135	105	3.0	246	1600	46.20	1	3
6. Boston Ave. NB	*	135	105	3.0	385	1600	46.20	1	3
7. College Ave WB	*	135	100	3.0	390	1600	46.20	1	3
8. Main St. SB	*	92	65	3.0	645	1600	46.20	1	3
9. Harvard St. EB	*	92	61	3.0	660	1600	46.20	1	3
10. Main st. NB	*	92	65	3.0	490	1600	46.20	1	3
11. Harvard St. WB	*	92	61	3.0	620	1600	46.20	1	3
12. Broadway EB R	*	122	72	3.0	255	1600	46.20	1	3
13. Broadway EB TL	*	122	97	3.0	482	1600	46.20	1	3
14. Parking Lot	*	122	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	122	97	3.0	440	1600	46.20	1	3
16. Broadway St. WB	*	122	97	3.0	856	1600	46.20	1	3
17. Dexter St. SWB	*	122	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	122	102	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	86	56	3.0	435	1600	46.20	1	3
20. Central St NB	*	86	56	3.0	505	1600	46.20	1	3
21. Highland St. WB	*	86	56	3.0	495	1600	46.20	1	3
22. Central St. SB	*	86	56	3.0	135	1600	46.20	1	3
23. Medford St. NWB	*	70	42	3.0	885	1600	46.20	1	3
24. School St. SB	*	70	53	3.0	340	1600	46.20	1	3
25. Medford St. SEB	*	70	42	3.0	570	1600	46.20	1	3
26. Prospect SB	*	109	79	3.0	880	1600	46.20	1	3
27. Sommerville WB	*	109	96	3.0	485	1600	46.20	1	3
28. Prospect NB	*	109	76	3.0	1375	1600	46.20	1	3
29. Somerville EB	*	109	62	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	133	123	3.0	530	1600	46.20	1	3
31. Washington St. EB	*	133	97	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	46.20	1	3
34. Washington St. WB	*	133	83	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1586	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1427	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	530	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	965	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	375	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	745	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	415	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	295	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	760	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:25: 6

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	330	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	930	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	975	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	205	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.8	6.8	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.4	5.1	5.0	5.0	5.1	5.1	6.1	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.0	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.2	6.6	6.1	6.0	5.8
30.	6.8	6.8	6.4	6.0	6.0	5.6	5.7	5.9	6.3	6.3	5.0	5.0	5.0	5.0	5.0	6.5	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.9	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.0	7.3	7.0	6.7	6.7
60.	6.8	6.8	6.4	6.3	6.0	5.5	5.7	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.2	7.3	6.9	6.4	6.6
70.	6.9	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.5	6.6	6.5	6.7
80.	7.1	7.0	6.7	6.3	6.1	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.5	6.1	5.7	5.9	6.8	6.8	6.7	5.1	5.1	5.0	5.1	5.1	7.4	7.5	6.6	6.7	6.8
100.	7.5	7.4	7.1	6.5	6.2	5.7	6.0	7.0	6.9	7.0	5.1	5.1	5.1	5.1	5.1	7.9	7.7	7.0	6.7	6.6
110.	7.8	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.0	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.8	6.6
120.	7.7	7.2	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.2	6.2	6.3	8.0	7.8	7.1	6.6	6.5
130.	6.6	6.2	6.4	5.7	5.5	5.0	5.2	6.1	6.1	5.9	7.0	7.0	6.8	6.9	6.9	7.1	6.8	6.5	6.6	6.4
140.	5.6	5.7	5.5	5.5	5.7	5.2	5.1	5.3	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.7	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.7	5.7	6.0	6.1	6.2	6.2
170.	5.3	5.4	5.7	5.8	5.8	5.2	5.1	5.2	5.1	5.0	6.6	6.6	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.2	5.2	5.7	5.8	5.8	5.7	5.7	5.6	5.2	5.1	6.3	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.3	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	6.9
210.	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.3	5.2	6.3	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.4	6.4	6.1	6.5	6.4	5.1	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	6.6	6.3	6.3	6.6	6.5	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.6	6.5	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.2	5.3	6.7	6.5	6.6	6.7	6.8	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.8	6.9	6.8	5.1	5.3	5.3	5.1	5.1
290.	5.7	5.7	5.7	5.1	5.0	5.5	5.6	5.9	5.7	5.6	6.9	6.9	7.0	7.0	6.9	5.6	5.9	5.8	5.0	5.0
300.	6.8	6.9	6.9	5.4	5.2	5.7	6.0	6.9	6.6	6.5	6.8	6.7	6.7	6.9	6.9	6.3	6.9	6.9	5.3	5.1
310.	7.6	7.7	7.8	5.9	5.5	6.0	6.4	7.7	7.3	7.1	6.0	6.0	5.9	6.0	6.1	6.8	7.7	7.7	5.6	5.4
320.	7.7	7.8	7.8	6.0	5.7	6.3	6.6	7.6	7.1	6.9	5.3	5.3	5.2	5.3	5.3	6.7	7.6	7.4	5.7	5.5
330.	7.5	7.5	7.5	6.1	5.8	6.4	6.8	6.9	6.7	6.8	5.1	5.0	5.1	5.1	5.1	6.4	7.4	7.0	5.9	5.4
340.	7.4	7.4	7.2	6.2	5.8	6.3	6.5	6.7	6.5	6.6	5.1	5.0	5.0	5.1	5.1	6.1	7.1	6.7	5.9	5.6
350.	7.1	7.0	6.9	6.1	5.8	6.3	6.4	6.4	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	7.0	6.4	5.9	5.6
360.	6.8	6.8	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.4	5.1	5.0	5.0	5.1	5.1	6.1	6.8	6.0	5.9	5.7
MAX	7.8	7.8	7.8	6.5	6.2	6.4	6.8	7.7	7.3	7.1	7.1	7.0	7.0	7.0	6.9	8.0	7.8	7.7	7.0	7.0
DEGR.	110	320	310	90	100	330	330	310	310	120	140	130	290	290	130	110	110	310	210	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.2	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.6	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.2	6.8	6.7	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.1	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.2	5.0	5.0	5.0	5.1	5.1	6.9	6.8	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.3	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.2	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.5	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.7	6.8	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.7	6.6	5.8	5.8	5.9	5.3	5.1	6.4	6.5	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.1	6.2	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.5	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.4	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.4	6.6	6.7	5.7	5.4	6.6	6.9	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.3	6.6	6.6	5.8	5.5	6.8	7.0	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.3	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.8	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.2	7.3	7.0	7.0	6.8
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.7
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.0	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.0	7.1	7.3	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.2	6.3	6.2	5.8
240.	7.5	7.6	6.9	6.1	5.8	6.8	7.1	6.8	6.9	6.6	5.6	5.9	6.0	6.1	5.7
250.	7.2	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.8	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.6	5.7	6.2	6.2	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.6	6.4	5.5	5.7	6.2	6.4	6.2
290.	6.6	6.7	6.5	6.1	5.9	6.9	6.7	7.1	6.4	6.4	5.4	5.6	6.3	6.3	6.5
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.6	6.3	6.6	6.6
310.	7.0	7.4	7.7	7.2	7.1	6.0	6.2	6.6	6.0	5.9	5.0	5.2	5.8	5.9	6.0
320.	7.1	7.4	7.4	6.9	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.4
330.	7.2	7.3	6.9	6.6	6.7	5.5	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.3	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	6.9	7.1	7.3	7.1	7.2	7.6	7.5	7.5	7.0	6.9
DEGR.	20	230	310	310	310	250	230	220	220	230	210	200	130	190	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

Alt-5B -- 5_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	155.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	77.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756741.0	********	*	685.	45.	AG	143.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	*	759327.2	********	759295.4	********	*	1124.	358.	AG	173.	100.0	1.0	20.0	1.18	57.1
6. MVP East RT	*	759381.7	********	759534.1	********	*	153.	93.	AG	57.	100.0	1.0	10.0	0.56	7.8
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754553.4	********	*	4745.	273.	AG	68.	100.0	1.0	10.0	1.63	241.0
10. South St	*	761297.7	********	761107.0	********	*	195.	282.	AG	186.	100.0	1.0	20.0	0.92	9.9
11. Boston Ave. SB LT	*	759658.7	********	759579.6	********	*	168.	332.	AG	87.	100.0	1.0	10.0	0.76	8.5
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759594.2	********	*	117.	207.	AG	87.	100.0	1.0	10.0	0.55	6.0
15. Boston Ave. NB	*	759699.9	********	760441.9	********	*	1558.	152.	AG	98.	100.0	1.0	10.0	1.45	79.2
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762175.9	********	*	308.	162.	AG	80.	100.0	1.0	10.0	0.99	15.6
20. Harvard St. WB	*	762091.8	********	763340.0	********	*	1308.	73.	AG	80.	100.0	1.0	10.0	1.19	66.4
21. Broadway EB R	*	762959.1	********	762881.8	********	*	84.	293.	AG	59.	100.0	1.0	10.0	0.35	4.3
22. Broadway EB TL	*	762965.1	********	762140.3	********	*	900.	294.	AG	89.	100.0	1.0	10.0	1.15	45.7
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764197.9	********	*	2243.	150.	AG	100.	100.0	1.0	10.0	1.80	114.0
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	*	763008.3	********	762468.9	********	*	1709.	342.	AG	109.	100.0	1.0	10.0	2.23	86.8
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764342.3	********	*	1106.	114.	AG	84.	100.0	1.0	10.0	1.20	56.2
31. Central St. SB	*	763311.4	********	763331.8	********	*	44.	27.	AG	84.	100.0	1.0	10.0	0.36	2.2
32. Medford St. NWB	*	765022.2	********	766006.0	********	*	1602.	142.	AG	58.	100.0	1.0	10.0	1.16	81.4
33. School St. SB	*	765002.3	********	765774.9	********	*	1790.	26.	AG	102.	100.0	1.0	10.0	1.79	90.9
34. Medford St. SEB	*	764967.1	********	764889.0	********	*	126.	322.	AG	58.	100.0	1.0	10.0	0.72	6.4
35. Prospect SB	*	765830.6	********	766028.7	********	*	383.	31.	AG	169.	100.0	1.0	20.0	1.02	19.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765178.6	********	*	1466.	206.	AG	276.	100.0	1.0	30.0	1.33	74.5
38. Somerville EB	*	765797.5	********	765683.3	********	*	127.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756603.2	********	*	*****	249.	AG	98.	100.0	1.0	10.0	4.72	563.9
41. McGrath Hwy NB2 L	*	767105.3	********	767109.6	********	*	32.	172.	AG	91.	100.0	1.0	10.0	0.16	1.7
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768182.6	********	*	1148.	67.	AG	281.	100.0	1.0	30.0	1.25	58.3
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14: 1

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	178.	100.0	1.0	20.0	1.24	64.5
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2515.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1890.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2360.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3230.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14: 1

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	350	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1290	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	1005	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	450	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1080	1600	46.20	1	3
10. South St	*	120	90	3.0	615	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	315	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	226	1600	46.20	1	3
15. Boston Ave. NB	*	135	107	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	500	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	600	1600	46.20	1	3
21. Broadway EB R	*	120	57	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	445	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	265	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	505	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	150	1600	46.20	1	3
32. Medford St. NWB	*	90	42	3.0	890	1600	46.20	1	3
33. School St. SB	*	90	74	3.0	350	1600	46.20	1	3
34. Medford St. SEB	*	90	42	3.0	550	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	895	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	89	3.0	1380	1600	46.20	1	3
38. Somerville EB	*	120	60	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
40. Washington St. EB	*	135	107	3.0	1285	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
43. Washington St. WB	*	135	102	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	960	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	945	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14: 1

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
10.	6.2	6.2	6.1	5.9	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.3
20.	6.2	6.2	6.3	5.8	5.6	5.3	5.5	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.7	5.4	5.4	5.4
30.	6.1	6.2	6.6	5.7	5.6	5.3	5.4	6.2	6.2	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.7	5.6	5.8	5.9
40.	5.9	6.1	6.5	5.7	5.5	5.1	5.3	6.2	6.2	6.0	5.8	5.8	5.8	5.1	5.0	5.2	5.8	6.2	6.2	6.1
50.	5.6	5.6	6.0	5.5	5.4	5.0	5.1	5.7	5.7	5.7	6.3	6.3	6.3	5.3	5.1	5.3	6.0	6.6	6.4	6.4
60.	5.3	5.4	5.6	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.4	6.5	6.4	5.5	5.3	5.5	6.2	6.5	6.2	6.3
70.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.5	5.3	5.5	6.4	6.2	6.1	6.1
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	5.9
100.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.3	6.1	5.9	5.9
110.	5.1	5.2	5.6	5.6	5.6	5.1	5.2	5.1	5.0	5.0	5.9	5.9	5.7	5.4	5.3	5.8	6.5	6.2	5.9	5.9
120.	5.1	5.2	5.7	5.7	5.7	5.3	5.4	5.3	5.0	5.0	5.9	5.9	5.9	5.7	5.5	5.9	6.5	6.4	5.9	5.8
130.	5.0	5.1	5.6	5.5	5.5	5.7	5.7	5.7	5.1	5.0	5.9	6.0	6.1	5.8	5.7	5.9	6.3	6.1	5.8	5.7
140.	5.0	5.0	5.4	5.3	5.3	5.9	5.9	5.9	5.2	5.1	6.0	6.1	6.3	5.8	5.8	5.5	5.9	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.2	5.2	6.1	6.2	6.1	5.8	5.8	5.3	5.4	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.7	5.7	5.7	5.2	5.2	6.1	6.1	6.0	5.8	5.6	5.2	5.5	5.7	5.7	5.7
170.	5.0	5.0	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.2	6.1	6.0	5.9	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.2	6.3	6.0	5.9	5.5	5.3	5.4	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.5	5.6	5.5	5.3	5.3	6.4	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.2	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	5.6	5.7	5.7	5.1	5.0	5.4	5.6	5.8	5.6	5.6	6.5	6.5	6.3	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	5.9	5.8	6.3	6.2	6.1	5.7	5.2	5.0	5.2	5.8	5.8	5.9
230.	6.2	6.2	6.2	5.4	5.3	5.8	5.9	6.5	6.1	6.1	5.9	5.8	5.7	5.4	5.2	5.0	5.0	5.4	5.5	5.4
240.	6.1	6.1	6.1	5.5	5.3	5.7	5.9	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	6.0	6.0	6.0	5.4	5.3	5.8	5.9	6.1	6.0	6.1	5.2	5.3	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.8	6.0	5.9	6.1	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.1	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.7	5.4	5.2	5.9	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.7	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.9	5.1	5.1	5.6	5.3	5.4	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.1	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.7	5.4	5.8	6.1	6.0	5.8	5.7	5.0	5.1	5.4	5.3	5.3	5.3	5.5	5.8	5.1	5.0
320.	5.8	5.8	6.1	5.9	5.7	5.7	5.8	5.9	5.8	5.7	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.8	5.9	6.2	5.8	5.8	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.6	6.0	5.1	5.1
340.	5.8	5.9	6.1	5.7	5.8	5.3	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.8	5.1	5.1
350.	5.9	6.0	5.9	5.8	5.7	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.6	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.5	5.3	5.2
MAX	6.2	6.2	6.6	5.9	5.8	6.0	6.1	6.5	6.2	6.2	6.5	6.5	6.4	6.0	5.8	5.9	6.5	6.6	6.4	6.4
DEGR.	10	10	30	10	330	300	300	230	30	30	200	60	60	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.9	6.1	6.7	6.2	6.1	6.6	6.8	6.8	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.9	6.8	6.8	5.3	5.1
10.	5.9	6.2	6.8	6.4	6.4	5.9	6.1	6.3	5.9	5.9	5.0	5.0	5.5	5.4	5.6	7.1	7.0	7.0	5.5	5.2
20.	6.1	6.3	6.6	6.2	6.2	5.5	5.7	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.2	6.8	6.8	6.8	5.6	5.4
30.	6.1	6.2	6.2	6.1	6.2	5.3	5.5	5.7	5.9	5.8	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.6	5.4
40.	6.2	6.2	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.4	6.3	6.3	5.4	5.4
50.	6.0	6.2	6.2	6.2	6.1	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.2	5.4	5.4
60.	6.3	6.3	6.3	6.3	6.2	5.4	5.6	6.2	6.3	6.1	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.3
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.4	6.4	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.6	6.8	6.4	6.1	5.3	5.5	6.6	6.5	6.5	5.4	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.2	5.4	6.4	6.3	6.3	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.0	5.9	5.8	5.0	5.1	5.8	5.8	5.8	6.4	6.5	6.5	5.4	5.2	6.4	6.6	7.4	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.4	6.6	6.6	5.6	5.4	6.5	6.7	7.3	6.3	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.1	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.1	6.2	6.1	5.5	5.3	6.6	6.8	6.9	5.9	6.0
140.	5.4	5.4	5.8	5.9	6.0	5.0	5.0	5.1	5.1	5.1	6.0	6.0	6.0	5.5	5.4	6.7	6.7	6.6	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.0	5.2	5.1	5.0	5.1	6.0	6.0	5.9	5.6	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.4	6.1	6.2	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.6	7.1	7.1	6.7	6.1	5.9
170.	5.2	5.4	6.2	6.2	6.2	5.7	5.7	5.6	5.0	5.0	5.9	5.9	6.3	5.9	6.0	7.1	7.0	6.8	6.0	5.9
180.	5.1	5.3	5.9	6.1	6.1	6.3	6.4	6.2	5.2	5.1	6.1	6.3	6.8	6.4	6.5	6.8	6.5	6.4	6.0	5.8
190.	5.0	5.1	5.5	5.6	5.6	6.7	6.8	6.4	5.4	5.2	6.1	6.3	6.9	6.4	6.5	6.1	6.0	6.0	5.7	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.3	5.4	5.3	6.2	6.4	6.6	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.4	5.9	5.5	5.3	6.2	6.4	6.4	6.1	6.4	5.4	5.5	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.5	5.4	6.3	6.4	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.1	6.1	5.4	5.5	5.4	6.3	6.3	6.2	6.3	6.1	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.5	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.4	6.5	6.6	6.4	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.8	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.5	6.0	6.0	6.0
270.	6.0	6.0	5.9	5.3	5.1	6.1	6.2	6.2	6.0	6.1	6.5	6.4	6.8	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.5	6.3	6.6	6.0	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.5	6.4	6.4	6.5	5.5	5.7	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.1	6.1	6.0	5.5	5.3	6.3	6.5	6.3	6.3	6.5	5.4	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	6.0	5.8	5.4	5.3	6.4	6.5	6.2	6.3	6.4	5.4	5.5	6.0	5.9	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.3	6.4	6.5	6.2	6.4	6.3	5.5	5.5	6.1	6.0	6.1	5.1	5.0	5.1	5.0	5.0
330.	5.8	5.8	5.5	5.4	5.2	6.5	6.7	6.4	6.4	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.4	6.7	6.8	6.8	6.4	6.3	5.3	5.5	6.4	6.3	6.5	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.8	6.1	5.8	5.8	6.9	7.0	7.1	6.3	6.1	5.2	5.4	6.4	6.4	6.4	6.2	6.0	6.1	5.1	5.0
360.	5.9	6.1	6.7	6.2	6.1	6.6	6.8	6.8	6.2	6.0	5.0	5.2	6.1	6.1	6.1	6.9	6.8	6.8	5.3	5.1
MAX	6.4	6.6	6.8	6.4	6.4	6.9	7.0	7.1	6.5	6.6	6.6	6.6	6.9	6.4	6.5	7.1	7.1	7.4	6.5	6.4
DEGR.	70	80	10	10	10	350	350	350	80	280	260	110	190	180	180	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.6	5.5	5.8	5.9	5.9	5.8	5.9	5.9	5.9	5.9
10.	5.6	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.1	6.1	5.5	5.5	5.7	5.7	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.2	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.8	5.9	6.1	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.7	5.4	5.2	5.9	6.0	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.3	5.2	5.9	5.9	5.9	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.5	5.5	5.5	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.6	5.8	5.6	5.7	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.5	5.5	5.6	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.1	5.2	5.3	5.7	5.6	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.1	5.2	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.8	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.7	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.8	5.9	6.1	6.2	6.1	5.2	5.4	6.1	6.0	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.1	6.2	6.0	5.8	5.1	5.3	6.1	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.8	5.7	5.0	5.1	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.8	5.9	5.8	5.7	5.7	5.0	5.0	5.5	5.4	5.4	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.6	5.6	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	5.9
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.9	5.8
230.	5.1	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	5.9	5.8
240.	5.1	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.9	5.9	5.7
250.	5.1	5.3	5.7	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	5.9	5.7	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.0	5.7	5.6
270.	5.0	5.1	5.6	5.9	5.7	5.1	5.1	5.2	5.0	5.0	5.7	5.7	6.0	5.7	5.5
280.	5.0	5.0	5.5	5.7	5.5	5.2	5.3	5.4	5.0	5.0	5.6	5.7	6.0	5.6	5.6
290.	5.1	5.0	5.2	5.4	5.3	5.4	5.6	5.7	5.2	5.0	5.7	5.8	5.7	5.5	5.6
300.	5.1	5.1	5.1	5.3	5.2	5.6	5.8	5.9	5.3	5.1	5.8	6.0	5.6	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.1	5.7	5.8	5.7	5.3	5.3	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.6	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.6	5.5	5.6	5.5	5.5	6.0	5.9	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.6	5.5	5.8	5.9	5.9	5.8	5.9	5.9	5.9	5.9
MAX	6.0	6.2	6.2	6.2	6.2	5.9	6.0	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
DEGR.	170	180	170	140	140	40	40	10	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC38.

Alt-5B -- 5_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:29

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	155.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	77.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756741.0	********	*	685.	45.	AG	143.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	*	759327.2	********	759295.4	********	*	1124.	358.	AG	173.	100.0	1.0	20.0	1.18	57.1
6. MVP East RT	*	759381.7	********	759534.1	********	*	153.	93.	AG	57.	100.0	1.0	10.0	0.56	7.8
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754553.4	********	*	4745.	273.	AG	68.	100.0	1.0	10.0	1.63	241.0
10. South St	*	761297.7	********	761107.0	********	*	195.	282.	AG	186.	100.0	1.0	20.0	0.92	9.9
11. Boston Ave. SB LT	*	759658.7	********	759579.6	********	*	168.	332.	AG	87.	100.0	1.0	10.0	0.76	8.5
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759594.2	********	*	117.	207.	AG	87.	100.0	1.0	10.0	0.55	6.0
15. Boston Ave. NB	*	759699.9	********	760441.9	********	*	1558.	152.	AG	98.	100.0	1.0	10.0	1.45	79.2
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762175.9	********	*	308.	162.	AG	80.	100.0	1.0	10.0	0.99	15.6
20. Harvard St. WB	*	762091.8	********	763340.0	********	*	1308.	73.	AG	80.	100.0	1.0	10.0	1.19	66.4
21. Broadway EB R	*	762959.1	********	762881.8	********	*	84.	293.	AG	59.	100.0	1.0	10.0	0.35	4.3
22. Broadway EB TL	*	762965.1	********	762140.3	********	*	900.	294.	AG	89.	100.0	1.0	10.0	1.15	45.7
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764197.9	********	*	2243.	150.	AG	100.	100.0	1.0	10.0	1.80	114.0
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	*	763008.3	********	762468.9	********	*	1709.	342.	AG	109.	100.0	1.0	10.0	2.23	86.8
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764342.3	********	*	1106.	114.	AG	84.	100.0	1.0	10.0	1.20	56.2
31. Central St. SB	*	763311.4	********	763331.8	********	*	44.	27.	AG	84.	100.0	1.0	10.0	0.36	2.2
32. Medford St. NWB	*	765022.2	********	766006.0	********	*	1602.	142.	AG	58.	100.0	1.0	10.0	1.16	81.4
33. School St. SB	*	765002.3	********	765774.9	********	*	1790.	26.	AG	102.	100.0	1.0	10.0	1.79	90.9
34. Medford St. SEB	*	764967.1	********	764889.0	********	*	126.	322.	AG	58.	100.0	1.0	10.0	0.72	6.4
35. Prospect SB	*	765830.6	********	766028.7	********	*	383.	31.	AG	169.	100.0	1.0	20.0	1.02	19.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765178.6	********	*	1466.	206.	AG	276.	100.0	1.0	30.0	1.33	74.5
38. Somerville EB	*	765797.5	********	765683.3	********	*	127.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756603.2	********	*	*****	249.	AG	98.	100.0	1.0	10.0	4.72	563.9
41. McGrath Hwy NB2 L	*	767105.3	********	767109.6	********	*	32.	172.	AG	91.	100.0	1.0	10.0	0.16	1.7
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768182.6	********	*	1148.	67.	AG	281.	100.0	1.0	30.0	1.25	58.3
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:29

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	178.	100.0	1.0	20.0	1.24	64.5
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2515.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1890.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2360.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3230.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:29

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:29

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	350	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1290	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	1005	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	450	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1080	1600	46.20	1	3
10. South St	*	120	90	3.0	615	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	315	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	226	1600	46.20	1	3
15. Boston Ave. NB	*	135	107	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	500	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	600	1600	46.20	1	3
21. Broadway EB R	*	120	57	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	445	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	265	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	505	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	150	1600	46.20	1	3
32. Medford St. NWB	*	90	42	3.0	890	1600	46.20	1	3
33. School St. SB	*	90	74	3.0	350	1600	46.20	1	3
34. Medford St. SEB	*	90	42	3.0	550	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	895	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	89	3.0	1380	1600	46.20	1	3
38. Somerville EB	*	120	60	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
40. Washington St. EB	*	135	107	3.0	1285	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
43. Washington St. WB	*	135	102	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	960	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	945	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:29

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	5.9	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.0	5.0	5.0	5.0	5.5	5.9	5.4	5.4	5.2
20.	6.0	5.8	5.5	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.8	5.5	5.5	5.4
30.	5.9	5.6	5.5	5.6	5.4	5.2	5.2	5.4	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.4	5.9	5.7	5.6	5.5
40.	5.4	5.5	5.3	5.4	5.4	5.0	5.2	5.2	5.5	5.5	5.9	5.8	5.8	5.2	5.1	5.6	5.9	5.8	5.7	5.5
50.	5.4	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.2	5.2	5.9	5.9	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.6	5.3	5.3	5.4
80.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.3	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.5	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.2	5.6	5.6
140.	5.2	5.2	5.7	5.7	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.6	5.6	5.5	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.4	5.4	5.3	6.0	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.4	5.4	5.3	5.6	5.6	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.6	5.8	5.7	5.7	5.6	5.4
170.	5.0	5.0	5.2	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.7	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.8	5.8	5.6	5.5	5.7	5.2	5.3	5.5	5.6	5.4
190.	5.2	5.3	5.3	5.1	5.0	5.5	5.5	5.4	5.3	5.1	5.7	5.8	5.6	5.5	5.5	5.2	5.3	5.7	5.6	5.4
200.	5.2	5.4	5.3	5.1	5.1	5.6	5.4	5.3	5.3	5.2	5.8	5.8	5.6	5.5	5.4	5.1	5.2	5.3	5.4	5.3
210.	5.3	5.5	5.5	5.0	5.1	5.4	5.4	5.4	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.3	5.7	5.6	5.0	5.0	5.3	5.5	5.3	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.0	5.2	5.1	5.1
230.	5.3	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.4	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.1	5.1	5.0	5.0
240.	5.2	5.7	5.4	5.2	5.0	5.4	5.4	5.2	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.0	5.0
250.	5.2	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.5	5.5	5.2	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.2	5.7	5.2	5.3	5.1	5.5	5.2	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.3	5.7	5.2	5.3	5.1	5.6	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.0
280.	5.3	5.7	5.2	5.3	5.1	5.6	5.3	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.3	5.1	5.2	5.0	5.0	5.0
290.	5.4	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.5	5.1	5.2	5.5	5.4	5.4	5.1	5.2	5.0	5.0	5.0
300.	5.4	5.7	5.3	5.3	5.3	5.6	5.3	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.4	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.6	5.5	5.1	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.5	5.6	5.4	5.4	5.8	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.2	5.2	5.1	5.0
340.	5.5	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.6	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.1	5.1
360.	5.9	5.9	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	5.9	5.7	5.7	5.6	5.6	5.6	5.8	5.7	5.7	5.9	5.9	5.8	5.5	5.7	6.0	6.4	5.8	5.7	5.6
DEGR.	10	0	10	140	10	160	160	320	20	20	40	50	40	170	170	150	350	40	40	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.1	5.8	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.3	5.2
20.	5.8	5.9	5.8	5.7	5.7	5.2	5.2	5.4	5.4	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	5.9	5.8	5.8	5.7	5.7	5.2	5.2	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.6	5.5	5.5	5.3	5.2
50.	5.9	6.0	5.8	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.6	5.2	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.7	5.6	5.8	5.6	5.5	5.1	5.2	5.7	5.7	5.7	5.8	5.8	5.8	5.1	5.0	5.5	5.7	6.1	5.9	5.8
80.	5.3	5.5	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.5	6.0	6.0	5.9	5.3	5.1	5.7	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.8
100.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.8	5.8	5.7	5.8	5.7
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.9	6.0	5.7	5.7	5.6
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.7	5.5
140.	5.1	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.9	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.8	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	5.9	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.7	6.0	5.9	5.8	5.5	5.4
170.	5.0	5.0	5.4	5.3	5.3	5.7	5.8	5.8	5.1	5.1	5.6	5.6	6.0	5.8	5.7	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.3	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.1	5.6	5.8	5.8	5.7	5.7	5.3	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.2	5.1	5.7	5.7	5.8	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.7	5.7
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.3	5.7	5.6	5.2	5.3	5.8	5.8	5.8
240.	5.8	5.7	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.4
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.6	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.7	5.6	5.8	5.6	5.8	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.7	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	5.9	6.0	6.0	5.6	5.6	5.2	5.2	5.8	5.7	5.7	5.4	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.6	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.9	5.7	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	6.0	6.0	5.9	5.2	5.2
360.	5.7	5.8	6.1	5.8	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.9	5.7	5.9	6.0	6.1	5.8	5.8	6.2	6.2	6.3	5.9	5.8	6.0	6.0	6.2	5.9	5.9
DEGR.	60	50	0	350	0	320	330	250	60	60	240	240	230	180	200	160	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC17.

Alt-5B -- 5_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756144.4	********	72.	312.	AG	155.	100.0	1.0	20.0	0.33	3.6
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	71.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756806.3	********	718.	132.	AG	77.	100.0	1.0	10.0	1.07	36.5
4. MVP East	756253.6	********	756741.0	********	685.	45.	AG	143.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	759327.2	********	759295.4	********	1124.	358.	AG	173.	100.0	1.0	20.0	1.18	57.1
6. MVP East RT	759381.7	********	759534.1	********	153.	93.	AG	57.	100.0	1.0	10.0	0.56	7.8
7. MVP East T	759381.8	********	764437.1	********	5058.	92.	AG	68.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	206.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754553.4	********	4745.	273.	AG	68.	100.0	1.0	10.0	1.63	241.0
10. South St	761297.7	********	761107.0	********	195.	282.	AG	186.	100.0	1.0	20.0	0.92	9.9
11. Boston Ave. SB LT	759658.7	********	759579.6	********	168.	332.	AG	87.	100.0	1.0	10.0	0.76	8.5
12. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759594.2	********	117.	207.	AG	87.	100.0	1.0	10.0	0.55	6.0
15. Boston Ave. NB	759699.9	********	760441.9	********	1558.	152.	AG	98.	100.0	1.0	10.0	1.45	79.2
16. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	762078.3	********	762175.9	********	308.	162.	AG	80.	100.0	1.0	10.0	0.99	15.6
20. Harvard St. WB	762091.8	********	763340.0	********	1308.	73.	AG	80.	100.0	1.0	10.0	1.19	66.4
21. Broadway EB R	762959.1	********	762881.8	********	84.	293.	AG	59.	100.0	1.0	10.0	0.35	4.3
22. Broadway EB TL	762965.1	********	762140.3	********	900.	294.	AG	89.	100.0	1.0	10.0	1.15	45.7
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764197.9	********	2243.	150.	AG	100.	100.0	1.0	10.0	1.80	114.0
25. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	763008.3	********	762468.9	********	1709.	342.	AG	109.	100.0	1.0	10.0	2.23	86.8
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764342.3	********	1106.	114.	AG	84.	100.0	1.0	10.0	1.20	56.2
31. Central St. SB	763311.4	********	763331.8	********	44.	27.	AG	84.	100.0	1.0	10.0	0.36	2.2
32. Medford St. NWB	765022.2	********	766006.0	********	1602.	142.	AG	58.	100.0	1.0	10.0	1.16	81.4
33. School St. SB	765002.3	********	765774.9	********	1790.	26.	AG	102.	100.0	1.0	10.0	1.79	90.9
34. Medford St. SEB	764967.1	********	764889.0	********	126.	322.	AG	58.	100.0	1.0	10.0	0.72	6.4
35. Prospect SB	765830.6	********	766028.7	********	383.	31.	AG	169.	100.0	1.0	20.0	1.02	19.5
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765178.6	********	1466.	206.	AG	276.	100.0	1.0	30.0	1.33	74.5
38. Somerville EB	765797.5	********	765683.3	********	127.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	766952.8	********	756603.2	********	*****	249.	AG	98.	100.0	1.0	10.0	4.72	563.9
41. McGrath Hwy NB2 L	767105.3	********	767109.6	********	32.	172.	AG	91.	100.0	1.0	10.0	0.16	1.7
42. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	767129.9	********	768182.6	********	1148.	67.	AG	281.	100.0	1.0	30.0	1.25	58.3
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	178.	100.0	1.0	20.0	1.24	64.5
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2515.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1890.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2360.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3230.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	350	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1155	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1290	1600	46.20	1	3
5. Winthrop North	*	135	94	3.0	1005	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	450	1600	46.20	1	3
7. MVP East T	*	135	74	3.0	1110	1600	46.20	1	3
8. Winthrop South	*	135	112	3.0	620	1600	46.20	1	3
9. MVP West	*	135	74	3.0	1080	1600	46.20	1	3
10. South St	*	120	90	3.0	615	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	315	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	226	1600	46.20	1	3
15. Boston Ave. NB	*	135	107	3.0	395	1600	46.20	1	3
16. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	500	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	600	1600	46.20	1	3
21. Broadway EB R	*	120	57	3.0	270	1600	46.20	1	3
22. Broadway EB TL	*	120	86	3.0	445	1600	46.20	1	3
23. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	430	1600	46.20	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	265	1600	46.20	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
29. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	80	54	3.0	505	1600	46.20	1	3
31. Central St. SB	*	80	54	3.0	150	1600	46.20	1	3
32. Medford St. NWB	*	90	42	3.0	890	1600	46.20	1	3
33. School St. SB	*	90	74	3.0	350	1600	46.20	1	3
34. Medford St. SEB	*	90	42	3.0	550	1600	46.20	1	3
35. Prospect SB	*	120	82	3.0	895	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	89	3.0	1380	1600	46.20	1	3
38. Somerville EB	*	120	60	3.0	775	1600	46.20	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
40. Washington St. EB	*	135	107	3.0	1285	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
43. Washington St. WB	*	135	102	3.0	1240	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	350	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	960	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	945	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:14:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.6	5.4	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.4	5.7	5.8	5.8	5.6	5.8	5.3	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.8	6.0	5.6	5.4	5.2	5.6	5.7	5.7	5.6	5.8	5.4	5.5	5.5	5.7	5.7	5.1	5.1	5.1	5.5	5.4
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.7	5.4	5.5	5.6	5.7	5.7	5.1	5.1	5.2	5.5	5.5
40.	5.7	6.0	5.6	5.4	5.3	5.6	5.6	5.8	5.6	5.7	5.3	5.5	5.6	5.7	5.6	5.0	5.1	5.3	5.5	5.5
50.	5.7	6.1	5.7	5.3	5.4	5.4	5.5	5.7	5.6	5.7	5.3	5.4	5.7	5.6	5.6	5.0	5.1	5.3	5.4	5.3
60.	5.8	6.0	5.6	5.5	5.5	5.3	5.4	5.6	5.6	5.8	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.1	5.2	5.1
70.	5.8	6.1	5.8	5.6	5.5	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.2	5.6	5.6	5.5	5.3	5.5	5.8	5.7	5.8	5.4	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	6.0	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.9	5.8	5.4	5.6	5.9	5.9	5.9	5.2	5.2	5.2	5.0	5.0
100.	6.1	6.4	6.1	5.8	5.6	5.4	5.6	6.3	6.0	5.8	5.3	5.5	6.0	6.0	6.0	5.4	5.4	5.4	5.0	5.0
110.	6.1	6.2	6.0	5.6	5.5	5.3	5.4	6.2	5.8	5.7	5.2	5.3	5.9	5.9	5.9	5.9	5.9	5.8	5.2	5.0
120.	5.8	5.8	5.8	5.5	5.4	5.2	5.3	6.0	5.7	5.6	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.4	5.2
130.	5.4	5.6	5.4	5.4	5.4	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.5	5.2
140.	5.3	5.3	5.6	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.4	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.3
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.3	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.9	5.9	5.8	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.8	5.7	5.6	5.4	5.2	6.1	6.1	5.6	5.6	5.5
180.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.4	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.1	5.1	5.2	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
210.	5.0	5.1	5.2	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.5	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.5
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	5.9	5.7	5.5	5.4
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.5	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.2	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.2	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.9	5.9	5.9	5.7
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	5.9	5.5	5.3	5.8	6.0	5.9	5.8	5.7	6.0	5.8	5.8	5.7	5.5
300.	6.0	6.3	6.1	5.3	5.1	5.4	5.7	6.1	5.6	5.5	6.1	6.0	6.1	5.9	6.0	5.7	5.5	5.6	5.6	5.4
310.	6.0	6.3	6.1	5.4	5.3	5.6	5.8	6.0	5.6	5.5	6.0	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.9	6.2	5.9	5.4	5.3	5.6	5.8	5.8	5.6	5.6	5.8	5.9	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.7	5.9	5.8	5.8	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.6	6.1	5.8	5.4	5.3	5.6	5.9	6.1	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.0	5.7	5.6	5.4	5.9	5.8	6.0	5.8	5.8	5.2	5.5	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.6	5.4	5.7	5.8	5.8	5.7	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.1	6.4	6.1	5.8	5.6	5.9	5.9	6.3	6.0	5.8	6.1	6.0	6.1	6.0	6.0	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	100	100	350	340	100	100	10	300	290	300	100	100	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	6.0	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.8
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.2	6.0	5.9	6.1
40.	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.9	5.9
50.	5.4	5.4	5.3	5.1	5.0	5.4	5.6	5.3	5.3	5.2	5.4	6.1	5.9	5.6	5.9	6.1	6.4	6.0	5.9	5.9
60.	5.4	5.4	5.3	5.1	5.1	5.6	5.7	5.4	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.8	5.9	5.9	5.9
70.	5.4	5.4	5.2	5.1	5.1	5.6	5.6	5.4	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.9	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.3	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.6	5.7	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.6	5.1	5.3	5.4	6.1	6.2	5.9	5.6	5.9	6.5	6.6	5.7	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.7	5.5	5.5	6.2	6.2	6.0	5.5	6.0	6.3	6.4	5.7	5.8	5.7
110.	5.3	5.5	5.5	5.3	5.1	5.9	5.9	6.1	5.8	5.8	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.5	5.6	5.8	5.5	5.3	5.9	6.0	6.2	6.1	6.0	6.2	6.2	5.9	5.4	5.9	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.5	6.1	6.0	6.1	6.0	6.1	5.8	6.0	5.6	5.2	5.6	5.3	5.4	5.3	5.6	5.6
140.	5.6	5.7	5.8	5.6	5.3	6.1	6.1	6.1	5.9	5.9	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.2	6.0	6.2	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.4	5.5	5.7	5.7
160.	5.8	5.9	5.8	5.6	5.4	5.9	6.0	6.0	5.9	5.8	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.8	5.6	5.6	5.1	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.7	5.5	5.5	5.4	5.5	5.4	5.7	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.5	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.7	5.6
200.	5.6	5.3	5.6	5.6	5.7	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.6	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	6.0	5.4	5.4	5.5	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.4	5.7	5.5	5.6	5.3	5.3	5.5	5.6	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.3	5.4	5.5	5.5	6.0	5.2	5.3	5.5	5.3	5.0	5.0	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.4	5.6	5.5	5.6	6.0	5.2	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.2	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.7	5.6	5.3	5.4	5.8	5.8	5.8	5.7	5.6	5.2	5.3	5.2	5.1	5.3	5.2	5.0	5.0
270.	5.4	5.6	5.7	5.7	5.6	5.3	5.4	5.8	5.9	5.9	5.5	5.7	5.5	5.5	5.5	5.3	5.6	5.5	5.0	5.0
280.	5.3	5.6	5.7	5.7	5.5	5.3	5.4	6.0	6.0	6.0	5.6	5.7	5.6	5.5	5.6	5.5	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.6	5.5	5.1	5.3	5.9	5.9	5.9	5.7	5.7	5.6	5.5	5.6	5.6	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.6	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.1	5.8	5.9	5.8	5.7	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.0	6.0	5.9	5.9	5.9	5.6	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.5	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.8	5.8	5.8	5.3	5.2	5.6	5.9	6.1	5.4	6.1	5.8	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.7	5.3	5.2	5.5	6.0	6.2	5.4	6.2	5.8	6.1	5.5	5.5	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.9	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.8	5.9	5.8	5.7	5.7	6.2	6.1	6.2	6.1	6.1	6.3	6.4	6.2	5.9	6.2	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	260	170	150	140	120	120	130	110	110	0	310	0	70	60	40	10	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.5	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.8	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.7	5.6	5.5	5.9	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.6	5.7	5.7	5.7	5.6	6.0	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.5	5.6	6.0	5.9	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.2	5.1	5.4	5.8	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.5	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.7
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.0	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.1
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.1	5.1	5.3	5.7	6.2	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.8	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.8	5.4	5.3	5.2	5.4	5.9	6.1	5.8
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.8	5.3	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.9	5.4	5.3	5.2	5.4	5.9	6.2	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.6	5.7	6.1	5.4	5.2	5.2	5.7	6.0	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.3	5.5	5.4	5.5	5.6	6.1	6.3	5.7
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.5	5.9	6.4	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	5.9	6.4	5.5
240.	5.7	5.7	5.5	5.4	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.5	5.4	5.4	5.6	5.8	6.4	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.6	5.4	5.5	5.6	6.1	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.5	5.7	5.6	5.3	5.6	6.2	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.1	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.8
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.6	5.6	5.3	5.3	5.4	5.9	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.3	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.7	6.0
300.	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.7	5.7	5.7	6.2	6.4	6.3	5.3	5.2	5.2	5.3	5.7	5.6	5.8
310.	5.8	5.9	5.5	5.9	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.9	6.1	6.1	5.7	5.6	5.8	6.2	6.4	6.3	5.4	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.3	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.1	5.7	5.7	5.7	6.0	6.0	6.0	6.1	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.9	6.0	5.7	5.9	6.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.3	6.3	6.4	6.6	5.8	5.6	5.5	5.7	6.2	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	290	280	270	260	210	200	260	230	150

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

Alt-5B -- 5_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:15:44

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761107.0	********	195.	282.	AG	186.	100.0	1.0	20.0	0.92	9.9
2. Boston Ave. SB LT	759658.7	********	759579.6	********	168.	332.	AG	87.	100.0	1.0	10.0	0.76	8.5
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759594.2	********	117.	207.	AG	87.	100.0	1.0	10.0	0.55	6.0
6. Boston Ave. NB	759699.9	********	760441.9	********	1558.	152.	AG	98.	100.0	1.0	10.0	1.45	79.2
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762175.9	********	308.	162.	AG	80.	100.0	1.0	10.0	0.99	15.6
11. Harvard St. WB	762091.8	********	763340.0	********	1308.	73.	AG	80.	100.0	1.0	10.0	1.19	66.4
12. Broadway EB R	762959.1	********	762881.8	********	84.	293.	AG	59.	100.0	1.0	10.0	0.35	4.3
13. Broadway EB TL	762965.1	********	762140.3	********	900.	294.	AG	89.	100.0	1.0	10.0	1.15	45.7
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764197.9	********	2243.	150.	AG	100.	100.0	1.0	10.0	1.80	114.0
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762468.9	********	1709.	342.	AG	109.	100.0	1.0	10.0	2.23	86.8
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764342.3	********	1106.	114.	AG	84.	100.0	1.0	10.0	1.20	56.2
22. Central St. SB	763311.4	********	763331.8	********	44.	27.	AG	84.	100.0	1.0	10.0	0.36	2.2
23. Medford St. NWB	765022.2	********	766006.0	********	1602.	142.	AG	58.	100.0	1.0	10.0	1.16	81.4
24. School St. SB	765002.3	********	765774.9	********	1790.	26.	AG	102.	100.0	1.0	10.0	1.79	90.9
25. Medford St. SEB	764967.1	********	764889.0	********	126.	322.	AG	58.	100.0	1.0	10.0	0.72	6.4
26. Prospect SB	765830.6	********	766028.7	********	383.	31.	AG	169.	100.0	1.0	20.0	1.02	19.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765178.6	********	1466.	206.	AG	276.	100.0	1.0	30.0	1.33	74.5
29. Somerville EB	765797.5	********	765683.3	********	127.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756603.2	********	*****	249.	AG	98.	100.0	1.0	10.0	4.72	563.9
32. McGrath Hwy NB2 L	767105.3	********	767109.6	********	32.	172.	AG	91.	100.0	1.0	10.0	0.16	1.7
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768182.6	********	1148.	67.	AG	281.	100.0	1.0	30.0	1.25	58.3
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771172.2	********	1597.	125.	AG	147.	100.0	1.0	20.0	1.20	81.1
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:15:44

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	101.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774796.0	********	6070.	32.	AG	101.	100.0	1.0	10.0	3.43	308.4
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	178.	100.0	1.0	20.0	1.24	64.5
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0		

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DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3942.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2722.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3395.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3265.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	615	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	315	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	226	1600	46.20	1	3
6. Boston Ave. NB	*	135	107	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	500	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	600	1600	46.20	1	3
12. Broadway EB R	*	120	57	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	445	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	265	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	505	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	150	1600	46.20	1	3
23. Medford St. NWB	*	90	42	3.0	890	1600	46.20	1	3
24. School St. SB	*	90	74	3.0	350	1600	46.20	1	3
25. Medford St. SEB	*	90	42	3.0	550	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	895	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	89	3.0	1380	1600	46.20	1	3
29. Somerville EB	*	120	60	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
31. Washington St. EB	*	135	107	3.0	1285	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
34. Washington St. WB	*	135	102	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1412	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	775	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	960	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	945	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:15:44

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.6	5.6	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.5	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.5	5.5	5.4	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.0	5.0	5.6	5.6	5.6	5.4	5.4
30.	5.5	5.4	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
50.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.6
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.6	5.6	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.7	5.7	5.6	5.6	5.6
90.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.9	5.6	5.6	5.6
100.	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.1	5.1	5.5	5.4	5.2	6.0	5.9	5.9	5.5	5.5
110.	5.1	5.2	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.8	6.0	5.5	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.3	5.3	5.8	5.7	5.7	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.2	5.2	5.4	5.4	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.4
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.6	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.4	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.2	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.4	5.7	5.5	5.5	5.2	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.2	5.1	5.5	5.6	5.8	5.5	5.5	5.2	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.6	5.4	5.4	5.4	5.6	5.8	5.6	5.3	5.0	5.2	5.5	5.5	5.6
210.	5.5	5.6	5.6	5.2	5.0	5.4	5.6	5.7	5.4	5.3	5.5	5.6	5.8	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.7	5.7	5.7	5.2	5.1	5.5	5.6	5.6	5.5	5.4	5.2	5.4	5.6	5.3	5.3	5.0	5.0	5.2	5.2	5.2
230.	5.5	5.6	5.6	5.2	5.2	5.6	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.5	5.2	5.2	5.8	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.5	5.3	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.3	5.6	5.7	5.5	5.3	5.2	5.1	5.2	5.6	5.6	5.5	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.7	5.8	5.6	5.2	5.2	5.1	5.1	5.7	5.6	5.6	5.3	5.3	5.3	5.0	5.0
290.	5.4	5.5	6.0	5.7	5.5	5.7	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.5	5.5	5.6	5.6	5.7	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.7	5.3	5.4	5.5	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.8	5.8	5.9	5.1	5.1
310.	5.5	5.6	5.8	5.6	5.7	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.2	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.8	5.2	5.1
330.	5.6	5.6	5.6	5.6	5.5	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.7	5.7	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
350.	5.7	5.7	5.5	5.6	5.6	5.1	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2
360.	5.6	5.6	5.6	5.6	5.6	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.8	5.8	5.7	5.5	5.4	5.5	5.6	5.8	5.7	5.7	6.0	5.9	6.0	5.6	5.6
DEGR.	10	10	290	100	100	250	280	120	220	200	190	190	120	130	120	100	90	110	70	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.1	5.1	5.2	5.1	5.0	5.4	5.6	5.4	5.1	5.1
10.	5.4	5.6	6.0	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.3	5.0	5.0	5.3	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.5	5.4	5.5	5.6	5.6	5.6	5.1	5.0	5.3	5.6	5.7	5.5	5.4
30.	5.4	5.4	5.6	5.5	5.4	5.0	5.1	5.3	5.4	5.4	5.9	5.8	5.8	5.2	5.1	5.4	5.7	5.8	5.6	5.5
40.	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.2	5.9	5.9	5.8	5.3	5.1	5.4	5.7	5.8	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.5	5.7	5.7	5.4	5.3
60.	5.1	5.2	5.4	5.4	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.6	5.6	5.2	5.2	5.6	5.7	5.5	5.4	5.3
70.	5.1	5.3	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	5.5	5.5	5.2	5.1	5.5	5.7	5.5	5.4	5.3
90.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.6	5.7	5.5	5.4	5.2
100.	5.1	5.3	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.6	5.7	5.5	5.4	5.2
110.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.7	5.7	5.6	5.4	5.2
120.	5.1	5.3	5.8	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.8	5.6	5.7	5.4	5.2
130.	5.1	5.3	5.9	5.9	5.9	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.6	5.5	5.4	6.0	5.9	5.8	5.4	5.2
140.	5.1	5.2	5.8	5.8	5.8	5.6	5.6	5.6	5.1	5.0	5.4	5.5	5.8	5.9	5.6	5.8	5.7	5.8	5.2	5.2
150.	5.0	5.1	5.6	5.6	5.6	5.9	5.9	5.8	5.3	5.1	5.7	5.8	5.9	5.8	5.8	5.5	5.6	5.7	5.3	5.2
160.	5.0	5.0	5.3	5.2	5.2	5.9	5.8	5.8	5.3	5.2	5.8	5.9	5.8	5.6	5.6	5.3	5.2	5.4	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2	5.7	5.9	5.7	5.7	5.5	5.1	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.8	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.1	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.5	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.2	5.3	5.8	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.5	5.3	5.4	5.7	5.5	5.6	5.4	5.3	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.5	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.1	5.5	5.6	5.4	5.4	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.5	5.6	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.5	5.6	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.6	5.7	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.8	5.7	5.7	5.5	5.4	5.1	5.2	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.4	5.4	5.4	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.2	5.3	5.0	5.0
320.	5.1	5.2	5.7	5.7	5.5	5.6	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.6	5.5	5.4	5.5	5.4	5.1	5.0
330.	5.2	5.2	5.9	5.7	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.5	5.7	5.7	5.1	5.1
340.	5.3	5.4	5.9	5.7	5.8	5.2	5.4	5.5	5.4	5.4	5.0	5.0	5.2	5.2	5.1	5.5	5.7	5.7	5.2	5.1
350.	5.3	5.4	5.8	5.9	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.4	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.8	5.8	5.2	5.2	5.4	5.4	5.4	5.1	5.1	5.2	5.1	5.0	5.4	5.6	5.4	5.1	5.1
MAX	5.5	5.6	6.0	5.9	5.9	5.9	5.9	5.8	5.5	5.5	5.9	5.9	5.9	5.9	5.8	6.0	5.9	5.8	5.6	5.5
DEGR.	20	10	10	130	130	150	150	150	10	10	30	40	150	140	150	130	130	30	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC23.

Alt-5B -- 5_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:16:18

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761107.0	********	195.	282.	AG	186.	100.0	1.0	20.0	0.92	9.9
2. Boston Ave. SB LT	759658.7	********	759579.6	********	168.	332.	AG	87.	100.0	1.0	10.0	0.76	8.5
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759594.2	********	117.	207.	AG	87.	100.0	1.0	10.0	0.55	6.0
6. Boston Ave. NB	759699.9	********	760441.9	********	1558.	152.	AG	98.	100.0	1.0	10.0	1.45	79.2
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762175.9	********	308.	162.	AG	80.	100.0	1.0	10.0	0.99	15.6
11. Harvard St. WB	762091.8	********	763340.0	********	1308.	73.	AG	80.	100.0	1.0	10.0	1.19	66.4
12. Broadway EB R	762959.1	********	762881.8	********	84.	293.	AG	59.	100.0	1.0	10.0	0.35	4.3
13. Broadway EB TL	762965.1	********	762140.3	********	900.	294.	AG	89.	100.0	1.0	10.0	1.15	45.7
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764197.9	********	2243.	150.	AG	100.	100.0	1.0	10.0	1.80	114.0
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762468.9	********	1709.	342.	AG	109.	100.0	1.0	10.0	2.23	86.8
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764342.3	********	1106.	114.	AG	84.	100.0	1.0	10.0	1.20	56.2
22. Central St. SB	763311.4	********	763331.8	********	44.	27.	AG	84.	100.0	1.0	10.0	0.36	2.2
23. Medford St. NWB	765022.2	********	766006.0	********	1602.	142.	AG	58.	100.0	1.0	10.0	1.16	81.4
24. School St. SB	765002.3	********	765774.9	********	1790.	26.	AG	102.	100.0	1.0	10.0	1.79	90.9
25. Medford St. SEB	764967.1	********	764889.0	********	126.	322.	AG	58.	100.0	1.0	10.0	0.72	6.4
26. Prospect SB	765830.6	********	766028.7	********	383.	31.	AG	169.	100.0	1.0	20.0	1.02	19.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765178.6	********	1466.	206.	AG	276.	100.0	1.0	30.0	1.33	74.5
29. Somerville EB	765797.5	********	765683.3	********	127.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756603.2	********	*****	249.	AG	98.	100.0	1.0	10.0	4.72	563.9
32. McGrath Hwy NB2 L	767105.3	********	767109.6	********	32.	172.	AG	91.	100.0	1.0	10.0	0.16	1.7
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768182.6	********	1148.	67.	AG	281.	100.0	1.0	30.0	1.25	58.3
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771172.2	********	1597.	125.	AG	147.	100.0	1.0	20.0	1.20	81.1
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:16:18

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	101.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774796.0	********	6070.	32.	AG	101.	100.0	1.0	10.0	3.43	308.4
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	178.	100.0	1.0	20.0	1.24	64.5
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3942.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2722.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3395.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3265.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	615	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	315	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	226	1600	46.20	1	3
6. Boston Ave. NB	*	135	107	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	500	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	600	1600	46.20	1	3
12. Broadway EB R	*	120	57	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	445	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	265	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	505	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	150	1600	46.20	1	3
23. Medford St. NWB	*	90	42	3.0	890	1600	46.20	1	3
24. School St. SB	*	90	74	3.0	350	1600	46.20	1	3
25. Medford St. SEB	*	90	42	3.0	550	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	895	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	89	3.0	1380	1600	46.20	1	3
29. Somerville EB	*	120	60	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
31. Washington St. EB	*	135	107	3.0	1285	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
34. Washington St. WB	*	135	102	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1412	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	775	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	960	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	945	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:16:18

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
10.	5.6	6.0	6.1	5.7	5.6	6.9	7.1	6.2	6.0	5.9	5.4	5.4	6.1	6.0	5.8	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.3	6.1	6.1	6.8	6.9	6.3	6.1	5.8	5.4	5.3	6.1	6.0	5.7	5.4	5.4	5.4	5.0	5.0
30.	5.7	6.1	6.7	6.2	6.6	6.3	6.3	6.2	6.1	6.0	5.5	5.2	5.9	5.8	5.6	5.6	5.8	6.0	5.0	5.0
40.	5.6	6.4	6.8	6.5	7.0	5.9	6.2	6.1	6.1	5.9	5.5	5.3	5.7	5.7	5.6	6.0	6.3	6.4	5.1	5.0
50.	5.8	6.5	6.4	6.6	7.0	5.6	5.9	5.7	6.2	5.9	5.6	5.2	5.3	5.5	5.7	6.2	6.5	6.5	5.3	5.1
60.	6.1	6.6	6.3	6.8	7.0	5.9	6.0	6.1	6.4	6.1	5.7	5.6	5.4	5.5	5.8	6.1	6.6	6.6	5.5	5.1
70.	6.8	7.2	6.6	7.1	7.1	5.6	6.0	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	7.0	6.8	6.1	5.6
80.	6.8	7.0	6.5	6.9	6.5	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.6	6.4	6.8	6.8	6.6	6.0	5.6
90.	6.8	7.0	6.5	6.7	6.3	5.3	5.4	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.6	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.6	6.2	5.2	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.0	5.8
110.	7.0	6.7	6.8	6.5	6.2	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.7	6.6	6.1	5.1	5.3	5.8	5.6	5.6	6.4	6.6	6.5	5.5	5.8	7.0	6.5	7.2	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.4	5.2	5.2	6.4	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.6
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.8	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.4	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.4	6.2	5.5	5.6	6.8	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.9	6.5	6.4	6.5	6.2
170.	5.6	5.8	6.4	6.5	6.3	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	6.9	6.6	6.5	6.5	6.2
180.	5.6	5.7	6.6	6.7	6.5	5.2	5.2	5.3	5.0	5.0	5.8	6.1	5.9	5.5	5.7	7.0	6.8	6.7	6.5	6.1
190.	5.6	5.7	6.8	6.9	6.7	5.5	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.2	7.0	7.1	6.5	6.2
200.	5.4	5.5	6.7	6.8	6.6	6.0	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.2	7.2	7.2	6.3	6.0
210.	5.2	5.4	6.2	6.3	6.0	6.7	6.8	6.9	5.4	5.2	6.0	6.4	6.9	6.5	6.4	6.9	6.9	6.6	6.0	5.8
220.	5.2	5.1	5.6	5.6	5.4	7.0	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.6	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.1	6.7	6.8	6.9	5.7	5.4	6.2	6.7	6.5	6.3	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.2	5.3	5.2	6.7	6.9	6.8	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.5	5.6	5.9	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	6.8	6.5	6.0	5.6	6.7	6.8	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.8
260.	5.1	5.1	5.1	5.1	5.4	6.5	6.8	6.4	6.0	5.5	6.7	6.6	6.1	6.2	6.5	5.3	5.4	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.3	6.5	6.1	5.8	5.4	6.9	6.7	6.3	6.2	6.4	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.5	6.4	6.0	5.6	6.8	6.7	6.4	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.6	5.8	5.9	5.1	5.2	6.2	6.5	6.6	6.3	5.8	6.6	6.5	6.6	6.0	6.2	5.1	5.2	6.0	5.9	5.9
300.	6.0	6.3	6.4	5.2	5.3	6.3	6.6	7.0	6.3	6.0	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.4	6.5	5.3	5.3	6.4	6.7	6.8	6.2	6.1	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.4	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	7.0	6.2	6.1	6.0	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.0	5.4	5.4	6.7	7.0	6.2	6.1	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.0	5.9	5.4	5.5	6.8	7.1	6.3	6.2	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.0
360.	5.6	6.0	5.9	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.1	5.8	5.1	5.1	5.1	5.0	5.0
MAX	7.0	7.2	6.8	7.1	7.1	7.0	7.1	7.1	6.4	6.1	6.9	6.8	6.9	6.6	6.6	7.2	7.2	7.2	6.6	6.6
DEGR.	100	70	40	70	70	0	350	220	60	310	270	240	210	220	220	190	200	120	130	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.3	6.3	6.2	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.2	6.2	6.1	5.5	5.3	6.1	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.2	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.4	6.2	6.2	6.0	5.5	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.1	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.4	5.3	6.2	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.4	5.1	5.1	5.1	5.0	5.0
40.	5.9	5.9	5.6	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.8	6.6	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.8	5.8	5.7	5.7	5.4	6.7	6.5	6.1	5.7	5.6	5.4	5.6	5.8	6.8	6.9	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	5.9	5.8	6.5	6.5	6.1	5.6	5.5	5.2	5.4	5.6	6.8	6.8	6.1	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.7	5.7	6.3	6.3	5.9	5.4	5.3	5.0	5.2	5.2	6.3	6.3	6.8	6.9	6.9	5.5	5.2
80.	6.4	6.6	5.7	5.7	5.7	5.9	5.7	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.1	7.2	7.2	5.7	5.4
90.	6.4	6.3	5.3	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	6.9	7.0	5.8	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.2	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.7	6.7	6.8	5.7	5.5
110.	6.1	5.9	5.2	5.8	5.8	5.2	5.3	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.5	6.6	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.4	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.1	6.0	5.7	6.1	6.0	5.4	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.1	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.7	5.2	5.3	5.5	5.5	5.6	5.3	5.3	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.6	5.1	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.3	5.3	5.4	5.8	5.7	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.1	5.2	5.9	5.9	5.4	5.3	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.1	5.1	5.1	5.9	5.9	5.5	5.3	5.2	6.6	6.7	6.0	5.7	5.6
200.	5.3	5.4	5.5	5.6	5.7	5.2	5.1	5.1	5.0	5.0	5.9	5.9	5.3	5.4	5.3	6.7	6.5	5.9	5.5	5.6
210.	5.3	5.5	5.7	5.9	5.9	5.2	5.2	5.1	5.0	5.0	5.7	5.7	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.5	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.2	5.4	5.2	6.9	6.6	6.1	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.1	5.6	5.7	5.5	5.8	5.5	7.1	6.7	6.1	5.8	5.8
240.	5.4	5.4	5.8	6.2	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	6.0	6.8	6.5	6.1	5.9	5.8
250.	5.2	5.3	5.4	5.7	5.7	6.5	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.6
260.	5.0	5.0	5.3	5.5	5.5	6.6	6.6	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.1	6.4	6.3	6.1	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.9	5.4	5.3	5.8	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.4	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.8	5.6	5.6	6.2	6.3	5.2	5.2	5.5	5.6	5.7
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	5.8	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.6
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.3	5.5	5.6	5.7
340.	5.5	5.6	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	6.0	5.7	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	5.9	5.9	5.9	5.2	5.1	5.8	5.9	6.2	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.3	6.3	6.2	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.1	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.4	6.6	6.2	6.2	6.1	6.7	6.6	6.3	5.9	5.7	6.2	6.1	5.9	6.8	6.9	7.1	7.2	7.2	5.9	5.8
DEGR.	80	70	0	240	230	50	260	0	0	30	330	260	330	50	50	230	80	80	240	170

THE HIGHEST CONCENTRATION OF 7.20 PPM OCCURRED AT RECEPTOR REC2 .

Alt-5B -- 5_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:17: 6

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761107.0	********	195.	282.	AG	186.	100.0	1.0	20.0	0.92	9.9
2. Boston Ave. SB LT	759658.7	********	759579.6	********	168.	332.	AG	87.	100.0	1.0	10.0	0.76	8.5
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	87.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	87.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759594.2	********	117.	207.	AG	87.	100.0	1.0	10.0	0.55	6.0
6. Boston Ave. NB	759699.9	********	760441.9	********	1558.	152.	AG	98.	100.0	1.0	10.0	1.45	79.2
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	99.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	80.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762175.9	********	308.	162.	AG	80.	100.0	1.0	10.0	0.99	15.6
11. Harvard St. WB	762091.8	********	763340.0	********	1308.	73.	AG	80.	100.0	1.0	10.0	1.19	66.4
12. Broadway EB R	762959.1	********	762881.8	********	84.	293.	AG	59.	100.0	1.0	10.0	0.35	4.3
13. Broadway EB TL	762965.1	********	762140.3	********	900.	294.	AG	89.	100.0	1.0	10.0	1.15	45.7
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	118.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764197.9	********	2243.	150.	AG	100.	100.0	1.0	10.0	1.80	114.0
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	178.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	118.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762468.9	********	1709.	342.	AG	109.	100.0	1.0	10.0	2.23	86.8
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	84.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	84.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764342.3	********	1106.	114.	AG	84.	100.0	1.0	10.0	1.20	56.2
22. Central St. SB	763311.4	********	763331.8	********	44.	27.	AG	84.	100.0	1.0	10.0	0.36	2.2
23. Medford St. NWB	765022.2	********	766006.0	********	1602.	142.	AG	58.	100.0	1.0	10.0	1.16	81.4
24. School St. SB	765002.3	********	765774.9	********	1790.	26.	AG	102.	100.0	1.0	10.0	1.79	90.9
25. Medford St. SEB	764967.1	********	764889.0	********	126.	322.	AG	58.	100.0	1.0	10.0	0.72	6.4
26. Prospect SB	765830.6	********	766028.7	********	383.	31.	AG	169.	100.0	1.0	20.0	1.02	19.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765178.6	********	1466.	206.	AG	276.	100.0	1.0	30.0	1.33	74.5
29. Somerville EB	765797.5	********	765683.3	********	127.	296.	AG	124.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	215.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756603.2	********	*****	249.	AG	98.	100.0	1.0	10.0	4.72	563.9
32. McGrath Hwy NB2 L	767105.3	********	767109.6	********	32.	172.	AG	91.	100.0	1.0	10.0	0.16	1.7
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	91.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768182.6	********	1148.	67.	AG	281.	100.0	1.0	30.0	1.25	58.3
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	147.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	106.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771172.2	********	1597.	125.	AG	147.	100.0	1.0	20.0	1.20	81.1
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	107.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	245.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	196.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	81.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	112.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:17: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	171.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	63.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	101.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774796.0	********	6070.	32.	AG	101.	100.0	1.0	10.0	3.43	308.4
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	102.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	178.	100.0	1.0	20.0	1.24	64.5
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	134.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	98.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:17: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3942.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2722.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3395.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3265.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	615	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	315	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	226	1600	46.20	1	3
6. Boston Ave. NB	*	135	107	3.0	395	1600	46.20	1	3
7. College Ave WB	*	135	108	3.0	385	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	500	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	600	1600	46.20	1	3
12. Broadway EB R	*	120	57	3.0	270	1600	46.20	1	3
13. Broadway EB TL	*	120	86	3.0	445	1600	46.20	1	3
14. Parking Lot	*	120	114	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	430	1600	46.20	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	46.20	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	265	1600	46.20	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	46.20	1	3
20. Central St NB	*	80	54	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	80	54	3.0	505	1600	46.20	1	3
22. Central St. SB	*	80	54	3.0	150	1600	46.20	1	3
23. Medford St. NWB	*	90	42	3.0	890	1600	46.20	1	3
24. School St. SB	*	90	74	3.0	350	1600	46.20	1	3
25. Medford St. SEB	*	90	42	3.0	550	1600	46.20	1	3
26. Prospect SB	*	120	82	3.0	895	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	89	3.0	1380	1600	46.20	1	3
29. Somerville EB	*	120	60	3.0	775	1600	46.20	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	46.20	1	3
31. Washington St. EB	*	135	107	3.0	1285	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	46.20	1	3
34. Washington St. WB	*	135	102	3.0	1240	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1412	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	775	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	350	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	960	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	945	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	225	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.7	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.2	6.6	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.0	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.3	6.6	6.1	6.0	5.8
30.	6.9	6.9	6.5	6.0	6.1	5.6	5.7	5.9	6.4	6.3	5.0	5.0	5.0	5.0	5.0	6.8	6.9	6.4	6.3	6.3
40.	6.8	6.8	6.6	6.0	6.1	5.5	5.7	6.1	6.4	6.3	5.0	5.0	5.0	5.0	5.0	7.0	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.4	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.1	7.3	7.0	6.8	6.7
60.	6.8	6.8	6.4	6.4	6.1	5.5	5.7	6.3	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.2	7.3	6.9	6.4	6.6
70.	7.0	6.8	6.3	6.3	6.1	5.5	5.7	6.4	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.5	6.6	6.5	6.7
80.	7.2	7.1	6.7	6.3	6.2	5.6	5.9	6.6	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.2	6.9	6.4	6.1	5.7	5.9	6.8	6.8	6.8	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.6	7.5	7.2	6.5	6.2	5.7	6.0	7.0	6.9	7.0	5.1	5.1	5.1	5.1	5.1	7.9	7.7	6.9	6.7	6.6
110.	7.8	7.6	7.4	6.4	6.0	5.5	5.8	7.1	7.2	7.1	5.5	5.4	5.3	5.3	5.4	8.0	7.8	7.3	6.7	6.6
120.	7.7	7.4	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.2	6.2	6.3	8.0	7.9	7.2	6.6	6.5
130.	6.6	6.4	6.4	5.6	5.5	5.0	5.1	6.1	6.1	6.0	6.9	7.0	6.8	6.9	6.9	7.2	6.8	6.6	6.6	6.4
140.	5.6	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.2	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.6	6.6	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.3
170.	5.3	5.4	5.7	5.9	5.8	5.2	5.1	5.2	5.1	5.0	6.6	6.6	6.0	6.5	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.8	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.3	5.2	5.8	5.9	5.8	5.8	5.7	5.6	5.2	5.1	6.4	6.5	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.4	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.4	6.4	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.3	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.5	6.4	6.1	6.5	6.4	5.1	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.3	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.6	6.7	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.7	6.5	6.6	6.8	6.9	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	7.0	6.9	5.1	5.3	5.3	5.1	5.1
290.	5.8	5.8	5.7	5.1	5.0	5.5	5.6	6.0	5.8	5.7	7.0	7.0	7.0	7.1	7.1	5.5	5.9	5.8	5.0	5.0
300.	7.0	7.0	7.0	5.5	5.2	5.7	6.1	7.0	6.7	6.6	6.9	6.9	6.8	7.0	7.0	6.3	7.0	6.9	5.3	5.1
310.	7.9	7.9	7.9	5.9	5.5	6.0	6.4	7.7	7.4	7.2	6.1	6.1	5.9	6.0	6.1	6.8	7.8	7.6	5.7	5.5
320.	8.0	7.9	7.8	6.2	5.8	6.3	6.7	7.6	7.2	7.1	5.3	5.3	5.2	5.3	5.3	6.6	7.7	7.4	5.7	5.5
330.	7.6	7.5	7.5	6.1	5.8	6.4	6.7	7.1	6.7	6.8	5.1	5.0	5.1	5.1	5.2	6.5	7.4	7.0	5.9	5.4
340.	7.4	7.4	7.3	6.2	5.9	6.4	6.5	6.7	6.6	6.6	5.1	5.0	5.0	5.1	5.1	6.2	7.1	6.7	5.9	5.5
350.	7.1	7.0	6.9	6.1	5.9	6.3	6.4	6.4	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.3	7.0	6.4	5.9	5.6
360.	6.9	6.9	6.7	6.1	5.8	5.9	5.9	6.2	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.2	6.8	6.0	5.9	5.7
MAX	8.0	7.9	7.9	6.5	6.2	6.4	6.7	7.7	7.4	7.2	7.1	7.0	7.0	7.1	7.1	8.0	7.9	7.6	7.0	7.0
DEGR.	320	310	310	100	80	330	320	310	310	310	140	130	290	290	290	110	120	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.8	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.4	7.3	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.7	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.2	5.0	5.0	5.0	5.1	5.1	6.9	6.9	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.2	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.1	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.3	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.4	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.7	6.9	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.7	6.7	5.8	5.8	5.9	5.3	5.1	6.4	6.6	6.8	6.4	6.3
130.	5.1	5.3	6.2	6.2	6.2	6.3	6.4	6.6	5.5	5.3	6.6	6.8	7.6	6.9	6.7
140.	5.0	5.0	5.5	5.4	5.4	6.4	6.7	6.8	5.6	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.3	6.6	6.7	5.7	5.4	6.7	7.0	7.0	6.4	6.6
160.	5.0	5.1	5.1	5.1	5.1	6.3	6.6	6.6	5.7	5.4	6.8	7.0	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.2	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.6	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.0	6.1	5.9	5.7	5.6	7.2	7.3	7.1	7.0	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.0	5.9	5.8	7.4	7.5	7.3	7.0	6.8
210.	6.4	6.6	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.7	7.5	7.5	7.1	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.3	7.0	6.6	6.2
230.	7.7	8.0	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.2	6.3	6.2	5.8
240.	7.4	7.6	7.0	6.1	5.8	7.0	7.1	6.7	6.9	6.6	5.6	5.9	6.0	6.1	5.8
250.	7.3	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.7	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.6	6.7	6.6	5.5	5.7	6.1	6.1	6.0
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.2	5.5	5.7	6.2	6.3	6.0
280.	6.6	6.8	6.1	5.8	5.6	6.8	6.8	6.8	6.5	6.4	5.5	5.7	6.2	6.3	6.2
290.	6.6	6.7	6.5	6.1	5.9	6.8	6.8	7.1	6.4	6.4	5.4	5.6	6.3	6.3	6.4
300.	6.7	7.1	7.3	6.7	6.5	6.8	6.8	7.1	6.5	6.2	5.3	5.7	6.3	6.6	6.5
310.	7.0	7.5	7.7	7.2	7.1	6.0	6.2	6.6	6.1	5.9	5.0	5.2	5.8	5.9	5.9
320.	7.1	7.4	7.4	6.9	6.9	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.2	5.3
330.	7.2	7.3	6.9	6.6	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.1	7.3	6.7	6.5	6.8	5.6	5.7	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.4	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.4	7.1	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.0	7.7	7.2	7.1	7.0	7.1	7.3	7.1	7.2	7.7	7.5	7.6	7.1	6.9
DEGR.	20	230	310	310	310	240	230	220	220	230	210	200	130	210	140

THE HIGHEST CONCENTRATION OF 8.00 PPM OCCURRED AT RECEPTOR REC16.

6_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:18: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756146.8	********	*	68.	312.	AG	155.	100.0	1.0	20.0	0.31	3.5
2. MVP West	*	756216.0	********	752396.6	********	*	6206.	218.	AG	71.	100.0	1.0	10.0	1.92	315.2
3. Boston Ave South	*	756271.8	********	756845.2	********	*	770.	132.	AG	77.	100.0	1.0	10.0	1.08	39.1
4. MVP East	*	756253.6	********	756792.8	********	*	758.	45.	AG	143.	100.0	1.0	20.0	1.06	38.5
5. Winthrop North	*	759327.2	********	759300.4	********	*	949.	358.	AG	171.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	*	759381.7	********	759537.5	********	*	156.	93.	AG	57.	100.0	1.0	10.0	0.57	7.9
7. MVP East T	*	759381.8	********	764876.3	********	*	5497.	92.	AG	69.	100.0	1.0	10.0	1.75	279.3
8. Winthrop South	*	759345.1	********	759315.3	********	*	1159.	181.	AG	200.	100.0	1.0	20.0	1.35	58.9
9. MVP West	*	759293.5	********	754219.0	********	*	5080.	273.	AG	69.	100.0	1.0	10.0	1.69	258.1
10. South St	*	761297.7	********	761070.9	********	*	232.	282.	AG	186.	100.0	1.0	20.0	0.98	11.8
11. Boston Ave. SB LT	*	759658.7	********	759585.1	********	*	156.	332.	AG	87.	100.0	1.0	10.0	0.72	7.9
12. Boston Ave. SB R	*	759646.0	********	759616.9	********	*	62.	332.	AG	87.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	*	759636.4	********	759599.8	********	*	81.	207.	AG	87.	100.0	1.0	10.0	0.37	4.1
14. College Ave. EB TR	*	759648.1	********	759590.6	********	*	125.	207.	AG	87.	100.0	1.0	10.0	0.58	6.4
15. Boston Ave. NB	*	759699.9	********	760398.2	********	*	1466.	152.	AG	99.	100.0	1.0	10.0	1.44	74.5
16. College Ave WB	*	759720.8	********	760625.0	********	*	1558.	35.	AG	98.	100.0	1.0	10.0	1.45	79.2
17. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	*	762026.6	********	760419.2	********	*	1831.	241.	AG	80.	100.0	1.0	10.0	1.28	93.0
19. Main st. NB	*	762078.3	********	762165.8	********	*	276.	162.	AG	80.	100.0	1.0	10.0	0.96	14.0
20. Harvard St. WB	*	762091.8	********	763289.9	********	*	1255.	73.	AG	80.	100.0	1.0	10.0	1.18	63.8
21. Broadway EB R	*	762959.1	********	762888.7	********	*	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	*	762965.1	********	762290.4	********	*	736.	294.	AG	88.	100.0	1.0	10.0	1.11	37.4
23. Parking Lot	*	763003.3	********	762703.0	********	*	453.	222.	AG	120.	100.0	1.0	10.0	****	23.0
24. Medford St. NB	*	763093.0	********	764092.6	********	*	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	*	763115.6	********	763578.6	********	*	504.	113.	AG	176.	100.0	1.0	20.0	1.05	25.6
26. Dexter St. SWB	*	763101.5	********	764036.9	********	*	1287.	47.	AG	120.	100.0	1.0	10.0	****	65.4
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763108.3	********	*	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	*	763301.4	********	763125.6	********	*	398.	206.	AG	78.	100.0	1.0	10.0	1.03	20.2
30. Highland St. WB	*	763328.5	********	763875.5	********	*	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	*	763311.4	********	763334.4	********	*	50.	27.	AG	78.	100.0	1.0	10.0	0.32	2.5
32. Medford St. NWB	*	765022.2	********	765221.5	********	*	324.	142.	AG	50.	100.0	1.0	10.0	0.97	16.5
33. School St. SB	*	765002.3	********	765636.0	********	*	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	*	764967.1	********	764882.7	********	*	136.	322.	AG	50.	100.0	1.0	10.0	0.58	6.9
35. Prospect SB	*	765830.6	********	766165.3	********	*	647.	31.	AG	173.	100.0	1.0	20.0	1.08	32.9
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765183.5	********	*	1455.	206.	AG	270.	100.0	1.0	30.0	1.30	73.9
38. Somerville EB	*	765797.5	********	765680.1	********	*	131.	296.	AG	128.	100.0	1.0	20.0	0.55	6.6
39. McGrath Highway SB1	*	766950.5	********	766630.0	********	*	1764.	350.	AG	219.	100.0	1.0	20.0	2.27	89.6
40. Washington St. EB	*	766952.8	********	757231.4	********	*	*****	249.	AG	95.	100.0	1.0	10.0	4.13	529.7
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767451.0	********	*	2697.	173.	AG	94.	100.0	1.0	10.0	1.72	137.0
43. Washington St. WB	*	767129.9	********	768494.1	********	*	1487.	67.	AG	288.	100.0	1.0	30.0	1.40	75.6
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	102.	100.0	1.0	10.0	1.62	81.3
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	178.	100.0	1.0	20.0	1.27	69.9
50. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	134.	100.0	1.0	20.0	0.74	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	98.	100.0	1.0	10.0	0.83	6.7
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2540.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2360.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1010.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1195.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1925.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2310.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3300.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	335	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1175	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	575	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1305	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	460	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1140	1600	46.20	1	3
8. Winthrop South	*	135	109	3.0	670	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1100	1600	46.20	1	3
10. South St	*	120	90	3.0	650	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	120	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	241	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	375	1600	46.20	1	3
16. College Ave WB	*	135	107	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	650	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	485	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	595	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	250	1600	46.20	1	3
22. Broadway EB TL	*	120	85	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	116	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
25. Broadway St. WB	*	120	85	3.0	841	1600	46.20	1	3
26. Dexter St. SWB	*	120	116	3.0	70	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
29. Central St NB	*	90	57	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
31. Central St. SB	*	90	57	3.0	160	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	865	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	520	1600	46.20	1	3
35. Prospect SB	*	120	84	3.0	895	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	87	3.0	1455	1600	46.20	1	3
38. Somerville EB	*	120	62	3.0	770	1600	46.20	1	3
39. McGrath Highway SB1	*	120	106	3.0	540	1600	46.20	1	3
40. Washington St. EB	*	120	92	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	345	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	980	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	980	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	220	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.5	5.3	5.2
10.	6.2	6.2	6.1	5.9	5.7	5.3	5.5	6.0	6.0	6.0	5.1	5.1	5.1	5.0	5.0	5.2	5.5	5.4	5.4	5.3
20.	6.2	6.2	6.3	5.8	5.6	5.3	5.5	6.1	6.1	6.1	5.1	5.1	5.1	5.0	5.0	5.2	5.6	5.4	5.4	5.4
30.	6.2	6.3	6.6	5.8	5.6	5.3	5.5	6.2	6.2	6.2	5.3	5.3	5.3	5.0	5.0	5.2	5.7	5.6	5.8	5.9
40.	6.0	6.1	6.5	5.7	5.5	5.1	5.3	6.2	6.2	6.2	5.8	5.9	5.8	5.1	5.0	5.2	5.9	6.2	6.2	6.1
50.	5.6	5.6	6.2	5.4	5.3	5.0	5.1	5.7	5.7	5.7	6.3	6.4	6.4	5.3	5.1	5.4	6.0	6.6	6.4	6.4
60.	5.3	5.4	5.5	5.3	5.3	5.0	5.0	5.3	5.3	5.3	6.5	6.5	6.4	5.5	5.3	5.5	6.2	6.5	6.3	6.3
70.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.3	6.3	6.3	5.5	5.3	5.5	6.4	6.2	6.1	6.1
80.	5.1	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.1	5.5	5.3	5.5	6.3	6.2	6.1	5.9
90.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	6.0	6.0	5.9	5.5	5.3	5.6	6.4	6.0	5.9	5.9
100.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.8	5.5	5.3	5.7	6.4	6.1	5.9	5.9
110.	5.2	5.2	5.6	5.6	5.6	5.1	5.2	5.1	5.0	5.0	5.9	5.9	5.7	5.4	5.3	5.8	6.5	6.2	5.9	5.9
120.	5.1	5.2	5.7	5.7	5.7	5.3	5.4	5.3	5.0	5.0	5.9	5.9	5.9	5.7	5.5	5.9	6.4	6.4	5.9	5.8
130.	5.0	5.1	5.6	5.5	5.5	5.7	5.7	5.7	5.1	5.0	5.9	6.0	6.1	5.8	5.7	5.8	6.3	6.1	5.8	5.7
140.	5.0	5.0	5.4	5.3	5.3	5.8	5.9	5.9	5.2	5.1	6.0	6.2	6.3	5.8	5.8	5.5	5.9	5.9	5.7	5.7
150.	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.2	5.2	6.1	6.1	6.1	5.8	5.8	5.3	5.4	5.7	5.7	5.7
160.	5.0	5.0	5.1	5.0	5.0	5.7	5.7	5.7	5.2	5.2	6.1	6.1	6.0	5.9	5.6	5.2	5.5	5.7	5.7	5.7
170.	5.0	5.1	5.1	5.0	5.0	5.6	5.6	5.6	5.2	5.2	6.2	6.1	6.0	5.9	5.6	5.2	5.4	5.8	5.8	5.8
180.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.5	5.3	5.3	6.2	6.3	6.0	5.9	5.5	5.3	5.4	5.9	5.9	5.9
190.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.3	6.4	6.3	6.1	6.0	5.5	5.3	5.5	6.0	6.1	6.1
200.	5.2	5.2	5.3	5.0	5.0	5.4	5.4	5.5	5.4	5.2	6.5	6.5	6.3	6.0	5.5	5.3	5.5	6.2	6.2	6.2
210.	5.6	5.7	5.7	5.1	5.0	5.4	5.5	5.8	5.6	5.6	6.6	6.5	6.4	5.9	5.4	5.2	5.4	6.2	6.2	6.2
220.	6.1	6.1	6.2	5.3	5.2	5.7	5.8	6.4	6.0	5.8	6.4	6.2	6.1	5.6	5.2	5.0	5.2	5.8	5.8	5.9
230.	6.2	6.2	6.2	5.4	5.3	5.8	5.9	6.5	6.1	6.1	5.9	5.9	5.7	5.4	5.2	5.0	5.0	5.4	5.5	5.5
240.	6.1	6.1	6.1	5.5	5.3	5.7	5.9	6.2	6.1	6.0	5.5	5.4	5.5	5.3	5.2	5.0	5.0	5.1	5.1	5.1
250.	6.0	6.0	6.0	5.4	5.3	5.8	5.9	6.1	6.0	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
260.	5.8	5.8	5.8	5.4	5.2	5.7	6.0	5.9	6.1	6.1	5.2	5.3	5.5	5.2	5.2	5.0	5.0	5.1	5.1	5.1
270.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.2	5.2	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.7	5.7	5.7	5.4	5.2	5.8	5.9	6.0	6.0	6.0	5.1	5.1	5.6	5.3	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.7	5.7	5.7	5.3	5.3	5.9	6.1	6.1	5.8	5.9	5.1	5.1	5.6	5.3	5.4	5.1	5.1	5.2	5.0	5.0
300.	5.7	5.7	6.0	5.5	5.4	6.0	6.0	6.1	5.8	5.8	5.1	5.1	5.5	5.4	5.4	5.2	5.2	5.5	5.0	5.0
310.	5.7	5.8	6.2	5.7	5.5	5.8	6.0	6.0	5.9	5.7	5.0	5.1	5.4	5.3	5.3	5.3	5.4	5.8	5.1	5.0
320.	5.8	5.8	6.1	5.9	5.7	5.7	5.7	6.0	5.9	5.8	5.0	5.0	5.2	5.2	5.2	5.4	5.5	6.0	5.1	5.1
330.	5.8	5.9	6.2	5.8	5.8	5.4	5.5	5.7	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.4	5.5	6.0	5.1	5.1
340.	5.8	5.9	6.0	5.7	5.8	5.3	5.4	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.3	5.4	5.8	5.1	5.1
350.	5.9	6.0	5.9	5.8	5.7	5.3	5.4	5.8	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.3	5.5	5.7	5.3	5.2
360.	6.0	6.1	6.1	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.0	5.0	5.2	5.4	5.5	5.3	5.2
MAX	6.2	6.3	6.6	5.9	5.8	6.0	6.1	6.5	6.2	6.2	6.6	6.5	6.4	6.0	5.8	5.9	6.5	6.6	6.4	6.4
DEGR.	10	30	30	10	330	300	290	230	30	30	210	60	50	190	140	120	110	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.8	5.9	6.7	6.3	6.1	6.9	6.8	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.7	6.8	5.2	5.1
10.	5.9	6.1	6.8	6.4	6.4	6.0	6.1	6.3	6.0	6.0	5.0	5.0	5.5	5.5	5.5	7.0	7.0	7.0	5.4	5.2
20.	6.1	6.3	6.6	6.2	6.3	5.5	5.7	5.8	5.9	5.9	5.0	5.0	5.2	5.1	5.2	6.8	6.7	6.8	5.6	5.4
30.	6.1	6.2	6.2	6.1	6.2	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1	6.6	6.5	6.5	5.5	5.4
40.	6.2	6.2	6.1	6.1	6.2	5.3	5.5	6.0	6.0	5.9	5.1	5.1	5.1	5.0	5.1	6.3	6.3	6.3	5.4	5.4
50.	6.1	6.2	6.2	6.3	6.2	5.3	5.5	6.1	6.1	6.0	5.1	5.1	5.1	5.0	5.0	6.3	6.1	6.2	5.4	5.4
60.	6.3	6.3	6.4	6.3	6.2	5.4	5.6	6.2	6.3	6.2	5.1	5.1	5.1	5.0	5.0	6.1	6.1	6.1	5.5	5.4
70.	6.4	6.3	6.5	6.4	6.2	5.4	5.6	6.5	6.4	6.3	5.2	5.2	5.2	5.0	5.0	6.1	6.1	6.2	5.6	5.3
80.	6.4	6.7	6.8	6.4	6.1	5.3	5.6	6.6	6.5	6.5	5.5	5.4	5.4	5.0	5.0	6.1	6.1	6.4	5.7	5.6
90.	6.4	6.4	6.6	6.2	6.0	5.2	5.4	6.4	6.4	6.4	6.0	6.0	6.0	5.2	5.0	6.1	6.4	7.0	6.2	6.1
100.	6.0	6.0	6.1	5.9	5.8	5.0	5.1	5.9	5.8	5.8	6.4	6.6	6.6	5.4	5.2	6.4	6.6	7.4	6.5	6.4
110.	5.4	5.5	5.6	5.8	5.8	5.0	5.0	5.3	5.3	5.3	6.5	6.6	6.6	5.6	5.4	6.5	6.7	7.3	6.4	6.1
120.	5.3	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.3	6.3	5.6	5.4	6.5	6.7	7.0	6.1	6.1
130.	5.4	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	6.2	6.2	6.2	5.6	5.3	6.6	6.9	6.8	5.9	5.9
140.	5.3	5.4	5.7	5.9	6.0	5.0	5.0	5.1	5.1	5.1	6.1	6.1	6.1	5.5	5.4	6.7	6.7	6.5	5.9	6.0
150.	5.3	5.5	5.9	6.0	6.0	5.1	5.2	5.1	5.1	5.1	6.0	6.0	5.9	5.6	5.4	6.9	6.9	6.6	6.0	5.9
160.	5.3	5.5	6.1	6.1	6.2	5.3	5.3	5.2	5.0	5.0	5.9	5.9	6.0	5.6	5.5	7.0	7.0	6.8	6.1	5.9
170.	5.1	5.3	6.1	6.3	6.2	5.7	5.8	5.6	5.0	5.0	5.9	5.9	6.3	5.9	5.9	7.2	7.0	6.8	6.0	5.8
180.	5.1	5.2	6.0	6.0	6.0	6.3	6.5	6.2	5.1	5.1	6.1	6.3	6.8	6.4	6.5	6.7	6.6	6.4	5.9	5.7
190.	5.0	5.0	5.5	5.6	5.6	6.7	6.9	6.4	5.4	5.1	6.2	6.4	6.8	6.5	6.5	6.1	6.0	6.0	5.6	5.6
200.	5.0	5.0	5.2	5.2	5.2	6.7	6.7	6.2	5.5	5.3	6.2	6.4	6.5	6.3	6.5	5.5	5.5	5.8	5.6	5.6
210.	5.0	5.0	5.0	5.1	5.1	6.4	6.5	5.9	5.5	5.3	6.2	6.4	6.4	6.1	6.3	5.4	5.5	5.6	5.6	5.6
220.	5.0	5.0	5.0	5.0	5.0	6.3	6.3	5.7	5.6	5.4	6.3	6.4	6.2	6.3	6.2	5.3	5.4	5.7	5.7	5.7
230.	5.1	5.1	5.0	5.0	5.0	6.2	6.2	5.4	5.4	5.4	6.3	6.3	6.2	6.3	6.2	5.2	5.4	5.7	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.4	6.3	6.1	6.4	6.3	6.1	5.2	5.4	5.8	5.8	5.8
250.	5.1	5.1	5.1	5.0	5.0	6.0	6.0	5.4	5.4	5.3	6.4	6.5	6.6	6.4	6.2	5.3	5.5	5.9	5.9	5.9
260.	5.4	5.4	5.4	5.0	5.0	6.0	6.0	5.8	5.7	5.6	6.6	6.4	6.8	6.3	6.2	5.3	5.5	6.0	6.0	6.0
270.	6.0	6.0	5.9	5.2	5.1	6.1	6.2	6.2	6.0	6.1	6.5	6.4	6.9	6.2	6.0	5.1	5.3	5.9	5.9	5.9
280.	6.2	6.2	6.2	5.4	5.2	6.2	6.4	6.5	6.3	6.6	5.9	6.0	6.5	6.0	5.9	5.0	5.1	5.6	5.6	5.6
290.	6.2	6.2	6.1	5.5	5.3	6.3	6.4	6.4	6.4	6.6	5.5	5.7	6.1	5.9	5.9	5.0	5.0	5.2	5.2	5.2
300.	6.1	6.1	5.9	5.5	5.3	6.3	6.4	6.3	6.3	6.5	5.4	5.5	5.9	5.9	5.9	5.0	5.0	5.1	5.1	5.1
310.	5.9	6.0	5.7	5.4	5.3	6.3	6.4	6.2	6.4	6.4	5.4	5.5	6.0	6.0	6.0	5.0	5.0	5.1	5.1	5.1
320.	5.8	5.8	5.6	5.4	5.3	6.4	6.5	6.3	6.4	6.4	5.4	5.6	6.0	6.0	6.1	5.1	5.0	5.1	5.0	5.0
330.	5.7	5.7	5.5	5.4	5.2	6.5	6.7	6.5	6.5	6.4	5.5	5.6	6.2	6.2	6.2	5.2	5.2	5.2	5.0	5.0
340.	5.7	5.7	5.7	5.6	5.3	6.9	6.8	6.8	6.4	6.2	5.3	5.5	6.4	6.3	6.5	5.5	5.4	5.4	5.0	5.0
350.	5.7	5.7	6.2	5.8	5.8	6.9	7.0	7.0	6.3	6.1	5.2	5.4	6.4	6.4	6.4	6.1	6.1	6.1	5.0	5.0
360.	5.8	5.9	6.7	6.3	6.1	6.9	6.8	6.7	6.2	6.0	5.0	5.2	6.0	6.0	6.0	6.8	6.7	6.8	5.2	5.1
MAX	6.4	6.7	6.8	6.4	6.4	6.9	7.0	7.0	6.5	6.6	6.6	6.6	6.9	6.5	6.5	7.2	7.0	7.4	6.5	6.4
DEGR.	70	80	10	10	10	0	350	350	80	280	260	100	270	190	180	170	10	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
10.	5.7	5.7	5.7	5.1	5.0	5.7	5.7	6.2	6.1	6.1	5.5	5.6	5.7	5.7	5.7
20.	5.9	5.9	5.9	5.3	5.1	5.8	5.9	6.2	6.2	6.1	5.2	5.2	5.4	5.4	5.4
30.	5.9	5.9	5.9	5.4	5.2	5.9	6.0	6.2	5.9	5.9	5.1	5.1	5.2	5.2	5.2
40.	5.8	5.8	5.8	5.4	5.2	5.9	6.0	6.0	5.9	5.8	5.1	5.1	5.1	5.1	5.1
50.	5.7	5.7	5.7	5.3	5.2	5.9	5.9	6.0	5.8	5.7	5.1	5.1	5.1	5.1	5.1
60.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.1
70.	5.6	5.6	5.6	5.3	5.2	5.9	5.9	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
80.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.8	5.6	5.6	5.0	5.0	5.0	5.0	5.0
90.	5.5	5.5	5.5	5.4	5.4	5.8	5.7	5.8	5.7	5.7	5.0	5.0	5.0	5.0	5.0
100.	5.6	5.6	5.6	5.5	5.8	5.7	5.6	5.7	5.6	5.6	5.0	5.0	5.0	5.0	5.0
110.	5.5	5.5	5.6	5.9	5.9	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
120.	5.5	5.5	5.7	6.1	6.1	5.3	5.3	5.7	5.6	5.7	5.0	5.0	5.0	5.0	5.0
130.	5.6	5.6	5.8	6.1	6.1	5.2	5.4	5.7	5.7	5.7	5.1	5.1	5.0	5.0	5.0
140.	5.6	5.6	5.8	6.2	6.2	5.3	5.4	5.8	5.8	5.8	5.1	5.1	5.0	5.0	5.1
150.	5.7	5.7	6.0	6.2	6.1	5.3	5.4	5.9	5.9	5.9	5.1	5.1	5.0	5.1	5.1
160.	5.8	5.9	6.1	6.2	6.1	5.2	5.4	6.1	6.0	6.1	5.2	5.2	5.1	5.1	5.1
170.	6.0	6.1	6.2	6.1	5.9	5.1	5.3	6.1	6.1	6.1	5.5	5.5	5.4	5.3	5.2
180.	6.0	6.2	6.1	5.9	5.8	5.0	5.1	5.9	5.8	5.9	5.9	5.9	5.8	5.7	5.6
190.	5.8	5.9	5.8	5.7	5.7	5.0	5.0	5.5	5.4	5.5	6.1	6.1	6.1	6.0	5.9
200.	5.4	5.5	5.4	5.7	5.7	5.0	5.0	5.2	5.2	5.2	6.0	6.0	6.1	6.0	6.0
210.	5.2	5.4	5.4	5.7	5.7	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.9	5.9	5.9
220.	5.2	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.9	5.9	5.8
230.	5.1	5.4	5.5	5.8	5.8	5.0	5.0	5.1	5.0	5.1	5.7	5.7	5.9	5.9	5.8
240.	5.2	5.3	5.7	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.9	5.9	5.8
250.	5.2	5.3	5.7	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.8	5.9	5.8
260.	5.1	5.2	5.7	6.0	5.9	5.0	5.0	5.0	5.0	5.0	5.6	5.6	6.0	5.8	5.6
270.	5.0	5.1	5.6	6.0	5.8	5.1	5.2	5.2	5.0	5.0	5.7	5.7	6.0	5.7	5.5
280.	5.0	5.1	5.5	5.8	5.6	5.3	5.4	5.5	5.0	5.0	5.6	5.8	6.1	5.7	5.6
290.	5.1	5.0	5.2	5.4	5.3	5.5	5.7	5.7	5.2	5.0	5.7	5.8	5.8	5.5	5.7
300.	5.1	5.1	5.1	5.3	5.2	5.8	5.9	6.0	5.4	5.1	6.0	6.0	5.6	5.6	5.6
310.	5.0	5.0	5.0	5.0	5.1	5.8	5.8	5.7	5.3	5.4	5.9	6.0	5.6	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	6.0	5.6	5.6	5.6
330.	5.0	5.1	5.0	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	6.1	5.7	5.7	5.7
340.	5.1	5.1	5.1	5.0	5.0	5.7	5.7	5.6	5.4	5.3	6.1	5.9	5.8	5.8	5.8
350.	5.1	5.2	5.1	5.0	5.0	5.7	5.6	5.7	5.5	5.6	6.0	5.9	5.9	5.9	5.9
360.	5.3	5.4	5.3	5.0	5.0	5.7	5.6	5.9	5.9	6.0	5.9	5.9	5.9	5.9	5.9
MAX	6.0	6.2	6.2	6.2	6.2	5.9	6.0	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
DEGR.	170	180	170	140	140	30	30	10	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 7.40 PPM OCCURRED AT RECEPTOR REC38.

6_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:18:36

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756146.8	********	*	68.	312.	AG	155.	100.0	1.0	20.0	0.31	3.5
2. MVP West	*	756216.0	********	752396.6	********	*	6206.	218.	AG	71.	100.0	1.0	10.0	1.92	315.2
3. Boston Ave South	*	756271.8	********	756845.2	********	*	770.	132.	AG	77.	100.0	1.0	10.0	1.08	39.1
4. MVP East	*	756253.6	********	756792.8	********	*	758.	45.	AG	143.	100.0	1.0	20.0	1.06	38.5
5. Winthrop North	*	759327.2	********	759300.4	********	*	949.	358.	AG	171.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	*	759381.7	********	759537.5	********	*	156.	93.	AG	57.	100.0	1.0	10.0	0.57	7.9
7. MVP East T	*	759381.8	********	764876.3	********	*	5497.	92.	AG	69.	100.0	1.0	10.0	1.75	279.3
8. Winthrop South	*	759345.1	********	759315.3	********	*	1159.	181.	AG	200.	100.0	1.0	20.0	1.35	58.9
9. MVP West	*	759293.5	********	754219.0	********	*	5080.	273.	AG	69.	100.0	1.0	10.0	1.69	258.1
10. South St	*	761297.7	********	761070.9	********	*	232.	282.	AG	186.	100.0	1.0	20.0	0.98	11.8
11. Boston Ave. SB LT	*	759658.7	********	759585.1	********	*	156.	332.	AG	87.	100.0	1.0	10.0	0.72	7.9
12. Boston Ave. SB R	*	759646.0	********	759616.9	********	*	62.	332.	AG	87.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	*	759636.4	********	759599.8	********	*	81.	207.	AG	87.	100.0	1.0	10.0	0.37	4.1
14. College Ave. EB TR	*	759648.1	********	759590.6	********	*	125.	207.	AG	87.	100.0	1.0	10.0	0.58	6.4
15. Boston Ave. NB	*	759699.9	********	760398.2	********	*	1466.	152.	AG	99.	100.0	1.0	10.0	1.44	74.5
16. College Ave WB	*	759720.8	********	760625.0	********	*	1558.	35.	AG	98.	100.0	1.0	10.0	1.45	79.2
17. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	*	762026.6	********	760419.2	********	*	1831.	241.	AG	80.	100.0	1.0	10.0	1.28	93.0
19. Main st. NB	*	762078.3	********	762165.8	********	*	276.	162.	AG	80.	100.0	1.0	10.0	0.96	14.0
20. Harvard St. WB	*	762091.8	********	763289.9	********	*	1255.	73.	AG	80.	100.0	1.0	10.0	1.18	63.8
21. Broadway EB R	*	762959.1	********	762888.7	********	*	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	*	762965.1	********	762290.4	********	*	736.	294.	AG	88.	100.0	1.0	10.0	1.11	37.4
23. Parking Lot	*	763003.3	********	762703.0	********	*	453.	222.	AG	120.	100.0	1.0	10.0	****	23.0
24. Medford St. NB	*	763093.0	********	764092.6	********	*	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	*	763115.6	********	763578.6	********	*	504.	113.	AG	176.	100.0	1.0	20.0	1.05	25.6
26. Dexter St. SWB	*	763101.5	********	764036.9	********	*	1287.	47.	AG	120.	100.0	1.0	10.0	****	65.4
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763108.3	********	*	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	*	763301.4	********	763125.6	********	*	398.	206.	AG	78.	100.0	1.0	10.0	1.03	20.2
30. Highland St. WB	*	763328.5	********	763875.5	********	*	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	*	763311.4	********	763334.4	********	*	50.	27.	AG	78.	100.0	1.0	10.0	0.32	2.5
32. Medford St. NWB	*	765022.2	********	765221.5	********	*	324.	142.	AG	50.	100.0	1.0	10.0	0.97	16.5
33. School St. SB	*	765002.3	********	765636.0	********	*	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	*	764967.1	********	764882.7	********	*	136.	322.	AG	50.	100.0	1.0	10.0	0.58	6.9
35. Prospect SB	*	765830.6	********	766165.3	********	*	647.	31.	AG	173.	100.0	1.0	20.0	1.08	32.9
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765183.5	********	*	1455.	206.	AG	270.	100.0	1.0	30.0	1.30	73.9
38. Somerville EB	*	765797.5	********	765680.1	********	*	131.	296.	AG	128.	100.0	1.0	20.0	0.55	6.6
39. McGrath Highway SB1	*	766950.5	********	766630.0	********	*	1764.	350.	AG	219.	100.0	1.0	20.0	2.27	89.6
40. Washington St. EB	*	766952.8	********	757231.4	********	*	*****	249.	AG	95.	100.0	1.0	10.0	4.13	529.7
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767451.0	********	*	2697.	173.	AG	94.	100.0	1.0	10.0	1.72	137.0
43. Washington St. WB	*	767129.9	********	768494.1	********	*	1487.	67.	AG	288.	100.0	1.0	30.0	1.40	75.6
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	102.	100.0	1.0	10.0	1.62	81.3
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	178.	100.0	1.0	20.0	1.27	69.9
50. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	134.	100.0	1.0	20.0	0.74	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	98.	100.0	1.0	10.0	0.83	6.7
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2540.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2360.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1010.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1195.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1925.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2310.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3300.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	335	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1175	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	575	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1305	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	460	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1140	1600	46.20	1	3
8. Winthrop South	*	135	109	3.0	670	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1100	1600	46.20	1	3
10. South St	*	120	90	3.0	650	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	120	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	241	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	375	1600	46.20	1	3
16. College Ave WB	*	135	107	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	650	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	485	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	595	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	250	1600	46.20	1	3
22. Broadway EB TL	*	120	85	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	116	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
25. Broadway St. WB	*	120	85	3.0	841	1600	46.20	1	3
26. Dexter St. SWB	*	120	116	3.0	70	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
29. Central St NB	*	90	57	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
31. Central St. SB	*	90	57	3.0	160	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	865	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	520	1600	46.20	1	3
35. Prospect SB	*	120	84	3.0	895	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	87	3.0	1455	1600	46.20	1	3
38. Somerville EB	*	120	62	3.0	770	1600	46.20	1	3
39. McGrath Highway SB1	*	120	106	3.0	540	1600	46.20	1	3
40. Washington St. EB	*	120	92	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	345	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	980	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	980	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:18:36

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	220	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
10.	6.0	5.9	5.7	5.6	5.6	5.2	5.2	5.4	5.5	5.5	5.1	5.1	5.0	5.0	5.0	5.5	5.9	5.4	5.4	5.2
20.	6.0	5.7	5.6	5.6	5.6	5.2	5.2	5.5	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.5	5.8	5.5	5.5	5.4
30.	5.9	5.6	5.5	5.6	5.4	5.2	5.2	5.4	5.6	5.6	5.6	5.6	5.6	5.1	5.0	5.4	5.9	5.7	5.7	5.5
40.	5.5	5.5	5.3	5.3	5.3	5.0	5.2	5.2	5.5	5.5	5.8	5.8	5.8	5.2	5.2	5.6	5.9	5.8	5.6	5.5
50.	5.4	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.2	5.2	5.8	5.8	5.7	5.2	5.2	5.6	6.0	5.6	5.4	5.3
60.	5.2	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.1	5.1	5.7	5.7	5.5	5.2	5.2	5.6	5.8	5.3	5.3	5.4
70.	5.2	5.2	5.1	5.3	5.3	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.2	5.6	5.7	5.3	5.3	5.4
80.	5.1	5.2	5.2	5.3	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.6	5.4	5.1	5.3	5.6
90.	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.6	5.4	5.1	5.3	5.6
100.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.3	5.1	5.3	5.6
110.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
120.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.7	5.4	5.1	5.4	5.6
130.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.2	5.2	5.2	5.9	5.4	5.3	5.6	5.6
140.	5.2	5.2	5.6	5.6	5.6	5.2	5.2	5.0	5.0	5.0	5.5	5.5	5.2	5.1	5.1	5.9	5.5	5.5	5.6	5.6
150.	5.0	5.2	5.6	5.5	5.5	5.5	5.5	5.2	5.1	5.0	5.5	5.5	5.3	5.3	5.3	6.0	5.6	5.7	5.5	5.5
160.	5.0	5.0	5.4	5.3	5.3	5.6	5.6	5.3	5.2	5.1	5.6	5.6	5.5	5.4	5.6	5.8	5.6	5.7	5.6	5.4
170.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.3	5.2	5.2	5.6	5.7	5.5	5.5	5.6	5.5	5.5	5.6	5.4	5.4
180.	5.1	5.1	5.1	5.1	5.1	5.5	5.5	5.3	5.2	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.5	5.6	5.5
190.	5.2	5.3	5.3	5.1	5.1	5.5	5.5	5.4	5.3	5.1	5.7	5.7	5.6	5.5	5.5	5.2	5.3	5.7	5.6	5.4
200.	5.3	5.5	5.3	5.1	5.1	5.6	5.4	5.4	5.3	5.2	5.7	5.7	5.6	5.5	5.4	5.1	5.2	5.3	5.5	5.3
210.	5.3	5.5	5.5	5.0	5.1	5.3	5.4	5.5	5.3	5.3	5.8	5.7	5.5	5.4	5.3	5.1	5.1	5.2	5.2	5.2
220.	5.4	5.8	5.6	5.1	5.0	5.3	5.5	5.4	5.4	5.5	5.5	5.4	5.3	5.4	5.3	5.0	5.0	5.2	5.1	5.1
230.	5.4	5.8	5.5	5.1	5.0	5.4	5.5	5.3	5.5	5.5	5.3	5.2	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.0
240.	5.4	5.7	5.4	5.2	5.0	5.4	5.4	5.2	5.4	5.5	5.2	5.2	5.2	5.4	5.3	5.1	5.1	5.0	5.0	5.0
250.	5.4	5.8	5.3	5.2	5.1	5.5	5.3	5.2	5.4	5.5	5.1	5.2	5.2	5.3	5.3	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.7	5.2	5.3	5.1	5.6	5.3	5.2	5.4	5.5	5.1	5.2	5.4	5.3	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.5	5.7	5.2	5.3	5.1	5.6	5.2	5.1	5.4	5.6	5.1	5.2	5.4	5.3	5.3	5.0	5.1	5.0	5.0	5.0
280.	5.5	5.7	5.2	5.3	5.2	5.6	5.2	5.2	5.6	5.6	5.1	5.2	5.4	5.3	5.2	5.1	5.2	5.0	5.0	5.0
290.	5.5	5.7	5.2	5.3	5.2	5.6	5.3	5.2	5.6	5.5	5.1	5.2	5.4	5.3	5.3	5.1	5.2	5.0	5.0	5.0
300.	5.5	5.7	5.3	5.3	5.3	5.6	5.2	5.4	5.5	5.5	5.1	5.1	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0
310.	5.5	5.7	5.3	5.2	5.2	5.5	5.2	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.2	5.5	5.0	5.0	5.0
320.	5.5	5.7	5.4	5.3	5.3	5.6	5.3	5.8	5.4	5.5	5.0	5.1	5.4	5.4	5.3	5.4	5.9	5.1	5.0	5.0
330.	5.5	5.7	5.5	5.4	5.6	5.4	5.3	5.7	5.4	5.4	5.0	5.1	5.3	5.2	5.2	5.6	6.2	5.2	5.1	5.0
340.	5.6	5.8	5.6	5.6	5.5	5.1	5.5	5.7	5.3	5.4	5.0	5.0	5.1	5.1	5.1	5.6	6.3	5.5	5.1	5.1
350.	5.8	5.9	5.6	5.6	5.6	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	6.4	5.5	5.1	5.1
360.	5.9	5.8	5.6	5.6	5.5	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.6	6.2	5.5	5.2	5.1
MAX	6.0	5.9	5.7	5.6	5.6	5.6	5.6	5.8	5.7	5.7	5.8	5.8	5.8	5.6	5.7	6.0	6.4	5.8	5.7	5.6
DEGR.	10	10	10	0	10	160	160	320	20	20	40	40	40	180	180	150	350	40	30	80

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
10.	5.8	5.9	5.8	5.7	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.7	5.3	5.2
20.	5.8	5.8	5.8	5.7	5.7	5.2	5.2	5.4	5.4	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.6	5.3	5.2
30.	6.0	5.8	5.8	5.7	5.7	5.2	5.3	5.5	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.4	5.2	5.2
40.	5.9	5.8	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.1	5.1	5.1	5.0	5.0	5.6	5.5	5.5	5.3	5.2
50.	5.9	6.0	5.8	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.4	5.4
60.	6.0	5.8	6.0	5.7	5.6	5.2	5.3	5.8	5.8	5.8	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.8	5.7	5.6
70.	5.7	5.6	5.8	5.6	5.5	5.1	5.2	5.7	5.7	5.7	5.8	5.8	5.8	5.1	5.0	5.5	5.7	6.1	6.0	5.8
80.	5.3	5.5	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.5	6.0	6.0	5.9	5.3	5.1	5.7	5.8	6.2	5.9	5.9
90.	5.2	5.3	5.5	5.4	5.4	5.0	5.0	5.1	5.1	5.2	6.0	6.0	5.9	5.3	5.2	5.7	5.8	6.0	5.7	5.9
100.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.9	5.6	5.7
110.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.8	5.8	5.7	5.8	5.7
120.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.5	5.3	5.2	5.9	6.0	5.7	5.7	5.6
130.	5.1	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.3	5.2	5.2	5.8	5.9	5.9	5.7	5.5
140.	5.1	5.2	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	5.9	5.9	5.9	5.7	5.5
150.	5.1	5.1	5.8	5.6	5.6	5.3	5.3	5.3	5.0	5.0	5.5	5.5	5.6	5.3	5.3	5.9	6.0	6.0	5.5	5.5
160.	5.0	5.1	5.6	5.6	5.6	5.5	5.6	5.6	5.1	5.0	5.5	5.6	5.9	5.6	5.6	6.0	5.8	5.8	5.5	5.4
170.	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1	5.6	5.6	5.9	5.8	5.7	5.5	5.6	5.6	5.4	5.4
180.	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.3	5.1	5.6	5.8	6.0	5.9	5.7	5.3	5.4	5.4	5.5	5.4
190.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.2	5.1	5.6	5.8	5.8	5.7	5.7	5.3	5.3	5.5	5.6	5.6
200.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.4	5.2	5.1	5.7	5.7	5.8	5.8	5.8	5.2	5.3	5.5	5.6	5.6
210.	5.1	5.1	5.0	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.9	5.9	6.0	5.7	5.7	5.2	5.3	5.7	5.7	5.7
220.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.2	5.8	5.9	6.0	5.7	5.6	5.2	5.3	5.8	5.7	5.7
230.	5.4	5.4	5.4	5.0	5.0	5.5	5.5	5.6	5.4	5.3	6.1	6.0	6.2	5.7	5.6	5.2	5.3	5.9	5.8	5.8
240.	5.8	5.8	5.7	5.2	5.0	5.5	5.7	5.9	5.5	5.5	6.2	6.2	6.1	5.6	5.5	5.1	5.2	5.8	5.8	5.8
250.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	6.1	5.7	5.7	6.0	5.8	5.8	5.4	5.4	5.0	5.0	5.5	5.5	5.5
260.	5.9	5.9	5.9	5.3	5.2	5.7	5.8	5.9	5.7	5.7	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.1
270.	5.8	5.8	5.7	5.3	5.2	5.7	5.8	5.8	5.7	5.8	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1
280.	5.7	5.6	5.6	5.3	5.2	5.7	5.8	5.6	5.6	5.7	5.2	5.3	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
290.	5.6	5.6	5.5	5.3	5.2	5.7	5.8	5.7	5.7	5.7	5.2	5.2	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.5	5.5	5.4	5.2	5.2	5.6	5.6	5.8	5.6	5.8	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
310.	5.5	5.5	5.3	5.3	5.1	5.8	5.6	5.8	5.7	5.6	5.2	5.3	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
320.	5.5	5.5	5.5	5.3	5.2	5.9	5.8	5.9	5.7	5.6	5.2	5.3	5.7	5.7	5.7	5.2	5.1	5.1	5.0	5.0
330.	5.5	5.5	5.7	5.5	5.5	5.9	6.0	6.0	5.6	5.6	5.2	5.2	5.7	5.7	5.7	5.4	5.3	5.3	5.0	5.0
340.	5.5	5.7	6.1	5.7	5.6	5.9	5.7	6.0	5.6	5.4	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.0
350.	5.7	5.7	6.1	5.8	5.7	5.6	5.4	5.6	5.4	5.4	5.0	5.0	5.4	5.4	5.4	5.9	5.9	5.8	5.2	5.2
360.	5.7	5.8	6.0	5.8	5.7	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.9	5.9	5.8	5.3	5.2
MAX	6.0	6.0	6.1	5.8	5.7	5.9	6.0	6.1	5.8	5.8	6.2	6.2	6.2	5.9	5.8	6.0	6.0	6.2	6.0	5.9
DEGR.	30	50	340	0	0	320	330	250	60	60	240	240	230	180	200	160	120	80	70	80

THE HIGHEST CONCENTRATION OF 6.40 PPM OCCURRED AT RECEPTOR REC17.

6_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:10

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756146.8	********	68.	312.	AG	155.	100.0	1.0	20.0	0.31	3.5
2. MVP West	756216.0	********	752396.6	********	6206.	218.	AG	71.	100.0	1.0	10.0	1.92	315.2
3. Boston Ave South	756271.8	********	756845.2	********	770.	132.	AG	77.	100.0	1.0	10.0	1.08	39.1
4. MVP East	756253.6	********	756792.8	********	758.	45.	AG	143.	100.0	1.0	20.0	1.06	38.5
5. Winthrop North	759327.2	********	759300.4	********	949.	358.	AG	171.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	759381.7	********	759537.5	********	156.	93.	AG	57.	100.0	1.0	10.0	0.57	7.9
7. MVP East T	759381.8	********	764876.3	********	5497.	92.	AG	69.	100.0	1.0	10.0	1.75	279.3
8. Winthrop South	759345.1	********	759315.3	********	1159.	181.	AG	200.	100.0	1.0	20.0	1.35	58.9
9. MVP West	759293.5	********	754219.0	********	5080.	273.	AG	69.	100.0	1.0	10.0	1.69	258.1
10. South St	761297.7	********	761070.9	********	232.	282.	AG	186.	100.0	1.0	20.0	0.98	11.8
11. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	87.	100.0	1.0	10.0	0.72	7.9
12. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	87.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	87.	100.0	1.0	10.0	0.37	4.1
14. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	87.	100.0	1.0	10.0	0.58	6.4
15. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	99.	100.0	1.0	10.0	1.44	74.5
16. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	98.	100.0	1.0	10.0	1.45	79.2
17. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	80.	100.0	1.0	10.0	1.28	93.0
19. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	80.	100.0	1.0	10.0	0.96	14.0
20. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	80.	100.0	1.0	10.0	1.18	63.8
21. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	88.	100.0	1.0	10.0	1.11	37.4
23. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	120.	100.0	1.0	10.0	****	23.0
24. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	176.	100.0	1.0	20.0	1.05	25.6
26. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	120.	100.0	1.0	10.0	****	65.4
27. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	78.	100.0	1.0	10.0	1.03	20.2
30. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	78.	100.0	1.0	10.0	0.32	2.5
32. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	50.	100.0	1.0	10.0	0.97	16.5
33. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	50.	100.0	1.0	10.0	0.58	6.9
35. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	173.	100.0	1.0	20.0	1.08	32.9
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	270.	100.0	1.0	30.0	1.30	73.9
38. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	128.	100.0	1.0	20.0	0.55	6.6
39. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	219.	100.0	1.0	20.0	2.27	89.6
40. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	95.	100.0	1.0	10.0	4.13	529.7
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	94.	100.0	1.0	10.0	1.72	137.0
43. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	288.	100.0	1.0	30.0	1.40	75.6
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:10

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	102.	100.0	1.0	10.0	1.62	81.3
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	178.	100.0	1.0	20.0	1.27	69.9
50. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	134.	100.0	1.0	20.0	0.74	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	98.	100.0	1.0	10.0	0.83	6.7
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	7.9	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2540.	7.9	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2360.	7.9	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1010.	7.9	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1195.	8.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1925.	8.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2310.	7.9	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3300.	7.9	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	7.9	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	7.9	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	7.9	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	7.9	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	7.9	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	7.9	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	7.9	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	7.9	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	7.9	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	7.9	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	8.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	8.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	7.9	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	8.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	7.9	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	8.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	7.9	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	8.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	7.9	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:10

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	7.9	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	7.9	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	7.9	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	7.9	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	7.9	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	7.9	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	7.9	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:10

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Boston Ave. North	*	120	75	3.0	335	1600	46.20	1	3
2. MVP West	*	120	69	3.0	1175	1600	46.20	1	3
3. Boston Ave South	*	120	75	3.0	575	1600	46.20	1	3
4. MVP East	*	120	69	3.0	1305	1600	46.20	1	3
5. Winthrop North	*	135	93	3.0	995	1600	46.20	1	3
6. MVP East RT	*	135	62	3.0	460	1600	46.20	1	3
7. MVP East T	*	135	75	3.0	1140	1600	46.20	1	3
8. Winthrop South	*	135	109	3.0	670	1600	46.20	1	3
9. MVP West	*	135	75	3.0	1100	1600	46.20	1	3
10. South St	*	120	90	3.0	650	1600	46.20	1	3
11. Boston Ave. SB LT	*	135	95	3.0	300	1600	46.20	1	3
12. Boston Ave. SB R	*	135	95	3.0	120	1600	46.20	1	3
13. College Ave EB L	*	135	95	3.0	155	1600	46.20	1	3
14. College Ave. EB TR	*	135	95	3.0	241	1600	46.20	1	3
15. Boston Ave. NB	*	135	108	3.0	375	1600	46.20	1	3
16. College Ave WB	*	135	107	3.0	395	1600	46.20	1	3
17. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
18. Harvard St. EB	*	120	77	3.0	650	1600	46.20	1	3
19. Main st. NB	*	120	77	3.0	485	1600	46.20	1	3
20. Harvard St. WB	*	120	77	3.0	595	1600	46.20	1	3
21. Broadway EB R	*	120	56	3.0	250	1600	46.20	1	3
22. Broadway EB TL	*	120	85	3.0	442	1600	46.20	1	3
23. Parking Lot	*	120	116	3.0	50	1600	46.20	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
25. Broadway St. WB	*	120	85	3.0	841	1600	46.20	1	3
26. Dexter St. SWB	*	120	116	3.0	70	1600	46.20	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
29. Central St NB	*	90	57	3.0	510	1600	46.20	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
31. Central St. SB	*	90	57	3.0	160	1600	46.20	1	3
32. Medford St. NWB	*	120	48	3.0	865	1600	46.20	1	3
33. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
34. Medford St. SEB	*	120	48	3.0	520	1600	46.20	1	3
35. Prospect SB	*	120	84	3.0	895	1600	46.20	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
37. Prospect NB	*	120	87	3.0	1455	1600	46.20	1	3
38. Somerville EB	*	120	62	3.0	770	1600	46.20	1	3
39. McGrath Highway SB1	*	120	106	3.0	540	1600	46.20	1	3
40. Washington St. EB	*	120	92	3.0	1265	1600	46.20	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	46.20	1	3
43. Washington St. WB	*	120	93	3.0	1235	1600	46.20	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3
46. First St NB TL	*	120	99	3.0	345	1600	46.20	1	3
47. East St SB R	*	120	70	3.0	5	1600	46.20	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	46.20	1	3
49. MsgrOb/East EB T	*	120	86	3.0	980	1600	46.20	1	3
50. MsgrOb/East WB T	*	120	65	3.0	980	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:10

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
52. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
53. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
54. First Ext. NB L	120	95	3.0	220	1600	46.20	1	3
55. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:10

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.8	6.0	5.7	5.5	5.4	5.7	5.8	5.8	5.6	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
10.	5.8	6.0	5.6	5.5	5.2	5.7	5.8	5.8	5.6	5.8	5.3	5.5	5.4	5.7	5.7	5.1	5.1	5.0	5.4	5.4
20.	5.7	6.0	5.6	5.4	5.2	5.5	5.6	5.7	5.5	5.7	5.4	5.5	5.5	5.7	5.7	5.1	5.2	5.1	5.5	5.5
30.	5.7	6.0	5.5	5.3	5.1	5.6	5.8	5.7	5.6	5.7	5.4	5.5	5.6	5.7	5.7	5.1	5.2	5.3	5.5	5.5
40.	5.6	5.9	5.6	5.3	5.3	5.5	5.5	5.8	5.6	5.8	5.3	5.5	5.6	5.7	5.6	5.1	5.1	5.3	5.5	5.5
50.	5.8	6.1	5.7	5.3	5.5	5.4	5.4	5.7	5.7	5.7	5.3	5.4	5.7	5.6	5.6	5.0	5.1	5.3	5.4	5.4
60.	5.8	6.0	5.6	5.5	5.6	5.3	5.5	5.6	5.6	5.7	5.4	5.4	5.6	5.6	5.6	5.0	5.0	5.2	5.2	5.2
70.	5.7	6.1	5.8	5.6	5.6	5.3	5.4	5.7	5.7	5.8	5.4	5.4	5.7	5.7	5.7	5.0	5.0	5.0	5.0	5.0
80.	5.8	6.0	5.6	5.6	5.6	5.3	5.5	5.8	5.7	5.8	5.4	5.4	5.8	5.8	5.8	5.0	5.0	5.0	5.0	5.0
90.	5.9	6.1	5.8	5.7	5.5	5.4	5.5	6.0	5.8	5.7	5.3	5.5	5.9	5.9	5.9	5.2	5.2	5.1	5.0	5.0
100.	6.0	6.3	6.1	5.7	5.6	5.4	5.5	6.1	5.9	5.7	5.3	5.5	6.0	5.9	5.9	5.4	5.4	5.4	5.0	5.0
110.	5.9	6.1	5.9	5.6	5.5	5.3	5.4	6.1	5.8	5.6	5.1	5.3	5.9	5.8	5.8	5.8	5.9	5.8	5.2	5.0
120.	5.7	5.8	5.8	5.5	5.4	5.2	5.3	5.9	5.6	5.5	5.0	5.1	5.5	5.5	5.5	6.2	6.2	6.0	5.3	5.1
130.	5.4	5.6	5.4	5.4	5.4	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.3	5.2	5.2	6.3	6.3	5.9	5.4	5.2
140.	5.3	5.3	5.5	5.4	5.4	5.2	5.2	5.8	5.8	5.8	5.4	5.3	5.4	5.1	5.1	6.1	6.1	5.8	5.5	5.2
150.	5.3	5.3	5.4	5.4	5.2	5.0	5.2	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.3	6.2	6.3	5.8	5.6	5.3
160.	5.1	5.1	5.4	5.2	5.2	5.0	5.0	5.5	5.4	5.4	5.8	5.7	5.7	5.4	5.2	6.1	6.1	5.7	5.6	5.5
170.	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.6	5.4	5.2	6.0	6.0	5.6	5.6	5.4
180.	5.1	5.1	5.2	5.2	5.3	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.4	5.3	5.2	6.0	6.0	5.6	5.6	5.4
190.	5.1	5.1	5.2	5.3	5.3	5.0	5.0	5.1	5.1	5.0	5.6	5.5	5.3	5.2	5.2	6.0	6.0	5.5	5.5	5.4
200.	5.0	5.1	5.3	5.3	5.3	5.0	5.1	5.1	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.4	5.4	5.3
210.	5.0	5.1	5.3	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.5	5.5	5.2	5.2	5.2	6.0	6.0	5.5	5.4	5.3
220.	5.0	5.0	5.2	5.2	5.2	5.3	5.4	5.4	5.0	5.0	5.5	5.5	5.3	5.2	5.2	6.0	5.9	5.7	5.3	5.3
230.	5.0	5.0	5.1	5.1	5.1	5.4	5.5	5.4	5.1	5.0	5.5	5.5	5.3	5.2	5.2	6.0	6.0	5.7	5.4	5.6
240.	5.0	5.0	5.0	5.0	5.0	5.5	5.6	5.3	5.1	5.1	5.5	5.6	5.4	5.3	5.2	6.1	5.9	5.7	5.5	5.5
250.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.2	5.1	5.1	5.6	5.6	5.4	5.3	5.3	6.2	5.9	5.5	5.5	5.5
260.	5.0	5.0	5.0	5.0	5.0	5.4	5.5	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.6	5.7	5.7
270.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.1	5.1	5.1	5.6	5.6	5.4	5.4	5.4	6.2	5.9	5.7	5.8	5.8
280.	5.3	5.4	5.4	5.0	5.0	5.3	5.4	5.4	5.1	5.1	5.6	5.7	5.7	5.5	5.4	6.2	5.8	5.8	5.9	5.6
290.	5.7	5.9	5.8	5.1	5.1	5.4	5.5	5.7	5.5	5.3	5.8	5.9	5.9	5.8	5.7	6.0	5.8	5.8	5.7	5.5
300.	5.8	6.2	6.1	5.3	5.1	5.4	5.7	6.0	5.6	5.5	6.0	6.0	6.1	5.9	5.8	5.7	5.4	5.6	5.6	5.4
310.	5.9	6.2	6.1	5.4	5.3	5.6	5.8	5.9	5.6	5.5	5.9	6.0	6.1	5.7	5.8	5.5	5.3	5.4	5.5	5.5
320.	5.8	6.1	5.8	5.3	5.3	5.6	5.8	5.8	5.6	5.5	5.8	5.9	5.8	5.8	5.9	5.3	5.2	5.4	5.5	5.5
330.	5.7	6.0	5.6	5.3	5.3	5.6	5.7	5.9	5.8	5.7	5.8	5.7	5.9	5.8	5.9	5.3	5.3	5.4	5.5	5.4
340.	5.6	5.9	5.7	5.4	5.3	5.6	5.8	6.0	5.8	5.8	5.6	5.5	5.7	5.9	5.9	5.2	5.3	5.3	5.4	5.3
350.	5.7	6.0	5.7	5.5	5.3	5.8	5.8	6.0	5.8	5.8	5.2	5.5	5.5	5.7	5.7	5.1	5.1	5.2	5.3	5.3
360.	5.8	6.0	5.7	5.5	5.4	5.7	5.8	5.8	5.6	5.6	5.3	5.4	5.3	5.7	5.7	5.1	5.1	5.0	5.4	5.4
MAX	6.0	6.3	6.1	5.7	5.6	5.8	5.8	6.1	5.9	5.8	6.0	6.0	6.1	5.9	5.9	6.3	6.3	6.0	5.9	5.8
DEGR.	100	100	100	90	60	350	0	100	100	10	300	300	300	90	90	130	130	120	280	270

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
10.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.3	5.3	5.2	5.4	6.2	6.1	5.6	6.1	5.9	6.1	5.8	6.0	5.6
20.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.3	5.2	5.2	5.2	6.1	5.9	5.6	5.9	5.9	6.2	6.0	5.9	5.8
30.	5.1	5.1	5.1	5.0	5.0	5.6	5.6	5.2	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.2	6.0	5.9	6.1
40.	5.3	5.2	5.2	5.0	5.0	5.5	5.6	5.3	5.2	5.2	5.1	6.1	6.0	5.6	6.0	6.0	6.3	6.1	5.9	5.9
50.	5.4	5.4	5.3	5.1	5.1	5.4	5.5	5.3	5.3	5.2	5.4	6.1	6.0	5.6	6.0	6.1	6.4	6.0	5.9	5.9
60.	5.5	5.4	5.3	5.2	5.1	5.5	5.5	5.3	5.3	5.3	5.6	6.1	5.8	5.6	5.8	6.1	6.8	5.9	5.9	5.9
70.	5.4	5.4	5.2	5.2	5.1	5.5	5.5	5.3	5.4	5.4	5.8	6.1	6.0	5.6	6.0	6.6	6.8	5.9	5.9	5.8
80.	5.4	5.4	5.1	5.1	5.1	5.5	5.5	5.2	5.4	5.4	5.9	6.1	5.9	5.5	5.9	6.5	6.6	5.7	6.0	5.8
90.	5.3	5.3	5.0	5.1	5.1	5.5	5.5	5.1	5.3	5.4	6.1	6.2	6.0	5.6	6.0	6.5	6.6	5.7	5.8	5.8
100.	5.3	5.3	5.2	5.1	5.1	5.6	5.7	5.5	5.5	5.5	6.2	6.3	6.1	5.5	6.1	6.3	6.4	5.6	5.8	5.7
110.	5.3	5.4	5.4	5.3	5.1	5.8	5.9	6.0	5.8	5.7	6.3	6.4	6.1	5.6	6.1	5.9	5.8	5.6	5.7	5.6
120.	5.4	5.5	5.8	5.5	5.3	5.9	6.0	6.2	6.1	5.9	6.2	6.2	6.0	5.4	6.0	5.4	5.5	5.5	5.6	5.6
130.	5.5	5.7	5.7	5.4	5.3	5.9	6.0	6.1	5.9	6.0	5.8	6.0	5.7	5.2	5.7	5.3	5.4	5.3	5.6	5.6
140.	5.5	5.7	5.8	5.5	5.2	6.0	6.1	6.1	5.9	5.8	5.5	5.6	5.3	5.1	5.3	5.3	5.4	5.5	5.6	5.6
150.	5.6	5.9	5.8	5.6	5.5	6.0	6.0	6.1	5.8	6.0	5.1	5.3	5.2	5.1	5.2	5.3	5.4	5.5	5.7	5.7
160.	5.7	5.9	5.8	5.6	5.4	5.9	5.9	6.0	5.8	5.6	5.2	5.2	5.2	5.1	5.2	5.3	5.4	5.7	5.8	5.7
170.	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.7	5.6	5.6	5.1	5.2	5.2	5.1	5.2	5.3	5.3	5.9	5.9	5.9
180.	5.7	5.8	5.5	5.5	5.4	5.5	5.4	5.6	5.7	5.6	5.3	5.2	5.2	5.1	5.2	5.2	5.3	5.9	5.9	5.9
190.	5.7	5.4	5.4	5.5	5.6	5.3	5.3	5.5	5.7	5.6	5.5	5.4	5.1	5.3	5.1	5.0	5.2	5.6	5.7	5.6
200.	5.6	5.3	5.6	5.6	5.6	5.4	5.4	5.6	5.7	5.5	5.8	5.4	5.3	5.4	5.3	5.0	5.0	5.4	5.4	5.3
210.	5.5	5.4	5.7	5.6	5.7	5.3	5.4	5.6	5.7	5.5	6.0	5.4	5.4	5.5	5.4	5.0	5.0	5.1	5.1	5.1
220.	5.5	5.4	5.6	5.5	5.5	5.3	5.3	5.5	5.5	5.5	5.9	5.3	5.4	5.5	5.4	5.0	5.0	5.0	5.0	5.0
230.	5.3	5.3	5.5	5.6	5.6	5.3	5.3	5.4	5.5	5.5	6.0	5.2	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
240.	5.1	5.3	5.4	5.6	5.6	5.3	5.3	5.5	5.5	5.5	6.0	5.2	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
250.	5.1	5.4	5.6	5.6	5.6	5.3	5.4	5.7	5.6	5.6	5.8	5.6	5.2	5.3	5.2	5.0	5.1	5.0	5.0	5.0
260.	5.4	5.4	5.6	5.6	5.6	5.3	5.4	5.6	5.6	5.7	5.7	5.6	5.2	5.3	5.2	5.1	5.3	5.2	5.0	5.0
270.	5.4	5.5	5.7	5.7	5.6	5.3	5.4	5.8	5.8	5.8	5.5	5.7	5.4	5.5	5.4	5.3	5.6	5.5	5.0	5.0
280.	5.3	5.5	5.7	5.7	5.5	5.2	5.4	5.9	5.9	5.9	5.6	5.7	5.6	5.5	5.6	5.5	6.1	5.7	5.1	5.0
290.	5.2	5.4	5.7	5.6	5.5	5.1	5.2	5.8	5.8	5.8	5.7	5.7	5.6	5.5	5.6	5.6	6.2	5.9	5.1	5.0
300.	5.2	5.3	5.5	5.5	5.4	5.0	5.1	5.6	5.6	5.6	6.1	6.0	5.7	5.7	5.7	5.6	6.2	5.8	5.1	5.1
310.	5.2	5.2	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.2	6.2	6.2	5.9	5.9	5.9	5.7	6.2	5.7	5.3	5.1
320.	5.2	5.2	5.4	5.5	5.5	5.2	5.2	5.3	5.1	5.1	6.1	6.0	6.0	5.9	6.0	5.6	6.2	5.7	5.4	5.2
330.	5.1	5.2	5.6	5.6	5.6	5.4	5.5	5.5	5.1	5.1	5.8	5.8	6.0	5.6	6.0	5.7	6.1	5.6	5.5	5.2
340.	5.0	5.2	5.4	5.4	5.4	5.7	5.8	5.7	5.3	5.2	5.6	5.9	6.2	5.4	6.2	5.8	6.1	5.5	5.5	5.3
350.	5.0	5.0	5.2	5.2	5.2	5.8	5.9	5.7	5.3	5.2	5.5	6.0	6.3	5.4	6.3	5.8	6.1	5.5	5.4	5.4
360.	5.0	5.0	5.0	5.0	5.0	5.8	5.9	5.6	5.3	5.2	5.4	6.1	6.2	5.5	6.2	5.9	6.1	5.7	5.5	5.5
MAX	5.7	5.9	5.8	5.7	5.7	6.0	6.1	6.2	6.1	6.0	6.3	6.4	6.3	5.9	6.3	6.6	6.8	6.1	6.0	6.1
DEGR.	160	150	120	270	170	140	140	120	120	130	110	110	350	310	350	70	60	40	10	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
10.	5.7	5.8	5.8	5.7	5.8	5.8	5.7	5.6	5.9	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
20.	5.4	5.5	5.6	5.7	5.8	5.8	5.6	5.5	5.9	5.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
30.	5.3	5.5	5.6	5.7	5.8	5.8	5.6	5.6	5.9	5.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40.	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50.	5.2	5.3	5.6	5.7	5.7	5.7	5.5	5.7	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60.	5.2	5.3	5.6	5.6	5.6	5.6	5.5	5.8	5.9	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70.	5.2	5.3	5.5	5.7	5.6	5.6	5.4	5.8	5.9	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80.	5.2	5.3	5.6	5.7	5.7	5.6	5.5	5.9	6.0	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90.	5.1	5.2	5.6	5.7	5.7	5.7	5.6	6.0	5.9	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100.	5.1	5.1	5.4	5.5	5.6	5.6	5.6	6.0	5.9	5.6	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
110.	5.0	5.1	5.3	5.4	5.4	5.4	5.6	6.0	5.8	5.6	5.4	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
120.	5.0	5.0	5.1	5.1	5.2	5.1	5.4	5.9	5.6	5.5	5.6	5.2	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.4
130.	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.6	5.4	5.4	5.8	5.5	5.6	5.1	5.0	5.0	5.1	5.3	5.6	5.7
140.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.2	6.1	5.8	5.8	5.2	5.1	5.1	5.2	5.5	6.0	6.2
150.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.3	5.2	5.1	5.3	5.8	6.2	6.2
160.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.1	5.8	5.9	5.4	5.3	5.3	5.4	5.9	6.1	6.0
170.	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.1	5.1	5.1	6.0	5.7	5.9	5.4	5.3	5.2	5.4	5.9	6.1	5.9
180.	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.9	5.7	5.9	5.4	5.2	5.3	5.4	5.9	6.1	5.6
190.	5.7	5.7	5.7	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.7	5.7	6.0	5.4	5.3	5.2	5.5	5.9	6.1	5.6
200.	5.8	5.8	5.8	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.7	5.7	6.2	5.4	5.2	5.2	5.7	6.1	6.3	5.6
210.	5.8	5.8	5.8	5.3	5.3	5.2	5.1	5.0	5.0	5.0	5.6	5.9	6.4	5.6	5.4	5.5	5.6	6.2	6.3	5.8
220.	5.8	5.8	5.8	5.4	5.3	5.3	5.1	5.1	5.0	5.0	5.5	5.9	6.4	5.7	5.5	5.5	5.7	6.1	6.1	5.6
230.	5.8	5.8	5.6	5.4	5.3	5.2	5.2	5.0	5.0	5.0	5.4	6.0	6.4	5.6	5.5	5.4	5.6	6.0	6.4	5.5
240.	5.7	5.7	5.5	5.4	5.2	5.2	5.2	5.1	5.0	5.0	5.6	6.0	6.2	5.6	5.4	5.4	5.6	5.8	6.4	5.5
250.	5.7	5.6	5.5	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.8	6.0	6.1	5.7	5.4	5.5	5.6	6.1	6.0	5.7
260.	5.6	5.6	5.5	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.9	5.9	6.5	5.7	5.6	5.3	5.6	6.2	5.9	5.8
270.	5.6	5.6	5.5	5.3	5.3	5.3	5.3	5.2	5.1	5.1	6.1	6.2	6.5	5.8	5.3	5.3	5.5	6.2	5.7	5.9
280.	5.6	5.6	5.7	5.4	5.4	5.4	5.4	5.2	5.2	5.1	6.1	6.3	6.6	5.6	5.3	5.3	5.4	6.1	5.9	6.0
290.	5.6	5.7	5.7	5.5	5.4	5.4	5.4	5.3	5.4	5.1	6.4	6.4	6.6	5.5	5.3	5.3	5.5	5.9	5.8	6.0
300.	5.7	5.7	5.8	5.7	5.7	5.7	5.6	5.7	5.7	5.7	6.2	6.5	6.3	5.3	5.2	5.2	5.3	5.7	5.7	5.8
310.	5.9	5.9	5.5	5.9	5.8	5.7	5.7	5.9	6.1	6.2	5.9	5.9	5.8	5.1	5.1	5.1	5.1	5.3	5.4	5.5
320.	5.9	5.8	6.1	6.1	5.7	5.6	5.9	6.2	6.4	6.5	5.5	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.2	5.3
330.	6.0	5.8	6.2	6.0	5.6	5.6	6.1	6.1	6.3	6.3	5.1	5.1	5.1	5.1	5.0	5.0	5.1	5.1	5.2	5.3
340.	6.1	6.0	6.1	5.7	5.7	5.7	6.0	6.0	6.0	6.1	5.0	5.1	5.1	5.0	5.0	5.0	5.1	5.1	5.2	5.3
350.	6.0	6.1	6.1	5.6	5.8	5.9	6.0	5.7	5.9	6.1	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.1	5.2	5.4
360.	5.9	5.8	5.9	5.6	5.9	5.9	5.9	5.6	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.3
MAX	6.1	6.1	6.2	6.1	5.9	5.9	6.1	6.2	6.4	6.5	6.4	6.5	6.6	5.8	5.6	5.5	5.7	6.2	6.4	6.2
DEGR.	340	350	330	320	0	0	330	320	320	320	290	300	280	270	260	210	200	210	230	140

THE HIGHEST CONCENTRATION OF 6.80 PPM OCCURRED AT RECEPTOR REC37.

6_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:51

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761070.9	********	232.	282.	AG	186.	100.0	1.0	20.0	0.98	11.8
2. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	87.	100.0	1.0	10.0	0.72	7.9
3. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	87.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	87.	100.0	1.0	10.0	0.37	4.1
5. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	87.	100.0	1.0	10.0	0.58	6.4
6. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	99.	100.0	1.0	10.0	1.44	74.5
7. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	98.	100.0	1.0	10.0	1.45	79.2
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	80.	100.0	1.0	10.0	1.28	93.0
10. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	80.	100.0	1.0	10.0	0.96	14.0
11. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	80.	100.0	1.0	10.0	1.18	63.8
12. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	88.	100.0	1.0	10.0	1.11	37.4
14. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	120.	100.0	1.0	10.0	****	23.0
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	176.	100.0	1.0	20.0	1.05	25.6
17. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	120.	100.0	1.0	10.0	****	65.4
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	78.	100.0	1.0	10.0	1.03	20.2
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	78.	100.0	1.0	10.0	0.32	2.5
23. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	50.	100.0	1.0	10.0	0.97	16.5
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	50.	100.0	1.0	10.0	0.58	6.9
26. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	173.	100.0	1.0	20.0	1.08	32.9
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	270.	100.0	1.0	30.0	1.30	73.9
29. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	128.	100.0	1.0	20.0	0.55	6.6
30. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	219.	100.0	1.0	20.0	2.27	89.6
31. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	95.	100.0	1.0	10.0	4.13	529.7
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	94.	100.0	1.0	10.0	1.72	137.0
34. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	288.	100.0	1.0	30.0	1.40	75.6
35. Msgr Obrien EB	769756.4	********	767307.8	********	2974.	305.	AG	147.	100.0	1.0	20.0	1.43	151.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.1	********	20.	189.	AG	106.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	769858.1	********	771318.1	********	1774.	125.	AG	147.	100.0	1.0	20.0	1.23	90.1
39. Msgr Obrien L	771462.2	********	767746.3	********	4511.	305.	AG	107.	100.0	1.0	10.0	3.77	229.2
40. Msgr Obrien WB T	771449.0	********	771330.8	********	143.	304.	AG	245.	100.0	1.0	30.0	0.69	7.3
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	81.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	112.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:19:51

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771746.7	********	200.	124.	AG	171.	100.0	1.0	20.0	0.88	10.2
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	63.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	101.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	102.	100.0	1.0	10.0	1.62	81.3
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	178.	100.0	1.0	20.0	1.27	69.9
55. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	134.	100.0	1.0	20.0	0.74	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	98.	100.0	1.0	10.0	0.83	6.7
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1293.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3997.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2778.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3305.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3435.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	650	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	120	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	241	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	375	1600	46.20	1	3
7. College Ave WB	*	135	107	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	650	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	485	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	595	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	250	1600	46.20	1	3
13. Broadway EB TL	*	120	85	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	116	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
16. Broadway St. WB	*	120	85	3.0	841	1600	46.20	1	3
17. Dexter St. SWB	*	120	116	3.0	70	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
20. Central St NB	*	90	57	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
22. Central St. SB	*	90	57	3.0	160	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	865	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	520	1600	46.20	1	3
26. Prospect SB	*	120	84	3.0	895	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	87	3.0	1455	1600	46.20	1	3
29. Somerville EB	*	120	62	3.0	770	1600	46.20	1	3
30. McGrath Highway SB1	*	120	106	3.0	540	1600	46.20	1	3
31. Washington St. EB	*	120	92	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1676	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1447	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	550	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	995	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	750	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	345	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	980	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	980	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	220	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.6	5.6	5.6	5.5	5.6	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
10.	5.7	5.7	5.5	5.4	5.4	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.5	5.3	5.2
20.	5.5	5.5	5.5	5.4	5.3	5.0	5.1	5.2	5.2	5.2	5.2	5.2	5.4	5.0	5.0	5.5	5.5	5.5	5.3	5.4
30.	5.4	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2	5.3	5.3	5.4	5.1	5.0	5.5	5.6	5.7	5.4	5.5
40.	5.3	5.3	5.5	5.3	5.3	5.0	5.0	5.1	5.1	5.1	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
50.	5.1	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.3	5.3	5.5	5.1	5.1	5.6	5.6	5.7	5.5	5.6
60.	5.2	5.2	5.4	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.5	5.5	5.5
70.	5.2	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.4	5.1	5.1	5.7	5.7	5.6	5.5	5.6
80.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.0	5.6	5.7	5.6	5.5	5.5
90.	5.2	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.2	5.2	5.3	5.1	5.1	5.8	5.8	5.6	5.5	5.5
100.	5.1	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.0	5.0	5.2	5.2	5.5	5.4	5.2	6.0	5.9	5.9	5.5	5.4
110.	5.1	5.1	5.7	5.7	5.7	5.5	5.5	5.5	5.0	5.0	5.1	5.2	5.6	5.6	5.4	5.9	5.8	6.0	5.4	5.4
120.	5.0	5.0	5.5	5.5	5.5	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.5	5.7	5.6	5.7	5.8	5.3	5.3
130.	5.0	5.0	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.1	5.2	5.3	5.8	5.7	5.5	5.2	5.5	5.4	5.3	5.3
140.	5.0	5.0	5.1	5.1	5.1	5.7	5.6	5.7	5.2	5.2	5.4	5.4	5.6	5.6	5.4	5.2	5.2	5.3	5.3	5.3
150.	5.0	5.0	5.1	5.1	5.1	5.6	5.5	5.5	5.2	5.2	5.4	5.4	5.4	5.6	5.6	5.1	5.2	5.3	5.3	5.3
160.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.7	5.2	5.2	5.4	5.4	5.4
170.	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.2	5.4	5.5	5.5	5.6	5.6	5.1	5.2	5.4	5.4	5.4
180.	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.2	5.3	5.5	5.7	5.5	5.4	5.1	5.2	5.5	5.5	5.5
190.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.4	5.7	5.8	5.5	5.4	5.1	5.2	5.5	5.5	5.5
200.	5.3	5.4	5.4	5.0	5.0	5.4	5.4	5.5	5.3	5.3	5.5	5.6	5.8	5.4	5.3	5.0	5.1	5.5	5.4	5.5
210.	5.4	5.6	5.6	5.1	5.0	5.4	5.5	5.7	5.4	5.3	5.5	5.6	5.7	5.3	5.3	5.0	5.0	5.4	5.4	5.4
220.	5.6	5.6	5.6	5.2	5.0	5.4	5.6	5.6	5.5	5.3	5.2	5.4	5.5	5.3	5.3	5.0	5.0	5.2	5.2	5.2
230.	5.6	5.6	5.6	5.2	5.1	5.5	5.6	5.6	5.5	5.3	5.2	5.3	5.4	5.3	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.5	5.5	5.5	5.2	5.2	5.7	5.7	5.6	5.5	5.3	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0
250.	5.5	5.5	5.4	5.2	5.2	5.7	5.7	5.5	5.5	5.3	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0
260.	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.6	5.5	5.3	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.0	5.0	5.0
270.	5.4	5.4	5.4	5.3	5.2	5.6	5.7	5.5	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.1	5.1	5.1	5.0	5.0
280.	5.4	5.4	5.8	5.5	5.3	5.6	5.8	5.6	5.2	5.2	5.1	5.1	5.6	5.5	5.4	5.2	5.3	5.3	5.0	5.0
290.	5.4	5.5	5.8	5.7	5.4	5.5	5.6	5.6	5.2	5.1	5.0	5.1	5.5	5.4	5.4	5.5	5.6	5.6	5.1	5.0
300.	5.5	5.5	6.0	5.6	5.6	5.3	5.3	5.4	5.1	5.1	5.0	5.0	5.3	5.3	5.3	5.7	5.8	5.8	5.1	5.1
310.	5.5	5.5	5.7	5.5	5.6	5.1	5.2	5.3	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.6	5.8	5.8	5.1	5.1
320.	5.5	5.6	5.6	5.6	5.6	5.0	5.1	5.2	5.1	5.1	5.0	5.0	5.1	5.1	5.1	5.7	5.8	5.8	5.2	5.1
330.	5.5	5.6	5.6	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
340.	5.5	5.6	5.5	5.6	5.5	5.0	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
350.	5.6	5.7	5.5	5.6	5.6	5.1	5.1	5.3	5.2	5.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1
360.	5.6	5.6	5.6	5.5	5.6	5.1	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3
MAX	5.7	5.7	6.0	5.7	5.7	5.7	5.8	5.7	5.5	5.3	5.5	5.7	5.8	5.7	5.7	6.0	5.9	6.0	5.5	5.6
DEGR.	10	10	300	100	100	120	280	120	220	200	200	190	120	130	120	100	100	110	40	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.3	5.3	5.7	5.7	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.0	5.0	5.5	5.5	5.4	5.1	5.1
10.	5.4	5.6	5.9	5.7	5.6	5.1	5.2	5.5	5.5	5.5	5.3	5.3	5.2	5.0	5.0	5.4	5.5	5.5	5.3	5.2
20.	5.5	5.6	5.7	5.7	5.6	5.1	5.2	5.4	5.4	5.4	5.6	5.5	5.5	5.1	5.0	5.4	5.6	5.7	5.4	5.4
30.	5.4	5.4	5.6	5.5	5.4	5.0	5.0	5.3	5.2	5.3	5.8	5.8	5.8	5.2	5.1	5.5	5.7	5.8	5.6	5.5
40.	5.1	5.2	5.5	5.4	5.4	5.0	5.0	5.2	5.1	5.1	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.7	5.6	5.5
50.	5.1	5.2	5.3	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.2	5.2	5.7	5.6	5.6	5.4	5.3
60.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.2	5.7	5.7	5.5	5.3	5.3
70.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6	5.2	5.1	5.6	5.7	5.5	5.4	5.3
80.	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.2	5.1	5.6	5.7	5.5	5.4	5.3
90.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.4	5.2	5.1	5.6	5.7	5.5	5.3	5.2
100.	5.1	5.2	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.2	5.1	5.6	5.7	5.5	5.3	5.2
110.	5.1	5.2	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.3	5.3	5.1	5.7	5.7	5.6	5.3	5.2
120.	5.1	5.2	5.7	5.7	5.7	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.3	5.2	5.7	5.6	5.6	5.3	5.2
130.	5.1	5.2	5.8	5.8	5.8	5.3	5.3	5.3	5.0	5.0	5.4	5.4	5.5	5.5	5.4	5.8	5.8	5.8	5.3	5.2
140.	5.1	5.1	5.8	5.8	5.7	5.5	5.5	5.5	5.1	5.0	5.4	5.5	5.8	5.7	5.5	5.7	5.7	5.7	5.2	5.2
150.	5.0	5.1	5.5	5.5	5.5	5.8	5.8	5.8	5.2	5.1	5.6	5.7	5.9	5.7	5.6	5.5	5.4	5.6	5.2	5.1
160.	5.0	5.0	5.2	5.2	5.2	5.8	5.8	5.7	5.2	5.1	5.7	5.8	5.8	5.6	5.6	5.2	5.2	5.3	5.2	5.2
170.	5.0	5.0	5.1	5.1	5.1	5.7	5.7	5.6	5.3	5.1	5.7	5.8	5.7	5.7	5.5	5.1	5.1	5.2	5.2	5.2
180.	5.0	5.0	5.1	5.1	5.1	5.6	5.6	5.5	5.3	5.1	5.7	5.8	5.7	5.6	5.6	5.1	5.1	5.2	5.2	5.2
190.	5.1	5.1	5.2	5.0	5.0	5.6	5.6	5.5	5.2	5.1	5.8	5.9	5.7	5.5	5.5	5.0	5.1	5.3	5.3	5.3
200.	5.1	5.1	5.1	5.0	5.0	5.4	5.4	5.4	5.2	5.3	5.8	5.8	5.7	5.5	5.4	5.0	5.1	5.3	5.3	5.3
210.	5.2	5.2	5.2	5.0	5.0	5.4	5.4	5.5	5.3	5.4	5.6	5.5	5.6	5.4	5.4	5.0	5.0	5.2	5.2	5.2
220.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.4	5.5	5.3	5.3	5.5	5.4	5.3	5.0	5.0	5.1	5.1	5.1
230.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.1	5.1	5.1
240.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.4	5.4	5.5	5.1	5.1	5.3	5.4	5.3	5.0	5.0	5.0	5.0	5.0
250.	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.5	5.5	5.5	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
260.	5.1	5.1	5.1	5.1	5.0	5.4	5.5	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
270.	5.1	5.1	5.1	5.1	5.0	5.4	5.5	5.5	5.4	5.4	5.1	5.1	5.4	5.4	5.3	5.0	5.0	5.0	5.0	5.0
280.	5.1	5.1	5.1	5.2	5.1	5.6	5.7	5.4	5.4	5.4	5.1	5.1	5.4	5.5	5.3	5.0	5.0	5.0	5.0	5.0
290.	5.1	5.1	5.2	5.2	5.1	5.6	5.7	5.6	5.5	5.4	5.1	5.2	5.5	5.5	5.4	5.0	5.0	5.0	5.0	5.0
300.	5.1	5.1	5.2	5.2	5.1	5.7	5.6	5.6	5.5	5.4	5.1	5.2	5.6	5.5	5.5	5.1	5.1	5.1	5.0	5.0
310.	5.1	5.1	5.3	5.4	5.3	5.7	5.6	5.7	5.5	5.4	5.1	5.2	5.7	5.6	5.5	5.2	5.2	5.2	5.0	5.0
320.	5.1	5.2	5.7	5.6	5.5	5.6	5.5	5.6	5.4	5.3	5.0	5.1	5.6	5.5	5.5	5.4	5.4	5.4	5.1	5.0
330.	5.2	5.2	5.8	5.6	5.7	5.4	5.5	5.5	5.3	5.3	5.0	5.0	5.4	5.4	5.3	5.5	5.7	5.5	5.1	5.1
340.	5.3	5.4	5.8	5.7	5.7	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.2	5.2	5.1	5.5	5.7	5.5	5.2	5.1
350.	5.3	5.3	5.8	5.9	5.7	5.1	5.2	5.4	5.4	5.4	5.0	5.0	5.1	5.1	5.1	5.5	5.6	5.5	5.2	5.1
360.	5.3	5.3	5.7	5.7	5.8	5.2	5.2	5.4	5.4	5.4	5.0	5.1	5.2	5.0	5.0	5.5	5.5	5.4	5.1	5.1
MAX	5.5	5.6	5.9	5.9	5.8	5.8	5.8	5.8	5.5	5.5	5.8	5.9	5.9	5.7	5.6	5.8	5.8	5.8	5.6	5.5
DEGR.	20	10	10	350	0	150	150	150	10	10	30	190	150	140	150	130	130	30	30	30

THE HIGHEST CONCENTRATION OF 6.00 PPM OCCURRED AT RECEPTOR REC16.

6_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:20:29

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761070.9	********	232.	282.	AG	186.	100.0	1.0	20.0	0.98	11.8
2. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	87.	100.0	1.0	10.0	0.72	7.9
3. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	87.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	87.	100.0	1.0	10.0	0.37	4.1
5. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	87.	100.0	1.0	10.0	0.58	6.4
6. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	99.	100.0	1.0	10.0	1.44	74.5
7. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	98.	100.0	1.0	10.0	1.45	79.2
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	80.	100.0	1.0	10.0	1.28	93.0
10. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	80.	100.0	1.0	10.0	0.96	14.0
11. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	80.	100.0	1.0	10.0	1.18	63.8
12. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	88.	100.0	1.0	10.0	1.11	37.4
14. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	120.	100.0	1.0	10.0	****	23.0
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	176.	100.0	1.0	20.0	1.05	25.6
17. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	120.	100.0	1.0	10.0	****	65.4
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	78.	100.0	1.0	10.0	1.03	20.2
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	78.	100.0	1.0	10.0	0.32	2.5
23. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	50.	100.0	1.0	10.0	0.97	16.5
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	50.	100.0	1.0	10.0	0.58	6.9
26. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	173.	100.0	1.0	20.0	1.08	32.9
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	270.	100.0	1.0	30.0	1.30	73.9
29. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	128.	100.0	1.0	20.0	0.55	6.6
30. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	219.	100.0	1.0	20.0	2.27	89.6
31. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	95.	100.0	1.0	10.0	4.13	529.7
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	94.	100.0	1.0	10.0	1.72	137.0
34. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	288.	100.0	1.0	30.0	1.40	75.6
35. Msgr Obrien EB	769756.4	********	767307.8	********	2974.	305.	AG	147.	100.0	1.0	20.0	1.43	151.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.1	********	20.	189.	AG	106.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	769858.1	********	771318.1	********	1774.	125.	AG	147.	100.0	1.0	20.0	1.23	90.1
39. Msgr Obrien L	771462.2	********	767746.3	********	4511.	305.	AG	107.	100.0	1.0	10.0	3.77	229.2
40. Msgr Obrien WB T	771449.0	********	771330.8	********	143.	304.	AG	245.	100.0	1.0	30.0	0.69	7.3
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	81.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	112.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:20:29

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771746.7	********	200.	124.	AG	171.	100.0	1.0	20.0	0.88	10.2
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	63.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	101.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	102.	100.0	1.0	10.0	1.62	81.3
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	178.	100.0	1.0	20.0	1.27	69.9
55. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	134.	100.0	1.0	20.0	0.74	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	98.	100.0	1.0	10.0	0.83	6.7
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:20:29

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1293.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3997.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2778.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3305.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3435.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:20:29

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	650	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	120	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	241	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	375	1600	46.20	1	3
7. College Ave WB	*	135	107	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	650	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	485	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	595	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	250	1600	46.20	1	3
13. Broadway EB TL	*	120	85	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	116	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
16. Broadway St. WB	*	120	85	3.0	841	1600	46.20	1	3
17. Dexter St. SWB	*	120	116	3.0	70	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
20. Central St NB	*	90	57	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
22. Central St. SB	*	90	57	3.0	160	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	865	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	520	1600	46.20	1	3
26. Prospect SB	*	120	84	3.0	895	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	87	3.0	1455	1600	46.20	1	3
29. Somerville EB	*	120	62	3.0	770	1600	46.20	1	3
30. McGrath Highway SB1	*	120	106	3.0	540	1600	46.20	1	3
31. Washington St. EB	*	120	92	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1676	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1447	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	550	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	995	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	750	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
TIME : 17:20:29

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	345	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	980	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	980	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	220	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 10/24/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	5.7	6.0	6.0	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.9	5.1	5.1	5.1	5.0	5.0
10.	5.7	6.0	6.2	5.7	5.7	6.9	7.0	6.2	6.1	5.9	5.5	5.5	6.1	6.1	5.9	5.2	5.2	5.2	5.0	5.0
20.	5.7	6.0	6.4	6.1	6.1	7.0	7.1	6.3	6.0	5.9	5.5	5.3	6.2	6.0	5.8	5.4	5.5	5.5	5.0	5.0
30.	5.7	6.1	6.8	6.3	6.5	6.4	6.5	6.2	6.3	6.0	5.5	5.4	5.9	6.0	5.8	5.8	6.0	6.1	5.1	5.0
40.	5.9	6.4	6.8	6.5	7.0	6.0	6.2	6.2	6.1	5.9	5.5	5.3	5.7	5.8	5.7	6.1	6.5	6.6	5.2	5.1
50.	6.0	6.6	6.4	6.7	7.1	5.6	5.9	5.7	6.1	5.9	5.6	5.2	5.3	5.6	5.7	6.2	6.5	6.6	5.3	5.1
60.	6.3	6.8	6.5	6.9	7.1	5.8	6.0	6.1	6.3	6.1	5.6	5.6	5.4	5.6	5.9	6.1	6.6	6.7	5.5	5.2
70.	6.9	7.2	6.6	7.1	7.1	5.6	6.0	6.3	6.4	6.1	5.6	5.6	5.7	5.8	6.2	6.5	7.0	6.8	6.0	5.7
80.	6.9	7.0	6.5	6.8	6.5	5.3	5.5	6.1	5.9	5.7	5.2	5.5	5.4	5.7	6.4	6.8	6.9	6.6	6.1	5.7
90.	6.9	7.0	6.5	6.6	6.3	5.3	5.4	6.0	5.8	5.8	5.1	5.4	5.2	5.4	6.3	6.9	6.7	6.3	6.0	5.7
100.	7.0	7.0	6.7	6.6	6.2	5.2	5.3	6.1	5.9	5.9	5.3	5.5	5.4	5.2	6.1	6.9	6.3	6.4	6.1	5.8
110.	7.1	6.7	6.8	6.6	6.3	5.2	5.3	6.0	5.8	5.8	5.9	6.1	6.0	5.2	5.7	6.8	6.2	6.8	6.1	6.0
120.	6.6	6.5	6.7	6.6	6.2	5.1	5.3	5.8	5.7	5.7	6.5	6.7	6.5	5.5	5.8	7.1	6.5	7.2	6.6	6.5
130.	5.9	6.1	6.3	6.2	6.0	5.0	5.0	5.3	5.2	5.2	6.4	6.7	6.6	5.5	5.6	6.9	6.5	7.0	6.6	6.5
140.	5.5	5.7	6.1	6.2	6.0	5.0	5.0	5.2	5.1	5.1	6.3	6.5	6.4	5.5	5.6	6.8	6.5	6.8	6.4	6.5
150.	5.5	5.7	6.3	6.3	6.1	5.0	5.0	5.1	5.0	5.0	6.1	6.4	6.2	5.5	5.6	6.7	6.5	6.4	6.3	6.3
160.	5.6	5.8	6.3	6.4	6.2	5.0	5.0	5.1	5.0	5.0	6.1	6.3	6.1	5.5	5.6	6.8	6.5	6.5	6.5	6.2
170.	5.6	5.8	6.5	6.6	6.3	5.0	5.0	5.1	5.0	5.0	5.9	6.1	5.9	5.6	5.7	6.9	6.6	6.5	6.4	6.2
180.	5.6	5.7	6.6	6.7	6.4	5.2	5.2	5.2	5.0	5.0	5.8	6.1	5.9	5.5	5.7	7.1	6.8	6.7	6.5	6.1
190.	5.6	5.7	6.8	6.9	6.6	5.4	5.4	5.6	5.0	5.0	5.8	6.0	6.1	5.7	5.8	7.2	7.0	7.0	6.5	6.1
200.	5.4	5.5	6.7	6.8	6.5	6.1	6.1	6.3	5.1	5.0	5.8	6.1	6.6	6.2	6.0	7.2	7.2	7.1	6.3	6.0
210.	5.2	5.4	6.3	6.3	6.0	6.8	6.7	6.9	5.4	5.2	6.0	6.4	7.0	6.5	6.4	7.0	6.8	6.7	6.1	5.8
220.	5.2	5.1	5.5	5.6	5.4	6.9	6.9	7.1	5.6	5.4	6.2	6.6	6.9	6.6	6.6	6.4	6.1	6.3	5.9	5.7
230.	5.2	5.1	5.3	5.4	5.1	6.8	6.9	7.0	5.7	5.4	6.2	6.7	6.5	6.4	6.4	5.7	5.6	5.9	5.9	5.7
240.	5.2	5.2	5.3	5.4	5.2	6.7	6.7	6.7	5.8	5.5	6.4	6.8	6.4	6.4	6.5	5.6	5.6	6.0	5.9	5.7
250.	5.2	5.2	5.2	5.2	5.3	6.6	6.7	6.5	5.9	5.5	6.7	6.7	6.3	6.3	6.6	5.4	5.6	6.0	5.9	5.7
260.	5.1	5.1	5.1	5.1	5.3	6.5	6.8	6.3	6.0	5.5	6.7	6.7	6.2	6.3	6.4	5.3	5.5	6.0	5.9	5.8
270.	5.1	5.1	5.1	5.0	5.3	6.4	6.6	6.2	5.8	5.4	6.8	6.7	6.4	6.3	6.5	5.2	5.4	6.1	5.9	5.9
280.	5.3	5.4	5.4	5.0	5.3	6.2	6.5	6.4	6.0	5.6	6.8	6.7	6.5	6.2	6.4	5.2	5.3	6.1	6.0	6.0
290.	5.7	5.8	5.9	5.1	5.2	6.3	6.6	6.7	6.3	5.8	6.6	6.6	6.7	6.0	6.3	5.1	5.2	6.0	6.0	5.9
300.	6.0	6.3	6.5	5.2	5.3	6.4	6.7	7.0	6.3	6.1	6.3	6.0	6.4	5.9	6.2	5.0	5.1	5.7	5.6	5.6
310.	6.1	6.5	6.5	5.3	5.4	6.4	6.7	6.9	6.2	6.2	5.9	5.7	6.1	5.8	6.1	5.0	5.0	5.3	5.3	5.3
320.	6.0	6.4	6.4	5.5	5.4	6.4	6.9	6.4	6.2	6.0	5.5	5.5	5.9	5.8	5.9	5.1	5.0	5.1	5.1	5.1
330.	5.9	6.3	6.2	5.5	5.4	6.6	7.0	6.2	6.1	6.0	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
340.	5.8	6.2	6.1	5.4	5.4	6.7	7.0	6.2	6.2	6.1	5.5	5.5	5.8	5.9	5.9	5.0	5.0	5.1	5.1	5.1
350.	5.7	6.1	5.9	5.4	5.5	6.9	7.1	6.3	6.2	6.0	5.5	5.5	5.9	6.0	5.9	5.1	5.1	5.2	5.0	5.1
360.	5.7	6.0	6.0	5.5	5.6	7.0	7.0	6.2	6.2	5.9	5.5	5.5	6.1	6.2	5.9	5.1	5.1	5.1	5.0	5.0
MAX	7.1	7.2	6.8	7.1	7.1	7.0	7.1	7.1	6.4	6.2	6.8	6.8	7.0	6.6	6.6	7.2	7.2	7.2	6.6	6.5
DEGR.	110	70	30	70	50	0	350	220	70	310	270	240	210	220	220	190	200	120	130	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.4	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
10.	6.2	6.2	6.0	5.5	5.3	6.1	6.3	6.1	5.6	5.5	5.5	5.5	5.6	6.3	6.3	5.0	5.0	5.0	5.0	5.0
20.	6.1	6.1	5.8	5.5	5.3	6.1	6.2	6.0	5.6	5.5	5.5	5.5	5.7	6.3	6.3	5.0	5.1	5.1	5.0	5.0
30.	6.0	6.0	5.6	5.5	5.3	6.3	6.3	5.9	5.6	5.7	5.4	5.5	5.7	6.5	6.5	5.1	5.1	5.1	5.0	5.0
40.	6.0	6.0	5.6	5.5	5.3	6.5	6.2	6.1	5.7	5.7	5.4	5.6	5.8	6.7	6.6	5.1	5.1	5.1	5.0	5.0
50.	5.8	5.9	5.7	5.7	5.4	6.7	6.6	6.1	5.7	5.7	5.4	5.6	5.8	6.8	6.9	5.4	5.4	5.4	5.0	5.0
60.	5.9	6.2	6.0	6.0	5.9	6.5	6.5	6.1	5.6	5.5	5.2	5.4	5.7	6.9	6.8	6.1	6.1	6.2	5.2	5.0
70.	6.2	6.6	6.1	5.7	5.8	6.3	6.3	5.9	5.4	5.3	5.0	5.2	5.3	6.3	6.3	6.9	7.0	7.0	5.5	5.3
80.	6.5	6.6	5.7	5.7	5.7	6.0	5.8	5.3	5.3	5.3	5.0	5.0	5.0	5.6	5.6	7.2	7.3	7.3	5.8	5.5
90.	6.4	6.3	5.4	5.5	5.7	5.4	5.5	5.3	5.3	5.3	5.0	5.0	5.0	5.2	5.2	7.0	7.0	7.0	5.9	5.5
100.	6.3	6.1	5.2	5.8	5.8	5.3	5.4	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.8	6.7	6.8	5.7	5.5
110.	6.1	5.9	5.2	5.8	5.8	5.2	5.3	5.3	5.3	5.3	5.0	5.0	5.0	5.1	5.1	6.6	6.6	6.6	5.7	5.5
120.	6.1	5.9	5.3	5.8	5.7	5.2	5.4	5.4	5.4	5.4	5.0	5.0	5.0	5.0	5.1	6.5	6.5	6.4	5.7	5.5
130.	6.1	5.9	5.6	6.0	5.8	5.3	5.5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	6.3	6.3	6.2	5.6	5.4
140.	6.1	6.0	5.7	6.1	5.9	5.5	5.6	5.6	5.6	5.6	5.2	5.1	5.1	5.1	5.1	6.4	6.4	6.2	5.7	5.5
150.	6.1	6.0	5.8	5.9	5.8	5.2	5.3	5.5	5.5	5.6	5.3	5.3	5.1	5.1	5.1	6.4	6.4	6.0	5.6	5.6
160.	6.1	5.9	5.9	5.8	5.7	5.2	5.3	5.5	5.5	5.5	5.4	5.3	5.0	5.0	5.0	6.4	6.4	6.0	5.7	5.7
170.	5.8	5.7	5.9	5.6	5.6	5.1	5.0	5.3	5.3	5.4	5.8	5.8	5.2	5.2	5.0	6.3	6.5	6.0	5.8	5.8
180.	5.4	5.5	5.7	5.6	5.6	5.1	5.1	5.1	5.1	5.2	6.0	6.0	5.4	5.3	5.2	6.5	6.5	6.0	5.8	5.7
190.	5.4	5.4	5.5	5.6	5.6	5.1	5.1	5.1	5.1	5.1	5.9	5.9	5.5	5.3	5.2	6.7	6.7	6.0	5.7	5.6
200.	5.3	5.4	5.5	5.6	5.7	5.2	5.1	5.1	5.0	5.0	5.9	5.8	5.3	5.4	5.3	6.7	6.6	5.9	5.5	5.6
210.	5.3	5.5	5.7	5.9	5.9	5.2	5.2	5.1	5.0	5.0	5.7	5.7	5.3	5.3	5.3	6.8	6.7	6.0	5.5	5.5
220.	5.4	5.5	5.7	5.9	5.9	5.3	5.3	5.2	5.1	5.1	5.6	5.8	5.2	5.4	5.2	6.9	6.6	6.1	5.7	5.8
230.	5.3	5.5	5.9	6.1	6.1	5.7	5.6	5.4	5.2	5.1	5.6	5.7	5.5	5.8	5.5	7.1	6.8	6.1	5.8	5.8
240.	5.4	5.4	5.8	6.2	6.1	6.1	6.1	5.8	5.2	5.2	5.7	6.0	5.7	5.9	6.0	6.8	6.5	6.1	5.9	5.7
250.	5.2	5.2	5.4	5.7	5.7	6.5	6.5	6.3	5.4	5.3	5.9	6.0	5.7	6.0	6.2	6.2	5.9	5.9	5.6	5.5
260.	5.0	5.0	5.3	5.5	5.5	6.6	6.5	6.3	5.4	5.3	5.8	6.1	5.7	6.0	6.5	5.5	5.4	5.5	5.5	5.5
270.	5.0	5.0	5.0	5.1	5.2	6.4	6.3	6.1	5.5	5.5	5.9	6.0	5.3	5.9	6.6	5.3	5.3	5.5	5.5	5.5
280.	5.0	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.4	5.3	5.8	5.7	5.3	5.9	6.6	5.3	5.3	5.6	5.5	5.5
290.	5.0	5.0	5.0	5.0	5.0	6.0	5.9	5.9	5.4	5.3	5.7	5.5	5.4	6.0	6.6	5.3	5.3	5.6	5.5	5.5
300.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.7	5.5	5.6	6.1	6.5	5.2	5.2	5.6	5.5	5.6
310.	5.0	5.0	5.0	5.0	5.0	5.8	5.8	5.8	5.4	5.3	5.8	5.6	5.6	6.2	6.3	5.2	5.3	5.5	5.6	5.6
320.	5.0	5.0	5.0	5.0	5.0	5.7	5.7	5.7	5.4	5.3	6.0	5.8	5.8	6.3	6.3	5.2	5.3	5.5	5.6	5.7
330.	5.2	5.2	5.2	5.0	5.0	5.7	5.7	5.8	5.6	5.4	6.2	5.9	5.9	6.4	6.3	5.1	5.3	5.5	5.6	5.8
340.	5.5	5.5	5.6	5.1	5.0	5.7	5.8	6.2	5.8	5.5	6.2	6.1	5.9	6.4	6.3	5.1	5.1	5.4	5.5	5.5
350.	6.0	6.0	5.9	5.2	5.1	5.8	5.9	6.3	5.8	5.7	5.9	5.9	5.7	6.2	6.1	5.0	5.0	5.2	5.2	5.3
360.	6.4	6.3	6.3	5.4	5.2	5.9	6.1	6.3	5.9	5.6	5.6	5.5	5.6	6.2	6.1	5.0	5.0	5.0	5.0	5.1
MAX	6.5	6.6	6.3	6.2	6.1	6.7	6.6	6.3	5.9	5.7	6.2	6.1	5.9	6.9	6.9	7.2	7.3	7.3	5.9	5.8
DEGR.	80	70	0	240	230	50	50	0	0	30	330	260	330	60	50	80	80	80	90	170

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC37.

6_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:20:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761070.9	********	232.	282.	AG	186.	100.0	1.0	20.0	0.98	11.8
2. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	87.	100.0	1.0	10.0	0.72	7.9
3. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	87.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	87.	100.0	1.0	10.0	0.37	4.1
5. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	87.	100.0	1.0	10.0	0.58	6.4
6. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	99.	100.0	1.0	10.0	1.44	74.5
7. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	98.	100.0	1.0	10.0	1.45	79.2
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	80.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	80.	100.0	1.0	10.0	1.28	93.0
10. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	80.	100.0	1.0	10.0	0.96	14.0
11. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	80.	100.0	1.0	10.0	1.18	63.8
12. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	58.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	88.	100.0	1.0	10.0	1.11	37.4
14. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	120.	100.0	1.0	10.0	****	23.0
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	100.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	176.	100.0	1.0	20.0	1.05	25.6
17. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	120.	100.0	1.0	10.0	****	65.4
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	109.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	81.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	78.	100.0	1.0	10.0	1.03	20.2
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	81.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	78.	100.0	1.0	10.0	0.32	2.5
23. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	50.	100.0	1.0	10.0	0.97	16.5
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	101.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	50.	100.0	1.0	10.0	0.58	6.9
26. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	173.	100.0	1.0	20.0	1.08	32.9
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	211.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	270.	100.0	1.0	30.0	1.30	73.9
29. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	128.	100.0	1.0	20.0	0.55	6.6
30. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	219.	100.0	1.0	20.0	2.27	89.6
31. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	95.	100.0	1.0	10.0	4.13	529.7
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	94.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	94.	100.0	1.0	10.0	1.72	137.0
34. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	288.	100.0	1.0	30.0	1.40	75.6
35. Msgr Obrien EB	769756.4	********	767307.8	********	2974.	305.	AG	147.	100.0	1.0	20.0	1.43	151.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	106.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.1	********	20.	189.	AG	106.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	769858.1	********	771318.1	********	1774.	125.	AG	147.	100.0	1.0	20.0	1.23	90.1
39. Msgr Obrien L	771462.2	********	767746.3	********	4511.	305.	AG	107.	100.0	1.0	10.0	3.77	229.2
40. Msgr Obrien WB T	771449.0	********	771330.8	********	143.	304.	AG	245.	100.0	1.0	30.0	0.69	7.3
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	98.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	196.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	81.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	112.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:20:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771746.7	********	200.	124.	AG	171.	100.0	1.0	20.0	0.88	10.2
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	63.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	101.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	101.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	91.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	91.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	102.	100.0	1.0	10.0	1.62	81.3
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	72.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	58.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	178.	100.0	1.0	20.0	1.27	69.9
55. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	134.	100.0	1.0	20.0	0.74	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	215.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	75.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	196.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	98.	100.0	1.0	10.0	0.83	6.7
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	98.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	7.9	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	8.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	8.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	7.9	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	7.9	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	7.9	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	7.9	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	7.9	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	8.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	7.9	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	8.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	7.9	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	7.9	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	9.8	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	7.9	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	7.9	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	7.9	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	7.9	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	7.9	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	8.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	7.9	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	8.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	7.9	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	8.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	7.9	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	8.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	8.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	7.9	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	8.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	7.9	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	7.9	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	7.9	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	7.9	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	7.9	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	7.9	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:20:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	7.9	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	7.9	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1293.	7.9	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3997.	7.9	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2778.	7.9	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3305.	7.9	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	7.9	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3435.	7.9	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	7.9	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	7.9	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	7.9	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	7.9	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	7.9	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	7.9	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	7.9	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	7.9	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	7.9	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:20:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. South St	*	120	90	3.0	650	1600	46.20	1	3
2. Boston Ave. SB LT	*	135	95	3.0	300	1600	46.20	1	3
3. Boston Ave. SB R	*	135	95	3.0	120	1600	46.20	1	3
4. College Ave EB L	*	135	95	3.0	155	1600	46.20	1	3
5. College Ave. EB TR	*	135	95	3.0	241	1600	46.20	1	3
6. Boston Ave. NB	*	135	108	3.0	375	1600	46.20	1	3
7. College Ave WB	*	135	107	3.0	395	1600	46.20	1	3
8. Main St. SB	*	120	77	3.0	640	1600	46.20	1	3
9. Harvard St. EB	*	120	77	3.0	650	1600	46.20	1	3
10. Main st. NB	*	120	77	3.0	485	1600	46.20	1	3
11. Harvard St. WB	*	120	77	3.0	595	1600	46.20	1	3
12. Broadway EB R	*	120	56	3.0	250	1600	46.20	1	3
13. Broadway EB TL	*	120	85	3.0	442	1600	46.20	1	3
14. Parking Lot	*	120	116	3.0	50	1600	46.20	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	46.20	1	3
16. Broadway St. WB	*	120	85	3.0	841	1600	46.20	1	3
17. Dexter St. SWB	*	120	116	3.0	70	1600	46.20	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	46.20	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	46.20	1	3
20. Central St NB	*	90	57	3.0	510	1600	46.20	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	46.20	1	3
22. Central St. SB	*	90	57	3.0	160	1600	46.20	1	3
23. Medford St. NWB	*	120	48	3.0	865	1600	46.20	1	3
24. School St. SB	*	120	98	3.0	345	1600	46.20	1	3
25. Medford St. SEB	*	120	48	3.0	520	1600	46.20	1	3
26. Prospect SB	*	120	84	3.0	895	1600	46.20	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	46.20	1	3
28. Prospect NB	*	120	87	3.0	1455	1600	46.20	1	3
29. Somerville EB	*	120	62	3.0	770	1600	46.20	1	3
30. McGrath Highway SB1	*	120	106	3.0	540	1600	46.20	1	3
31. Washington St. EB	*	120	92	3.0	1265	1600	46.20	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	46.20	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	46.20	1	3
34. Washington St. WB	*	120	93	3.0	1235	1600	46.20	1	3
35. Msgr Obrien EB	*	120	71	3.0	1676	1600	46.20	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	46.20	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	46.20	1	3
38. Msgr Obrien WB	*	120	71	3.0	1447	1600	46.20	1	3
39. Msgr Obrien L	*	120	104	3.0	550	1600	46.20	1	3
40. Msgr Obrien WB T	*	120	79	3.0	995	1600	46.20	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	46.20	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	46.20	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	46.20	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	46.20	1	3
45. Msgr Obrien WB T	*	120	83	3.0	750	1600	46.20	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	46.20	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	46.20	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	46.20	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	46.20	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	46.20	1	3

JOB: Greenline Extension RUN: No Build

DATE : 10/24/ 8
TIME : 17:20:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
51. First St NB TL	120	99	3.0	345	1600	46.20	1	3
52. East St SB R	120	70	3.0	5	1600	46.20	1	3
53. MsgrOb/East EB R	120	56	3.0	120	1600	46.20	1	3
54. MsgrOb/East EB T	120	86	3.0	980	1600	46.20	1	3
55. MsgrOb/East WB T	120	65	3.0	980	1600	46.20	1	3
56. MsgrOb/East WB L	120	104	3.0	350	1600	46.20	1	3
57. First at Camb. R	120	73	3.0	845	1600	46.20	1	3
58. First St. Ext. SB	120	95	3.0	585	1600	46.20	1	3
59. First Ext. NB L	120	95	3.0	220	1600	46.20	1	3
60. First Ext. NB T	120	95	3.0	235	1600	46.20	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	6.9	6.9	6.7	6.1	5.8	5.9	6.0	6.2	6.4	6.4	5.1	5.0	5.0	5.1	5.1	6.4	6.8	6.0	5.9	5.7
10.	6.8	6.8	6.6	6.1	6.0	5.8	5.8	5.9	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.4	6.7	5.8	5.9	5.7
20.	6.8	6.8	6.6	6.1	6.0	5.4	5.7	5.8	6.3	6.2	5.0	5.0	5.0	5.0	5.0	6.5	6.7	6.2	6.0	5.8
30.	6.9	6.9	6.4	6.0	6.1	5.6	5.8	5.9	6.3	6.3	5.0	5.0	5.0	5.0	5.0	6.7	7.0	6.4	6.3	6.3
40.	6.8	6.8	6.5	6.0	6.1	5.5	5.7	6.1	6.3	6.3	5.0	5.0	5.0	5.0	5.0	7.0	7.2	7.0	6.8	6.8
50.	6.8	6.8	6.5	6.3	6.1	5.5	5.7	6.1	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.2	7.3	7.0	6.8	6.7
60.	6.8	6.8	6.4	6.4	6.1	5.5	5.7	6.3	6.3	6.2	5.0	5.0	5.0	5.0	5.0	7.3	7.3	6.9	6.4	6.6
70.	6.9	6.8	6.4	6.3	6.1	5.5	5.7	6.5	6.5	6.5	5.1	5.1	5.0	5.1	5.1	7.3	7.5	6.6	6.5	6.7
80.	7.2	7.1	6.7	6.3	6.2	5.7	5.9	6.6	6.6	6.6	5.1	5.1	5.0	5.1	5.1	7.5	7.6	6.7	6.5	6.9
90.	7.3	7.3	6.9	6.5	6.1	5.7	5.9	6.8	6.8	6.7	5.1	5.1	5.0	5.1	5.1	7.5	7.5	6.6	6.7	6.8
100.	7.5	7.5	7.1	6.6	6.2	5.7	6.0	7.0	7.0	7.0	5.1	5.1	5.1	5.1	5.1	7.9	7.7	7.0	6.7	6.7
110.	7.9	7.6	7.4	6.4	6.0	5.5	5.8	7.2	7.1	7.2	5.5	5.4	5.3	5.3	5.4	8.0	7.9	7.3	6.8	6.6
120.	7.6	7.4	7.2	6.1	5.9	5.3	5.6	7.0	6.9	7.1	6.4	6.3	6.2	6.2	6.4	8.0	7.9	7.2	6.6	6.5
130.	6.6	6.5	6.4	5.7	5.5	5.0	5.2	6.1	6.1	5.9	7.1	7.1	6.8	6.9	6.9	7.1	6.8	6.7	6.6	6.4
140.	5.6	5.7	5.5	5.7	5.8	5.2	5.1	5.4	5.4	5.3	7.1	7.0	6.7	6.6	6.8	6.2	6.1	6.1	6.2	6.2
150.	5.3	5.4	5.5	5.7	5.8	5.1	5.0	5.1	5.2	5.2	6.8	6.8	6.4	6.6	6.7	5.7	5.9	5.9	6.2	6.2
160.	5.3	5.4	5.6	5.8	5.8	5.1	5.0	5.1	5.1	5.1	6.7	6.7	6.2	6.4	6.8	5.7	6.0	6.1	6.2	6.3
170.	5.3	5.4	5.7	5.9	5.9	5.2	5.1	5.2	5.1	5.1	6.6	6.6	6.0	6.6	6.9	5.7	6.0	6.2	6.3	6.3
180.	5.3	5.5	5.9	6.0	6.0	5.3	5.3	5.3	5.0	5.0	6.4	6.4	5.9	6.8	6.8	5.7	6.1	6.4	6.4	6.5
190.	5.3	5.2	5.8	5.9	5.9	5.8	5.8	5.6	5.2	5.1	6.4	6.4	6.1	6.8	6.6	5.7	5.9	6.6	6.6	6.8
200.	5.0	5.0	5.3	5.5	5.4	5.8	5.8	5.8	5.4	5.2	6.4	6.5	6.1	6.5	6.4	5.6	5.9	6.9	6.9	7.0
210.	5.0	5.0	5.1	5.2	5.1	5.8	5.8	5.9	5.3	5.2	6.5	6.5	5.9	6.5	6.5	5.5	5.8	7.0	7.0	7.0
220.	5.0	5.0	5.0	5.1	5.1	5.6	5.6	5.7	5.3	5.2	6.4	6.5	6.0	6.4	6.4	5.2	5.4	6.4	6.5	6.5
230.	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.7	5.3	5.2	6.4	6.5	5.9	6.4	6.4	5.0	5.0	5.5	5.7	5.7
240.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.6	5.3	5.2	6.5	6.5	6.1	6.5	6.4	5.1	5.0	5.2	5.2	5.2
250.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.3	5.2	6.6	6.4	6.3	6.6	6.6	5.1	5.2	5.2	5.1	5.1
260.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.4	5.2	5.3	6.6	6.4	6.5	6.7	6.7	5.1	5.2	5.2	5.1	5.1
270.	5.1	5.1	5.1	5.0	5.0	5.5	5.5	5.3	5.3	5.3	6.8	6.6	6.6	6.8	6.9	5.1	5.2	5.2	5.1	5.1
280.	5.2	5.2	5.2	5.0	5.0	5.5	5.5	5.4	5.4	5.3	6.9	6.6	6.9	7.0	7.1	5.1	5.3	5.3	5.1	5.1
290.	5.8	5.8	5.8	5.1	5.0	5.5	5.6	6.0	5.8	5.7	7.0	7.0	7.1	7.2	7.2	5.6	6.0	5.8	5.0	5.0
300.	7.0	7.0	7.0	5.6	5.2	5.7	6.1	7.0	6.7	6.6	6.9	6.9	6.8	7.0	7.0	6.5	7.2	7.1	5.3	5.1
310.	7.9	7.9	7.9	5.9	5.6	6.1	6.6	7.7	7.4	7.3	6.1	6.1	5.9	6.1	6.1	6.9	7.9	7.7	5.8	5.5
320.	8.0	8.0	7.9	6.2	5.8	6.3	6.7	7.6	7.2	7.1	5.3	5.3	5.2	5.3	5.4	7.1	7.9	7.6	5.8	5.5
330.	7.6	7.5	7.5	6.1	5.9	6.5	6.8	7.0	6.7	6.8	5.1	5.0	5.1	5.1	5.2	6.7	7.5	7.1	5.9	5.4
340.	7.4	7.4	7.2	6.2	5.9	6.4	6.5	6.7	6.5	6.7	5.1	5.0	5.0	5.1	5.1	6.6	7.3	6.7	6.0	5.7
350.	7.2	7.1	7.0	6.1	5.9	6.3	6.4	6.4	6.4	6.5	5.1	5.0	5.0	5.1	5.1	6.4	7.0	6.4	5.9	5.7
360.	6.9	6.9	6.7	6.1	5.8	5.9	6.0	6.2	6.4	6.4	5.1	5.0	5.0	5.1	5.1	6.4	6.8	6.0	5.9	5.7
MAX	8.0	8.0	7.9	6.6	6.2	6.5	6.8	7.7	7.4	7.3	7.1	7.1	7.1	7.2	7.2	8.0	7.9	7.7	7.0	7.0
DEGR.	320	320	310	100	80	330	330	310	310	310	130	130	290	290	290	110	310	310	210	200

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	7.5	7.2	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
10.	7.5	7.4	6.8	6.9	6.8	5.5	5.6	6.3	6.5	6.5	5.3	5.3	5.1	5.0	5.0
20.	7.7	7.4	7.2	6.9	6.7	5.3	5.6	6.3	6.6	6.6	5.9	5.9	5.5	5.0	5.0
30.	7.5	7.4	6.9	6.8	6.5	5.2	5.3	6.0	6.5	6.4	6.7	6.6	6.1	5.2	5.2
40.	6.8	6.7	6.4	6.4	6.2	5.0	5.1	5.6	5.8	5.8	7.2	7.2	6.7	5.5	5.3
50.	5.9	6.0	5.9	6.3	6.2	5.0	5.0	5.1	5.2	5.2	7.1	7.1	6.7	5.7	5.5
60.	5.7	5.8	6.1	6.3	6.2	5.0	5.0	5.0	5.1	5.1	6.9	6.8	6.5	5.7	5.5
70.	5.6	5.9	6.2	6.4	6.3	5.0	5.0	5.0	5.1	5.1	6.6	6.5	6.3	5.6	5.6
80.	5.6	5.9	6.4	6.4	6.2	5.1	5.1	5.1	5.0	5.0	6.4	6.4	6.3	5.6	5.6
90.	5.5	5.8	6.6	6.5	6.4	5.1	5.1	5.1	5.0	5.0	6.3	6.3	6.3	5.7	5.6
100.	5.5	5.7	6.8	6.6	6.5	5.1	5.1	5.1	5.0	5.0	6.2	6.2	6.1	5.8	5.6
110.	5.5	5.7	6.9	6.7	6.6	5.3	5.3	5.3	5.0	5.0	6.2	6.2	6.3	6.0	5.7
120.	5.3	5.5	6.8	6.8	6.7	5.8	5.8	6.0	5.3	5.1	6.4	6.5	6.9	6.5	6.3
130.	5.1	5.3	6.2	6.2	6.2	6.3	6.5	6.7	5.5	5.3	6.6	6.8	7.6	7.0	6.8
140.	5.0	5.0	5.5	5.4	5.4	6.5	6.7	6.8	5.7	5.4	6.6	6.9	7.3	6.8	6.9
150.	5.0	5.0	5.2	5.2	5.2	6.4	6.6	6.7	5.7	5.4	6.7	6.9	7.0	6.4	6.7
160.	5.0	5.1	5.1	5.1	5.1	6.4	6.6	6.6	5.8	5.5	6.8	7.0	6.9	6.3	6.7
170.	5.1	5.1	5.2	5.1	5.1	6.3	6.5	6.3	5.8	5.5	6.9	7.0	6.6	6.5	6.6
180.	5.1	5.1	5.2	5.1	5.1	6.1	6.2	6.1	5.7	5.6	7.0	7.1	6.7	6.9	6.7
190.	5.1	5.2	5.2	5.1	5.1	6.1	6.2	6.0	5.7	5.6	7.2	7.3	7.1	7.0	6.9
200.	5.4	5.6	5.4	5.0	5.0	6.1	6.1	6.1	5.9	5.8	7.5	7.5	7.3	7.0	6.8
210.	6.4	6.7	6.3	5.2	5.0	6.2	6.4	6.7	6.7	6.5	7.6	7.5	7.5	7.1	6.7
220.	7.4	7.7	7.1	5.7	5.3	6.5	7.0	7.3	7.1	7.1	7.1	7.3	7.0	6.6	6.2
230.	7.7	8.1	7.3	6.0	5.7	6.8	7.1	7.3	7.0	7.2	6.0	6.2	6.3	6.2	5.8
240.	7.6	7.7	7.0	6.1	5.8	7.0	7.2	6.8	6.9	6.6	5.6	5.9	6.1	6.1	5.9
250.	7.3	7.4	6.4	6.1	5.8	6.9	7.0	6.5	6.6	6.5	5.6	5.8	6.0	6.1	5.8
260.	6.9	7.2	6.1	5.9	5.8	6.9	6.8	6.7	6.7	6.6	5.6	5.7	6.1	6.2	6.1
270.	6.9	6.9	5.9	5.9	5.8	6.8	6.7	6.8	6.5	6.3	5.6	5.8	6.2	6.3	6.2
280.	6.6	6.8	6.1	5.8	5.6	6.9	6.8	6.8	6.7	6.4	5.5	5.7	6.3	6.4	6.5
290.	6.6	6.7	6.5	6.1	6.0	7.0	6.8	7.1	6.4	6.4	5.4	5.7	6.4	6.4	6.7
300.	6.7	7.2	7.4	6.9	6.5	6.8	6.8	7.2	6.6	6.3	5.4	5.7	6.4	6.7	6.7
310.	7.1	7.5	7.8	7.4	7.2	6.0	6.2	6.6	6.1	5.9	5.0	5.2	5.8	6.0	6.0
320.	7.1	7.4	7.4	7.0	7.0	5.3	5.7	6.0	5.9	5.9	5.0	5.0	5.1	5.3	5.4
330.	7.2	7.4	6.9	6.6	6.7	5.6	5.6	5.9	6.0	5.9	5.1	5.1	5.0	5.1	5.1
340.	7.2	7.3	6.7	6.5	6.8	5.6	5.6	6.0	6.1	6.1	5.1	5.1	5.0	5.1	5.1
350.	7.5	7.4	6.6	6.8	6.9	5.6	5.7	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
360.	7.5	7.2	6.8	6.8	6.9	5.5	5.6	6.1	6.3	6.3	5.2	5.2	5.1	5.1	5.1
MAX	7.7	8.1	7.8	7.4	7.2	7.0	7.2	7.3	7.1	7.2	7.6	7.5	7.6	7.1	6.9
DEGR.	20	230	310	310	310	240	240	220	220	230	210	200	130	210	140

THE HIGHEST CONCENTRATION OF 8.10 PPM OCCURRED AT RECEPTOR REC22.

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Output Files
  - Particulate Matter (PM)

CAL3QHC PM Output Files

Ex1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:21:54

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.4	********	70.	312.	AG	0.	100.0	1.0	20.0	0.44	3.6
2. MVP West	756216.0	********	754217.4	********	3247.	218.	AG	0.	100.0	1.0	10.0	1.36	165.0
3. Boston Ave South	756271.8	********	757480.6	********	1624.	132.	AG	0.	100.0	1.0	10.0	1.37	82.5
4. MVP East	756253.6	********	756376.9	********	173.	45.	AG	0.	100.0	1.0	20.0	0.77	8.8
5. Winthrop North	759327.2	********	759298.6	********	1013.	358.	AG	0.	100.0	1.0	20.0	1.16	51.5
6. MVP East RT	759381.7	********	759502.5	********	121.	93.	AG	0.	100.0	1.0	10.0	0.45	6.1
7. MVP East T	759381.8	********	763790.8	********	4411.	92.	AG	0.	100.0	1.0	10.0	1.59	224.1
8. Winthrop South	759345.1	********	759310.2	********	1357.	181.	AG	1.	100.0	1.0	20.0	1.62	69.0
9. MVP West	759293.5	********	755376.9	********	3921.	273.	AG	0.	100.0	1.0	10.0	1.52	199.2
10. South St	761297.7	********	761138.4	********	163.	282.	AG	1.	100.0	1.0	20.0	0.86	8.3
11. Boston Ave. SB LT	759658.7	********	759565.4	********	198.	332.	AG	0.	100.0	1.0	10.0	0.92	10.0
12. Boston Ave. SB R	759646.0	********	759616.2	********	64.	332.	AG	0.	100.0	1.0	10.0	0.38	3.2
13. College Ave EB L	759636.4	********	759598.9	********	83.	207.	AG	0.	100.0	1.0	10.0	0.49	4.2
14. College Ave. EB TR	759648.1	********	759584.2	********	139.	207.	AG	0.	100.0	1.0	10.0	0.77	7.1
15. Boston Ave. NB	759699.9	********	759948.0	********	521.	152.	AG	0.	100.0	1.0	10.0	1.08	26.5
16. College Ave WB	759720.8	********	759917.4	********	339.	35.	AG	0.	100.0	1.0	10.0	1.01	17.2
17. Main St. SB	762042.2	********	761358.1	********	2227.	342.	AG	0.	100.0	1.0	10.0	1.50	113.1
18. Harvard St. EB	762026.6	********	760826.1	********	1368.	241.	AG	0.	100.0	1.0	10.0	1.24	69.5
19. Main st. NB	762078.3	********	762234.4	********	492.	162.	AG	0.	100.0	1.0	10.0	1.07	25.0
20. Harvard St. WB	762091.8	********	763477.0	********	1451.	73.	AG	0.	100.0	1.0	10.0	1.25	73.7
21. Broadway EB R	762959.1	********	762829.3	********	141.	293.	AG	0.	100.0	1.0	10.0	0.85	7.2
22. Broadway EB TL	762965.1	********	761504.0	********	1595.	294.	AG	0.	100.0	1.0	10.0	1.49	81.0
23. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	763093.0	********	763636.6	********	1104.	150.	AG	0.	100.0	1.0	10.0	1.32	56.1
25. Broadway St. WB	763115.6	********	764227.2	********	1210.	113.	AG	1.	100.0	1.0	20.0	1.35	61.5
26. Dexter St. SWB	763101.5	********	763403.1	********	415.	47.	AG	0.	100.0	1.0	10.0	1.82	21.1
27. Medford St. SB	763008.3	********	762799.6	********	661.	342.	AG	0.	100.0	1.0	10.0	1.23	33.6
28. Highland St. EB	763277.6	********	763150.5	********	139.	294.	AG	0.	100.0	1.0	10.0	0.84	7.0
29. Central St NB	763301.4	********	763212.2	********	202.	206.	AG	0.	100.0	1.0	10.0	0.95	10.3
30. Highland St. WB	763328.5	********	763551.1	********	243.	114.	AG	0.	100.0	1.0	10.0	1.00	12.3
31. Central St. SB	763311.4	********	763332.6	********	46.	27.	AG	0.	100.0	1.0	10.0	0.37	2.3
32. Medford St. NWB	765022.2	********	766415.9	********	2269.	142.	AG	0.	100.0	1.0	10.0	1.38	115.3
33. School St. SB	765002.3	********	765166.0	********	379.	26.	AG	0.	100.0	1.0	10.0	1.08	19.3
34. Medford St. SEB	764967.1	********	764863.8	********	167.	322.	AG	0.	100.0	1.0	10.0	0.93	8.5
35. Prospect SB	765830.6	********	766200.2	********	715.	31.	AG	0.	100.0	1.0	20.0	1.12	36.3
36. Sommerville WB	765870.1	********	766866.4	********	1110.	116.	AG	1.	100.0	1.0	20.0	1.79	56.4
37. Prospect NB	765828.4	********	765723.3	********	237.	206.	AG	1.	100.0	1.0	30.0	0.97	12.0
38. Somerville EB	765797.5	********	765688.8	********	121.	296.	AG	0.	100.0	1.0	20.0	0.60	6.1
39. McGrath Highway SB1	766950.5	********	766591.9	********	1973.	350.	AG	1.	100.0	1.0	20.0	3.83	100.2
40. Washington St. EB	766952.8	********	759076.8	********	8448.	249.	AG	0.	100.0	1.0	10.0	3.46	429.2
41. McGrath Hwy NB2 L	767105.3	********	767109.5	********	32.	172.	AG	0.	100.0	1.0	10.0	0.41	1.6
42. McGrath Hwy NB2 T	767119.9	********	767604.3	********	3946.	173.	AG	0.	100.0	1.0	10.0	3.91	200.5
43. Washington St. WB	767129.9	********	767268.1	********	151.	67.	AG	1.	100.0	1.0	30.0	0.61	7.7
44. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	0.	100.0	1.0	10.0	1.39	47.9

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:21:54

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	0.	100.0	1.0	10.0	0.12	1.4
46. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	0.	100.0	1.0	10.0	0.26	2.9
47. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	0.	100.0	1.0	10.0	0.79	3.1
48. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	0.	100.0	1.0	10.0	0.46	4.1
49. East St SB	770754.4	********	770782.0	********	42.	41.	AG	0.	100.0	1.0	10.0	0.44	2.1
50. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	0.	100.0	1.0	10.0	0.35	2.2
51. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	1.	100.0	1.0	30.0	0.97	9.1
52. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	0.	100.0	1.0	10.0	0.09	0.6
53. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	0.	100.0	1.0	10.0	0.95	14.3
54. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	0.	100.0	1.0	10.0	0.01	0.1
55. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	0.	100.0	1.0	20.0	0.30	2.8
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	534.	0.1	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2303.	0.1	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2149.	0.1	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	883.	0.1	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	0.1	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	0.1	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	0.1	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	0.1	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	0.1	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	0.1	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	0.1	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	0.1	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	0.1	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	0.1	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	0.1	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	0.1	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	0.1	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	0.1	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	0.1	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	0.1	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	0.1	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	0.1	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	0.1	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	0.1	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	0.1	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	0.1	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	0.1	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	0.1	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	0.1	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	0.1	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	0.1	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	0.1	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	0.1	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	0.1	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	0.1	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	0.1	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	0.1	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	0.1	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	0.1	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	0.1	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	0.1	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	0.1	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	0.1	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	0.1	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	0.1	1.0	42.0	
102. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	0.1	1.0	66.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	0.1	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	0.1	1.0	42.0	
105. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	0.1	1.0	****	
106. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	0.1	1.0	66.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	0.1	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	310	1600	0.12	1	3
2. MVP West	*	113	53	3.0	1058	1600	0.12	1	3
3. Boston Ave South	*	113	83	3.0	483	1600	0.12	1	3
4. MVP East	*	113	53	3.0	1197	1600	0.12	1	3
5. Winthrop North	*	135	95	3.0	961	1600	0.12	1	3
6. MVP East RT	*	135	55	3.0	402	1600	0.12	1	3
7. MVP East T	*	135	75	3.0	1036	1600	0.12	1	3
8. Winthrop South	*	135	115	3.0	572	1600	0.12	1	3
9. MVP West	*	135	75	3.0	989	1600	0.12	1	3
10. South St	*	120	90	3.0	571	1600	0.12	1	3
11. Boston Ave. SB LT	*	135	105	3.0	272	1600	0.12	1	3
12. Boston Ave. SB R	*	135	105	3.0	111	1600	0.12	1	3
13. College Ave EB L	*	135	105	3.0	144	1600	0.12	1	3
14. College Ave. EB TR	*	135	105	3.0	228	1600	0.12	1	3
15. Boston Ave. NB	*	135	105	3.0	321	1600	0.12	1	3
16. College Ave WB	*	135	100	3.0	360	1600	0.12	1	3
17. Main St. SB	*	92	65	3.0	573	1600	0.12	1	3
18. Harvard St. EB	*	92	61	3.0	559	1600	0.12	1	3
19. Main st. NB	*	92	65	3.0	407	1600	0.12	1	3
20. Harvard St. WB	*	92	61	3.0	567	1600	0.12	1	3
21. Broadway EB R	*	122	97	3.0	224	1600	0.12	1	3
22. Broadway EB TL	*	122	97	3.0	391	1600	0.12	1	3
23. Parking Lot	*	122	114	3.0	50	1600	0.12	1	3
24. Medford St. NB	*	122	97	3.0	345	1600	0.12	1	3
25. Broadway St. WB	*	122	97	3.0	710	1600	0.12	1	3
26. Dexter St. SWB	*	122	114	3.0	71	1600	0.12	1	3
27. Medford St. SB	*	122	102	3.0	241	1600	0.12	1	3
28. Highland St. EB	*	86	56	3.0	390	1600	0.12	1	3
29. Central St NB	*	86	56	3.0	443	1600	0.12	1	3
30. Highland St. WB	*	86	56	3.0	463	1600	0.12	1	3
31. Central St. SB	*	82	56	3.0	150	1600	0.12	1	3
32. Medford St. NWB	*	70	42	3.0	723	1600	0.12	1	3
33. School St. SB	*	70	53	3.0	295	1600	0.12	1	3
34. Medford St. SEB	*	70	42	3.0	488	1600	0.12	1	3
35. Prospect SB	*	109	79	3.0	821	1600	0.12	1	3
36. Sommerville WB	*	109	96	3.0	418	1600	0.12	1	3
37. Prospect NB	*	109	76	3.0	1193	1600	0.12	1	3
38. Somerville EB	*	109	66	3.0	670	1600	0.12	1	3
39. McGrath Highway SB1	*	133	123	3.0	460	1600	0.12	1	3
40. Washington St. EB	*	133	102	3.0	1079	1600	0.12	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	0.12	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	0.12	1	3
43. Washington St. WB	*	133	83	3.0	997	1600	0.12	1	3
44. Cambridge St EB TR	*	111	93	3.0	260	1600	0.12	1	3
45. Cambridge St WB L	*	111	47	3.0	106	1600	0.12	1	3
46. Cambridge St WB T	*	111	47	3.0	224	1600	0.12	1	3
47. First St NB L	*	111	98	3.0	91	1600	0.12	1	3
48. First St NB R	*	111	29	3.0	507	1600	0.12	1	3
49. East St SB	*	111	93	3.0	83	1600	0.12	1	3
50. MsgrOb/East EB R	*	111	88	3.0	91	1600	0.12	1	3
51. MsgrOb/East EB T	*	111	88	3.0	750	1600	0.12	1	3
52. MsgrOb/East EB L	*	111	88	3.0	24	1600	0.12	1	3
53. MsgrOb/East WB T	*	111	47	3.0	807	1600	0.12	1	3
54. MsgrOb/East WB R	*	111	47	3.0	5	1600	0.12	1	3
55. MsgrOb at First WB L	*	111	75	3.0	265	1600	0.12	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (FT) X	Y	Z
51.	MVP/Winthrop E1	761376.2	********	6.0
52.	MVP/Winthrop E2	761375.3	********	6.0
53.	MVP/Winthrop E3	761375.3	********	6.0
54.	MVP/Winthrop E4	761388.2	********	6.0
55.	MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	11.	11.	12.	10.	9.	7.	8.	10.	10.	9.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
10.	11.	11.	12.	10.	9.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	6.	7.	7.	7.	6.
20.	12.	12.	13.	9.	8.	6.	8.	11.	11.	10.	6.	6.	6.	5.	5.	6.	7.	7.	7.	7.
30.	12.	12.	14.	9.	8.	6.	7.	12.	11.	11.	6.	7.	7.	5.	5.	6.	8.	8.	9.	9.
40.	11.	11.	13.	9.	8.	6.	6.	11.	11.	11.	8.	9.	9.	6.	5.	6.	9.	11.	12.	12.
50.	8.	9.	11.	8.	7.	5.	6.	9.	9.	9.	11.	11.	12.	6.	6.	7.	10.	13.	13.	13.
60.	7.	7.	9.	7.	7.	5.	5.	7.	7.	7.	12.	12.	12.	8.	6.	7.	10.	14.	13.	13.
70.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	11.	12.	12.	8.	7.	8.	11.	13.	12.	12.
80.	6.	7.	8.	8.	8.	5.	5.	6.	6.	6.	11.	11.	11.	8.	7.	8.	11.	12.	11.	11.
90.	6.	7.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	8.	7.	8.	11.	12.	11.	10.
100.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.	10.	10.	10.	7.	7.	8.	11.	11.	10.	10.
110.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	9.	9.	9.	8.	7.	9.	12.	12.	10.	10.
120.	6.	6.	9.	9.	9.	7.	7.	7.	5.	5.	9.	10.	10.	8.	8.	9.	12.	13.	10.	10.
130.	5.	6.	8.	8.	8.	8.	9.	8.	6.	5.	10.	10.	12.	9.	9.	9.	11.	12.	10.	10.
140.	5.	5.	7.	7.	7.	9.	10.	9.	6.	6.	10.	11.	12.	10.	9.	8.	10.	11.	9.	9.
150.	5.	5.	6.	6.	6.	9.	9.	9.	6.	6.	10.	11.	12.	9.	9.	7.	8.	10.	9.	9.
160.	5.	5.	6.	5.	5.	8.	9.	9.	6.	6.	10.	11.	11.	9.	8.	7.	7.	10.	9.	9.
170.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.	10.	11.	11.	9.	8.	7.	8.	10.	10.	10.
180.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.	11.	11.	11.	10.	8.	7.	8.	10.	10.	10.
190.	6.	6.	6.	5.	5.	8.	8.	8.	6.	6.	12.	12.	12.	10.	8.	7.	8.	11.	11.	11.
200.	7.	7.	7.	5.	5.	7.	8.	8.	7.	7.	12.	13.	13.	10.	8.	6.	8.	12.	12.	12.
210.	9.	9.	9.	6.	5.	8.	8.	10.	9.	8.	13.	14.	13.	9.	7.	6.	7.	12.	12.	12.
220.	11.	12.	12.	6.	6.	8.	9.	12.	11.	10.	12.	12.	11.	8.	6.	5.	6.	10.	10.	10.
230.	12.	12.	12.	7.	6.	9.	10.	14.	12.	12.	10.	9.	9.	7.	6.	5.	5.	7.	7.	7.
240.	11.	12.	12.	8.	7.	9.	10.	13.	12.	12.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
250.	11.	11.	11.	8.	7.	9.	10.	12.	11.	11.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
260.	10.	10.	10.	7.	7.	9.	10.	12.	11.	11.	6.	6.	7.	6.	6.	5.	5.	6.	5.	5.
270.	10.	10.	10.	7.	7.	10.	10.	11.	10.	10.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	9.	9.	9.	7.	7.	10.	10.	11.	10.	10.	6.	6.	7.	6.	6.	5.	5.	6.	5.	5.
290.	9.	9.	10.	8.	7.	10.	11.	11.	10.	9.	6.	6.	7.	7.	7.	5.	5.	6.	5.	5.
300.	9.	9.	10.	8.	8.	10.	11.	11.	9.	9.	5.	6.	7.	7.	7.	6.	6.	7.	5.	5.
310.	9.	10.	12.	9.	9.	10.	10.	11.	10.	9.	5.	5.	7.	6.	6.	6.	7.	8.	5.	5.
320.	9.	10.	12.	10.	10.	8.	9.	10.	9.	9.	5.	5.	6.	6.	6.	7.	7.	9.	6.	5.
330.	9.	10.	12.	10.	10.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	7.	7.	9.	6.	6.
340.	10.	10.	11.	10.	9.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	6.	7.	8.	6.	6.
350.	10.	11.	11.	10.	9.	7.	8.	10.	10.	9.	5.	5.	5.	5.	5.	6.	7.	8.	6.	6.
360.	11.	11.	12.	10.	9.	7.	8.	10.	10.	9.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
MAX	12.	12.	14.	10.	10.	10.	11.	14.	12.	12.	13.	14.	13.	10.	9.	9.	12.	14.	13.	13.
DEGR.	230	230	30	320	330	300	300	230	230	230	210	210	210	140	140	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	10.	10.	15.	12.	12.	14.	14.	16.	12.	11.	5.	6.	11.	10.	11.	13.	13.	13.	6.	6.
10.	10.	11.	15.	13.	12.	11.	11.	13.	11.	10.	5.	5.	8.	8.	8.	14.	14.	14.	7.	6.
20.	10.	11.	14.	12.	12.	8.	9.	11.	10.	10.	5.	5.	6.	6.	6.	13.	13.	13.	8.	6.
30.	11.	11.	13.	12.	12.	8.	8.	10.	10.	10.	5.	5.	6.	5.	6.	12.	12.	12.	8.	7.
40.	11.	12.	13.	12.	11.	7.	8.	11.	11.	11.	5.	5.	6.	5.	5.	11.	11.	11.	8.	7.
50.	11.	12.	13.	12.	11.	7.	9.	12.	12.	11.	6.	6.	6.	5.	5.	11.	11.	11.	8.	7.
60.	12.	12.	13.	12.	11.	7.	8.	12.	12.	12.	6.	6.	6.	5.	5.	10.	10.	10.	7.	7.
70.	13.	13.	14.	12.	11.	7.	9.	13.	13.	13.	6.	6.	6.	5.	5.	10.	10.	10.	8.	7.
80.	14.	14.	16.	12.	10.	7.	8.	14.	14.	14.	8.	8.	8.	5.	5.	10.	10.	12.	10.	9.
90.	13.	14.	15.	11.	10.	6.	7.	14.	13.	13.	11.	11.	11.	6.	5.	11.	11.	16.	12.	12.
100.	10.	11.	12.	9.	9.	6.	6.	10.	10.	10.	14.	14.	14.	8.	6.	11.	13.	18.	14.	13.
110.	8.	8.	9.	9.	9.	5.	5.	8.	7.	8.	14.	14.	14.	9.	7.	12.	14.	18.	14.	13.
120.	7.	7.	8.	9.	9.	5.	5.	6.	6.	6.	13.	13.	13.	9.	8.	13.	14.	17.	13.	12.
130.	7.	7.	8.	9.	9.	5.	6.	6.	6.	6.	12.	12.	12.	9.	8.	13.	14.	16.	12.	11.
140.	6.	7.	8.	9.	9.	5.	5.	6.	6.	6.	11.	12.	11.	8.	8.	14.	14.	15.	11.	10.
150.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.	10.	11.	11.	8.	8.	14.	15.	14.	10.	10.
160.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	10.	10.	11.	9.	8.	15.	15.	15.	10.	10.
170.	6.	7.	11.	11.	11.	8.	8.	8.	5.	5.	10.	11.	13.	11.	11.	15.	15.	15.	10.	9.
180.	5.	6.	10.	10.	10.	11.	11.	10.	6.	5.	11.	12.	15.	13.	13.	13.	13.	14.	10.	9.
190.	5.	5.	8.	8.	8.	12.	13.	11.	7.	6.	11.	12.	16.	14.	14.	10.	10.	11.	9.	9.
200.	5.	5.	6.	6.	6.	12.	12.	11.	7.	6.	11.	12.	15.	13.	13.	8.	8.	9.	8.	8.
210.	5.	5.	5.	5.	5.	11.	11.	9.	7.	6.	12.	12.	14.	12.	12.	7.	8.	9.	9.	9.
220.	5.	5.	5.	5.	5.	10.	10.	8.	7.	7.	12.	12.	14.	12.	12.	7.	8.	9.	9.	9.
230.	5.	5.	5.	5.	5.	10.	10.	8.	7.	7.	13.	13.	13.	12.	11.	7.	8.	10.	9.	9.
240.	6.	6.	6.	5.	5.	10.	10.	8.	7.	7.	14.	13.	14.	12.	11.	7.	8.	10.	10.	10.
250.	6.	6.	6.	5.	5.	9.	9.	8.	8.	7.	14.	14.	15.	12.	11.	7.	8.	11.	11.	11.
260.	8.	8.	8.	6.	5.	9.	10.	9.	9.	9.	15.	15.	16.	12.	11.	7.	8.	12.	12.	12.
270.	10.	11.	10.	6.	6.	10.	10.	12.	12.	12.	14.	14.	16.	11.	10.	6.	7.	11.	11.	11.
280.	12.	12.	12.	7.	6.	10.	11.	14.	14.	14.	11.	11.	13.	10.	10.	5.	6.	8.	8.	8.
290.	12.	12.	12.	8.	7.	11.	12.	14.	14.	14.	8.	9.	10.	9.	9.	5.	5.	6.	6.	6.
300.	11.	11.	10.	8.	7.	11.	12.	13.	14.	14.	7.	8.	10.	10.	10.	5.	5.	6.	6.	6.
310.	10.	10.	10.	8.	7.	11.	12.	13.	14.	13.	7.	8.	10.	10.	10.	5.	5.	6.	5.	5.
320.	10.	10.	9.	8.	7.	12.	12.	14.	13.	13.	7.	8.	10.	10.	11.	6.	5.	6.	5.	5.
330.	9.	9.	9.	8.	7.	12.	13.	14.	13.	12.	7.	8.	11.	11.	11.	6.	6.	6.	5.	5.
340.	9.	9.	10.	8.	8.	14.	14.	16.	13.	12.	7.	8.	12.	12.	12.	7.	7.	7.	5.	5.
350.	9.	9.	12.	10.	9.	14.	15.	16.	12.	11.	6.	7.	12.	12.	13.	10.	10.	10.	6.	5.
360.	10.	10.	15.	12.	12.	14.	14.	16.	12.	11.	5.	6.	11.	10.	11.	13.	13.	13.	6.	6.
MAX	14.	14.	16.	13.	12.	14.	15.	16.	14.	14.	15.	15.	16.	14.	14.	15.	15.	18.	14.	13.
DEGR.	80	80	80	10	10	350	350	350	80	290	260	260	260	190	190	160	160	110	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	* 7.	7.	7.	5.	5.	7.	8.	10.	10.	11.	10.	10.	11.	11.	11.
10.	* 9.	10.	9.	6.	5.	8.	8.	12.	12.	12.	8.	8.	10.	10.	10.
20.	* 10.	11.	11.	7.	6.	8.	9.	13.	12.	12.	6.	6.	7.	8.	8.
30.	* 10.	11.	11.	7.	6.	9.	10.	12.	11.	11.	6.	6.	6.	6.	6.
40.	* 10.	10.	10.	7.	6.	9.	10.	11.	10.	10.	5.	6.	6.	6.	6.
50.	* 9.	9.	9.	7.	7.	9.	10.	11.	10.	10.	5.	5.	5.	6.	6.
60.	* 9.	9.	9.	7.	7.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.
70.	* 9.	9.	8.	7.	6.	9.	9.	10.	9.	9.	5.	5.	5.	5.	5.
80.	* 8.	8.	8.	7.	7.	9.	9.	10.	9.	9.	5.	5.	5.	5.	5.
90.	* 8.	8.	8.	8.	7.	9.	9.	10.	9.	9.	5.	5.	5.	5.	5.
100.	* 9.	9.	9.	8.	8.	8.	8.	10.	9.	9.	5.	5.	5.	5.	5.
110.	* 8.	8.	9.	9.	10.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.
120.	* 8.	8.	9.	10.	10.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.
130.	* 8.	8.	10.	10.	10.	7.	7.	10.	10.	10.	5.	5.	5.	5.	5.
140.	* 9.	9.	10.	11.	10.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.
150.	* 9.	10.	11.	11.	10.	7.	8.	11.	11.	11.	6.	6.	5.	5.	5.
160.	* 10.	11.	12.	11.	10.	7.	8.	12.	12.	12.	6.	6.	6.	6.	6.
170.	* 12.	12.	13.	10.	9.	6.	7.	12.	12.	12.	8.	8.	8.	7.	7.
180.	* 12.	12.	12.	9.	8.	5.	6.	11.	10.	10.	11.	11.	10.	9.	9.
190.	* 10.	10.	9.	8.	8.	5.	5.	8.	8.	8.	12.	12.	12.	11.	11.
200.	* 8.	8.	8.	8.	8.	5.	5.	6.	6.	6.	11.	12.	12.	11.	11.
210.	* 6.	7.	7.	8.	8.	5.	5.	6.	6.	6.	11.	11.	11.	11.	11.
220.	* 6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
230.	* 6.	6.	7.	8.	8.	5.	5.	6.	5.	5.	10.	10.	10.	10.	10.
240.	* 6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	10.	10.	10.
250.	* 6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	10.	10.	9.
260.	* 6.	6.	8.	9.	8.	5.	5.	5.	5.	5.	9.	9.	10.	9.	9.
270.	* 6.	6.	8.	9.	8.	6.	6.	6.	5.	5.	9.	10.	11.	9.	9.
280.	* 6.	6.	7.	8.	7.	7.	7.	7.	6.	5.	9.	10.	11.	9.	9.
290.	* 6.	6.	7.	7.	7.	8.	8.	9.	6.	6.	10.	10.	10.	9.	9.
300.	* 6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	10.	11.	9.	9.	9.
310.	* 6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	11.	11.	9.	9.	9.
320.	* 5.	6.	5.	5.	5.	7.	8.	8.	7.	6.	11.	11.	9.	9.	9.
330.	* 5.	5.	5.	5.	5.	7.	8.	8.	7.	6.	11.	11.	9.	9.	10.
340.	* 6.	6.	6.	5.	5.	7.	8.	8.	7.	7.	12.	11.	10.	10.	10.
350.	* 6.	6.	6.	5.	5.	7.	7.	8.	8.	8.	12.	11.	10.	11.	11.
360.	* 7.	7.	7.	5.	5.	7.	8.	10.	10.	11.	10.	10.	11.	11.	11.
MAX	* 12.	12.	13.	11.	10.	9.	10.	13.	12.	12.	12.	12.	12.	11.	11.
DEGR.	* 180	170	170	150	130	60	30	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 18. ug/m**3 OCCURRED AT RECEPTOR REC38.

Ex2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:13

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.4	********	70.	312.	AG	0.	100.0	1.0	20.0	0.44	3.6
2. MVP West	756216.0	********	754217.4	********	3247.	218.	AG	0.	100.0	1.0	10.0	1.36	165.0
3. Boston Ave South	756271.8	********	757480.6	********	1624.	132.	AG	0.	100.0	1.0	10.0	1.37	82.5
4. MVP East	756253.6	********	756376.9	********	173.	45.	AG	0.	100.0	1.0	20.0	0.77	8.8
5. Winthrop North	759327.2	********	759298.6	********	1013.	358.	AG	0.	100.0	1.0	20.0	1.16	51.5
6. MVP East RT	759381.7	********	759502.5	********	121.	93.	AG	0.	100.0	1.0	10.0	0.45	6.1
7. MVP East T	759381.8	********	763790.8	********	4411.	92.	AG	0.	100.0	1.0	10.0	1.59	224.1
8. Winthrop South	759345.1	********	759310.2	********	1357.	181.	AG	1.	100.0	1.0	20.0	1.62	69.0
9. MVP West	759293.5	********	755376.9	********	3921.	273.	AG	0.	100.0	1.0	10.0	1.52	199.2
10. South St	761297.7	********	761138.4	********	163.	282.	AG	1.	100.0	1.0	20.0	0.86	8.3
11. Boston Ave. SB LT	759658.7	********	759565.4	********	198.	332.	AG	0.	100.0	1.0	10.0	0.92	10.0
12. Boston Ave. SB R	759646.0	********	759616.2	********	64.	332.	AG	0.	100.0	1.0	10.0	0.38	3.2
13. College Ave EB L	759636.4	********	759598.9	********	83.	207.	AG	0.	100.0	1.0	10.0	0.49	4.2
14. College Ave. EB TR	759648.1	********	759584.2	********	139.	207.	AG	0.	100.0	1.0	10.0	0.77	7.1
15. Boston Ave. NB	759699.9	********	759948.0	********	521.	152.	AG	0.	100.0	1.0	10.0	1.08	26.5
16. College Ave WB	759720.8	********	759917.4	********	339.	35.	AG	0.	100.0	1.0	10.0	1.01	17.2
17. Main St. SB	762042.2	********	761358.1	********	2227.	342.	AG	0.	100.0	1.0	10.0	1.50	113.1
18. Harvard St. EB	762026.6	********	760826.1	********	1368.	241.	AG	0.	100.0	1.0	10.0	1.24	69.5
19. Main st. NB	762078.3	********	762234.4	********	492.	162.	AG	0.	100.0	1.0	10.0	1.07	25.0
20. Harvard St. WB	762091.8	********	763477.0	********	1451.	73.	AG	0.	100.0	1.0	10.0	1.25	73.7
21. Broadway EB R	762959.1	********	762829.3	********	141.	293.	AG	0.	100.0	1.0	10.0	0.85	7.2
22. Broadway EB TL	762965.1	********	761504.0	********	1595.	294.	AG	0.	100.0	1.0	10.0	1.49	81.0
23. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	763093.0	********	763636.6	********	1104.	150.	AG	0.	100.0	1.0	10.0	1.32	56.1
25. Broadway St. WB	763115.6	********	764227.2	********	1210.	113.	AG	1.	100.0	1.0	20.0	1.35	61.5
26. Dexter St. SWB	763101.5	********	763403.1	********	415.	47.	AG	0.	100.0	1.0	10.0	1.82	21.1
27. Medford St. SB	763008.3	********	762799.6	********	661.	342.	AG	0.	100.0	1.0	10.0	1.23	33.6
28. Highland St. EB	763277.6	********	763150.5	********	139.	294.	AG	0.	100.0	1.0	10.0	0.84	7.0
29. Central St NB	763301.4	********	763212.2	********	202.	206.	AG	0.	100.0	1.0	10.0	0.95	10.3
30. Highland St. WB	763328.5	********	763551.1	********	243.	114.	AG	0.	100.0	1.0	10.0	1.00	12.3
31. Central St. SB	763311.4	********	763332.6	********	46.	27.	AG	0.	100.0	1.0	10.0	0.37	2.3
32. Medford St. NWB	765022.2	********	766415.9	********	2269.	142.	AG	0.	100.0	1.0	10.0	1.38	115.3
33. School St. SB	765002.3	********	765166.0	********	379.	26.	AG	0.	100.0	1.0	10.0	1.08	19.3
34. Medford St. SEB	764967.1	********	764863.8	********	167.	322.	AG	0.	100.0	1.0	10.0	0.93	8.5
35. Prospect SB	765830.6	********	766200.2	********	715.	31.	AG	0.	100.0	1.0	20.0	1.12	36.3
36. Sommerville WB	765870.1	********	766866.4	********	1110.	116.	AG	1.	100.0	1.0	20.0	1.79	56.4
37. Prospect NB	765828.4	********	765723.3	********	237.	206.	AG	1.	100.0	1.0	30.0	0.97	12.0
38. Somerville EB	765797.5	********	765688.8	********	121.	296.	AG	0.	100.0	1.0	20.0	0.60	6.1
39. McGrath Highway SB1	766950.5	********	766591.9	********	1973.	350.	AG	1.	100.0	1.0	20.0	3.83	100.2
40. Washington St. EB	766952.8	********	759076.8	********	8448.	249.	AG	0.	100.0	1.0	10.0	3.46	429.2
41. McGrath Hwy NB2 L	767105.3	********	767109.5	********	32.	172.	AG	0.	100.0	1.0	10.0	0.41	1.6
42. McGrath Hwy NB2 T	767119.9	********	767604.3	********	3946.	173.	AG	0.	100.0	1.0	10.0	3.91	200.5
43. Washington St. WB	767129.9	********	767268.1	********	151.	67.	AG	1.	100.0	1.0	30.0	0.61	7.7
44. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	0.	100.0	1.0	10.0	1.39	47.9

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:13

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Cambridge St WB L	*	770550.6	********	770577.5	********	*	27.	98.	AG	0.	100.0	1.0	10.0	0.12	1.4
46. Cambridge St WB T	*	770554.3	********	770611.2	********	*	58.	99.	AG	0.	100.0	1.0	10.0	0.26	2.9
47. First St NB L	*	770507.2	********	770497.7	********	*	61.	189.	AG	0.	100.0	1.0	10.0	0.79	3.1
48. First St NB R	*	770523.2	********	770510.0	********	*	80.	189.	AG	0.	100.0	1.0	10.0	0.46	4.1
49. East St SB	*	770754.4	********	770782.0	********	*	42.	41.	AG	0.	100.0	1.0	10.0	0.44	2.1
50. MsgrOb/East EB R	*	770637.2	********	770602.3	********	*	44.	307.	AG	0.	100.0	1.0	10.0	0.35	2.2
51. MsgrOb/East EB T	*	770650.1	********	770507.4	********	*	180.	307.	AG	1.	100.0	1.0	30.0	0.97	9.1
52. MsgrOb/East EB L	*	770662.8	********	770653.7	********	*	12.	308.	AG	0.	100.0	1.0	10.0	0.09	0.6
53. MsgrOb/East WB T	*	770764.6	********	770972.1	********	*	282.	133.	AG	0.	100.0	1.0	10.0	0.95	14.3
54. MsgrOb/East WB R	*	770778.0	********	770778.9	********	*	1.	134.	AG	0.	100.0	1.0	10.0	0.01	0.1
55. MsgrOb at First WB L	*	770904.4	********	770949.4	********	*	54.	124.	AG	0.	100.0	1.0	20.0	0.30	2.8
56. Boston Ave. North	*	756236.2	********	754979.9	********	*	1652.	311.	AG	534.	0.1	1.0	42.0		
57. MVP West	*	756236.4	********	755664.5	********	*	961.	217.	AG	2303.	0.1	1.0	58.0		
58. MVP East	*	756236.3	********	756857.2	********	*	867.	46.	AG	2149.	0.1	1.0	66.0		
59. Boston Ave. South	*	756236.7	********	757224.6	********	*	1320.	132.	AG	883.	0.1	1.0	42.0		
60. Winthrop South	*	759337.5	********	759326.8	********	*	663.	181.	AG	1080.	0.1	1.0	42.0		
61. Winthrop North	*	759337.5	********	759313.4	********	*	855.	358.	AG	1761.	0.1	1.0	42.0		
62. MVP West	*	759335.1	********	758131.8	********	*	1204.	272.	AG	2092.	0.1	1.0	66.0		
63. MVP East	*	759335.6	********	760246.6	********	*	913.	93.	AG	2987.	0.1	1.0	66.0		
64. South Street	*	761345.7	********	760087.5	********	*	1291.	283.	AG	571.	0.1	1.0	42.0		
65. Main St North	*	761336.6	********	761454.9	********	*	676.	10.	AG	2127.	0.1	1.0	66.0		
66. Main St South	*	761340.3	********	761346.3	********	*	842.	180.	AG	2457.	0.1	1.0	66.0		
67. Boston Ave. SB	*	759689.9	********	759291.3	********	*	834.	331.	AG	903.	0.1	1.0	54.0		
68. College Ave. EB	*	759682.8	********	759503.5	********	*	402.	206.	AG	702.	0.1	1.0	54.0		
69. College Ave. EB2	*	759494.1	********	759662.7	********	*	1634.	174.	AG	702.	0.1	1.0	54.0		
70. Boston Ave. NB	*	759638.3	********	760480.3	********	*	1710.	151.	AG	528.	0.1	1.0	42.0		
71. College Ave. WB	*	759667.3	********	760588.5	********	*	1597.	35.	AG	739.	0.1	1.0	42.0		
72. Main St. SB	*	762056.3	********	761788.3	********	*	898.	343.	AG	996.	0.1	1.0	42.0		
73. Harvard St. EB	*	762057.7	********	760514.6	********	*	1752.	242.	AG	1156.	0.1	1.0	42.0		
74. Main St. NB	*	762056.8	********	762406.1	********	*	1071.	161.	AG	949.	0.1	1.0	42.0		
75. Harvard St. WB	*	762057.1	********	763589.7	********	*	1603.	73.	AG	1111.	0.1	1.0	42.0		
76. Broadway St. EB	*	763029.8	********	761172.6	********	*	2021.	293.	AG	1484.	0.1	1.0	66.0		
77. Parking Lot NEB	*	763030.0	********	762877.3	********	*	237.	220.	AG	85.	0.1	1.0	42.0		
78. Medford St. NB	*	763025.4	********	764069.8	********	*	2059.	150.	AG	748.	0.1	1.0	42.0		
79. Broadway St. WB	*	763030.1	********	764419.9	********	*	1513.	113.	AG	1164.	0.1	1.0	66.0		
80. Dexter St. SWB	*	763031.1	********	764132.1	********	*	1524.	46.	AG	71.	0.1	1.0	30.0		
81. Medford St. SB	*	763047.7	********	762503.6	********	*	1637.	341.	AG	499.	0.1	1.0	42.0		
82. Highland St. EB	*	763300.2	********	762029.2	********	*	1386.	293.	AG	881.	0.1	1.0	42.0		
83. Central St. NB	*	763299.4	********	762852.7	********	*	981.	207.	AG	581.	0.1	1.0	42.0		
84. Highland St. WB	*	763299.4	********	764576.9	********	*	1400.	114.	AG	896.	0.1	1.0	42.0		
85. Central St. SB	*	763299.7	********	764053.4	********	*	1632.	27.	AG	534.	0.1	1.0	42.0		
86. Medford St. NWB	*	764993.5	********	765926.1	********	*	1536.	143.	AG	1133.	0.1	1.0	42.0		
87. School St. SB	*	764992.8	********	765406.3	********	*	930.	26.	AG	461.	0.1	1.0	42.0		
88. Medford St. SEB	*	764996.8	********	764392.9	********	*	986.	322.	AG	960.	0.1	1.0	42.0		
89. School St. NB	*	764991.8	********	764577.6	********	*	935.	206.	AG	458.	0.1	1.0	42.0		
90. Prospect St. SB	*	765833.6	********	765929.0	********	*	177.	33.	AG	1857.	0.1	1.0	66.0		
91. Sommerville Ave. EB	*	765828.2	********	765178.4	********	*	720.	295.	AG	2312.	0.1	1.0	66.0		
92. Prospect St. NB	*	765839.9	********	765452.5	********	*	858.	207.	AG	1193.	0.1	1.0	54.0		
93. Somerville Ave WB	*	765826.5	********	767169.2	********	*	1492.	116.	AG	842.	0.1	1.0	66.0		
94. McGrath Hwy SB1	*	766957.3	********	766833.9	********	*	714.	350.	AG	460.	0.1	1.0	42.0		
95. McGrath Highway NB1	*	767104.5	********	766885.0	********	*	694.	342.	AG	1300.	0.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	0.1	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	0.1	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	0.1	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	0.1	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	0.1	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	0.1	1.0	42.0	
102. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	0.1	1.0	66.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	0.1	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	0.1	1.0	42.0	
105. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	0.1	1.0	****	
106. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	0.1	1.0	66.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	0.1	1.0	****	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	113	83	3.0	310	1600	0.12	1	3
2. MVP West	*	113	53	3.0	1058	1600	0.12	1	3
3. Boston Ave South	*	113	83	3.0	483	1600	0.12	1	3
4. MVP East	*	113	53	3.0	1197	1600	0.12	1	3
5. Winthrop North	*	135	95	3.0	961	1600	0.12	1	3
6. MVP East RT	*	135	55	3.0	402	1600	0.12	1	3
7. MVP East T	*	135	75	3.0	1036	1600	0.12	1	3
8. Winthrop South	*	135	115	3.0	572	1600	0.12	1	3
9. MVP West	*	135	75	3.0	989	1600	0.12	1	3
10. South St	*	120	90	3.0	571	1600	0.12	1	3
11. Boston Ave. SB LT	*	135	105	3.0	272	1600	0.12	1	3
12. Boston Ave. SB R	*	135	105	3.0	111	1600	0.12	1	3
13. College Ave EB L	*	135	105	3.0	144	1600	0.12	1	3
14. College Ave. EB TR	*	135	105	3.0	228	1600	0.12	1	3
15. Boston Ave. NB	*	135	105	3.0	321	1600	0.12	1	3
16. College Ave WB	*	135	100	3.0	360	1600	0.12	1	3
17. Main St. SB	*	92	65	3.0	573	1600	0.12	1	3
18. Harvard St. EB	*	92	61	3.0	559	1600	0.12	1	3
19. Main st. NB	*	92	65	3.0	407	1600	0.12	1	3
20. Harvard St. WB	*	92	61	3.0	567	1600	0.12	1	3
21. Broadway EB R	*	122	97	3.0	224	1600	0.12	1	3
22. Broadway EB TL	*	122	97	3.0	391	1600	0.12	1	3
23. Parking Lot	*	122	114	3.0	50	1600	0.12	1	3
24. Medford St. NB	*	122	97	3.0	345	1600	0.12	1	3
25. Broadway St. WB	*	122	97	3.0	710	1600	0.12	1	3
26. Dexter St. SWB	*	122	114	3.0	71	1600	0.12	1	3
27. Medford St. SB	*	122	102	3.0	241	1600	0.12	1	3
28. Highland St. EB	*	86	56	3.0	390	1600	0.12	1	3
29. Central St NB	*	86	56	3.0	443	1600	0.12	1	3
30. Highland St. WB	*	86	56	3.0	463	1600	0.12	1	3
31. Central St. SB	*	82	56	3.0	150	1600	0.12	1	3
32. Medford St. NWB	*	70	42	3.0	723	1600	0.12	1	3
33. School St. SB	*	70	53	3.0	295	1600	0.12	1	3
34. Medford St. SEB	*	70	42	3.0	488	1600	0.12	1	3
35. Prospect SB	*	109	79	3.0	821	1600	0.12	1	3
36. Sommerville WB	*	109	96	3.0	418	1600	0.12	1	3
37. Prospect NB	*	109	76	3.0	1193	1600	0.12	1	3
38. Somerville EB	*	109	66	3.0	670	1600	0.12	1	3
39. McGrath Highway SB1	*	133	123	3.0	460	1600	0.12	1	3
40. Washington St. EB	*	133	102	3.0	1079	1600	0.12	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	0.12	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	0.12	1	3
43. Washington St. WB	*	133	83	3.0	997	1600	0.12	1	3
44. Cambridge St EB TR	*	111	93	3.0	260	1600	0.12	1	3
45. Cambridge St WB L	*	111	47	3.0	106	1600	0.12	1	3
46. Cambridge St WB T	*	111	47	3.0	224	1600	0.12	1	3
47. First St NB L	*	111	98	3.0	91	1600	0.12	1	3
48. First St NB R	*	111	29	3.0	507	1600	0.12	1	3
49. East St SB	*	111	93	3.0	83	1600	0.12	1	3
50. MsgrOb/East EB R	*	111	88	3.0	91	1600	0.12	1	3
51. MsgrOb/East EB T	*	111	88	3.0	750	1600	0.12	1	3
52. MsgrOb/East EB L	*	111	88	3.0	24	1600	0.12	1	3
53. MsgrOb/East WB T	*	111	47	3.0	807	1600	0.12	1	3
54. MsgrOb/East WB R	*	111	47	3.0	5	1600	0.12	1	3
55. MsgrOb at First WB L	*	111	75	3.0	265	1600	0.12	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 10.	10.	10.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	10.	8.	7.	6.
10.	* 10.	10.	9.	8.	8.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	9.	8.	7.	7.
20.	* 10.	9.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	9.	8.	8.	7.
30.	* 9.	8.	8.	7.	7.	6.	6.	7.	8.	8.	8.	8.	7.	6.	5.	8.	9.	9.	9.	8.
40.	* 7.	7.	7.	7.	7.	5.	6.	6.	7.	7.	9.	9.	8.	6.	5.	8.	9.	9.	9.	8.
50.	* 6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	9.	9.	8.	6.	6.	8.	9.	8.	8.	8.
60.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	9.	8.	7.	8.
70.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	8.	8.	7.	7.	7.
80.	* 6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	8.	8.	6.	7.	8.
90.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	8.	8.	6.	7.	8.
100.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	6.	7.	8.
110.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	8.	6.	8.	8.
120.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	8.	6.	8.	8.
130.	* 6.	6.	8.	8.	8.	6.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	8.	7.	8.	8.
140.	* 6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	10.	8.	8.	8.	8.
150.	* 5.	6.	8.	8.	8.	7.	7.	6.	6.	5.	7.	8.	7.	7.	7.	10.	9.	9.	8.	8.
160.	* 5.	5.	7.	7.	7.	8.	7.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	9.	7.	7.
170.	* 5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	8.	8.	8.	8.	8.	8.	8.	9.	8.	8.
180.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	8.	9.	9.	9.	9.	7.	8.	9.	8.	8.
190.	* 6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	9.	9.	10.	9.	8.	6.	7.	9.	8.	8.
200.	* 7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	10.	9.	9.	8.	7.	6.	6.	8.	8.	7.
210.	* 7.	8.	8.	6.	6.	7.	7.	8.	8.	7.	9.	9.	9.	8.	7.	5.	6.	7.	7.	6.
220.	* 8.	9.	8.	6.	5.	7.	8.	8.	8.	8.	8.	8.	8.	7.	7.	5.	5.	6.	6.	6.
230.	* 8.	9.	8.	6.	5.	7.	8.	7.	8.	8.	7.	7.	7.	7.	7.	5.	5.	6.	5.	5.
240.	* 8.	8.	7.	6.	6.	8.	8.	7.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
250.	* 8.	8.	7.	6.	6.	8.	7.	6.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
260.	* 8.	8.	6.	6.	6.	8.	7.	6.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
270.	* 7.	8.	6.	6.	6.	8.	7.	6.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	* 7.	8.	6.	6.	6.	8.	7.	6.	8.	8.	6.	6.	7.	7.	7.	5.	6.	5.	5.	5.
290.	* 7.	8.	6.	6.	6.	8.	7.	7.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.
300.	* 7.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	8.	7.	7.	6.	6.	5.	5.	5.
310.	* 7.	8.	7.	7.	6.	8.	7.	8.	8.	8.	6.	6.	8.	8.	7.	6.	8.	5.	5.	5.
320.	* 7.	8.	8.	7.	7.	8.	7.	9.	8.	7.	5.	6.	8.	7.	7.	8.	9.	6.	5.	5.
330.	* 8.	8.	8.	8.	8.	8.	8.	10.	7.	7.	5.	6.	7.	6.	6.	8.	11.	6.	5.	5.
340.	* 8.	9.	9.	9.	9.	7.	8.	9.	7.	7.	5.	5.	6.	6.	6.	9.	11.	7.	6.	6.
350.	* 9.	10.	10.	9.	9.	7.	8.	8.	7.	8.	6.	5.	6.	5.	5.	9.	11.	8.	7.	6.
360.	* 10.	10.	10.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	10.	8.	7.	6.
MAX	* 10.	10.	10.	9.	9.	8.	8.	10.	8.	8.	10.	9.	10.	9.	9.	10.	11.	9.	9.	8.
DEGR.	* 10	0	350	340	350	290	340	330	20	20	200	200	190	180	180	150	340	40	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 9.	9.	11.	10.	10.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	10.	10.	9.	7.	6.
10.	* 9.	9.	10.	9.	9.	6.	6.	7.	8.	8.	5.	5.	6.	5.	5.	9.	9.	9.	6.	6.
20.	* 9.	10.	10.	9.	9.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
30.	* 10.	10.	10.	9.	8.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
40.	* 10.	10.	10.	9.	8.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	7.	6.
50.	* 10.	10.	10.	9.	8.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	8.	8.	8.	8.	7.
60.	* 10.	10.	10.	9.	8.	6.	6.	9.	9.	10.	7.	7.	7.	5.	5.	8.	8.	10.	9.	9.
70.	* 9.	9.	10.	8.	8.	6.	6.	9.	9.	9.	9.	9.	9.	6.	5.	8.	8.	12.	10.	10.
80.	* 7.	8.	9.	8.	7.	5.	5.	8.	8.	8.	10.	10.	10.	6.	6.	8.	9.	12.	10.	10.
90.	* 6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.	9.	9.	11.	10.	10.
100.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	9.	9.	10.	9.	9.
110.	* 6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	8.	6.	6.	9.	9.	10.	9.	9.
120.	* 6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	9.	8.
130.	* 6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	8.
140.	* 6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	10.	10.	11.	9.	8.
150.	* 6.	6.	10.	9.	9.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.	11.	11.	12.	9.	9.
160.	* 6.	6.	9.	9.	9.	9.	9.	8.	6.	6.	8.	9.	11.	10.	9.	10.	10.	11.	9.	8.
170.	* 5.	5.	8.	7.	7.	10.	9.	9.	6.	6.	8.	9.	11.	10.	10.	8.	9.	9.	8.	8.
180.	* 5.	5.	6.	6.	6.	9.	9.	9.	6.	6.	8.	9.	11.	10.	10.	7.	7.	8.	8.	8.
190.	* 5.	5.	6.	6.	5.	9.	9.	8.	6.	6.	9.	9.	10.	9.	9.	6.	7.	8.	8.	8.
200.	* 5.	5.	6.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	9.	9.	6.	7.	8.	8.	8.
210.	* 5.	5.	6.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	7.	9.	9.	9.
220.	* 6.	6.	6.	5.	5.	8.	8.	8.	6.	6.	10.	10.	11.	9.	8.	6.	7.	9.	9.	9.
230.	* 7.	7.	7.	5.	5.	8.	8.	9.	7.	7.	11.	11.	12.	9.	8.	6.	7.	10.	10.	10.
240.	* 9.	9.	9.	6.	5.	8.	8.	10.	8.	8.	11.	11.	12.	8.	8.	6.	6.	10.	10.	9.
250.	* 10.	10.	10.	6.	6.	8.	9.	11.	10.	9.	10.	10.	10.	8.	8.	5.	6.	8.	8.	8.
260.	* 10.	10.	10.	7.	6.	9.	9.	11.	10.	10.	8.	9.	9.	8.	8.	5.	5.	6.	6.	6.
270.	* 9.	9.	9.	7.	6.	9.	9.	10.	9.	10.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
280.	* 9.	9.	8.	6.	6.	8.	9.	10.	9.	9.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
290.	* 8.	8.	8.	6.	6.	9.	9.	10.	9.	9.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.
300.	* 8.	8.	8.	6.	6.	9.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
310.	* 8.	8.	8.	6.	6.	9.	10.	10.	9.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
320.	* 8.	8.	8.	7.	6.	10.	10.	10.	9.	8.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.
330.	* 8.	8.	10.	8.	8.	10.	10.	11.	9.	8.	6.	6.	9.	9.	9.	7.	7.	7.	5.	5.
340.	* 8.	8.	11.	10.	9.	10.	10.	11.	8.	8.	6.	6.	9.	9.	9.	9.	9.	9.	6.	5.
350.	* 8.	9.	12.	10.	10.	8.	8.	9.	8.	8.	5.	6.	8.	8.	7.	10.	10.	10.	6.	6.
360.	* 9.	9.	11.	10.	10.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	10.	10.	9.	7.	6.
MAX	* 10.	10.	12.	10.	10.	10.	10.	11.	10.	10.	11.	11.	12.	10.	10.	11.	11.	12.	10.	10.
DEGR.	* 50	250	350	350	350	330	330	250	260	260	240	240	230	170	170	150	150	80	70	80

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC38.

Ex3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:30

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.4	********	70.	312.	AG	0.	100.0	1.0	20.0	0.44	3.6
2. MVP West	756216.0	********	754217.4	********	3247.	218.	AG	0.	100.0	1.0	10.0	1.36	165.0
3. Boston Ave South	756271.8	********	757480.6	********	1624.	132.	AG	0.	100.0	1.0	10.0	1.37	82.5
4. MVP East	756253.6	********	756376.9	********	173.	45.	AG	0.	100.0	1.0	20.0	0.77	8.8
5. Winthrop North	759327.2	********	759298.6	********	1013.	358.	AG	0.	100.0	1.0	20.0	1.16	51.5
6. MVP East RT	759381.7	********	759502.5	********	121.	93.	AG	0.	100.0	1.0	10.0	0.45	6.1
7. MVP East T	759381.8	********	763790.8	********	4411.	92.	AG	0.	100.0	1.0	10.0	1.59	224.1
8. Winthrop South	759345.1	********	759310.2	********	1357.	181.	AG	1.	100.0	1.0	20.0	1.62	69.0
9. MVP West	759293.5	********	755376.9	********	3921.	273.	AG	0.	100.0	1.0	10.0	1.52	199.2
10. South St	761297.7	********	761138.4	********	163.	282.	AG	1.	100.0	1.0	20.0	0.86	8.3
11. Boston Ave. SB LT	759658.7	********	759565.4	********	198.	332.	AG	0.	100.0	1.0	10.0	0.92	10.0
12. Boston Ave. SB R	759646.0	********	759616.2	********	64.	332.	AG	0.	100.0	1.0	10.0	0.38	3.2
13. College Ave EB L	759636.4	********	759598.9	********	83.	207.	AG	0.	100.0	1.0	10.0	0.49	4.2
14. College Ave. EB TR	759648.1	********	759584.2	********	139.	207.	AG	0.	100.0	1.0	10.0	0.77	7.1
15. Boston Ave. NB	759699.9	********	759948.0	********	521.	152.	AG	0.	100.0	1.0	10.0	1.08	26.5
16. College Ave WB	759720.8	********	759917.4	********	339.	35.	AG	0.	100.0	1.0	10.0	1.01	17.2
17. Main St. SB	762042.2	********	761358.1	********	2227.	342.	AG	0.	100.0	1.0	10.0	1.50	113.1
18. Harvard St. EB	762026.6	********	760826.1	********	1368.	241.	AG	0.	100.0	1.0	10.0	1.24	69.5
19. Main st. NB	762078.3	********	762234.4	********	492.	162.	AG	0.	100.0	1.0	10.0	1.07	25.0
20. Harvard St. WB	762091.8	********	763477.0	********	1451.	73.	AG	0.	100.0	1.0	10.0	1.25	73.7
21. Broadway EB R	762959.1	********	762829.3	********	141.	293.	AG	0.	100.0	1.0	10.0	0.85	7.2
22. Broadway EB TL	762965.1	********	761504.0	********	1595.	294.	AG	0.	100.0	1.0	10.0	1.49	81.0
23. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	763093.0	********	763636.6	********	1104.	150.	AG	0.	100.0	1.0	10.0	1.32	56.1
25. Broadway St. WB	763115.6	********	764227.2	********	1210.	113.	AG	1.	100.0	1.0	20.0	1.35	61.5
26. Dexter St. SWB	763101.5	********	763403.1	********	415.	47.	AG	0.	100.0	1.0	10.0	1.82	21.1
27. Medford St. SB	763008.3	********	762799.6	********	661.	342.	AG	0.	100.0	1.0	10.0	1.23	33.6
28. Highland St. EB	763277.6	********	763150.5	********	139.	294.	AG	0.	100.0	1.0	10.0	0.84	7.0
29. Central St NB	763301.4	********	763212.2	********	202.	206.	AG	0.	100.0	1.0	10.0	0.95	10.3
30. Highland St. WB	763328.5	********	763551.1	********	243.	114.	AG	0.	100.0	1.0	10.0	1.00	12.3
31. Central St. SB	763311.4	********	763332.6	********	46.	27.	AG	0.	100.0	1.0	10.0	0.37	2.3
32. Medford St. NWB	765022.2	********	766415.9	********	2269.	142.	AG	0.	100.0	1.0	10.0	1.38	115.3
33. School St. SB	765002.3	********	765166.0	********	379.	26.	AG	0.	100.0	1.0	10.0	1.08	19.3
34. Medford St. SEB	764967.1	********	764863.8	********	167.	322.	AG	0.	100.0	1.0	10.0	0.93	8.5
35. Prospect SB	765830.6	********	766200.2	********	715.	31.	AG	0.	100.0	1.0	20.0	1.12	36.3
36. Sommerville WB	765870.1	********	766866.4	********	1110.	116.	AG	1.	100.0	1.0	20.0	1.79	56.4
37. Prospect NB	765828.4	********	765723.3	********	237.	206.	AG	1.	100.0	1.0	30.0	0.97	12.0
38. Somerville EB	765797.5	********	765688.8	********	121.	296.	AG	0.	100.0	1.0	20.0	0.60	6.1
39. McGrath Highway SB1	766950.5	********	766591.9	********	1973.	350.	AG	1.	100.0	1.0	20.0	3.83	100.2
40. Washington St. EB	766952.8	********	759076.8	********	8448.	249.	AG	0.	100.0	1.0	10.0	3.46	429.2
41. McGrath Hwy NB2 L	767105.3	********	767109.5	********	32.	172.	AG	0.	100.0	1.0	10.0	0.41	1.6
42. McGrath Hwy NB2 T	767119.9	********	767604.3	********	3946.	173.	AG	0.	100.0	1.0	10.0	3.91	200.5
43. Washington St. WB	767129.9	********	767268.1	********	151.	67.	AG	1.	100.0	1.0	30.0	0.61	7.7
44. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	0.	100.0	1.0	10.0	1.39	47.9

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:30

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Cambridge St WB L	*	770550.6	********	770577.5	********	*	27.	98.	AG	0.	100.0	1.0	10.0	0.12	1.4
46. Cambridge St WB T	*	770554.3	********	770611.2	********	*	58.	99.	AG	0.	100.0	1.0	10.0	0.26	2.9
47. First St NB L	*	770507.2	********	770497.7	********	*	61.	189.	AG	0.	100.0	1.0	10.0	0.79	3.1
48. First St NB R	*	770523.2	********	770510.0	********	*	80.	189.	AG	0.	100.0	1.0	10.0	0.46	4.1
49. East St SB	*	770754.4	********	770782.0	********	*	42.	41.	AG	0.	100.0	1.0	10.0	0.44	2.1
50. MsgrOb/East EB R	*	770637.2	********	770602.3	********	*	44.	307.	AG	0.	100.0	1.0	10.0	0.35	2.2
51. MsgrOb/East EB T	*	770650.1	********	770507.4	********	*	180.	307.	AG	1.	100.0	1.0	30.0	0.97	9.1
52. MsgrOb/East EB L	*	770662.8	********	770653.7	********	*	12.	308.	AG	0.	100.0	1.0	10.0	0.09	0.6
53. MsgrOb/East WB T	*	770764.6	********	770972.1	********	*	282.	133.	AG	0.	100.0	1.0	10.0	0.95	14.3
54. MsgrOb/East WB R	*	770778.0	********	770778.9	********	*	1.	134.	AG	0.	100.0	1.0	10.0	0.01	0.1
55. MsgrOb at First WB L	*	770904.4	********	770949.4	********	*	54.	124.	AG	0.	100.0	1.0	20.0	0.30	2.8
56. Boston Ave. North	*	756236.2	********	754979.9	********	*	1652.	311.	AG	534.	0.1	1.0	42.0		
57. MVP West	*	756236.4	********	755664.5	********	*	961.	217.	AG	2303.	0.1	1.0	58.0		
58. MVP East	*	756236.3	********	756857.2	********	*	867.	46.	AG	2149.	0.1	1.0	66.0		
59. Boston Ave. South	*	756236.7	********	757224.6	********	*	1320.	132.	AG	883.	0.1	1.0	42.0		
60. Winthrop South	*	759337.5	********	759326.8	********	*	663.	181.	AG	1080.	0.1	1.0	42.0		
61. Winthrop North	*	759337.5	********	759313.4	********	*	855.	358.	AG	1761.	0.1	1.0	42.0		
62. MVP West	*	759335.1	********	758131.8	********	*	1204.	272.	AG	2092.	0.1	1.0	66.0		
63. MVP East	*	759335.6	********	760246.6	********	*	913.	93.	AG	2987.	0.1	1.0	66.0		
64. South Street	*	761345.7	********	760087.5	********	*	1291.	283.	AG	571.	0.1	1.0	42.0		
65. Main St North	*	761336.6	********	761454.9	********	*	676.	10.	AG	2127.	0.1	1.0	66.0		
66. Main St South	*	761340.3	********	761346.3	********	*	842.	180.	AG	2457.	0.1	1.0	66.0		
67. Boston Ave. SB	*	759689.9	********	759291.3	********	*	834.	331.	AG	903.	0.1	1.0	54.0		
68. College Ave. EB	*	759682.8	********	759503.5	********	*	402.	206.	AG	702.	0.1	1.0	54.0		
69. College Ave. EB2	*	759494.1	********	759662.7	********	*	1634.	174.	AG	702.	0.1	1.0	54.0		
70. Boston Ave. NB	*	759638.3	********	760480.3	********	*	1710.	151.	AG	528.	0.1	1.0	42.0		
71. College Ave. WB	*	759667.3	********	760588.5	********	*	1597.	35.	AG	739.	0.1	1.0	42.0		
72. Main St. SB	*	762056.3	********	761788.3	********	*	898.	343.	AG	996.	0.1	1.0	42.0		
73. Harvard St. EB	*	762057.7	********	760514.6	********	*	1752.	242.	AG	1156.	0.1	1.0	42.0		
74. Main St. NB	*	762056.8	********	762406.1	********	*	1071.	161.	AG	949.	0.1	1.0	42.0		
75. Harvard St. WB	*	762057.1	********	763589.7	********	*	1603.	73.	AG	1111.	0.1	1.0	42.0		
76. Broadway St. EB	*	763029.8	********	761172.6	********	*	2021.	293.	AG	1484.	0.1	1.0	66.0		
77. Parking Lot NEB	*	763030.0	********	762877.3	********	*	237.	220.	AG	85.	0.1	1.0	42.0		
78. Medford St. NB	*	763025.4	********	764069.8	********	*	2059.	150.	AG	748.	0.1	1.0	42.0		
79. Broadway St. WB	*	763030.1	********	764419.9	********	*	1513.	113.	AG	1164.	0.1	1.0	66.0		
80. Dexter St. SWB	*	763031.1	********	764132.1	********	*	1524.	46.	AG	71.	0.1	1.0	30.0		
81. Medford St. SB	*	763047.7	********	762503.6	********	*	1637.	341.	AG	499.	0.1	1.0	42.0		
82. Highland St. EB	*	763300.2	********	762029.2	********	*	1386.	293.	AG	881.	0.1	1.0	42.0		
83. Central St. NB	*	763299.4	********	762852.7	********	*	981.	207.	AG	581.	0.1	1.0	42.0		
84. Highland St. WB	*	763299.4	********	764576.9	********	*	1400.	114.	AG	896.	0.1	1.0	42.0		
85. Central St. SB	*	763299.7	********	764053.4	********	*	1632.	27.	AG	534.	0.1	1.0	42.0		
86. Medford St. NWB	*	764993.5	********	765926.1	********	*	1536.	143.	AG	1133.	0.1	1.0	42.0		
87. School St. SB	*	764992.8	********	765406.3	********	*	930.	26.	AG	461.	0.1	1.0	42.0		
88. Medford St. SEB	*	764996.8	********	764392.9	********	*	986.	322.	AG	960.	0.1	1.0	42.0		
89. School St. NB	*	764991.8	********	764577.6	********	*	935.	206.	AG	458.	0.1	1.0	42.0		
90. Prospect St. SB	*	765833.6	********	765929.0	********	*	177.	33.	AG	1857.	0.1	1.0	66.0		
91. Sommerville Ave. EB	*	765828.2	********	765178.4	********	*	720.	295.	AG	2312.	0.1	1.0	66.0		
92. Prospect St. NB	*	765839.9	********	765452.5	********	*	858.	207.	AG	1193.	0.1	1.0	54.0		
93. Somerville Ave WB	*	765826.5	********	767169.2	********	*	1492.	116.	AG	842.	0.1	1.0	66.0		
94. McGrath Hwy SB1	*	766957.3	********	766833.9	********	*	714.	350.	AG	460.	0.1	1.0	42.0		
95. McGrath Highway NB1	*	767104.5	********	766885.0	********	*	694.	342.	AG	1300.	0.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	0.1	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	0.1	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	0.1	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	0.1	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	0.1	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	0.1	1.0	42.0	
102. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	0.1	1.0	66.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	0.1	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	0.1	1.0	42.0	
105. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	0.1	1.0	****	
106. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	0.1	1.0	66.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	0.1	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:30

1. Boston Ave. North	*	113	83	3.0	310	1600	0.12	1	3
2. MVP West	*	113	53	3.0	1058	1600	0.12	1	3
3. Boston Ave South	*	113	83	3.0	483	1600	0.12	1	3
4. MVP East	*	113	53	3.0	1197	1600	0.12	1	3
5. Winthrop North	*	135	95	3.0	961	1600	0.12	1	3
6. MVP East RT	*	135	55	3.0	402	1600	0.12	1	3
7. MVP East T	*	135	75	3.0	1036	1600	0.12	1	3
8. Winthrop South	*	135	115	3.0	572	1600	0.12	1	3
9. MVP West	*	135	75	3.0	989	1600	0.12	1	3
10. South St	*	120	90	3.0	571	1600	0.12	1	3
11. Boston Ave. SB LT	*	135	105	3.0	272	1600	0.12	1	3
12. Boston Ave. SB R	*	135	105	3.0	111	1600	0.12	1	3
13. College Ave EB L	*	135	105	3.0	144	1600	0.12	1	3
14. College Ave. EB TR	*	135	105	3.0	228	1600	0.12	1	3
15. Boston Ave. NB	*	135	105	3.0	321	1600	0.12	1	3
16. College Ave WB	*	135	100	3.0	360	1600	0.12	1	3
17. Main St. SB	*	92	65	3.0	573	1600	0.12	1	3
18. Harvard St. EB	*	92	61	3.0	559	1600	0.12	1	3
19. Main st. NB	*	92	65	3.0	407	1600	0.12	1	3
20. Harvard St. WB	*	92	61	3.0	567	1600	0.12	1	3
21. Broadway EB R	*	122	97	3.0	224	1600	0.12	1	3
22. Broadway EB TL	*	122	97	3.0	391	1600	0.12	1	3
23. Parking Lot	*	122	114	3.0	50	1600	0.12	1	3
24. Medford St. NB	*	122	97	3.0	345	1600	0.12	1	3
25. Broadway St. WB	*	122	97	3.0	710	1600	0.12	1	3
26. Dexter St. SWB	*	122	114	3.0	71	1600	0.12	1	3
27. Medford St. SB	*	122	102	3.0	241	1600	0.12	1	3
28. Highland St. EB	*	86	56	3.0	390	1600	0.12	1	3
29. Central St NB	*	86	56	3.0	443	1600	0.12	1	3
30. Highland St. WB	*	86	56	3.0	463	1600	0.12	1	3
31. Central St. SB	*	82	56	3.0	150	1600	0.12	1	3
32. Medford St. NWB	*	70	42	3.0	723	1600	0.12	1	3
33. School St. SB	*	70	53	3.0	295	1600	0.12	1	3
34. Medford St. SEB	*	70	42	3.0	488	1600	0.12	1	3
35. Prospect SB	*	109	79	3.0	821	1600	0.12	1	3
36. Sommerville WB	*	109	96	3.0	418	1600	0.12	1	3
37. Prospect NB	*	109	76	3.0	1193	1600	0.12	1	3
38. Somerville EB	*	109	66	3.0	670	1600	0.12	1	3
39. McGrath Highway SB1	*	133	123	3.0	460	1600	0.12	1	3
40. Washington St. EB	*	133	102	3.0	1079	1600	0.12	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	0.12	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	0.12	1	3
43. Washington St. WB	*	133	83	3.0	997	1600	0.12	1	3
44. Cambridge St EB TR	*	111	93	3.0	260	1600	0.12	1	3
45. Cambridge St WB L	*	111	47	3.0	106	1600	0.12	1	3
46. Cambridge St WB T	*	111	47	3.0	224	1600	0.12	1	3
47. First St NB L	*	111	98	3.0	91	1600	0.12	1	3
48. First St NB R	*	111	29	3.0	507	1600	0.12	1	3
49. East St SB	*	111	93	3.0	83	1600	0.12	1	3
50. MsgrOb/East EB R	*	111	88	3.0	91	1600	0.12	1	3
51. MsgrOb/East EB T	*	111	88	3.0	750	1600	0.12	1	3
52. MsgrOb/East EB L	*	111	88	3.0	24	1600	0.12	1	3
53. MsgrOb/East WB T	*	111	47	3.0	807	1600	0.12	1	3
54. MsgrOb/East WB R	*	111	47	3.0	5	1600	0.12	1	3
55. MsgrOb at First WB L	*	111	75	3.0	265	1600	0.12	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:30

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:30

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	9.	8.	7.	8.	9.	10.	9.	9.	7.	7.	8.	8.	8.	5.	6.	5.	6.	6.
10.	10.	10.	8.	7.	7.	8.	9.	10.	8.	9.	7.	7.	7.	8.	8.	5.	6.	5.	6.	6.
20.	10.	10.	8.	7.	7.	8.	8.	10.	8.	9.	7.	7.	8.	8.	8.	5.	6.	6.	7.	7.
30.	10.	10.	8.	7.	7.	8.	8.	9.	8.	9.	6.	7.	8.	8.	8.	5.	6.	6.	7.	7.
40.	9.	10.	8.	7.	7.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	7.	7.
50.	10.	10.	9.	7.	7.	7.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	6.	6.
60.	10.	10.	9.	8.	7.	7.	7.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	6.	6.
70.	10.	11.	9.	8.	7.	7.	7.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.
80.	11.	11.	9.	8.	8.	7.	8.	10.	9.	9.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.
90.	12.	12.	10.	8.	8.	7.	8.	10.	9.	9.	7.	8.	10.	10.	10.	6.	6.	6.	5.	5.
100.	12.	12.	11.	9.	8.	7.	8.	11.	10.	9.	7.	8.	10.	10.	10.	7.	7.	7.	5.	5.
110.	12.	12.	11.	8.	7.	6.	8.	12.	9.	8.	6.	7.	10.	10.	10.	9.	9.	9.	6.	5.
120.	10.	10.	9.	7.	7.	6.	7.	10.	9.	8.	5.	6.	8.	8.	8.	11.	11.	10.	7.	6.
130.	8.	8.	8.	7.	6.	6.	6.	9.	9.	8.	6.	6.	7.	6.	6.	11.	11.	10.	7.	6.
140.	7.	7.	8.	7.	6.	6.	6.	9.	9.	9.	7.	7.	7.	6.	6.	10.	10.	9.	7.	6.
150.	6.	7.	7.	6.	6.	6.	6.	9.	9.	9.	8.	8.	8.	6.	6.	10.	11.	9.	8.	7.
160.	6.	6.	6.	6.	6.	5.	5.	8.	8.	7.	9.	9.	8.	7.	6.	10.	10.	9.	8.	7.
170.	5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	9.	8.	8.	7.	6.	10.	10.	9.	8.	7.
180.	5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	10.	10.	8.	7.	7.
190.	5.	5.	6.	6.	6.	5.	5.	6.	6.	5.	8.	8.	7.	6.	6.	10.	10.	8.	7.	7.
200.	5.	5.	6.	6.	5.	5.	5.	6.	5.	5.	8.	7.	6.	6.	6.	9.	10.	8.	7.	6.
210.	5.	5.	6.	6.	5.	5.	6.	6.	5.	5.	7.	7.	6.	6.	6.	9.	10.	8.	7.	7.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	9.	9.	9.	7.	7.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	9.	9.	9.	7.	7.
240.	5.	5.	5.	5.	5.	6.	7.	6.	5.	5.	7.	7.	7.	6.	6.	10.	9.	9.	8.	8.
250.	5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	7.	7.	7.	6.	6.	10.	10.	9.	8.	8.
260.	5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	7.	7.	7.	6.	6.	10.	10.	9.	8.	8.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	7.	7.	8.	7.	7.	11.	10.	10.	9.	8.
280.	7.	8.	7.	5.	5.	6.	6.	8.	6.	6.	8.	8.	9.	8.	8.	11.	10.	11.	9.	8.
290.	9.	10.	10.	6.	5.	7.	7.	10.	7.	6.	9.	9.	11.	10.	10.	10.	10.	10.	8.	7.
300.	11.	12.	11.	7.	6.	7.	8.	12.	8.	7.	10.	10.	12.	10.	10.	8.	8.	9.	7.	7.
310.	11.	12.	11.	7.	6.	8.	9.	11.	9.	8.	10.	10.	11.	10.	10.	7.	7.	7.	7.	7.
320.	11.	11.	10.	7.	6.	8.	9.	10.	9.	9.	10.	10.	10.	9.	10.	6.	6.	7.	7.	7.
330.	10.	11.	9.	7.	6.	8.	9.	10.	10.	10.	9.	9.	10.	10.	10.	6.	6.	7.	7.	7.
340.	10.	10.	9.	8.	7.	8.	9.	11.	10.	10.	8.	8.	9.	9.	9.	6.	6.	6.	7.	6.
350.	10.	10.	9.	8.	7.	8.	9.	11.	10.	10.	7.	7.	8.	9.	9.	6.	6.	6.	6.	6.
360.	10.	10.	9.	8.	7.	8.	9.	10.	9.	9.	7.	7.	8.	8.	8.	5.	6.	5.	6.	6.
MAX	12.	12.	11.	9.	8.	8.	9.	12.	10.	10.	10.	10.	12.	10.	10.	11.	11.	11.	9.	8.
DEGR.	100	300	300	100	80	0	0	110	340	330	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	10.	10.	7.	8.	7.	7.	8.	7.	7.	7.
10.	* 5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	10.	10.	6.	8.	6.	8.	8.	7.	7.	7.
20.	* 5.	5.	5.	5.	5.	7.	8.	6.	6.	6.	10.	9.	6.	7.	6.	8.	8.	7.	8.	8.
30.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	8.	5.	7.	5.	8.	8.	7.	8.	8.
40.	* 6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	10.	8.	5.	6.	5.	8.	9.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	10.	7.	6.	6.	6.	9.	9.	7.	8.	8.
60.	* 6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	10.	7.	6.	6.	6.	9.	8.	6.	8.	8.
70.	* 6.	6.	6.	6.	5.	7.	7.	6.	6.	6.	10.	7.	7.	6.	7.	9.	9.	7.	8.	7.
80.	* 6.	6.	6.	6.	5.	7.	7.	6.	6.	6.	10.	7.	7.	7.	7.	9.	8.	7.	8.	7.
90.	* 6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	10.	7.	8.	8.	8.	9.	8.	8.	8.	7.
100.	* 6.	6.	6.	6.	5.	7.	8.	8.	8.	8.	10.	8.	8.	8.	8.	8.	8.	8.	7.	7.
110.	* 6.	7.	8.	6.	6.	8.	9.	10.	10.	10.	10.	9.	9.	8.	9.	7.	7.	8.	7.	6.
120.	* 7.	8.	9.	7.	6.	9.	10.	12.	11.	11.	10.	9.	8.	8.	8.	6.	7.	7.	6.	6.
130.	* 7.	8.	9.	8.	7.	9.	10.	11.	11.	11.	8.	8.	7.	7.	7.	6.	6.	7.	6.	6.
140.	* 7.	8.	9.	8.	7.	10.	10.	11.	11.	11.	7.	6.	6.	7.	6.	6.	6.	7.	6.	6.
150.	* 8.	9.	9.	8.	8.	10.	10.	12.	10.	10.	6.	6.	5.	7.	5.	6.	6.	7.	6.	6.
160.	* 8.	8.	9.	8.	8.	9.	10.	11.	9.	9.	6.	6.	5.	7.	5.	6.	6.	7.	7.	7.
170.	* 8.	8.	9.	8.	8.	8.	8.	10.	8.	9.	6.	6.	5.	7.	5.	5.	6.	7.	7.	7.
180.	* 8.	8.	9.	8.	8.	7.	8.	9.	9.	8.	6.	6.	6.	7.	6.	5.	5.	7.	7.	7.
190.	* 8.	8.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	7.	6.	5.	5.	6.	6.	6.
200.	* 8.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	7.	6.	5.	5.	6.	6.	6.
210.	* 7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	7.	7.	8.	7.	5.	5.	5.	5.	5.
220.	* 7.	7.	9.	8.	8.	6.	7.	8.	8.	8.	6.	6.	7.	8.	7.	5.	5.	5.	5.	5.
230.	* 7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	6.	6.	7.	8.	7.	5.	5.	5.	5.	5.
240.	* 7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	6.	6.	7.	8.	7.	5.	5.	5.	5.	5.
250.	* 7.	7.	9.	8.	8.	6.	7.	9.	9.	8.	6.	6.	7.	8.	7.	5.	5.	5.	5.	5.
260.	* 7.	7.	9.	8.	8.	6.	7.	9.	9.	9.	6.	6.	7.	8.	7.	6.	6.	6.	5.	5.
270.	* 7.	8.	9.	8.	8.	7.	7.	10.	10.	10.	6.	6.	6.	8.	6.	7.	7.	6.	5.	5.
280.	* 7.	8.	10.	8.	8.	7.	8.	11.	10.	10.	6.	6.	6.	8.	6.	8.	8.	8.	5.	5.
290.	* 6.	7.	9.	8.	8.	6.	7.	10.	10.	10.	6.	6.	6.	6.	6.	8.	8.	8.	6.	5.
300.	* 6.	6.	8.	7.	7.	6.	6.	9.	8.	8.	7.	8.	6.	6.	6.	8.	8.	8.	6.	6.
310.	* 6.	6.	7.	7.	7.	5.	5.	7.	7.	7.	9.	10.	8.	6.	8.	8.	8.	8.	6.	6.
320.	* 6.	6.	7.	7.	7.	6.	6.	6.	6.	6.	10.	12.	9.	7.	9.	8.	8.	7.	6.	6.
330.	* 6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	11.	12.	9.	8.	9.	7.	7.	7.	6.	6.
340.	* 5.	6.	7.	7.	7.	8.	8.	8.	6.	6.	11.	12.	8.	8.	8.	7.	7.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	8.	9.	8.	6.	6.	11.	11.	7.	8.	7.	7.	7.	7.	6.	6.
360.	* 5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	10.	10.	7.	8.	7.	7.	8.	7.	7.	7.
MAX	* 8.	9.	10.	8.	8.	10.	10.	12.	11.	11.	11.	12.	9.	8.	9.	9.	9.	8.	8.	8.
DEGR.	* 170	150	280	160	190	150	150	120	120	130	340	330	320	110	320	70	50	290	60	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	7.	9.	7.	6.	7.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.
10.	8.	8.	8.	9.	6.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	8.	8.	6.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	5.	5.	5.	5.	5.
30.	7.	7.	8.	8.	6.	6.	7.	7.	9.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	7.	8.	8.	6.	7.	7.	8.	10.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	8.	8.	7.	7.	7.	8.	9.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	8.	8.	7.	7.	7.	8.	9.	8.	5.	5.	5.	5.	5.	5.	5.	6.	5.	5.
70.	6.	7.	8.	8.	7.	7.	7.	8.	9.	8.	5.	5.	5.	5.	5.	5.	5.	6.	5.	5.
80.	6.	6.	8.	8.	7.	7.	7.	8.	9.	8.	6.	5.	5.	5.	5.	5.	5.	6.	5.	5.
90.	6.	6.	8.	8.	7.	7.	8.	9.	9.	9.	6.	6.	5.	5.	5.	5.	5.	6.	5.	5.
100.	6.	6.	8.	8.	7.	7.	8.	10.	9.	9.	6.	6.	6.	5.	5.	5.	5.	6.	5.	6.
110.	5.	5.	7.	7.	7.	7.	8.	10.	9.	9.	7.	6.	6.	5.	5.	5.	5.	6.	6.	6.
120.	5.	5.	6.	6.	6.	6.	7.	10.	9.	8.	9.	8.	8.	5.	5.	5.	5.	7.	7.	7.
130.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	10.	10.	10.	6.	5.	5.	6.	8.	9.	9.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	10.	11.	11.	6.	6.	6.	6.	10.	9.	9.
150.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	10.	11.	11.	7.	6.	6.	7.	10.	9.	9.
160.	5.	5.	5.	5.	5.	5.	5.	5.	6.	5.	10.	11.	11.	7.	6.	6.	7.	9.	8.	9.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	9.	10.	10.	8.	6.	7.	7.	8.	7.	9.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	8.	10.	9.	7.	7.	7.	7.	7.	8.	10.
190.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	8.	9.	9.	7.	6.	7.	7.	6.	8.	10.
200.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	8.	9.	8.	7.	6.	7.	7.	6.	9.	10.
210.	7.	7.	7.	6.	5.	5.	5.	5.	5.	5.	7.	9.	8.	7.	6.	6.	7.	6.	9.	10.
220.	7.	7.	7.	6.	6.	5.	5.	5.	5.	5.	8.	10.	7.	7.	6.	6.	7.	6.	10.	10.
230.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	8.	10.	7.	7.	7.	7.	6.	7.	10.	10.
240.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	9.	10.	6.	7.	7.	7.	7.	7.	10.	10.
250.	6.	6.	7.	6.	6.	6.	5.	5.	6.	6.	9.	10.	6.	7.	7.	7.	7.	8.	10.	10.
260.	6.	6.	7.	6.	6.	6.	5.	5.	6.	6.	10.	10.	7.	8.	7.	7.	8.	8.	10.	10.
270.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.	11.	11.	8.	8.	7.	7.	8.	9.	10.	10.
280.	6.	7.	8.	8.	8.	7.	7.	6.	6.	6.	12.	11.	8.	8.	6.	6.	7.	9.	10.	9.
290.	7.	7.	8.	8.	8.	8.	7.	6.	7.	6.	12.	11.	9.	7.	6.	5.	6.	9.	10.	9.
300.	7.	7.	7.	7.	8.	7.	6.	6.	8.	8.	12.	10.	9.	6.	5.	5.	6.	8.	9.	8.
310.	7.	7.	7.	7.	8.	8.	7.	7.	9.	10.	11.	10.	8.	6.	5.	5.	5.	7.	7.	7.
320.	7.	8.	6.	8.	8.	8.	7.	8.	10.	11.	9.	8.	7.	5.	5.	5.	5.	6.	6.	6.
330.	7.	8.	6.	8.	9.	9.	7.	9.	10.	10.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.
340.	7.	8.	6.	9.	9.	8.	7.	9.	9.	10.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.
350.	8.	8.	7.	9.	8.	7.	7.	9.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.
360.	8.	8.	7.	9.	7.	6.	7.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.
MAX	8.	8.	8.	9.	9.	9.	8.	10.	10.	11.	12.	11.	11.	8.	7.	7.	8.	10.	10.	10.
DEGR.	0	0	80	0	330	330	100	110	320	320	290	140	150	270	260	260	260	140	270	190

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC1 .

Ex4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:50

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Winthrop North	759327.2	********	759298.6	********	1013.	358.	AG	0.	100.0	1.0	20.0	1.16	51.5
2. MVP East RT	759381.7	********	759502.5	********	121.	93.	AG	0.	100.0	1.0	10.0	0.45	6.1
3. MVP East T	759381.8	********	763790.8	********	4411.	92.	AG	0.	100.0	1.0	10.0	1.59	224.1
4. Winthrop South	759345.1	********	759310.2	********	1357.	181.	AG	1.	100.0	1.0	20.0	1.62	69.0
5. MVP West	759293.5	********	755376.9	********	3921.	273.	AG	0.	100.0	1.0	10.0	1.52	199.2
6. South St	761297.7	********	761138.4	********	163.	282.	AG	1.	100.0	1.0	20.0	0.86	8.3
7. Boston Ave. SB LT	759658.7	********	759565.4	********	198.	332.	AG	0.	100.0	1.0	10.0	0.92	10.0
8. Boston Ave. SB R	759646.0	********	759616.2	********	64.	332.	AG	0.	100.0	1.0	10.0	0.38	3.2
9. College Ave EB L	759636.4	********	759598.9	********	83.	207.	AG	0.	100.0	1.0	10.0	0.49	4.2
10. College Ave. EB TR	759648.1	********	759584.2	********	139.	207.	AG	0.	100.0	1.0	10.0	0.77	7.1
11. Boston Ave. NB	759699.9	********	759948.0	********	521.	152.	AG	0.	100.0	1.0	10.0	1.08	26.5
12. College Ave WB	759720.8	********	759917.4	********	339.	35.	AG	0.	100.0	1.0	10.0	1.01	17.2
13. Main St. SB	762042.2	********	761358.1	********	2227.	342.	AG	0.	100.0	1.0	10.0	1.50	113.1
14. Harvard St. EB	762026.6	********	760826.1	********	1368.	241.	AG	0.	100.0	1.0	10.0	1.24	69.5
15. Main st. NB	762078.3	********	762234.4	********	492.	162.	AG	0.	100.0	1.0	10.0	1.07	25.0
16. Harvard St. WB	762091.8	********	763477.0	********	1451.	73.	AG	0.	100.0	1.0	10.0	1.25	73.7
17. Broadway EB R	762959.1	********	762829.3	********	141.	293.	AG	0.	100.0	1.0	10.0	0.85	7.2
18. Broadway EB TL	762965.1	********	761504.0	********	1595.	294.	AG	0.	100.0	1.0	10.0	1.49	81.0
19. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
20. Medford St. NB	763093.0	********	763636.6	********	1104.	150.	AG	0.	100.0	1.0	10.0	1.32	56.1
21. Broadway St. WB	763115.6	********	764227.2	********	1210.	113.	AG	1.	100.0	1.0	20.0	1.35	61.5
22. Dexter St. SWB	763101.5	********	763403.1	********	415.	47.	AG	0.	100.0	1.0	10.0	1.82	21.1
23. Medford St. SB	763008.3	********	762799.6	********	661.	342.	AG	0.	100.0	1.0	10.0	1.23	33.6
24. Highland St. EB	763277.6	********	763150.5	********	139.	294.	AG	0.	100.0	1.0	10.0	0.84	7.0
25. Central St NB	763301.4	********	763212.2	********	202.	206.	AG	0.	100.0	1.0	10.0	0.95	10.3
26. Highland St. WB	763328.5	********	763551.1	********	243.	114.	AG	0.	100.0	1.0	10.0	1.00	12.3
27. Central St. SB	763311.4	********	763332.6	********	46.	27.	AG	0.	100.0	1.0	10.0	0.37	2.3
28. Medford St. NWB	765022.2	********	766415.9	********	2269.	142.	AG	0.	100.0	1.0	10.0	1.38	115.3
29. School St. SB	765002.3	********	765166.0	********	379.	26.	AG	0.	100.0	1.0	10.0	1.08	19.3
30. Medford St. SEB	764967.1	********	764863.8	********	167.	322.	AG	0.	100.0	1.0	10.0	0.93	8.5
31. Prospect SB	765830.6	********	766200.2	********	715.	31.	AG	0.	100.0	1.0	20.0	1.12	36.3
32. Sommerville WB	765870.1	********	766866.4	********	1110.	116.	AG	1.	100.0	1.0	20.0	1.79	56.4
33. Prospect NB	765828.4	********	765723.3	********	237.	206.	AG	1.	100.0	1.0	30.0	0.97	12.0
34. Somerville EB	765797.5	********	765688.8	********	121.	296.	AG	0.	100.0	1.0	20.0	0.60	6.1
35. McGrath Highway SB1	766950.5	********	766591.9	********	1973.	350.	AG	1.	100.0	1.0	20.0	3.83	100.2
36. Washington St. EB	766952.8	********	759076.8	********	8448.	249.	AG	0.	100.0	1.0	10.0	3.46	429.2
37. McGrath Hwy NB2 L	767105.3	********	767109.5	********	32.	172.	AG	0.	100.0	1.0	10.0	0.41	1.6
38. McGrath Hwy NB2 T	767119.9	********	767604.3	********	3946.	173.	AG	0.	100.0	1.0	10.0	3.91	200.5
39. Washington St. WB	767129.9	********	767268.1	********	151.	67.	AG	1.	100.0	1.0	30.0	0.61	7.7
40. Msgr Obrien EB	769756.5	********	769681.2	********	91.	304.	AG	0.	100.0	1.0	30.0	0.39	4.6
41. Third St. NB L	769790.4	********	769088.1	********	4491.	189.	AG	0.	100.0	1.0	10.0	2.03	228.1
42. Third St NB R	769802.4	********	769801.4	********	7.	189.	AG	0.	100.0	1.0	10.0	0.04	0.4
43. Msgr Obrien WB	769887.3	********	769975.1	********	106.	124.	AG	0.	100.0	1.0	30.0	0.44	5.4
44. Msgr Obrien L	771466.3	********	769824.5	********	1960.	303.	AG	0.	100.0	1.0	10.0	1.83	99.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:22:50

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771457.4	********	770930.5	********	628.	303.	AG	1.	100.0	1.0	30.0	1.21	31.9
46. Charlestown NB L	771481.8	********	770010.7	********	2407.	218.	AG	0.	100.0	1.0	10.0	2.31	122.3
47. Charlestown NB T	771497.8	********	768870.5	********	4328.	217.	AG	1.	100.0	1.0	20.0	3.43	219.8
48. Charlestown NB R	771512.8	********	768738.0	********	4446.	219.	AG	0.	100.0	1.0	10.0	3.50	225.9
49. Msgr Obrien WB L	771569.3	********	772136.7	********	676.	123.	AG	0.	100.0	1.0	10.0	1.16	34.3
50. Msgr Obrien WB T	771577.6	********	772091.2	********	612.	123.	AG	1.	100.0	1.0	20.0	1.14	31.1
51. Msgr Obrien WB R	771587.3	********	771678.8	********	109.	123.	AG	0.	100.0	1.0	10.0	0.45	5.5
52. Charlestown SB LT	771543.5	********	771608.0	********	114.	34.	AG	0.	100.0	1.0	10.0	0.58	5.8
53. Charlestown SB TR	771531.7	********	771963.5	********	762.	35.	AG	0.	100.0	1.0	10.0	1.10	38.7
54. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	0.	100.0	1.0	10.0	1.39	47.9
55. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	0.	100.0	1.0	10.0	0.12	1.4
56. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	0.	100.0	1.0	10.0	0.26	2.9
57. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	0.	100.0	1.0	10.0	0.79	3.1
58. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	0.	100.0	1.0	10.0	0.46	4.1
59. East St SB	770754.4	********	770782.0	********	42.	41.	AG	0.	100.0	1.0	10.0	0.44	2.1
60. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	0.	100.0	1.0	10.0	0.35	2.2
61. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	1.	100.0	1.0	30.0	0.97	9.1
62. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	0.	100.0	1.0	10.0	0.09	0.6
63. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	0.	100.0	1.0	10.0	0.95	14.3
64. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	0.	100.0	1.0	10.0	0.01	0.1
65. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	0.	100.0	1.0	20.0	0.30	2.8
66. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	0.1	1.0	42.0		
67. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	0.1	1.0	42.0		
68. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	0.1	1.0	66.0		
69. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	0.1	1.0	66.0		
70. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	0.1	1.0	42.0		
71. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	0.1	1.0	66.0		
72. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	0.1	1.0	66.0		
73. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	0.1	1.0	54.0		
74. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	0.1	1.0	54.0		
75. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	0.1	1.0	54.0		
76. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	0.1	1.0	42.0		
77. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	0.1	1.0	42.0		
78. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	0.1	1.0	42.0		
79. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	0.1	1.0	42.0		
80. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	0.1	1.0	42.0		
81. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	0.1	1.0	42.0		
82. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	0.1	1.0	66.0		
83. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	0.1	1.0	42.0		
84. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	0.1	1.0	42.0		
85. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	0.1	1.0	66.0		
86. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	0.1	1.0	30.0		
87. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	0.1	1.0	42.0		
88. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	0.1	1.0	42.0		
89. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	0.1	1.0	42.0		
90. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	0.1	1.0	42.0		
91. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	0.1	1.0	42.0		
92. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	0.1	1.0	42.0		
93. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	0.1	1.0	42.0		
94. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	0.1	1.0	42.0		
95. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	0.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	0.1	1.0	66.0	
97. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	0.1	1.0	66.0	
98. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	0.1	1.0	54.0	
99. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	0.1	1.0	66.0	
100. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	0.1	1.0	42.0	
101. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.1	1.0	42.0	
102. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	0.1	1.0	66.0	
103. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	0.1	1.0	66.0	
104. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	0.1	1.0	42.0	
105. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	0.1	1.0	42.0	
106. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	0.1	1.0	66.0	
107. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1095.	0.1	1.0	54.0	
108. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	2844.	0.1	1.0	90.0	
109. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	1815.	0.1	1.0	90.0	
110. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	2375.	0.1	1.0	90.0	
111. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	2918.	0.1	1.0	90.0	
112. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	2800.	0.1	1.0	90.0	
113. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	2545.	0.1	1.0	66.0	
114. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	0.1	1.0	42.0	
115. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	0.1	1.0	66.0	
116. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	0.1	1.0	66.0	
117. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	0.1	1.0	42.0	
118. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	0.1	1.0	****	
119. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	0.1	1.0	66.0	
120. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	0.1	1.0	****	

JOB: Greenline Extension RUN: Existing

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1. Winthrop North	*	135	95	3.0	961	1600	0.12	1	3
2. MVP East RT	*	135	55	3.0	402	1600	0.12	1	3
3. MVP East T	*	135	75	3.0	1036	1600	0.12	1	3
4. Winthrop South	*	135	115	3.0	572	1600	0.12	1	3
5. MVP West	*	135	75	3.0	989	1600	0.12	1	3
6. South St	*	120	90	3.0	571	1600	0.12	1	3
7. Boston Ave. SB LT	*	135	105	3.0	272	1600	0.12	1	3
8. Boston Ave. SB R	*	135	105	3.0	111	1600	0.12	1	3
9. College Ave EB L	*	135	105	3.0	144	1600	0.12	1	3
10. College Ave. EB TR	*	135	105	3.0	228	1600	0.12	1	3
11. Boston Ave. NB	*	135	105	3.0	321	1600	0.12	1	3
12. College Ave WB	*	135	100	3.0	360	1600	0.12	1	3
13. Main St. SB	*	92	65	3.0	573	1600	0.12	1	3
14. Harvard St. EB	*	92	61	3.0	559	1600	0.12	1	3
15. Main st. NB	*	92	65	3.0	407	1600	0.12	1	3
16. Harvard St. WB	*	92	61	3.0	567	1600	0.12	1	3
17. Broadway EB R	*	122	97	3.0	224	1600	0.12	1	3
18. Broadway EB TL	*	122	97	3.0	391	1600	0.12	1	3
19. Parking Lot	*	122	114	3.0	50	1600	0.12	1	3
20. Medford St. NB	*	122	97	3.0	345	1600	0.12	1	3
21. Broadway St. WB	*	122	97	3.0	710	1600	0.12	1	3
22. Dexter St. SWB	*	122	114	3.0	71	1600	0.12	1	3
23. Medford St. SB	*	122	102	3.0	241	1600	0.12	1	3
24. Highland St. EB	*	86	56	3.0	390	1600	0.12	1	3
25. Central St NB	*	86	56	3.0	443	1600	0.12	1	3
26. Highland St. WB	*	86	56	3.0	463	1600	0.12	1	3
27. Central St. SB	*	82	56	3.0	150	1600	0.12	1	3
28. Medford St. NWB	*	70	42	3.0	723	1600	0.12	1	3
29. School St. SB	*	70	53	3.0	295	1600	0.12	1	3
30. Medford St. SEB	*	70	42	3.0	488	1600	0.12	1	3
31. Prospect SB	*	109	79	3.0	821	1600	0.12	1	3
32. Sommerville WB	*	109	96	3.0	418	1600	0.12	1	3
33. Prospect NB	*	109	76	3.0	1193	1600	0.12	1	3
34. Somerville EB	*	109	66	3.0	670	1600	0.12	1	3
35. McGrath Highway SB1	*	133	123	3.0	460	1600	0.12	1	3
36. Washington St. EB	*	133	102	3.0	1079	1600	0.12	1	3
37. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	0.12	1	3
38. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	0.12	1	3
39. Washington St. WB	*	133	83	3.0	997	1600	0.12	1	3
40. Msgr Obrien EB	*	120	46	3.0	1090	1600	0.12	1	3
41. Third St. NB L	*	120	86	3.0	785	1600	0.12	1	3
42. Third St NB R	*	120	86	3.0	15	1600	0.12	1	3
43. Msgr Obrien WB	*	120	59	3.0	987	1600	0.12	1	3
44. Msgr Obrien L	*	120	100	3.0	365	1600	0.12	1	3
45. Msgr Obrien WB T	*	120	100	3.0	723	1600	0.12	1	3
46. Charlestown NB L	*	120	103	3.0	368	1600	0.12	1	3
47. Charlestown NB T	*	120	103	3.0	1093	1600	0.12	1	3
48. Charlestown NB R	*	120	103	3.0	557	1600	0.12	1	3
49. Msgr Obrien WB L	*	120	95	3.0	309	1600	0.12	1	3
50. Msgr Obrien WB T	*	120	95	3.0	607	1600	0.12	1	3
51. Msgr Obrien WB R	*	120	57	3.0	350	1600	0.12	1	3
52. Charlestown SB LT	*	120	82	3.0	254	1600	0.12	1	3
53. Charlestown SB TR	*	120	82	3.0	483	1600	0.12	1	3
54. Cambridge St EB TR	*	111	93	3.0	260	1600	0.12	1	3
55. Cambridge St WB L	*	111	47	3.0	106	1600	0.12	1	3
56. Cambridge St WB T	*	111	47	3.0	224	1600	0.12	1	3

JOB: Greenline Extension RUN: Existing

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57. First St NB L	*	111	98	3.0	91	1600	0.12	1	3
58. First St NB R	*	111	29	3.0	507	1600	0.12	1	3
59. East St SB	*	111	93	3.0	83	1600	0.12	1	3
60. MsgrOb/East EB R	*	111	88	3.0	91	1600	0.12	1	3
61. MsgrOb/East EB T	*	111	88	3.0	750	1600	0.12	1	3
62. MsgrOb/East EB L	*	111	88	3.0	24	1600	0.12	1	3
63. MsgrOb/East WB T	*	111	47	3.0	807	1600	0.12	1	3
64. MsgrOb/East WB R	*	111	47	3.0	5	1600	0.12	1	3
65. MsgrOb at First WB L	*	111	75	3.0	265	1600	0.12	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	8.	8.	6.	6.
10.	8.	9.	9.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	8.	8.	7.	7.
20.	8.	8.	9.	8.	8.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	7.	8.	9.	8.	8.
30.	7.	8.	8.	7.	7.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.	7.	8.	9.	8.	8.
40.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.	7.	8.	9.	8.	8.
50.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	7.	8.	9.	8.	8.
60.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	8.
70.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.	8.	8.	8.	8.	8.
80.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.	8.	9.	9.	8.	8.
90.	6.	6.	9.	9.	8.	6.	6.	5.	5.	5.	6.	6.	7.	6.	6.	9.	9.	10.	8.	8.
100.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	10.	10.	10.	8.	7.
110.	6.	6.	9.	9.	9.	7.	7.	8.	5.	5.	6.	6.	9.	8.	8.	10.	10.	10.	7.	7.
120.	5.	6.	8.	8.	8.	8.	8.	9.	6.	6.	7.	7.	10.	9.	9.	9.	8.	9.	7.	7.
130.	5.	5.	7.	7.	7.	9.	9.	9.	6.	6.	7.	7.	10.	9.	9.	7.	7.	8.	7.	7.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	9.	9.	6.	6.	7.	7.	7.
150.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
160.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	9.	8.	8.	6.	6.	7.	7.	7.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	9.	8.	7.	6.	6.	7.	7.	7.
190.	5.	6.	6.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	5.	6.	8.	7.	7.
200.	6.	6.	6.	5.	5.	7.	7.	8.	7.	6.	8.	9.	10.	8.	7.	5.	6.	8.	7.	7.
210.	7.	7.	7.	5.	5.	7.	8.	9.	8.	7.	8.	8.	9.	7.	7.	5.	5.	7.	7.	7.
220.	7.	8.	8.	6.	5.	8.	8.	9.	8.	8.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
230.	7.	8.	8.	6.	6.	8.	8.	8.	8.	7.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.
240.	7.	7.	7.	6.	6.	8.	8.	8.	8.	7.	6.	6.	8.	7.	7.	5.	5.	5.	5.	5.
250.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	8.	7.	7.	5.	5.	5.	5.	5.
260.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	8.	8.	7.	5.	5.	5.	5.	5.
270.	7.	7.	7.	6.	6.	9.	9.	9.	7.	6.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
280.	7.	7.	8.	7.	7.	9.	9.	9.	7.	6.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
290.	7.	7.	10.	9.	9.	9.	9.	9.	6.	6.	5.	6.	8.	8.	8.	8.	8.	8.	5.	5.
300.	7.	8.	10.	9.	9.	7.	7.	8.	6.	6.	5.	5.	7.	7.	7.	8.	9.	9.	6.	5.
310.	7.	8.	10.	9.	9.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	9.	9.	6.	6.
320.	7.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	8.	8.	9.	6.	6.
330.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	8.	8.	6.	6.
340.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	8.	8.	6.	6.
350.	8.	8.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	8.	6.	6.
360.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	8.	8.	6.	6.
MAX	8.	9.	10.	9.	9.	9.	9.	9.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.
DEGR.	10	10	300	300	300	280	280	280	220	220	200	200	120	120	120	110	100	110	40	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	7.	10.	9.	9.	6.	6.	7.	7.	7.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
10.	7.	8.	10.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
20.	7.	8.	9.	8.	8.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	7.	7.
30.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	9.	8.	8.
40.	6.	7.	8.	8.	8.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	9.	8.	8.
50.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	5.	8.	8.	8.	8.	7.
60.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
70.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
80.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
90.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
100.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	8.	8.	7.	7.
110.	6.	6.	9.	9.	9.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	7.	7.
120.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	9.	9.	9.	7.	7.
130.	6.	7.	10.	10.	10.	7.	7.	7.	5.	5.	7.	7.	8.	8.	8.	10.	10.	10.	8.	7.
140.	6.	6.	10.	10.	10.	9.	9.	9.	6.	6.	8.	8.	10.	10.	9.	10.	10.	10.	7.	7.
150.	5.	6.	9.	9.	9.	10.	10.	10.	7.	6.	8.	8.	11.	10.	10.	8.	8.	9.	7.	6.
160.	5.	5.	7.	7.	6.	10.	10.	9.	7.	6.	8.	9.	10.	10.	9.	6.	6.	7.	6.	6.
170.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	10.	9.	9.	6.	6.	7.	6.	6.
180.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	8.	9.	9.	8.	8.	6.	6.	7.	6.	6.
190.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.	9.	9.	9.	8.	8.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	8.	9.	8.	8.	5.	6.	7.	7.	7.
210.	6.	6.	7.	6.	5.	8.	8.	8.	7.	7.	8.	8.	8.	7.	7.	5.	5.	6.	6.	6.
220.	6.	6.	7.	6.	5.	8.	8.	8.	8.	8.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
230.	6.	6.	6.	6.	5.	8.	8.	8.	7.	8.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.
240.	6.	6.	6.	6.	6.	8.	8.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	8.	8.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	8.	8.	8.	8.	7.	6.	6.	8.	7.	7.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	8.	8.	8.	8.	7.	6.	6.	8.	8.	7.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	9.	9.	8.	8.	7.	6.	6.	8.	8.	7.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	9.	9.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
300.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	6.	6.	9.	8.	8.	6.	6.	6.	5.	5.
310.	6.	6.	8.	8.	7.	10.	10.	10.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	5.	5.
320.	6.	6.	10.	9.	9.	9.	9.	9.	7.	7.	6.	6.	9.	9.	8.	8.	8.	8.	6.	6.
330.	7.	7.	10.	10.	10.	8.	8.	8.	7.	7.	6.	6.	8.	8.	7.	9.	9.	9.	6.	6.
340.	7.	7.	10.	10.	10.	7.	6.	7.	7.	7.	5.	5.	7.	6.	6.	9.	9.	9.	6.	6.
350.	7.	7.	10.	9.	9.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	8.	8.	6.	6.
360.	7.	7.	10.	9.	9.	6.	6.	7.	7.	7.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
MAX	7.	8.	10.	10.	10.	10.	10.	10.	8.	8.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
DEGR.	10	20	140	140	330	150	150	150	240	220	190	180	150	150	150	130	130	130	30	40

THE HIGHEST CONCENTRATION OF 11. ug/m**3 OCCURRED AT RECEPTOR REC33.

Ex5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:23: 5

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Winthrop North	759327.2	********	759298.6	********	1013.	358.	AG	0.	100.0	1.0	20.0	1.16	51.5
2. MVP East RT	759381.7	********	759502.5	********	121.	93.	AG	0.	100.0	1.0	10.0	0.45	6.1
3. MVP East T	759381.8	********	763790.8	********	4411.	92.	AG	0.	100.0	1.0	10.0	1.59	224.1
4. Winthrop South	759345.1	********	759310.2	********	1357.	181.	AG	1.	100.0	1.0	20.0	1.62	69.0
5. MVP West	759293.5	********	755376.9	********	3921.	273.	AG	0.	100.0	1.0	10.0	1.52	199.2
6. South St	761297.7	********	761138.4	********	163.	282.	AG	1.	100.0	1.0	20.0	0.86	8.3
7. Boston Ave. SB LT	759658.7	********	759565.4	********	198.	332.	AG	0.	100.0	1.0	10.0	0.92	10.0
8. Boston Ave. SB R	759646.0	********	759616.2	********	64.	332.	AG	0.	100.0	1.0	10.0	0.38	3.2
9. College Ave EB L	759636.4	********	759598.9	********	83.	207.	AG	0.	100.0	1.0	10.0	0.49	4.2
10. College Ave. EB TR	759648.1	********	759584.2	********	139.	207.	AG	0.	100.0	1.0	10.0	0.77	7.1
11. Boston Ave. NB	759699.9	********	759948.0	********	521.	152.	AG	0.	100.0	1.0	10.0	1.08	26.5
12. College Ave WB	759720.8	********	759917.4	********	339.	35.	AG	0.	100.0	1.0	10.0	1.01	17.2
13. Main St. SB	762042.2	********	761358.1	********	2227.	342.	AG	0.	100.0	1.0	10.0	1.50	113.1
14. Harvard St. EB	762026.6	********	760826.1	********	1368.	241.	AG	0.	100.0	1.0	10.0	1.24	69.5
15. Main st. NB	762078.3	********	762234.4	********	492.	162.	AG	0.	100.0	1.0	10.0	1.07	25.0
16. Harvard St. WB	762091.8	********	763477.0	********	1451.	73.	AG	0.	100.0	1.0	10.0	1.25	73.7
17. Broadway EB R	762959.1	********	762829.3	********	141.	293.	AG	0.	100.0	1.0	10.0	0.85	7.2
18. Broadway EB TL	762965.1	********	761504.0	********	1595.	294.	AG	0.	100.0	1.0	10.0	1.49	81.0
19. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
20. Medford St. NB	763093.0	********	763636.6	********	1104.	150.	AG	0.	100.0	1.0	10.0	1.32	56.1
21. Broadway St. WB	763115.6	********	764227.2	********	1210.	113.	AG	1.	100.0	1.0	20.0	1.35	61.5
22. Dexter St. SWB	763101.5	********	763403.1	********	415.	47.	AG	0.	100.0	1.0	10.0	1.82	21.1
23. Medford St. SB	763008.3	********	762799.6	********	661.	342.	AG	0.	100.0	1.0	10.0	1.23	33.6
24. Highland St. EB	763277.6	********	763150.5	********	139.	294.	AG	0.	100.0	1.0	10.0	0.84	7.0
25. Central St NB	763301.4	********	763212.2	********	202.	206.	AG	0.	100.0	1.0	10.0	0.95	10.3
26. Highland St. WB	763328.5	********	763551.1	********	243.	114.	AG	0.	100.0	1.0	10.0	1.00	12.3
27. Central St. SB	763311.4	********	763332.6	********	46.	27.	AG	0.	100.0	1.0	10.0	0.37	2.3
28. Medford St. NWB	765022.2	********	766415.9	********	2269.	142.	AG	0.	100.0	1.0	10.0	1.38	115.3
29. School St. SB	765002.3	********	765166.0	********	379.	26.	AG	0.	100.0	1.0	10.0	1.08	19.3
30. Medford St. SEB	764967.1	********	764863.8	********	167.	322.	AG	0.	100.0	1.0	10.0	0.93	8.5
31. Prospect SB	765830.6	********	766200.2	********	715.	31.	AG	0.	100.0	1.0	20.0	1.12	36.3
32. Sommerville WB	765870.1	********	766866.4	********	1110.	116.	AG	1.	100.0	1.0	20.0	1.79	56.4
33. Prospect NB	765828.4	********	765723.3	********	237.	206.	AG	1.	100.0	1.0	30.0	0.97	12.0
34. Somerville EB	765797.5	********	765688.8	********	121.	296.	AG	0.	100.0	1.0	20.0	0.60	6.1
35. McGrath Highway SB1	766950.5	********	766591.9	********	1973.	350.	AG	1.	100.0	1.0	20.0	3.83	100.2
36. Washington St. EB	766952.8	********	759076.8	********	8448.	249.	AG	0.	100.0	1.0	10.0	3.46	429.2
37. McGrath Hwy NB2 L	767105.3	********	767109.5	********	32.	172.	AG	0.	100.0	1.0	10.0	0.41	1.6
38. McGrath Hwy NB2 T	767119.9	********	767604.3	********	3946.	173.	AG	0.	100.0	1.0	10.0	3.91	200.5
39. Washington St. WB	767129.9	********	767268.1	********	151.	67.	AG	1.	100.0	1.0	30.0	0.61	7.7
40. Msgr Obrien EB	769756.5	********	769681.2	********	91.	304.	AG	0.	100.0	1.0	30.0	0.39	4.6
41. Third St. NB L	769790.4	********	769088.1	********	4491.	189.	AG	0.	100.0	1.0	10.0	2.03	228.1
42. Third St NB R	769802.4	********	769801.4	********	7.	189.	AG	0.	100.0	1.0	10.0	0.04	0.4
43. Msgr Obrien WB	769887.3	********	769975.1	********	106.	124.	AG	0.	100.0	1.0	30.0	0.44	5.4
44. Msgr Obrien L	771466.3	********	769824.5	********	1960.	303.	AG	0.	100.0	1.0	10.0	1.83	99.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:23: 5

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771457.4	********	770930.5	********	628.	303.	AG	1.	100.0	1.0	30.0	1.21	31.9
46. Charlestown NB L	771481.8	********	770010.7	********	2407.	218.	AG	0.	100.0	1.0	10.0	2.31	122.3
47. Charlestown NB T	771497.8	********	768870.5	********	4328.	217.	AG	1.	100.0	1.0	20.0	3.43	219.8
48. Charlestown NB R	771512.8	********	768738.0	********	4446.	219.	AG	0.	100.0	1.0	10.0	3.50	225.9
49. Msgr Obrien WB L	771569.3	********	772136.7	********	676.	123.	AG	0.	100.0	1.0	10.0	1.16	34.3
50. Msgr Obrien WB T	771577.6	********	772091.2	********	612.	123.	AG	1.	100.0	1.0	20.0	1.14	31.1
51. Msgr Obrien WB R	771587.3	********	771678.8	********	109.	123.	AG	0.	100.0	1.0	10.0	0.45	5.5
52. Charlestown SB LT	771543.5	********	771608.0	********	114.	34.	AG	0.	100.0	1.0	10.0	0.58	5.8
53. Charlestown SB TR	771531.7	********	771963.5	********	762.	35.	AG	0.	100.0	1.0	10.0	1.10	38.7
54. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	0.	100.0	1.0	10.0	1.39	47.9
55. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	0.	100.0	1.0	10.0	0.12	1.4
56. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	0.	100.0	1.0	10.0	0.26	2.9
57. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	0.	100.0	1.0	10.0	0.79	3.1
58. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	0.	100.0	1.0	10.0	0.46	4.1
59. East St SB	770754.4	********	770782.0	********	42.	41.	AG	0.	100.0	1.0	10.0	0.44	2.1
60. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	0.	100.0	1.0	10.0	0.35	2.2
61. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	1.	100.0	1.0	30.0	0.97	9.1
62. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	0.	100.0	1.0	10.0	0.09	0.6
63. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	0.	100.0	1.0	10.0	0.95	14.3
64. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	0.	100.0	1.0	10.0	0.01	0.1
65. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	0.	100.0	1.0	20.0	0.30	2.8
66. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	0.1	1.0	42.0		
67. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	0.1	1.0	42.0		
68. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	0.1	1.0	66.0		
69. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	0.1	1.0	66.0		
70. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	0.1	1.0	42.0		
71. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	0.1	1.0	66.0		
72. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	0.1	1.0	66.0		
73. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	0.1	1.0	54.0		
74. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	0.1	1.0	54.0		
75. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	0.1	1.0	54.0		
76. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	0.1	1.0	42.0		
77. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	0.1	1.0	42.0		
78. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	0.1	1.0	42.0		
79. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	0.1	1.0	42.0		
80. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	0.1	1.0	42.0		
81. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	0.1	1.0	42.0		
82. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	0.1	1.0	66.0		
83. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	0.1	1.0	42.0		
84. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	0.1	1.0	42.0		
85. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	0.1	1.0	66.0		
86. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	0.1	1.0	30.0		
87. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	0.1	1.0	42.0		
88. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	0.1	1.0	42.0		
89. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	0.1	1.0	42.0		
90. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	0.1	1.0	42.0		
91. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	0.1	1.0	42.0		
92. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	0.1	1.0	42.0		
93. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	0.1	1.0	42.0		
94. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	0.1	1.0	42.0		
95. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	0.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	0.1	1.0	66.0	
97. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	0.1	1.0	66.0	
98. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	0.1	1.0	54.0	
99. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	0.1	1.0	66.0	
100. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	0.1	1.0	42.0	
101. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.1	1.0	42.0	
102. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	0.1	1.0	66.0	
103. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	0.1	1.0	66.0	
104. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	0.1	1.0	42.0	
105. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	0.1	1.0	42.0	
106. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	0.1	1.0	66.0	
107. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1095.	0.1	1.0	54.0	
108. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	2844.	0.1	1.0	90.0	
109. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	1815.	0.1	1.0	90.0	
110. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	2375.	0.1	1.0	90.0	
111. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	2918.	0.1	1.0	90.0	
112. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	2800.	0.1	1.0	90.0	
113. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	2545.	0.1	1.0	66.0	
114. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	0.1	1.0	42.0	
115. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	0.1	1.0	66.0	
116. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	0.1	1.0	66.0	
117. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	0.1	1.0	42.0	
118. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	0.1	1.0	****	
119. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	0.1	1.0	66.0	
120. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	0.1	1.0	****	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:23: 5

1. Winthrop North	*	135	95	3.0	961	1600	0.12	1	3
2. MVP East RT	*	135	55	3.0	402	1600	0.12	1	3
3. MVP East T	*	135	75	3.0	1036	1600	0.12	1	3
4. Winthrop South	*	135	115	3.0	572	1600	0.12	1	3
5. MVP West	*	135	75	3.0	989	1600	0.12	1	3
6. South St	*	120	90	3.0	571	1600	0.12	1	3
7. Boston Ave. SB LT	*	135	105	3.0	272	1600	0.12	1	3
8. Boston Ave. SB R	*	135	105	3.0	111	1600	0.12	1	3
9. College Ave EB L	*	135	105	3.0	144	1600	0.12	1	3
10. College Ave. EB TR	*	135	105	3.0	228	1600	0.12	1	3
11. Boston Ave. NB	*	135	105	3.0	321	1600	0.12	1	3
12. College Ave WB	*	135	100	3.0	360	1600	0.12	1	3
13. Main St. SB	*	92	65	3.0	573	1600	0.12	1	3
14. Harvard St. EB	*	92	61	3.0	559	1600	0.12	1	3
15. Main st. NB	*	92	65	3.0	407	1600	0.12	1	3
16. Harvard St. WB	*	92	61	3.0	567	1600	0.12	1	3
17. Broadway EB R	*	122	97	3.0	224	1600	0.12	1	3
18. Broadway EB TL	*	122	97	3.0	391	1600	0.12	1	3
19. Parking Lot	*	122	114	3.0	50	1600	0.12	1	3
20. Medford St. NB	*	122	97	3.0	345	1600	0.12	1	3
21. Broadway St. WB	*	122	97	3.0	710	1600	0.12	1	3
22. Dexter St. SWB	*	122	114	3.0	71	1600	0.12	1	3
23. Medford St. SB	*	122	102	3.0	241	1600	0.12	1	3
24. Highland St. EB	*	86	56	3.0	390	1600	0.12	1	3
25. Central St NB	*	86	56	3.0	443	1600	0.12	1	3
26. Highland St. WB	*	86	56	3.0	463	1600	0.12	1	3
27. Central St. SB	*	82	56	3.0	150	1600	0.12	1	3
28. Medford St. NWB	*	70	42	3.0	723	1600	0.12	1	3
29. School St. SB	*	70	53	3.0	295	1600	0.12	1	3
30. Medford St. SEB	*	70	42	3.0	488	1600	0.12	1	3
31. Prospect SB	*	109	79	3.0	821	1600	0.12	1	3
32. Sommerville WB	*	109	96	3.0	418	1600	0.12	1	3
33. Prospect NB	*	109	76	3.0	1193	1600	0.12	1	3
34. Somerville EB	*	109	66	3.0	670	1600	0.12	1	3
35. McGrath Highway SB1	*	133	123	3.0	460	1600	0.12	1	3
36. Washington St. EB	*	133	102	3.0	1079	1600	0.12	1	3
37. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	0.12	1	3
38. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	0.12	1	3
39. Washington St. WB	*	133	83	3.0	997	1600	0.12	1	3
40. Msgr Obrien EB	*	120	46	3.0	1090	1600	0.12	1	3
41. Third St. NB L	*	120	86	3.0	785	1600	0.12	1	3
42. Third St NB R	*	120	86	3.0	15	1600	0.12	1	3
43. Msgr Obrien WB	*	120	59	3.0	987	1600	0.12	1	3
44. Msgr Obrien L	*	120	100	3.0	365	1600	0.12	1	3
45. Msgr Obrien WB T	*	120	100	3.0	723	1600	0.12	1	3
46. Charlestown NB L	*	120	103	3.0	368	1600	0.12	1	3
47. Charlestown NB T	*	120	103	3.0	1093	1600	0.12	1	3
48. Charlestown NB R	*	120	103	3.0	557	1600	0.12	1	3
49. Msgr Obrien WB L	*	120	95	3.0	309	1600	0.12	1	3
50. Msgr Obrien WB T	*	120	95	3.0	607	1600	0.12	1	3
51. Msgr Obrien WB R	*	120	57	3.0	350	1600	0.12	1	3
52. Charlestown SB LT	*	120	82	3.0	254	1600	0.12	1	3
53. Charlestown SB TR	*	120	82	3.0	483	1600	0.12	1	3
54. Cambridge St EB TR	*	111	93	3.0	260	1600	0.12	1	3
55. Cambridge St WB L	*	111	47	3.0	106	1600	0.12	1	3
56. Cambridge St WB T	*	111	47	3.0	224	1600	0.12	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:23: 5

57. First St NB L	*	111	98	3.0	91	1600	0.12	1	3
58. First St NB R	*	111	29	3.0	507	1600	0.12	1	3
59. East St SB	*	111	93	3.0	83	1600	0.12	1	3
60. MsgrOb/East EB R	*	111	88	3.0	91	1600	0.12	1	3
61. MsgrOb/East EB T	*	111	88	3.0	750	1600	0.12	1	3
62. MsgrOb/East EB L	*	111	88	3.0	24	1600	0.12	1	3
63. MsgrOb/East WB T	*	111	47	3.0	807	1600	0.12	1	3
64. MsgrOb/East WB R	*	111	47	3.0	5	1600	0.12	1	3
65. MsgrOb at First WB L	*	111	75	3.0	265	1600	0.12	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	10.	10.	8.	8.	13.	14.	12.	11.	10.	7.	8.	11.	11.	9.	6.	6.	6.	5.	5.
10.	9.	10.	11.	9.	8.	14.	14.	12.	10.	9.	7.	7.	11.	11.	9.	6.	6.	6.	5.	5.
20.	10.	11.	13.	10.	10.	13.	13.	12.	10.	9.	7.	7.	11.	11.	9.	7.	7.	7.	5.	5.
30.	10.	11.	15.	12.	12.	11.	12.	12.	10.	9.	7.	7.	10.	10.	9.	8.	10.	10.	5.	5.
40.	10.	12.	15.	13.	14.	9.	10.	10.	10.	9.	7.	7.	9.	9.	9.	9.	11.	12.	6.	5.
50.	10.	13.	14.	13.	14.	8.	10.	10.	10.	10.	8.	7.	8.	8.	9.	10.	13.	13.	7.	6.
60.	12.	15.	14.	14.	14.	8.	10.	10.	11.	10.	8.	8.	8.	9.	10.	10.	14.	14.	8.	7.
70.	14.	16.	14.	14.	13.	8.	9.	11.	10.	10.	8.	8.	8.	9.	12.	12.	15.	14.	10.	8.
80.	15.	16.	13.	13.	12.	7.	8.	10.	10.	9.	6.	7.	8.	9.	13.	14.	15.	13.	10.	9.
90.	15.	15.	13.	12.	11.	7.	7.	10.	9.	9.	6.	7.	7.	8.	13.	15.	13.	12.	10.	9.
100.	16.	15.	13.	12.	10.	6.	7.	10.	9.	9.	7.	7.	7.	6.	11.	15.	11.	12.	10.	10.
110.	15.	14.	14.	11.	10.	6.	7.	10.	9.	9.	9.	10.	9.	6.	10.	15.	11.	13.	12.	11.
120.	13.	12.	13.	11.	10.	6.	6.	9.	8.	8.	11.	12.	11.	7.	9.	15.	12.	16.	13.	13.
130.	9.	10.	11.	10.	9.	5.	6.	7.	6.	7.	11.	12.	12.	8.	8.	15.	12.	15.	13.	14.
140.	8.	8.	10.	10.	9.	5.	5.	6.	5.	6.	10.	11.	11.	7.	8.	14.	12.	13.	12.	12.
150.	7.	8.	10.	10.	9.	5.	5.	6.	5.	5.	10.	10.	10.	7.	8.	14.	12.	13.	12.	12.
160.	7.	8.	10.	10.	10.	5.	5.	6.	5.	5.	9.	10.	9.	7.	8.	14.	12.	12.	12.	12.
170.	7.	8.	11.	11.	10.	5.	5.	6.	5.	5.	9.	9.	9.	7.	8.	14.	12.	13.	12.	11.
180.	6.	7.	11.	11.	10.	6.	6.	6.	5.	5.	8.	9.	9.	7.	8.	15.	13.	14.	12.	10.
190.	6.	7.	12.	11.	10.	6.	6.	7.	5.	5.	8.	9.	9.	8.	8.	15.	14.	14.	11.	10.
200.	6.	6.	11.	11.	9.	8.	8.	9.	5.	5.	8.	9.	11.	9.	9.	15.	14.	14.	11.	9.
210.	6.	6.	9.	9.	8.	10.	10.	11.	6.	5.	9.	10.	13.	11.	11.	14.	12.	13.	10.	9.
220.	6.	6.	7.	7.	6.	11.	12.	12.	6.	6.	9.	11.	13.	12.	13.	11.	10.	11.	10.	9.
230.	6.	6.	6.	6.	6.	11.	12.	12.	7.	6.	10.	11.	12.	12.	13.	9.	9.	10.	10.	9.
240.	6.	6.	6.	6.	6.	11.	12.	12.	8.	6.	10.	12.	12.	12.	13.	8.	8.	10.	10.	9.
250.	6.	6.	6.	6.	6.	11.	12.	11.	8.	7.	11.	12.	12.	12.	14.	8.	8.	10.	10.	10.
260.	6.	6.	6.	6.	6.	10.	11.	10.	8.	7.	12.	12.	12.	12.	14.	7.	8.	11.	10.	10.
270.	6.	6.	6.	5.	6.	10.	11.	10.	8.	7.	12.	12.	13.	12.	13.	7.	8.	11.	11.	11.
280.	7.	7.	7.	5.	6.	10.	10.	11.	9.	8.	13.	13.	14.	11.	13.	6.	7.	12.	12.	11.
290.	9.	10.	10.	5.	6.	10.	11.	13.	11.	9.	13.	13.	14.	10.	12.	6.	6.	11.	11.	11.
300.	12.	12.	13.	6.	6.	10.	12.	15.	12.	11.	11.	11.	13.	10.	12.	5.	6.	9.	9.	9.
310.	12.	13.	14.	7.	7.	11.	12.	15.	12.	11.	9.	9.	11.	9.	11.	5.	5.	7.	7.	7.
320.	11.	13.	13.	8.	7.	11.	13.	13.	11.	10.	8.	8.	10.	9.	10.	5.	5.	6.	6.	6.
330.	11.	12.	12.	8.	7.	12.	13.	12.	11.	10.	8.	8.	9.	9.	9.	5.	5.	6.	6.	6.
340.	10.	11.	11.	8.	7.	12.	13.	12.	10.	10.	8.	8.	10.	10.	10.	5.	5.	6.	5.	5.
350.	10.	11.	10.	8.	8.	13.	14.	12.	11.	10.	7.	8.	10.	11.	9.	5.	5.	6.	5.	5.
360.	9.	10.	10.	8.	8.	13.	14.	12.	11.	10.	7.	8.	11.	11.	9.	6.	6.	6.	5.	5.
MAX	16.	16.	15.	14.	14.	14.	14.	15.	12.	11.	13.	13.	14.	12.	14.	15.	15.	16.	13.	14.
DEGR.	100	70	40	70	40	10	0	300	310	310	280	280	290	250	260	200	80	120	130	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 10.	10.	10.	7.	6.	10.	11.	12.	10.	9.	8.	8.	8.	10.	9.	5.	5.	5.	5.	6.
10.	* 10.	10.	10.	7.	6.	10.	11.	11.	9.	8.	7.	7.	8.	10.	9.	5.	5.	5.	5.	5.
20.	* 10.	10.	9.	7.	7.	11.	11.	11.	8.	8.	7.	7.	8.	10.	9.	5.	5.	5.	5.	5.
30.	* 9.	9.	8.	7.	6.	11.	12.	10.	8.	8.	6.	7.	8.	11.	10.	5.	5.	5.	5.	5.
40.	* 9.	9.	8.	7.	7.	12.	12.	11.	9.	8.	6.	7.	7.	11.	10.	6.	6.	6.	5.	5.
50.	* 9.	9.	8.	8.	7.	13.	13.	11.	8.	8.	6.	7.	7.	12.	11.	6.	6.	7.	5.	5.
60.	* 9.	10.	10.	9.	8.	13.	12.	10.	8.	7.	6.	6.	7.	12.	11.	8.	8.	9.	5.	5.
70.	* 10.	11.	10.	9.	9.	12.	11.	9.	7.	7.	5.	6.	6.	10.	10.	10.	11.	12.	6.	6.
80.	* 10.	12.	8.	9.	9.	10.	9.	8.	7.	7.	5.	5.	5.	7.	8.	11.	12.	13.	7.	6.
90.	* 11.	11.	7.	9.	10.	8.	8.	7.	7.	7.	5.	5.	5.	6.	6.	10.	12.	13.	7.	6.
100.	* 11.	10.	7.	9.	10.	7.	7.	7.	7.	7.	5.	5.	5.	6.	6.	9.	12.	12.	8.	6.
110.	* 10.	9.	7.	9.	10.	7.	7.	7.	7.	7.	5.	5.	5.	5.	5.	9.	11.	11.	8.	6.
120.	* 10.	9.	8.	10.	10.	7.	7.	8.	7.	7.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
130.	* 10.	9.	9.	10.	10.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	10.	10.	8.	7.
140.	* 10.	10.	10.	10.	10.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	10.	10.	8.	7.
150.	* 10.	10.	10.	10.	9.	6.	7.	8.	8.	8.	6.	6.	5.	5.	6.	10.	11.	10.	8.	8.
160.	* 10.	9.	10.	10.	9.	6.	6.	8.	8.	8.	7.	7.	6.	5.	5.	10.	11.	10.	9.	9.
170.	* 9.	9.	10.	9.	9.	6.	6.	7.	7.	7.	9.	9.	6.	6.	5.	10.	11.	11.	10.	10.
180.	* 8.	8.	9.	9.	8.	6.	6.	6.	6.	6.	10.	10.	7.	7.	6.	11.	12.	12.	11.	10.
190.	* 7.	7.	8.	9.	9.	6.	6.	6.	6.	6.	10.	10.	8.	8.	7.	12.	12.	12.	10.	10.
200.	* 7.	7.	8.	9.	9.	6.	6.	6.	6.	6.	10.	10.	8.	8.	7.	12.	12.	12.	9.	10.
210.	* 7.	7.	9.	9.	9.	6.	6.	6.	6.	6.	9.	9.	7.	8.	7.	13.	13.	12.	9.	10.
220.	* 7.	7.	9.	10.	10.	7.	7.	6.	6.	6.	9.	9.	8.	8.	7.	14.	13.	12.	10.	10.
230.	* 7.	8.	9.	11.	10.	8.	8.	7.	6.	6.	9.	9.	8.	9.	8.	14.	14.	12.	10.	9.
240.	* 7.	7.	9.	11.	11.	11.	11.	9.	6.	6.	9.	10.	8.	11.	10.	14.	13.	12.	10.	10.
250.	* 6.	7.	8.	9.	9.	14.	13.	12.	7.	6.	10.	11.	10.	12.	12.	11.	11.	11.	9.	9.
260.	* 6.	6.	6.	7.	7.	14.	14.	13.	8.	7.	11.	12.	9.	11.	13.	8.	9.	10.	8.	8.
270.	* 5.	5.	6.	6.	6.	13.	12.	12.	8.	8.	10.	11.	8.	11.	13.	7.	7.	8.	8.	8.
280.	* 5.	5.	5.	5.	5.	11.	11.	11.	8.	7.	10.	9.	7.	11.	12.	7.	7.	8.	8.	8.
290.	* 5.	5.	5.	5.	5.	10.	10.	10.	7.	7.	10.	9.	8.	11.	12.	7.	7.	8.	8.	8.
300.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	7.	9.	8.	8.	11.	12.	6.	7.	8.	8.	9.
310.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	7.	10.	9.	9.	11.	11.	6.	7.	8.	9.	9.
320.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	10.	10.	12.	11.	6.	7.	9.	9.	9.
330.	* 6.	6.	6.	5.	5.	9.	9.	10.	8.	7.	11.	11.	10.	12.	11.	6.	6.	8.	9.	10.
340.	* 8.	8.	8.	6.	5.	9.	9.	11.	9.	8.	12.	11.	9.	11.	10.	5.	6.	7.	8.	8.
350.	* 9.	9.	9.	6.	6.	9.	10.	12.	10.	9.	10.	10.	8.	10.	10.	5.	5.	6.	6.	7.
360.	* 10.	10.	10.	7.	6.	10.	11.	12.	10.	9.	8.	8.	8.	10.	9.	5.	5.	5.	5.	6.
MAX	* 11.	12.	10.	11.	11.	14.	14.	13.	10.	9.	12.	12.	10.	12.	13.	14.	14.	13.	11.	10.
DEGR.	* 90	80	0	240	240	260	260	260	350	350	340	260	330	330	270	230	230	80	180	170

THE HIGHEST CONCENTRATION OF 16. ug/m**3 OCCURRED AT RECEPTOR REC2 .

Ex6a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:23:21

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Winthrop North	759327.2	********	759298.6	********	1013.	358.	AG	0.	100.0	1.0	20.0	1.16	51.5
2. MVP East RT	759381.7	********	759502.5	********	121.	93.	AG	0.	100.0	1.0	10.0	0.45	6.1
3. MVP East T	759381.8	********	763790.8	********	4411.	92.	AG	0.	100.0	1.0	10.0	1.59	224.1
4. Winthrop South	759345.1	********	759310.2	********	1357.	181.	AG	1.	100.0	1.0	20.0	1.62	69.0
5. MVP West	759293.5	********	755376.9	********	3921.	273.	AG	0.	100.0	1.0	10.0	1.52	199.2
6. South St	761297.7	********	761138.4	********	163.	282.	AG	1.	100.0	1.0	20.0	0.86	8.3
7. Boston Ave. SB LT	759658.7	********	759565.4	********	198.	332.	AG	0.	100.0	1.0	10.0	0.92	10.0
8. Boston Ave. SB R	759646.0	********	759616.2	********	64.	332.	AG	0.	100.0	1.0	10.0	0.38	3.2
9. College Ave EB L	759636.4	********	759598.9	********	83.	207.	AG	0.	100.0	1.0	10.0	0.49	4.2
10. College Ave. EB TR	759648.1	********	759584.2	********	139.	207.	AG	0.	100.0	1.0	10.0	0.77	7.1
11. Boston Ave. NB	759699.9	********	759948.0	********	521.	152.	AG	0.	100.0	1.0	10.0	1.08	26.5
12. College Ave WB	759720.8	********	759917.4	********	339.	35.	AG	0.	100.0	1.0	10.0	1.01	17.2
13. Main St. SB	762042.2	********	761358.1	********	2227.	342.	AG	0.	100.0	1.0	10.0	1.50	113.1
14. Harvard St. EB	762026.6	********	760826.1	********	1368.	241.	AG	0.	100.0	1.0	10.0	1.24	69.5
15. Main st. NB	762078.3	********	762234.4	********	492.	162.	AG	0.	100.0	1.0	10.0	1.07	25.0
16. Harvard St. WB	762091.8	********	763477.0	********	1451.	73.	AG	0.	100.0	1.0	10.0	1.25	73.7
17. Broadway EB R	762959.1	********	762829.3	********	141.	293.	AG	0.	100.0	1.0	10.0	0.85	7.2
18. Broadway EB TL	762965.1	********	761504.0	********	1595.	294.	AG	0.	100.0	1.0	10.0	1.49	81.0
19. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
20. Medford St. NB	763093.0	********	763636.6	********	1104.	150.	AG	0.	100.0	1.0	10.0	1.32	56.1
21. Broadway St. WB	763115.6	********	764227.2	********	1210.	113.	AG	1.	100.0	1.0	20.0	1.35	61.5
22. Dexter St. SWB	763101.5	********	763403.1	********	415.	47.	AG	0.	100.0	1.0	10.0	1.82	21.1
23. Medford St. SB	763008.3	********	762799.6	********	661.	342.	AG	0.	100.0	1.0	10.0	1.23	33.6
24. Highland St. EB	763277.6	********	763150.5	********	139.	294.	AG	0.	100.0	1.0	10.0	0.84	7.0
25. Central St NB	763301.4	********	763212.2	********	202.	206.	AG	0.	100.0	1.0	10.0	0.95	10.3
26. Highland St. WB	763328.5	********	763551.1	********	243.	114.	AG	0.	100.0	1.0	10.0	1.00	12.3
27. Central St. SB	763311.4	********	763332.6	********	46.	27.	AG	0.	100.0	1.0	10.0	0.37	2.3
28. Medford St. NWB	765022.2	********	766415.9	********	2269.	142.	AG	0.	100.0	1.0	10.0	1.38	115.3
29. School St. SB	765002.3	********	765166.0	********	379.	26.	AG	0.	100.0	1.0	10.0	1.08	19.3
30. Medford St. SEB	764967.1	********	764863.8	********	167.	322.	AG	0.	100.0	1.0	10.0	0.93	8.5
31. Prospect SB	765830.6	********	766200.2	********	715.	31.	AG	0.	100.0	1.0	20.0	1.12	36.3
32. Sommerville WB	765870.1	********	766866.4	********	1110.	116.	AG	1.	100.0	1.0	20.0	1.79	56.4
33. Prospect NB	765828.4	********	765723.3	********	237.	206.	AG	1.	100.0	1.0	30.0	0.97	12.0
34. Somerville EB	765797.5	********	765688.8	********	121.	296.	AG	0.	100.0	1.0	20.0	0.60	6.1
35. McGrath Highway SB1	766950.5	********	766591.9	********	1973.	350.	AG	1.	100.0	1.0	20.0	3.83	100.2
36. Washington St. EB	766952.8	********	759076.8	********	8448.	249.	AG	0.	100.0	1.0	10.0	3.46	429.2
37. McGrath Hwy NB2 L	767105.3	********	767109.5	********	32.	172.	AG	0.	100.0	1.0	10.0	0.41	1.6
38. McGrath Hwy NB2 T	767119.9	********	767604.3	********	3946.	173.	AG	0.	100.0	1.0	10.0	3.91	200.5
39. Washington St. WB	767129.9	********	767268.1	********	151.	67.	AG	1.	100.0	1.0	30.0	0.61	7.7
40. Msgr Obrien EB	769756.5	********	769681.2	********	91.	304.	AG	0.	100.0	1.0	30.0	0.39	4.6
41. Third St. NB L	769790.4	********	769088.1	********	4491.	189.	AG	0.	100.0	1.0	10.0	2.03	228.1
42. Third St NB R	769802.4	********	769801.4	********	7.	189.	AG	0.	100.0	1.0	10.0	0.04	0.4
43. Msgr Obrien WB	769887.3	********	769975.1	********	106.	124.	AG	0.	100.0	1.0	30.0	0.44	5.4
44. Msgr Obrien L	771466.3	********	769824.5	********	1960.	303.	AG	0.	100.0	1.0	10.0	1.83	99.5

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771457.4	********	770930.5	********	628.	303.	AG	1.	100.0	1.0	30.0	1.21	31.9
46. Charlestown NB L	771481.8	********	770010.7	********	2407.	218.	AG	0.	100.0	1.0	10.0	2.31	122.3
47. Charlestown NB T	771497.8	********	768870.5	********	4328.	217.	AG	1.	100.0	1.0	20.0	3.43	219.8
48. Charlestown NB R	771512.8	********	768738.0	********	4446.	219.	AG	0.	100.0	1.0	10.0	3.50	225.9
49. Msgr Obrien WB L	771569.3	********	772136.7	********	676.	123.	AG	0.	100.0	1.0	10.0	1.16	34.3
50. Msgr Obrien WB T	771577.6	********	772091.2	********	612.	123.	AG	1.	100.0	1.0	20.0	1.14	31.1
51. Msgr Obrien WB R	771587.3	********	771678.8	********	109.	123.	AG	0.	100.0	1.0	10.0	0.45	5.5
52. Charlestown SB LT	771543.5	********	771608.0	********	114.	34.	AG	0.	100.0	1.0	10.0	0.58	5.8
53. Charlestown SB TR	771531.7	********	771963.5	********	762.	35.	AG	0.	100.0	1.0	10.0	1.10	38.7
54. Cambridge St EB TR	770464.9	********	769532.8	********	943.	279.	AG	0.	100.0	1.0	10.0	1.39	47.9
55. Cambridge St WB L	770550.6	********	770577.5	********	27.	98.	AG	0.	100.0	1.0	10.0	0.12	1.4
56. Cambridge St WB T	770554.3	********	770611.2	********	58.	99.	AG	0.	100.0	1.0	10.0	0.26	2.9
57. First St NB L	770507.2	********	770497.7	********	61.	189.	AG	0.	100.0	1.0	10.0	0.79	3.1
58. First St NB R	770523.2	********	770510.0	********	80.	189.	AG	0.	100.0	1.0	10.0	0.46	4.1
59. East St SB	770754.4	********	770782.0	********	42.	41.	AG	0.	100.0	1.0	10.0	0.44	2.1
60. MsgrOb/East EB R	770637.2	********	770602.3	********	44.	307.	AG	0.	100.0	1.0	10.0	0.35	2.2
61. MsgrOb/East EB T	770650.1	********	770507.4	********	180.	307.	AG	1.	100.0	1.0	30.0	0.97	9.1
62. MsgrOb/East EB L	770662.8	********	770653.7	********	12.	308.	AG	0.	100.0	1.0	10.0	0.09	0.6
63. MsgrOb/East WB T	770764.6	********	770972.1	********	282.	133.	AG	0.	100.0	1.0	10.0	0.95	14.3
64. MsgrOb/East WB R	770778.0	********	770778.9	********	1.	134.	AG	0.	100.0	1.0	10.0	0.01	0.1
65. MsgrOb at First WB L	770904.4	********	770949.4	********	54.	124.	AG	0.	100.0	1.0	20.0	0.30	2.8
66. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1080.	0.1	1.0	42.0		
67. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1761.	0.1	1.0	42.0		
68. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2092.	0.1	1.0	66.0		
69. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2987.	0.1	1.0	66.0		
70. South Street	761345.7	********	760087.5	********	1291.	283.	AG	571.	0.1	1.0	42.0		
71. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2127.	0.1	1.0	66.0		
72. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2457.	0.1	1.0	66.0		
73. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	903.	0.1	1.0	54.0		
74. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	702.	0.1	1.0	54.0		
75. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	702.	0.1	1.0	54.0		
76. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	528.	0.1	1.0	42.0		
77. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	739.	0.1	1.0	42.0		
78. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	996.	0.1	1.0	42.0		
79. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1156.	0.1	1.0	42.0		
80. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	949.	0.1	1.0	42.0		
81. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1111.	0.1	1.0	42.0		
82. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1484.	0.1	1.0	66.0		
83. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	85.	0.1	1.0	42.0		
84. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	748.	0.1	1.0	42.0		
85. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1164.	0.1	1.0	66.0		
86. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	71.	0.1	1.0	30.0		
87. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	499.	0.1	1.0	42.0		
88. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	881.	0.1	1.0	42.0		
89. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	581.	0.1	1.0	42.0		
90. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	896.	0.1	1.0	42.0		
91. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	534.	0.1	1.0	42.0		
92. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1133.	0.1	1.0	42.0		
93. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	461.	0.1	1.0	42.0		
94. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	960.	0.1	1.0	42.0		
95. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	458.	0.1	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	1857.	0.1	1.0	66.0	
97. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2312.	0.1	1.0	66.0	
98. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1193.	0.1	1.0	54.0	
99. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	842.	0.1	1.0	66.0	
100. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	460.	0.1	1.0	42.0	
101. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.1	1.0	42.0	
102. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	1963.	0.1	1.0	66.0	
103. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	1963.	0.1	1.0	66.0	
104. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	494.	0.1	1.0	42.0	
105. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1121.	0.1	1.0	42.0	
106. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	1976.	0.1	1.0	66.0	
107. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1095.	0.1	1.0	54.0	
108. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	2844.	0.1	1.0	90.0	
109. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	1815.	0.1	1.0	90.0	
110. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	2375.	0.1	1.0	90.0	
111. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	2918.	0.1	1.0	90.0	
112. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	2800.	0.1	1.0	90.0	
113. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	2545.	0.1	1.0	66.0	
114. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	575.	0.1	1.0	42.0	
115. Cambridge St WB	770547.0	********	770686.5	********	141.	98.	AG	1074.	0.1	1.0	66.0	
116. First St NB	770502.0	********	770420.6	********	461.	190.	AG	742.	0.1	1.0	66.0	
117. East St SB	770747.8	********	770875.9	********	196.	41.	AG	115.	0.1	1.0	42.0	
118. Msgr. Ob at East EB	770698.6	********	770379.1	********	396.	306.	AG	1890.	0.1	1.0	****	
119. Msgr Ob btw East&1st	770757.3	********	770862.9	********	145.	133.	AG	2414.	0.1	1.0	66.0	
120. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2174.	0.1	1.0	****	

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1. Winthrop North	*	135	95	3.0	961	1600	0.12	1	3
2. MVP East RT	*	135	55	3.0	402	1600	0.12	1	3
3. MVP East T	*	135	75	3.0	1036	1600	0.12	1	3
4. Winthrop South	*	135	115	3.0	572	1600	0.12	1	3
5. MVP West	*	135	75	3.0	989	1600	0.12	1	3
6. South St	*	120	90	3.0	571	1600	0.12	1	3
7. Boston Ave. SB LT	*	135	105	3.0	272	1600	0.12	1	3
8. Boston Ave. SB R	*	135	105	3.0	111	1600	0.12	1	3
9. College Ave EB L	*	135	105	3.0	144	1600	0.12	1	3
10. College Ave. EB TR	*	135	105	3.0	228	1600	0.12	1	3
11. Boston Ave. NB	*	135	105	3.0	321	1600	0.12	1	3
12. College Ave WB	*	135	100	3.0	360	1600	0.12	1	3
13. Main St. SB	*	92	65	3.0	573	1600	0.12	1	3
14. Harvard St. EB	*	92	61	3.0	559	1600	0.12	1	3
15. Main st. NB	*	92	65	3.0	407	1600	0.12	1	3
16. Harvard St. WB	*	92	61	3.0	567	1600	0.12	1	3
17. Broadway EB R	*	122	97	3.0	224	1600	0.12	1	3
18. Broadway EB TL	*	122	97	3.0	391	1600	0.12	1	3
19. Parking Lot	*	122	114	3.0	50	1600	0.12	1	3
20. Medford St. NB	*	122	97	3.0	345	1600	0.12	1	3
21. Broadway St. WB	*	122	97	3.0	710	1600	0.12	1	3
22. Dexter St. SWB	*	122	114	3.0	71	1600	0.12	1	3
23. Medford St. SB	*	122	102	3.0	241	1600	0.12	1	3
24. Highland St. EB	*	86	56	3.0	390	1600	0.12	1	3
25. Central St NB	*	86	56	3.0	443	1600	0.12	1	3
26. Highland St. WB	*	86	56	3.0	463	1600	0.12	1	3
27. Central St. SB	*	82	56	3.0	150	1600	0.12	1	3
28. Medford St. NWB	*	70	42	3.0	723	1600	0.12	1	3
29. School St. SB	*	70	53	3.0	295	1600	0.12	1	3
30. Medford St. SEB	*	70	42	3.0	488	1600	0.12	1	3
31. Prospect SB	*	109	79	3.0	821	1600	0.12	1	3
32. Sommerville WB	*	109	96	3.0	418	1600	0.12	1	3
33. Prospect NB	*	109	76	3.0	1193	1600	0.12	1	3
34. Somerville EB	*	109	66	3.0	670	1600	0.12	1	3
35. McGrath Highway SB1	*	133	123	3.0	460	1600	0.12	1	3
36. Washington St. EB	*	133	102	3.0	1079	1600	0.12	1	3
37. McGrath Hwy NB2 L	*	133	118	3.0	49	1600	0.12	1	3
38. McGrath Hwy NB2 T	*	133	118	3.0	469	1600	0.12	1	3
39. Washington St. WB	*	133	83	3.0	997	1600	0.12	1	3
40. Msgr Obrien EB	*	120	46	3.0	1090	1600	0.12	1	3
41. Third St. NB L	*	120	86	3.0	785	1600	0.12	1	3
42. Third St NB R	*	120	86	3.0	15	1600	0.12	1	3
43. Msgr Obrien WB	*	120	59	3.0	987	1600	0.12	1	3
44. Msgr Obrien L	*	120	100	3.0	365	1600	0.12	1	3
45. Msgr Obrien WB T	*	120	100	3.0	723	1600	0.12	1	3
46. Charlestown NB L	*	120	103	3.0	368	1600	0.12	1	3
47. Charlestown NB T	*	120	103	3.0	1093	1600	0.12	1	3
48. Charlestown NB R	*	120	103	3.0	557	1600	0.12	1	3
49. Msgr Obrien WB L	*	120	95	3.0	309	1600	0.12	1	3
50. Msgr Obrien WB T	*	120	95	3.0	607	1600	0.12	1	3
51. Msgr Obrien WB R	*	120	57	3.0	350	1600	0.12	1	3
52. Charlestown SB LT	*	120	82	3.0	254	1600	0.12	1	3
53. Charlestown SB TR	*	120	82	3.0	483	1600	0.12	1	3
54. Cambridge St EB TR	*	111	93	3.0	260	1600	0.12	1	3
55. Cambridge St WB L	*	111	47	3.0	106	1600	0.12	1	3
56. Cambridge St WB T	*	111	47	3.0	224	1600	0.12	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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57. First St NB L	*	111	98	3.0	91	1600	0.12	1	3
58. First St NB R	*	111	29	3.0	507	1600	0.12	1	3
59. East St SB	*	111	93	3.0	83	1600	0.12	1	3
60. MsgrOb/East EB R	*	111	88	3.0	91	1600	0.12	1	3
61. MsgrOb/East EB T	*	111	88	3.0	750	1600	0.12	1	3
62. MsgrOb/East EB L	*	111	88	3.0	24	1600	0.12	1	3
63. MsgrOb/East WB T	*	111	47	3.0	807	1600	0.12	1	3
64. MsgrOb/East WB R	*	111	47	3.0	5	1600	0.12	1	3
65. MsgrOb at First WB L	*	111	75	3.0	265	1600	0.12	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	11.	10.	9.	8.	9.	9.	8.	9.	9.	5.	5.	5.	5.	5.	13.	13.	11.	9.	8.
10.	9.	10.	10.	9.	9.	8.	8.	7.	9.	9.	5.	5.	5.	5.	5.	12.	12.	10.	9.	8.
20.	9.	10.	10.	9.	9.	7.	7.	6.	9.	9.	5.	5.	5.	5.	5.	12.	12.	11.	10.	9.
30.	10.	11.	10.	9.	9.	7.	7.	6.	9.	9.	5.	5.	5.	5.	5.	13.	13.	13.	12.	12.
40.	9.	11.	10.	9.	9.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	13.	14.	15.	14.	14.
50.	9.	10.	10.	9.	9.	7.	8.	7.	9.	8.	5.	5.	5.	5.	5.	14.	15.	15.	14.	15.
60.	9.	10.	9.	9.	9.	7.	8.	8.	9.	8.	5.	5.	5.	5.	5.	14.	15.	15.	14.	15.
70.	10.	11.	9.	9.	9.	6.	8.	8.	9.	9.	5.	5.	5.	5.	5.	15.	16.	15.	14.	15.
80.	10.	11.	10.	10.	9.	7.	7.	9.	10.	9.	5.	5.	5.	5.	6.	16.	16.	15.	14.	15.
90.	11.	12.	11.	10.	9.	7.	7.	9.	10.	10.	6.	6.	5.	5.	6.	17.	17.	15.	15.	14.
100.	12.	13.	12.	10.	9.	7.	8.	10.	11.	11.	6.	6.	6.	6.	6.	18.	18.	16.	15.	14.
110.	13.	13.	13.	10.	10.	7.	8.	12.	13.	13.	7.	7.	7.	7.	7.	20.	19.	18.	14.	13.
120.	14.	13.	13.	10.	10.	8.	8.	12.	14.	13.	10.	10.	10.	10.	10.	19.	18.	18.	14.	13.
130.	12.	11.	11.	9.	9.	7.	7.	11.	12.	12.	12.	13.	11.	12.	13.	15.	14.	15.	12.	12.
140.	8.	9.	9.	9.	8.	6.	6.	8.	9.	9.	12.	13.	11.	12.	13.	11.	11.	12.	11.	11.
150.	7.	8.	9.	9.	9.	6.	6.	7.	8.	8.	11.	12.	9.	11.	12.	9.	10.	11.	11.	11.
160.	7.	8.	9.	9.	9.	6.	6.	6.	7.	7.	11.	11.	8.	11.	12.	8.	9.	11.	11.	11.
170.	7.	7.	9.	10.	10.	6.	6.	6.	7.	7.	10.	11.	8.	12.	12.	8.	9.	12.	12.	12.
180.	7.	7.	9.	10.	10.	8.	7.	7.	7.	7.	10.	11.	8.	12.	12.	8.	10.	13.	13.	13.
190.	6.	6.	8.	9.	9.	9.	9.	9.	7.	7.	10.	10.	9.	12.	11.	8.	10.	13.	14.	14.
200.	5.	5.	7.	7.	7.	10.	10.	9.	7.	7.	11.	11.	9.	11.	10.	8.	10.	15.	15.	15.
210.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	10.	8.	10.	10.	8.	9.	15.	16.	16.
220.	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	11.	10.	8.	10.	9.	6.	7.	12.	13.	13.
230.	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	10.	9.	9.	10.	9.	5.	6.	8.	8.	9.
240.	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	11.	9.	9.	10.	9.	5.	5.	6.	6.	6.
250.	5.	5.	6.	5.	5.	8.	8.	8.	7.	7.	11.	9.	9.	10.	10.	6.	6.	6.	6.	6.
260.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	11.	9.	10.	10.	10.	6.	6.	6.	6.	6.
270.	6.	6.	6.	5.	5.	7.	7.	7.	8.	7.	12.	9.	10.	11.	11.	6.	6.	6.	6.	6.
280.	6.	6.	6.	5.	5.	8.	8.	8.	8.	8.	12.	10.	11.	12.	12.	7.	7.	7.	6.	6.
290.	8.	8.	8.	5.	5.	8.	8.	9.	10.	10.	13.	12.	12.	12.	13.	10.	10.	9.	6.	6.
300.	11.	11.	11.	7.	6.	8.	9.	12.	13.	13.	12.	11.	12.	12.	13.	16.	15.	15.	7.	6.
310.	13.	13.	14.	8.	7.	9.	10.	14.	14.	14.	9.	9.	9.	10.	10.	18.	18.	17.	8.	7.
320.	13.	13.	14.	9.	8.	10.	12.	13.	13.	13.	7.	7.	6.	7.	7.	18.	18.	17.	10.	8.
330.	12.	12.	13.	9.	8.	10.	11.	11.	11.	11.	6.	6.	6.	6.	6.	16.	16.	15.	10.	8.
340.	11.	12.	12.	9.	8.	10.	11.	10.	9.	10.	5.	5.	5.	6.	6.	15.	14.	13.	10.	8.
350.	10.	11.	11.	9.	8.	10.	10.	9.	9.	10.	5.	5.	5.	5.	6.	14.	14.	12.	9.	8.
360.	10.	11.	10.	9.	8.	9.	9.	8.	9.	9.	5.	5.	5.	5.	5.	13.	13.	11.	9.	8.
MAX	14.	13.	14.	10.	10.	10.	12.	14.	14.	14.	13.	13.	12.	12.	13.	20.	19.	18.	16.	16.
DEGR.	120	110	320	110	120	330	320	310	310	310	290	140	290	290	140	110	110	110	210	210

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	16.	16.	15.	13.	13.	7.	8.	10.	11.	11.	6.	6.	5.	5.	5.
10.	17.	17.	15.	14.	12.	7.	8.	10.	12.	11.	7.	7.	6.	5.	5.
20.	17.	17.	16.	13.	12.	6.	7.	11.	12.	12.	9.	9.	7.	5.	5.
30.	16.	16.	15.	12.	11.	6.	6.	9.	12.	11.	12.	13.	10.	6.	5.
40.	13.	13.	13.	11.	11.	5.	6.	7.	9.	9.	14.	15.	13.	7.	6.
50.	10.	11.	11.	11.	10.	5.	5.	6.	6.	6.	14.	14.	13.	8.	7.
60.	8.	9.	11.	11.	10.	5.	5.	5.	6.	6.	13.	13.	12.	8.	7.
70.	8.	9.	11.	11.	11.	5.	5.	5.	5.	5.	12.	12.	12.	8.	7.
80.	8.	9.	12.	12.	12.	5.	5.	5.	5.	5.	11.	12.	11.	8.	7.
90.	8.	9.	13.	12.	12.	5.	5.	5.	5.	5.	10.	11.	11.	8.	7.
100.	8.	9.	14.	14.	13.	6.	6.	6.	5.	5.	10.	11.	10.	8.	8.
110.	8.	9.	15.	15.	14.	7.	7.	7.	5.	5.	10.	11.	12.	10.	9.
120.	6.	8.	15.	14.	14.	10.	11.	11.	6.	6.	11.	12.	15.	14.	12.
130.	6.	6.	12.	11.	11.	14.	14.	14.	8.	7.	12.	14.	18.	16.	14.
140.	5.	5.	8.	8.	8.	14.	15.	15.	9.	8.	13.	15.	18.	15.	14.
150.	5.	5.	6.	6.	6.	13.	14.	14.	9.	8.	13.	15.	16.	14.	14.
160.	5.	5.	6.	6.	6.	12.	13.	13.	9.	8.	13.	15.	15.	13.	14.
170.	5.	6.	6.	6.	6.	12.	12.	12.	9.	8.	14.	15.	15.	14.	14.
180.	6.	6.	6.	6.	6.	11.	12.	11.	9.	8.	15.	16.	16.	14.	13.
190.	6.	6.	6.	5.	5.	11.	11.	10.	9.	8.	16.	17.	16.	15.	13.
200.	7.	8.	7.	5.	5.	11.	11.	11.	10.	10.	18.	18.	18.	15.	14.
210.	11.	12.	11.	6.	6.	12.	13.	14.	14.	13.	18.	20.	18.	15.	13.
220.	16.	17.	16.	8.	7.	13.	15.	18.	17.	16.	16.	17.	16.	13.	12.
230.	18.	18.	17.	10.	8.	14.	16.	18.	17.	16.	11.	12.	12.	11.	10.
240.	16.	16.	15.	10.	9.	14.	16.	16.	15.	14.	9.	10.	10.	10.	10.
250.	15.	15.	14.	10.	9.	14.	16.	15.	14.	13.	8.	9.	10.	11.	11.
260.	14.	14.	12.	10.	8.	15.	15.	15.	14.	13.	8.	9.	11.	11.	11.
270.	13.	13.	12.	10.	9.	15.	16.	15.	14.	12.	8.	9.	12.	12.	12.
280.	12.	13.	12.	10.	9.	16.	16.	16.	13.	12.	8.	9.	12.	13.	13.
290.	12.	13.	14.	12.	11.	17.	16.	17.	13.	12.	8.	9.	13.	14.	13.
300.	14.	15.	18.	16.	14.	15.	15.	16.	12.	11.	6.	8.	12.	13.	12.
310.	15.	16.	20.	17.	16.	11.	12.	13.	11.	10.	6.	6.	9.	9.	9.
320.	15.	17.	18.	16.	16.	8.	9.	10.	10.	9.	5.	5.	6.	7.	7.
330.	15.	16.	16.	14.	14.	7.	8.	10.	10.	9.	5.	5.	5.	6.	6.
340.	15.	16.	15.	14.	14.	7.	8.	10.	10.	10.	6.	6.	5.	5.	5.
350.	16.	16.	15.	14.	13.	7.	8.	10.	10.	10.	6.	6.	5.	5.	5.
360.	16.	16.	15.	13.	13.	7.	8.	10.	11.	11.	6.	6.	5.	5.	5.
MAX	18.	18.	20.	17.	16.	17.	16.	18.	17.	16.	18.	20.	18.	16.	14.
DEGR.	230	230	310	310	310	290	290	220	220	220	210	210	210	130	130

THE HIGHEST CONCENTRATION OF 20. ug/m**3 OCCURRED AT RECEPTOR REC16.

2030NB1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:24:29

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.8	********	70.	312.	AG	0.	100.0	1.0	20.0	0.45	3.5
2. MVP West	756216.0	********	753960.7	********	3664.	218.	AG	0.	100.0	1.0	10.0	1.39	186.1
3. Boston Ave South	756271.8	********	757624.4	********	1817.	132.	AG	0.	100.0	1.0	10.0	1.40	92.3
4. MVP East	756253.6	********	756366.2	********	158.	45.	AG	0.	100.0	1.0	20.0	0.76	8.0
5. Winthrop North	759327.2	********	759301.8	********	902.	358.	AG	0.	100.0	1.0	20.0	1.13	45.8
6. MVP East RT	759381.7	********	759489.0	********	107.	93.	AG	0.	100.0	1.0	10.0	0.45	5.5
7. MVP East T	759381.8	********	763362.9	********	3983.	92.	AG	0.	100.0	1.0	10.0	1.48	202.4
8. Winthrop South	759345.1	********	759307.6	********	1460.	181.	AG	0.	100.0	1.0	20.0	1.63	74.1
9. MVP West	759293.5	********	755107.0	********	4191.	273.	AG	0.	100.0	1.0	10.0	1.51	212.9
10. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	0.	100.0	1.0	10.0	1.01	15.1
12. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	0.	100.0	1.0	10.0	0.41	3.6
13. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	0.	100.0	1.0	10.0	0.52	4.5
14. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	0.	100.0	1.0	10.0	0.82	7.9
15. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	0.	100.0	1.0	10.0	1.19	43.3
16. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	0.	100.0	1.0	10.0	1.09	31.3
17. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	0.	100.0	1.0	10.0	1.48	121.3
18. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	0.	100.0	1.0	10.0	1.29	89.9
19. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	0.	100.0	1.0	10.0	1.10	34.3
20. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	0.	100.0	1.0	10.0	1.25	79.9
21. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	0.	100.0	1.0	10.0	0.98	10.5
22. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	0.	100.0	1.0	10.0	1.72	113.0
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	0.	100.0	1.0	10.0	1.54	88.1
25. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	0.	100.0	1.0	20.0	1.60	96.2
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	0.	100.0	1.0	10.0	1.31	41.8
28. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	0.	100.0	1.0	10.0	0.84	6.8
29. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	0.	100.0	1.0	10.0	1.05	24.8
30. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	0.	100.0	1.0	10.0	0.98	11.4
31. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	0.	100.0	1.0	10.0	0.33	2.2
32. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	0.	100.0	1.0	10.0	1.45	150.9
33. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	0.	100.0	1.0	10.0	1.05	16.7
34. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	0.	100.0	1.0	10.0	0.89	6.9
35. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	0.	100.0	1.0	20.0	1.06	24.9
36. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	0.	100.0	1.0	20.0	1.88	67.6
37. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	0.	100.0	1.0	30.0	1.01	16.2
38. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	0.	100.0	1.0	20.0	0.62	5.9
39. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	0.	100.0	1.0	20.0	4.48	122.3
40. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	0.	100.0	1.0	10.0	3.95	511.6
41. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	0.	100.0	1.0	10.0	0.48	1.9
42. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	0.	100.0	1.0	10.0	4.62	247.7
43. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	0.	100.0	1.0	30.0	0.74	9.2
44. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	0.	100.0	1.0	10.0	0.58	4.9

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	0.	100.0	1.0	10.0	0.75	6.7
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	0.	100.0	1.0	10.0	0.17	2.1
49. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	0.	100.0	1.0	20.0	1.14	46.5
50. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	0.	100.0	1.0	20.0	1.52	98.0
51. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	0.	100.0	1.0	20.0	0.57	4.5
52. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	0.	100.0	1.0	10.0	1.25	92.7
53. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	0.	100.0	1.0	20.0	2.12	88.8
54. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	0.	100.0	1.0	10.0	1.06	15.0
55. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	0.	100.0	1.0	10.0	1.11	20.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2461.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2297.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	958.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2230.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3177.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	106	76	3.0	336	1600	0.07	1	3
2. MVP West	*	106	46	3.0	1153	1600	0.07	1	3
3. Boston Ave South	*	106	76	3.0	526	1600	0.07	1	3
4. MVP East	*	106	46	3.0	1258	1600	0.07	1	3
5. Winthrop North	*	126	86	3.0	1000	1600	0.07	1	3
6. MVP East RT	*	126	46	3.0	427	1600	0.07	1	3
7. MVP East T	*	126	64	3.0	1070	1600	0.07	1	3
8. Winthrop South	*	126	106	3.0	618	1600	0.07	1	3
9. MVP West	*	126	64	3.0	1090	1600	0.07	1	3
10. South St	*	120	90	3.0	667	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	105	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	105	3.0	122	1600	0.07	1	3
13. College Ave EB L	*	135	105	3.0	154	1600	0.07	1	3
14. College Ave. EB TR	*	135	105	3.0	244	1600	0.07	1	3
15. Boston Ave. NB	*	135	105	3.0	352	1600	0.07	1	3
16. College Ave WB	*	135	100	3.0	386	1600	0.07	1	3
17. Main St. SB	*	81	54	3.0	642	1600	0.07	1	3
18. Harvard St. EB	*	81	50	3.0	660	1600	0.07	1	3
19. Main st. NB	*	81	54	3.0	477	1600	0.07	1	3
20. Harvard St. WB	*	81	50	3.0	641	1600	0.07	1	3
21. Broadway EB R	*	122	97	3.0	258	1600	0.07	1	3
22. Broadway EB TL	*	122	97	3.0	450	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
24. Medford St. NB	*	122	97	3.0	404	1600	0.07	1	3
25. Broadway St. WB	*	122	97	3.0	839	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	122	102	3.0	256	1600	0.07	1	3
28. Highland St. EB	*	79	49	3.0	426	1600	0.07	1	3
29. Central St NB	*	79	50	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	79	49	3.0	496	1600	0.07	1	3
31. Central St. SB	*	79	50	3.0	159	1600	0.07	1	3
32. Medford St. NWB	*	62	34	3.0	861	1600	0.07	1	3
33. School St. SB	*	62	45	3.0	325	1600	0.07	1	3
34. Medford St. SEB	*	62	34	3.0	528	1600	0.07	1	3
35. Prospect SB	*	99	69	3.0	855	1600	0.07	1	3
36. Sommerville WB	*	99	86	3.0	485	1600	0.07	1	3
37. Prospect NB	*	99	66	3.0	1373	1600	0.07	1	3
38. Somerville EB	*	99	56	3.0	762	1600	0.07	1	3
39. McGrath Highway SB1	*	133	123	3.0	539	1600	0.07	1	3
40. Washington St. EB	*	133	102	3.0	1231	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	0.07	1	3
43. Washington St. WB	*	133	83	3.0	1198	1600	0.07	1	3
44. Camb. St at First L	*	120	89	3.0	200	1600	0.07	1	3
45. Camb. St at First TR	*	120	89	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	63	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	83	3.0	970	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	92	3.0	930	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	92	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	72	3.0	715	1600	0.07	1	3
53. First St. Ext. SB	*	120	105	3.0	565	1600	0.07	1	3
54. First Ext. NB L	*	120	100	3.0	210	1600	0.07	1	3
55. First Ext. NB T	*	120	100	3.0	220	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:24:29

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
20.	9.	9.	10.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
30.	9.	9.	10.	7.	7.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	7.	8.	8.
40.	8.	9.	10.	7.	6.	5.	6.	9.	8.	8.	7.	7.	7.	5.	5.	6.	7.	9.	9.	9.
50.	7.	7.	8.	6.	6.	5.	5.	7.	7.	7.	8.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	6.	6.	7.	8.	10.	10.	9.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	6.	7.	9.	9.	9.	9.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	7.	8.	8.	6.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	8.	7.	8.
150.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	8.	7.	6.	6.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	6.	9.	9.	9.
210.	7.	7.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	9.	9.	9.
220.	9.	9.	9.	6.	5.	7.	7.	10.	8.	8.	10.	9.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	8.	6.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	6.	6.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	7.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	9.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	7.	7.	7.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	8.	9.	8.	7.	6.	6.	8.	8.	7.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	9.	9.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
MAX	9.	9.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	10.	10.	10.
DEGR.	230	230	30	320	320	300	300	230	230	230	210	210	210	140	140	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	10.	9.	9.	10.	10.	11.	9.	8.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	9.	9.	8.	8.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	8.	9.	6.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	9.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	10.	11.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	10.	10.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	10.	10.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	9.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	10.	10.	11.	9.	8.
140.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	10.	11.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	10.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	11.	11.	11.	8.	8.
170.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	8.	9.	11.	10.	10.	10.	10.	10.	8.	7.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	6.	9.	9.	11.	10.	10.	8.	8.	8.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	9.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	9.	10.	9.	9.	6.	6.	8.	7.	7.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	9.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	10.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	8.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	8.	8.	6.	6.	8.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	10.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	8.	8.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	7.	7.	7.	7.	6.	9.	9.	11.	10.	9.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	11.	10.	9.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.
360.	8.	8.	10.	9.	9.	10.	10.	11.	9.	8.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	10.	11.	9.	9.	10.	11.	12.	10.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	290	290	260	260	260	190	190	160	160	110	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	10.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	7.	7.	7.
30.	8.	9.	8.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	8.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	8.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	7.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	7.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	8.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	9.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	8.	8.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	10.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	7.
270.	5.	6.	7.	8.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	8.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	5.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	8.	9.	9.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	8.	8.	8.	8.	10.	10.	10.	9.	10.	9.	9.	9.
DEGR.	180	170	170	150	130	80	40	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

2030NB2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:24:51

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.8	********	70.	312.	AG	0.	100.0	1.0	20.0	0.45	3.5
2. MVP West	756216.0	********	753960.7	********	3664.	218.	AG	0.	100.0	1.0	10.0	1.39	186.1
3. Boston Ave South	756271.8	********	757624.4	********	1817.	132.	AG	0.	100.0	1.0	10.0	1.40	92.3
4. MVP East	756253.6	********	756366.2	********	158.	45.	AG	0.	100.0	1.0	20.0	0.76	8.0
5. Winthrop North	759327.2	********	759301.8	********	902.	358.	AG	0.	100.0	1.0	20.0	1.13	45.8
6. MVP East RT	759381.7	********	759489.0	********	107.	93.	AG	0.	100.0	1.0	10.0	0.45	5.5
7. MVP East T	759381.8	********	763362.9	********	3983.	92.	AG	0.	100.0	1.0	10.0	1.48	202.4
8. Winthrop South	759345.1	********	759307.6	********	1460.	181.	AG	0.	100.0	1.0	20.0	1.63	74.1
9. MVP West	759293.5	********	755107.0	********	4191.	273.	AG	0.	100.0	1.0	10.0	1.51	212.9
10. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	0.	100.0	1.0	10.0	1.01	15.1
12. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	0.	100.0	1.0	10.0	0.41	3.6
13. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	0.	100.0	1.0	10.0	0.52	4.5
14. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	0.	100.0	1.0	10.0	0.82	7.9
15. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	0.	100.0	1.0	10.0	1.19	43.3
16. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	0.	100.0	1.0	10.0	1.09	31.3
17. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	0.	100.0	1.0	10.0	1.48	121.3
18. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	0.	100.0	1.0	10.0	1.29	89.9
19. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	0.	100.0	1.0	10.0	1.10	34.3
20. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	0.	100.0	1.0	10.0	1.25	79.9
21. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	0.	100.0	1.0	10.0	0.98	10.5
22. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	0.	100.0	1.0	10.0	1.72	113.0
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	0.	100.0	1.0	10.0	1.54	88.1
25. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	0.	100.0	1.0	20.0	1.60	96.2
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	0.	100.0	1.0	10.0	1.31	41.8
28. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	0.	100.0	1.0	10.0	0.84	6.8
29. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	0.	100.0	1.0	10.0	1.05	24.8
30. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	0.	100.0	1.0	10.0	0.98	11.4
31. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	0.	100.0	1.0	10.0	0.33	2.2
32. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	0.	100.0	1.0	10.0	1.45	150.9
33. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	0.	100.0	1.0	10.0	1.05	16.7
34. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	0.	100.0	1.0	10.0	0.89	6.9
35. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	0.	100.0	1.0	20.0	1.06	24.9
36. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	0.	100.0	1.0	20.0	1.88	67.6
37. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	0.	100.0	1.0	30.0	1.01	16.2
38. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	0.	100.0	1.0	20.0	0.62	5.9
39. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	0.	100.0	1.0	20.0	4.48	122.3
40. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	0.	100.0	1.0	10.0	3.95	511.6
41. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	0.	100.0	1.0	10.0	0.48	1.9
42. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	0.	100.0	1.0	10.0	4.62	247.7
43. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	0.	100.0	1.0	30.0	0.74	9.2
44. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	0.	100.0	1.0	10.0	0.58	4.9

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	*	770441.3	********	770311.5	********	*	132.	281.	AG	0.	100.0	1.0	10.0	0.75	6.7
46. First St NB TL	*	770491.0	********	770276.9	********	*	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	*	770778.2	********	770779.2	********	*	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	*	770496.3	********	770461.5	********	*	41.	303.	AG	0.	100.0	1.0	10.0	0.17	2.1
49. MsgrOb/East EB T	*	770503.5	********	769730.5	********	*	915.	302.	AG	0.	100.0	1.0	20.0	1.14	46.5
50. MsgrOb/East WB T	*	770636.9	********	772117.0	********	*	1928.	130.	AG	0.	100.0	1.0	20.0	1.52	98.0
51. MsgrOb/East WB L	*	770624.7	********	770692.2	********	*	88.	130.	AG	0.	100.0	1.0	20.0	0.57	4.5
52. First at Camb. R	*	770501.2	********	770234.4	********	*	1824.	188.	AG	0.	100.0	1.0	10.0	1.25	92.7
53. First St. Ext. SB	*	770490.6	********	771143.6	********	*	1748.	22.	AG	0.	100.0	1.0	20.0	2.12	88.8
54. First Ext. NB L	*	770548.4	********	770436.0	********	*	296.	202.	AG	0.	100.0	1.0	10.0	1.06	15.0
55. First Ext. NB T	*	770557.7	********	770404.2	********	*	403.	202.	AG	0.	100.0	1.0	10.0	1.11	20.5
56. Boston Ave. North	*	756236.2	********	754979.9	********	*	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	*	756236.4	********	755664.5	********	*	961.	217.	AG	2461.	0.0	1.0	58.0		
58. MVP East	*	756236.3	********	756857.2	********	*	867.	46.	AG	2297.	0.0	1.0	66.0		
59. Boston Ave. South	*	756236.7	********	757224.6	********	*	1320.	132.	AG	958.	0.0	1.0	42.0		
60. Winthrop South	*	759337.5	********	759326.8	********	*	663.	181.	AG	1146.	0.0	1.0	42.0		
61. Winthrop North	*	759337.5	********	759313.4	********	*	855.	358.	AG	1857.	0.0	1.0	42.0		
62. MVP West	*	759335.1	********	758131.8	********	*	1204.	272.	AG	2230.	0.0	1.0	66.0		
63. MVP East	*	759335.6	********	760246.6	********	*	913.	93.	AG	3177.	0.0	1.0	66.0		
64. South Street	*	761345.7	********	760087.5	********	*	1291.	283.	AG	667.	0.0	1.0	42.0		
65. Main St North	*	761336.6	********	761454.9	********	*	676.	10.	AG	2462.	0.0	1.0	66.0		
66. Main St South	*	761340.3	********	761346.3	********	*	842.	180.	AG	2844.	0.0	1.0	66.0		
67. Boston Ave. SB	*	759689.9	********	759291.3	********	*	834.	331.	AG	986.	0.0	1.0	54.0		
68. College Ave. EB	*	759682.8	********	759503.5	********	*	402.	206.	AG	755.	0.0	1.0	54.0		
69. College Ave. EB2	*	759494.1	********	759662.7	********	*	1634.	174.	AG	755.	0.0	1.0	54.0		
70. Boston Ave. NB	*	759638.3	********	760480.3	********	*	1710.	151.	AG	579.	0.0	1.0	42.0		
71. College Ave. WB	*	759667.3	********	760588.5	********	*	1597.	35.	AG	796.	0.0	1.0	42.0		
72. Main St. SB	*	762056.3	********	761788.3	********	*	898.	343.	AG	1137.	0.0	1.0	42.0		
73. Harvard St. EB	*	762057.7	********	760514.6	********	*	1752.	242.	AG	1336.	0.0	1.0	42.0		
74. Main St. NB	*	762056.8	********	762406.1	********	*	1071.	161.	AG	1088.	0.0	1.0	42.0		
75. Harvard St. WB	*	762057.1	********	763589.7	********	*	1603.	73.	AG	1279.	0.0	1.0	42.0		
76. Broadway St. EB	*	763029.8	********	761172.6	********	*	2021.	293.	AG	1722.	0.0	1.0	66.0		
77. Parking Lot NEB	*	763030.0	********	762877.3	********	*	237.	220.	AG	94.	0.0	1.0	42.0		
78. Medford St. NB	*	763025.4	********	764069.8	********	*	2059.	150.	AG	853.	0.0	1.0	42.0		
79. Broadway St. WB	*	763030.1	********	764419.9	********	*	1513.	113.	AG	1347.	0.0	1.0	66.0		
80. Dexter St. SWB	*	763031.1	********	764132.1	********	*	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	*	763047.7	********	762503.6	********	*	1637.	341.	AG	733.	0.0	1.0	42.0		
82. Highland St. EB	*	763300.2	********	762029.2	********	*	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	*	763299.4	********	762852.7	********	*	981.	207.	AG	657.	0.0	1.0	42.0		
84. Highland St. WB	*	763299.4	********	764576.9	********	*	1400.	114.	AG	973.	0.0	1.0	42.0		
85. Central St. SB	*	763299.7	********	764053.4	********	*	1632.	27.	AG	597.	0.0	1.0	42.0		
86. Medford St. NWB	*	764993.5	********	765926.1	********	*	1536.	143.	AG	1306.	0.0	1.0	42.0		
87. School St. SB	*	764992.8	********	765406.3	********	*	930.	26.	AG	518.	0.0	1.0	42.0		
88. Medford St. SEB	*	764996.8	********	764392.9	********	*	986.	322.	AG	1088.	0.0	1.0	42.0		
89. School St. NB	*	764991.8	********	764577.6	********	*	935.	206.	AG	516.	0.0	1.0	42.0		
90. Prospect St. SB	*	765833.6	********	765929.0	********	*	177.	33.	AG	2042.	0.0	1.0	66.0		
91. Sommerville Ave. EB	*	765828.2	********	765178.4	********	*	720.	295.	AG	2566.	0.0	1.0	66.0		
92. Prospect St. NB	*	765839.9	********	765452.5	********	*	858.	207.	AG	1373.	0.0	1.0	54.0		
93. Somerville Ave WB	*	765826.5	********	767169.2	********	*	1492.	116.	AG	969.	0.0	1.0	66.0		
94. McGrath Hwy SB1	*	766957.3	********	766833.9	********	*	714.	350.	AG	539.	0.0	1.0	42.0		
95. McGrath Highway NB1	*	767104.5	********	766885.0	********	*	694.	342.	AG	1510.	0.0	1.0	42.0		

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	0.0	1.0	66.0	

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1. Boston Ave. North	*	106	76	3.0	336	1600	0.07	1	3
2. MVP West	*	106	46	3.0	1153	1600	0.07	1	3
3. Boston Ave South	*	106	76	3.0	526	1600	0.07	1	3
4. MVP East	*	106	46	3.0	1258	1600	0.07	1	3
5. Winthrop North	*	126	86	3.0	1000	1600	0.07	1	3
6. MVP East RT	*	126	46	3.0	427	1600	0.07	1	3
7. MVP East T	*	126	64	3.0	1070	1600	0.07	1	3
8. Winthrop South	*	126	106	3.0	618	1600	0.07	1	3
9. MVP West	*	126	64	3.0	1090	1600	0.07	1	3
10. South St	*	120	90	3.0	667	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	105	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	105	3.0	122	1600	0.07	1	3
13. College Ave EB L	*	135	105	3.0	154	1600	0.07	1	3
14. College Ave. EB TR	*	135	105	3.0	244	1600	0.07	1	3
15. Boston Ave. NB	*	135	105	3.0	352	1600	0.07	1	3
16. College Ave WB	*	135	100	3.0	386	1600	0.07	1	3
17. Main St. SB	*	81	54	3.0	642	1600	0.07	1	3
18. Harvard St. EB	*	81	50	3.0	660	1600	0.07	1	3
19. Main st. NB	*	81	54	3.0	477	1600	0.07	1	3
20. Harvard St. WB	*	81	50	3.0	641	1600	0.07	1	3
21. Broadway EB R	*	122	97	3.0	258	1600	0.07	1	3
22. Broadway EB TL	*	122	97	3.0	450	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
24. Medford St. NB	*	122	97	3.0	404	1600	0.07	1	3
25. Broadway St. WB	*	122	97	3.0	839	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	122	102	3.0	256	1600	0.07	1	3
28. Highland St. EB	*	79	49	3.0	426	1600	0.07	1	3
29. Central St NB	*	79	50	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	79	49	3.0	496	1600	0.07	1	3
31. Central St. SB	*	79	50	3.0	159	1600	0.07	1	3
32. Medford St. NWB	*	62	34	3.0	861	1600	0.07	1	3
33. School St. SB	*	62	45	3.0	325	1600	0.07	1	3
34. Medford St. SEB	*	62	34	3.0	528	1600	0.07	1	3
35. Prospect SB	*	99	69	3.0	855	1600	0.07	1	3
36. Sommerville WB	*	99	86	3.0	485	1600	0.07	1	3
37. Prospect NB	*	99	66	3.0	1373	1600	0.07	1	3
38. Somerville EB	*	99	56	3.0	762	1600	0.07	1	3
39. McGrath Highway SB1	*	133	123	3.0	539	1600	0.07	1	3
40. Washington St. EB	*	133	102	3.0	1231	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	0.07	1	3
43. Washington St. WB	*	133	83	3.0	1198	1600	0.07	1	3
44. Camb. St at First L	*	120	89	3.0	200	1600	0.07	1	3
45. Camb. St at First TR	*	120	89	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	63	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	83	3.0	970	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	92	3.0	930	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	92	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	72	3.0	715	1600	0.07	1	3
53. First St. Ext. SB	*	120	105	3.0	565	1600	0.07	1	3
54. First Ext. NB L	*	120	100	3.0	210	1600	0.07	1	3
55. First Ext. NB T	*	120	100	3.0	220	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
20.	8.	8.	7.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	5.	7.	8.	7.	7.	6.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	6.	6.	6.	7.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	7.	7.	7.	7.
160.	5.	5.	6.	6.	6.	6.	6.	6.	6.	5.	7.	7.	7.	6.	7.	8.	7.	7.	6.	6.
170.	5.	5.	6.	6.	6.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	7.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	7.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	8.	8.	7.	6.	6.	6.	7.	7.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	7.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	7.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	7.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	6.	5.	5.	5.
300.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	6.	6.	8.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	7.	7.	7.	7.	7.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	6.	5.	8.	9.	6.	6.	5.
350.	7.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	6.	7.	8.	7.	7.	7.	8.	8.	7.	7.	8.	9.	8.	7.	7.
DEGR.	10	0	350	350	340	160	330	330	20	20	190	190	190	180	180	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	8.	8.	7.	7.	5.	6.	8.	8.	8.	8.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	7.	8.	8.	8.	8.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	7.	7.
150.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	8.	7.	6.	8.	8.	9.	8.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	6.	5.	7.	7.	9.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	7.	7.	8.	7.	7.
180.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	6.	6.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	8.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	7.	8.	8.	9.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	50	250	350	350	350	330	330	250	60	60	240	240	230	170	170	150	150	80	80	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

2030NB3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:25:23

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.8	********	70.	312.	AG	0.	100.0	1.0	20.0	0.45	3.5
2. MVP West	756216.0	********	753960.7	********	3664.	218.	AG	0.	100.0	1.0	10.0	1.39	186.1
3. Boston Ave South	756271.8	********	757624.4	********	1817.	132.	AG	0.	100.0	1.0	10.0	1.40	92.3
4. MVP East	756253.6	********	756366.2	********	158.	45.	AG	0.	100.0	1.0	20.0	0.76	8.0
5. Winthrop North	759327.2	********	759301.8	********	902.	358.	AG	0.	100.0	1.0	20.0	1.13	45.8
6. MVP East RT	759381.7	********	759489.0	********	107.	93.	AG	0.	100.0	1.0	10.0	0.45	5.5
7. MVP East T	759381.8	********	763362.9	********	3983.	92.	AG	0.	100.0	1.0	10.0	1.48	202.4
8. Winthrop South	759345.1	********	759307.6	********	1460.	181.	AG	0.	100.0	1.0	20.0	1.63	74.1
9. MVP West	759293.5	********	755107.0	********	4191.	273.	AG	0.	100.0	1.0	10.0	1.51	212.9
10. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	0.	100.0	1.0	10.0	1.01	15.1
12. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	0.	100.0	1.0	10.0	0.41	3.6
13. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	0.	100.0	1.0	10.0	0.52	4.5
14. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	0.	100.0	1.0	10.0	0.82	7.9
15. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	0.	100.0	1.0	10.0	1.19	43.3
16. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	0.	100.0	1.0	10.0	1.09	31.3
17. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	0.	100.0	1.0	10.0	1.48	121.3
18. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	0.	100.0	1.0	10.0	1.29	89.9
19. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	0.	100.0	1.0	10.0	1.10	34.3
20. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	0.	100.0	1.0	10.0	1.25	79.9
21. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	0.	100.0	1.0	10.0	0.98	10.5
22. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	0.	100.0	1.0	10.0	1.72	113.0
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	0.	100.0	1.0	10.0	1.54	88.1
25. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	0.	100.0	1.0	20.0	1.60	96.2
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	0.	100.0	1.0	10.0	1.31	41.8
28. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	0.	100.0	1.0	10.0	0.84	6.8
29. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	0.	100.0	1.0	10.0	1.05	24.8
30. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	0.	100.0	1.0	10.0	0.98	11.4
31. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	0.	100.0	1.0	10.0	0.33	2.2
32. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	0.	100.0	1.0	10.0	1.45	150.9
33. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	0.	100.0	1.0	10.0	1.05	16.7
34. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	0.	100.0	1.0	10.0	0.89	6.9
35. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	0.	100.0	1.0	20.0	1.06	24.9
36. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	0.	100.0	1.0	20.0	1.88	67.6
37. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	0.	100.0	1.0	30.0	1.01	16.2
38. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	0.	100.0	1.0	20.0	0.62	5.9
39. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	0.	100.0	1.0	20.0	4.48	122.3
40. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	0.	100.0	1.0	10.0	3.95	511.6
41. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	0.	100.0	1.0	10.0	0.48	1.9
42. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	0.	100.0	1.0	10.0	4.62	247.7
43. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	0.	100.0	1.0	30.0	0.74	9.2
44. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	0.	100.0	1.0	10.0	0.58	4.9

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:25:23

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	0.	100.0	1.0	10.0	0.75	6.7
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	0.	100.0	1.0	10.0	0.17	2.1
49. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	0.	100.0	1.0	20.0	1.14	46.5
50. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	0.	100.0	1.0	20.0	1.52	98.0
51. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	0.	100.0	1.0	20.0	0.57	4.5
52. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	0.	100.0	1.0	10.0	1.25	92.7
53. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	0.	100.0	1.0	20.0	2.12	88.8
54. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	0.	100.0	1.0	10.0	1.06	15.0
55. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	0.	100.0	1.0	10.0	1.11	20.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2461.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2297.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	958.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2230.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3177.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	106	76	3.0	336	1600	0.07	1	3
2. MVP West	*	106	46	3.0	1153	1600	0.07	1	3
3. Boston Ave South	*	106	76	3.0	526	1600	0.07	1	3
4. MVP East	*	106	46	3.0	1258	1600	0.07	1	3
5. Winthrop North	*	126	86	3.0	1000	1600	0.07	1	3
6. MVP East RT	*	126	46	3.0	427	1600	0.07	1	3
7. MVP East T	*	126	64	3.0	1070	1600	0.07	1	3
8. Winthrop South	*	126	106	3.0	618	1600	0.07	1	3
9. MVP West	*	126	64	3.0	1090	1600	0.07	1	3
10. South St	*	120	90	3.0	667	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	105	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	105	3.0	122	1600	0.07	1	3
13. College Ave EB L	*	135	105	3.0	154	1600	0.07	1	3
14. College Ave. EB TR	*	135	105	3.0	244	1600	0.07	1	3
15. Boston Ave. NB	*	135	105	3.0	352	1600	0.07	1	3
16. College Ave WB	*	135	100	3.0	386	1600	0.07	1	3
17. Main St. SB	*	81	54	3.0	642	1600	0.07	1	3
18. Harvard St. EB	*	81	50	3.0	660	1600	0.07	1	3
19. Main st. NB	*	81	54	3.0	477	1600	0.07	1	3
20. Harvard St. WB	*	81	50	3.0	641	1600	0.07	1	3
21. Broadway EB R	*	122	97	3.0	258	1600	0.07	1	3
22. Broadway EB TL	*	122	97	3.0	450	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
24. Medford St. NB	*	122	97	3.0	404	1600	0.07	1	3
25. Broadway St. WB	*	122	97	3.0	839	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	122	102	3.0	256	1600	0.07	1	3
28. Highland St. EB	*	79	49	3.0	426	1600	0.07	1	3
29. Central St NB	*	79	50	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	79	49	3.0	496	1600	0.07	1	3
31. Central St. SB	*	79	50	3.0	159	1600	0.07	1	3
32. Medford St. NWB	*	62	34	3.0	861	1600	0.07	1	3
33. School St. SB	*	62	45	3.0	325	1600	0.07	1	3
34. Medford St. SEB	*	62	34	3.0	528	1600	0.07	1	3
35. Prospect SB	*	99	69	3.0	855	1600	0.07	1	3
36. Sommerville WB	*	99	86	3.0	485	1600	0.07	1	3
37. Prospect NB	*	99	66	3.0	1373	1600	0.07	1	3
38. Somerville EB	*	99	56	3.0	762	1600	0.07	1	3
39. McGrath Highway SB1	*	133	123	3.0	539	1600	0.07	1	3
40. Washington St. EB	*	133	102	3.0	1231	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	0.07	1	3
43. Washington St. WB	*	133	83	3.0	1198	1600	0.07	1	3
44. Camb. St at First L	*	120	89	3.0	200	1600	0.07	1	3
45. Camb. St at First TR	*	120	89	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	63	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	83	3.0	970	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	92	3.0	930	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	92	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	72	3.0	715	1600	0.07	1	3
53. First St. Ext. SB	*	120	105	3.0	565	1600	0.07	1	3
54. First Ext. NB L	*	120	100	3.0	210	1600	0.07	1	3
55. First Ext. NB T	*	120	100	3.0	220	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	7.	7.	6.	7.	7.	9.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	8.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	8.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	8.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	8.	8.	7.	6.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	8.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	9.	9.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
90.	9.	9.	8.	7.	7.	6.	7.	8.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	9.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	7.	8.	8.	8.	6.	6.	6.	5.	5.
110.	9.	9.	9.	7.	6.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	8.	8.	7.	6.	5.
120.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	9.	9.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
160.	5.	6.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	5.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	5.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	5.	5.	5.	5.	5.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	5.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	7.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	6.	6.	6.	5.	5.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	9.	8.	8.	7.	7.
280.	6.	7.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	9.	7.	7.
290.	8.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	9.	7.	6.
300.	9.	10.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	9.	8.	7.	7.	7.	7.	6.
310.	9.	9.	9.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	9.	9.	8.	6.	6.	6.	7.	8.	7.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	8.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	7.	6.	6.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	8.	8.	8.	7.	6.	7.	7.	9.	8.	8.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.
360.	8.	8.	7.	7.	6.	7.	7.	9.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	9.	10.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	9.	8.	9.	9.	9.	7.	7.
DEGR.	100	300	300	100	90	10	350	100	340	340	310	300	300	300	300	280	120	280	270	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	7.	8.	7.	8.	7.	7.	8.
10.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	8.	9.
20.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	8.	8.	10.
30.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	7.	7.	7.	8.	8.	8.	9.	10.
40.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	6.	8.	7.	7.	7.	8.	8.	8.	9.	10.
50.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	7.	7.	7.	8.	9.	7.	9.	9.
60.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	7.	6.	7.	8.	9.	7.	9.	8.
70.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	7.	7.	7.	9.	9.	7.	9.	8.
80.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	8.
90.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	9.	8.
100.	6.	6.	6.	5.	5.	6.	7.	7.	7.	7.	8.	8.	8.	7.	8.	9.	8.	8.	8.	8.
110.	6.	6.	7.	6.	6.	7.	7.	8.	8.	8.	9.	9.	9.	7.	9.	8.	8.	8.	8.	8.
120.	6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	7.	7.	7.	8.	7.
130.	6.	7.	8.	7.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	7.	8.	7.
140.	6.	7.	8.	7.	6.	8.	8.	9.	8.	8.	7.	7.	6.	6.	6.	6.	6.	7.	8.	7.
150.	7.	7.	8.	7.	7.	8.	9.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	8.	8.
160.	7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	5.	6.	6.	6.	8.	8.	8.
170.	7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	5.	6.	5.	6.	8.	9.	8.
180.	7.	7.	8.	7.	7.	7.	6.	8.	7.	7.	6.	6.	6.	5.	6.	5.	6.	8.	9.	9.
190.	7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	8.	8.	8.
200.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	6.	7.	7.
210.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	6.
230.	6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	6.
240.	6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	8.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	6.	7.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	7.	6.	6.	7.	6.	5.	5.
280.	6.	7.	8.	7.	7.	6.	7.	9.	9.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	6.
290.	6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	7.	5.	6.
300.	6.	6.	7.	7.	6.	5.	6.	7.	7.	7.	8.	8.	7.	7.	7.	7.	8.	7.	6.	6.
310.	5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	8.	7.	8.	7.	6.	6.
320.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	5.	6.	7.	7.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	7.
340.	5.	6.	6.	6.	6.	7.	7.	7.	6.	6.	7.	8.	8.	6.	8.	7.	8.	7.	6.	7.
350.	5.	5.	6.	6.	6.	7.	8.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	8.
360.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	7.	8.	7.	8.	7.	7.	8.
MAX	7.	7.	8.	7.	7.	8.	9.	9.	9.	9.	9.	9.	9.	7.	9.	10.	9.	8.	9.	10.
DEGR.	160	160	280	260	170	150	150	120	120	120	110	120	110	320	110	80	70	180	60	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	8.	8.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	6.	6.
10.	8.	7.	7.	7.	8.	8.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
30.	6.	6.	7.	7.	7.	7.	6.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	6.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	6.	6.	6.	7.	7.	7.	8.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	8.	6.	6.	5.	5.	5.	5.	6.	6.	6.
130.	5.	5.	5.	5.	6.	6.	6.	7.	7.	7.	10.	8.	8.	6.	5.	5.	6.	7.	7.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	10.	8.	8.	6.	6.	6.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	6.	5.	9.	8.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	9.	8.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	7.	8.	7.
200.	7.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	7.	8.	8.	6.	5.	5.	5.	5.	5.	5.	7.	8.	8.	7.	6.	6.	7.	8.	9.	7.
220.	7.	7.	8.	6.	6.	6.	5.	5.	5.	5.	7.	8.	8.	7.	6.	7.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	7.	8.	8.	7.	7.	7.	7.	8.	9.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	7.	6.	6.	6.	6.	5.	6.	6.	8.	9.	8.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	7.	8.	8.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	9.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	7.	7.	6.	9.	10.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	8.	7.	7.	7.	7.	7.	7.	7.	7.	9.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	8.	7.	7.	8.	7.	7.	8.	8.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	8.	8.	7.	6.	6.	5.	5.	5.	5.	6.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	8.	6.	6.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	8.	8.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	8.	8.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	6.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	10.	10.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	340	330	340	320	10	10	330	110	110	320	140	290	290	260	240	230	240	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC40.

2030NB4.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:25:40

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	0.	100.0	1.0	10.0	1.01	15.1
3. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	0.	100.0	1.0	10.0	0.41	3.6
4. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	0.	100.0	1.0	10.0	0.52	4.5
5. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	0.	100.0	1.0	10.0	0.82	7.9
6. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	0.	100.0	1.0	10.0	1.19	43.3
7. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	0.	100.0	1.0	10.0	1.09	31.3
8. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	0.	100.0	1.0	10.0	1.48	121.3
9. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	0.	100.0	1.0	10.0	1.29	89.9
10. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	0.	100.0	1.0	10.0	1.10	34.3
11. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	0.	100.0	1.0	10.0	1.25	79.9
12. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	0.	100.0	1.0	10.0	0.98	10.5
13. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	0.	100.0	1.0	10.0	1.72	113.0
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	0.	100.0	1.0	10.0	1.54	88.1
16. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	0.	100.0	1.0	20.0	1.60	96.2
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	0.	100.0	1.0	10.0	1.31	41.8
19. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	0.	100.0	1.0	10.0	0.84	6.8
20. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	0.	100.0	1.0	10.0	1.05	24.8
21. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	0.	100.0	1.0	10.0	0.98	11.4
22. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	0.	100.0	1.0	10.0	0.33	2.2
23. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	0.	100.0	1.0	10.0	1.45	150.9
24. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	0.	100.0	1.0	10.0	1.05	16.7
25. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	0.	100.0	1.0	10.0	0.89	6.9
26. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	0.	100.0	1.0	20.0	1.06	24.9
27. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	0.	100.0	1.0	20.0	1.88	67.6
28. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	0.	100.0	1.0	30.0	1.01	16.2
29. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	0.	100.0	1.0	20.0	0.62	5.9
30. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	0.	100.0	1.0	20.0	4.48	122.3
31. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	0.	100.0	1.0	10.0	3.95	511.6
32. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	0.	100.0	1.0	10.0	0.48	1.9
33. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	0.	100.0	1.0	10.0	4.62	247.7
34. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	0.	100.0	1.0	30.0	0.74	9.2
35. Msgr Obrien EB	769756.4	********	769519.6	********	288.	305.	AG	0.	100.0	1.0	20.0	0.94	14.6
36. Third St. NB L	769779.2	********	769011.2	********	4470.	190.	AG	0.	100.0	1.0	10.0	1.83	227.1
37. Third St NB LR	769788.2	********	769786.2	********	13.	189.	AG	0.	100.0	1.0	10.0	0.06	0.7
38. Msgr Obrien WB	769858.1	********	770015.7	********	192.	125.	AG	0.	100.0	1.0	20.0	0.81	9.7
39. Msgr Obrien L	771462.2	********	768300.8	********	3838.	305.	AG	0.	100.0	1.0	10.0	2.71	195.0
40. Msgr Obrien WB T	771449.0	********	770740.6	********	857.	304.	AG	0.	100.0	1.0	30.0	1.23	43.5
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	0.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	769197.3	********	3672.	219.	AG	0.	100.0	1.0	10.0	2.22	186.5
44. Msgr Obrien WB L	771572.2	********	773370.4	********	2174.	124.	AG	0.	100.0	1.0	10.0	1.93	110.5

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	772722.5	********	1380.	124.	AG	0.	100.0	1.0	20.0	1.41	70.1
46. Msgr Obrien WB R	771588.6	********	773170.2	********	1913.	124.	AG	0.	100.0	1.0	10.0	1.60	97.2
47. Charlestown SB LT	771546.2	********	771845.5	********	580.	31.	AG	0.	100.0	1.0	10.0	1.13	29.5
48. Charlestown SB TR	771535.3	********	774509.8	********	5537.	32.	AG	0.	100.0	1.0	10.0	2.88	281.3
49. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	0.	100.0	1.0	10.0	0.58	4.9
50. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	0.	100.0	1.0	10.0	0.75	6.7
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	0.	100.0	1.0	10.0	0.17	2.1
54. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	0.	100.0	1.0	20.0	1.14	46.5
55. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	0.	100.0	1.0	20.0	1.52	98.0
56. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	0.	100.0	1.0	20.0	0.57	4.5
57. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	0.	100.0	1.0	10.0	1.25	92.7
58. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	0.	100.0	1.0	20.0	2.12	88.8
59. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	0.	100.0	1.0	10.0	1.06	15.0
60. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	0.	100.0	1.0	10.0	1.11	20.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1285.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3960.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2735.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3275.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3485.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3430.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	667	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	105	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	105	3.0	122	1600	0.07	1	3
4. College Ave EB L	*	135	105	3.0	154	1600	0.07	1	3
5. College Ave. EB TR	*	135	105	3.0	244	1600	0.07	1	3
6. Boston Ave. NB	*	135	105	3.0	352	1600	0.07	1	3
7. College Ave WB	*	135	100	3.0	386	1600	0.07	1	3
8. Main St. SB	*	81	54	3.0	642	1600	0.07	1	3
9. Harvard St. EB	*	81	50	3.0	660	1600	0.07	1	3
10. Main st. NB	*	81	54	3.0	477	1600	0.07	1	3
11. Harvard St. WB	*	81	50	3.0	641	1600	0.07	1	3
12. Broadway EB R	*	122	97	3.0	258	1600	0.07	1	3
13. Broadway EB TL	*	122	97	3.0	450	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
15. Medford St. NB	*	122	97	3.0	404	1600	0.07	1	3
16. Broadway St. WB	*	122	97	3.0	839	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	122	102	3.0	256	1600	0.07	1	3
19. Highland St. EB	*	79	49	3.0	426	1600	0.07	1	3
20. Central St NB	*	79	50	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	79	49	3.0	496	1600	0.07	1	3
22. Central St. SB	*	79	50	3.0	159	1600	0.07	1	3
23. Medford St. NWB	*	62	34	3.0	861	1600	0.07	1	3
24. School St. SB	*	62	45	3.0	325	1600	0.07	1	3
25. Medford St. SEB	*	62	34	3.0	528	1600	0.07	1	3
26. Prospect SB	*	99	69	3.0	855	1600	0.07	1	3
27. Sommerville WB	*	99	86	3.0	485	1600	0.07	1	3
28. Prospect NB	*	99	66	3.0	1373	1600	0.07	1	3
29. Somerville EB	*	99	56	3.0	762	1600	0.07	1	3
30. McGrath Highway SB1	*	133	123	3.0	539	1600	0.07	1	3
31. Washington St. EB	*	133	102	3.0	1231	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	0.07	1	3
34. Washington St. WB	*	133	83	3.0	1198	1600	0.07	1	3
35. Msgr Obrien EB	*	120	49	3.0	1655	1600	0.07	1	3
36. Third St. NB L	*	120	79	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	79	3.0	30	1600	0.07	1	3
38. Msgr Obrien WB	*	120	49	3.0	1430	1600	0.07	1	3
39. Msgr Obrien L	*	120	100	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	95	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1230	1600	0.07	1	3
43. Charlestown NB R	*	120	95	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	100	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	95	3.0	750	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	95	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	95	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	95	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	89	3.0	200	1600	0.07	1	3
50. Camb. St at First TR	*	120	89	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	63	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	83	3.0	970	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	92	3.0	930	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	92	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	72	3.0	715	1600	0.07	1	3
58. First St. Ext. SB	*	120	105	3.0	565	1600	0.07	1	3
59. First Ext. NB L	*	120	100	3.0	210	1600	0.07	1	3
60. First Ext. NB T	*	120	100	3.0	220	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
20.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	7.
30.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	6.	7.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	7.	7.	7.	7.
60.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	7.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	6.
100.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	5.	5.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.
130.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	6.	6.	7.	5.	5.	6.	7.	7.	6.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	6.	5.	6.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	7.	6.	5.	6.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	7.	6.	6.	7.	7.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	6.	7.	7.	5.	5.
300.	6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.
310.	6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.
320.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
330.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	7.	7.	6.	5.
340.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	7.	7.	8.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	10	300	300	300	280	270	280	220	220	200	200	200	130	120	100	100	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
20.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
30.	6.	6.	7.	7.	6.	5.	5.	6.	6.	6.	7.	7.	7.	5.	5.	6.	7.	7.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	5.	5.	7.	7.	7.	7.	7.
50.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
70.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	6.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	7.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	5.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	8.	7.	6.	6.
350.	6.	6.	8.	8.	8.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
MAX	6.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	10	20	140	140	140	150	150	150	220	230	190	190	150	150	150	140	140	140	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

2030NB5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:25:56

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	0.	100.0	1.0	10.0	1.01	15.1
3. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	0.	100.0	1.0	10.0	0.41	3.6
4. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	0.	100.0	1.0	10.0	0.52	4.5
5. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	0.	100.0	1.0	10.0	0.82	7.9
6. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	0.	100.0	1.0	10.0	1.19	43.3
7. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	0.	100.0	1.0	10.0	1.09	31.3
8. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	0.	100.0	1.0	10.0	1.48	121.3
9. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	0.	100.0	1.0	10.0	1.29	89.9
10. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	0.	100.0	1.0	10.0	1.10	34.3
11. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	0.	100.0	1.0	10.0	1.25	79.9
12. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	0.	100.0	1.0	10.0	0.98	10.5
13. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	0.	100.0	1.0	10.0	1.72	113.0
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	0.	100.0	1.0	10.0	1.54	88.1
16. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	0.	100.0	1.0	20.0	1.60	96.2
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	0.	100.0	1.0	10.0	1.31	41.8
19. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	0.	100.0	1.0	10.0	0.84	6.8
20. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	0.	100.0	1.0	10.0	1.05	24.8
21. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	0.	100.0	1.0	10.0	0.98	11.4
22. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	0.	100.0	1.0	10.0	0.33	2.2
23. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	0.	100.0	1.0	10.0	1.45	150.9
24. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	0.	100.0	1.0	10.0	1.05	16.7
25. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	0.	100.0	1.0	10.0	0.89	6.9
26. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	0.	100.0	1.0	20.0	1.06	24.9
27. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	0.	100.0	1.0	20.0	1.88	67.6
28. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	0.	100.0	1.0	30.0	1.01	16.2
29. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	0.	100.0	1.0	20.0	0.62	5.9
30. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	0.	100.0	1.0	20.0	4.48	122.3
31. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	0.	100.0	1.0	10.0	3.95	511.6
32. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	0.	100.0	1.0	10.0	0.48	1.9
33. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	0.	100.0	1.0	10.0	4.62	247.7
34. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	0.	100.0	1.0	30.0	0.74	9.2
35. Msgr Obrien EB	769756.4	********	769519.6	********	288.	305.	AG	0.	100.0	1.0	20.0	0.94	14.6
36. Third St. NB L	769779.2	********	769011.2	********	4470.	190.	AG	0.	100.0	1.0	10.0	1.83	227.1
37. Third St NB LR	769788.2	********	769786.2	********	13.	189.	AG	0.	100.0	1.0	10.0	0.06	0.7
38. Msgr Obrien WB	769858.1	********	770015.7	********	192.	125.	AG	0.	100.0	1.0	20.0	0.81	9.7
39. Msgr Obrien L	771462.2	********	768300.8	********	3838.	305.	AG	0.	100.0	1.0	10.0	2.71	195.0
40. Msgr Obrien WB T	771449.0	********	770740.6	********	857.	304.	AG	0.	100.0	1.0	30.0	1.23	43.5
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	0.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	769197.3	********	3672.	219.	AG	0.	100.0	1.0	10.0	2.22	186.5
44. Msgr Obrien WB L	771572.2	********	773370.4	********	2174.	124.	AG	0.	100.0	1.0	10.0	1.93	110.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:25:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	772722.5	********	1380.	124.	AG	0.	100.0	1.0	20.0	1.41	70.1
46. Msgr Obrien WB R	771588.6	********	773170.2	********	1913.	124.	AG	0.	100.0	1.0	10.0	1.60	97.2
47. Charlestown SB LT	771546.2	********	771845.5	********	580.	31.	AG	0.	100.0	1.0	10.0	1.13	29.5
48. Charlestown SB TR	771535.3	********	774509.8	********	5537.	32.	AG	0.	100.0	1.0	10.0	2.88	281.3
49. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	0.	100.0	1.0	10.0	0.58	4.9
50. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	0.	100.0	1.0	10.0	0.75	6.7
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	0.	100.0	1.0	10.0	0.17	2.1
54. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	0.	100.0	1.0	20.0	1.14	46.5
55. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	0.	100.0	1.0	20.0	1.52	98.0
56. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	0.	100.0	1.0	20.0	0.57	4.5
57. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	0.	100.0	1.0	10.0	1.25	92.7
58. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	0.	100.0	1.0	20.0	2.12	88.8
59. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	0.	100.0	1.0	10.0	1.06	15.0
60. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	0.	100.0	1.0	10.0	1.11	20.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1285.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3960.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2735.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3275.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3485.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3430.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	667	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	105	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	105	3.0	122	1600	0.07	1	3
4. College Ave EB L	*	135	105	3.0	154	1600	0.07	1	3
5. College Ave. EB TR	*	135	105	3.0	244	1600	0.07	1	3
6. Boston Ave. NB	*	135	105	3.0	352	1600	0.07	1	3
7. College Ave WB	*	135	100	3.0	386	1600	0.07	1	3
8. Main St. SB	*	81	54	3.0	642	1600	0.07	1	3
9. Harvard St. EB	*	81	50	3.0	660	1600	0.07	1	3
10. Main st. NB	*	81	54	3.0	477	1600	0.07	1	3
11. Harvard St. WB	*	81	50	3.0	641	1600	0.07	1	3
12. Broadway EB R	*	122	97	3.0	258	1600	0.07	1	3
13. Broadway EB TL	*	122	97	3.0	450	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
15. Medford St. NB	*	122	97	3.0	404	1600	0.07	1	3
16. Broadway St. WB	*	122	97	3.0	839	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	122	102	3.0	256	1600	0.07	1	3
19. Highland St. EB	*	79	49	3.0	426	1600	0.07	1	3
20. Central St NB	*	79	50	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	79	49	3.0	496	1600	0.07	1	3
22. Central St. SB	*	79	50	3.0	159	1600	0.07	1	3
23. Medford St. NWB	*	62	34	3.0	861	1600	0.07	1	3
24. School St. SB	*	62	45	3.0	325	1600	0.07	1	3
25. Medford St. SEB	*	62	34	3.0	528	1600	0.07	1	3
26. Prospect SB	*	99	69	3.0	855	1600	0.07	1	3
27. Sommerville WB	*	99	86	3.0	485	1600	0.07	1	3
28. Prospect NB	*	99	66	3.0	1373	1600	0.07	1	3
29. Somerville EB	*	99	56	3.0	762	1600	0.07	1	3
30. McGrath Highway SB1	*	133	123	3.0	539	1600	0.07	1	3
31. Washington St. EB	*	133	102	3.0	1231	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	0.07	1	3
34. Washington St. WB	*	133	83	3.0	1198	1600	0.07	1	3
35. Msgr Obrien EB	*	120	49	3.0	1655	1600	0.07	1	3
36. Third St. NB L	*	120	79	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	79	3.0	30	1600	0.07	1	3
38. Msgr Obrien WB	*	120	49	3.0	1430	1600	0.07	1	3
39. Msgr Obrien L	*	120	100	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	95	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1230	1600	0.07	1	3
43. Charlestown NB R	*	120	95	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	100	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	95	3.0	750	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	95	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	95	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	95	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	89	3.0	200	1600	0.07	1	3
50. Camb. St at First TR	*	120	89	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	63	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	83	3.0	970	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	92	3.0	930	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	92	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	72	3.0	715	1600	0.07	1	3
58. First St. Ext. SB	*	120	105	3.0	565	1600	0.07	1	3
59. First Ext. NB L	*	120	100	3.0	210	1600	0.07	1	3
60. First Ext. NB T	*	120	100	3.0	220	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	10.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	10.	9.	8.	8.	6.	6.	9.	8.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	7.	6.	6.	9.	8.	7.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	7.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	10.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	5.
60.	9.	11.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	7.	8.	8.	10.	10.	7.	6.
70.	10.	11.	10.	10.	10.	7.	7.	8.	8.	8.	6.	7.	7.	8.	9.	9.	11.	10.	8.	7.
80.	11.	11.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	7.	10.	10.	11.	10.	8.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	11.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	8.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	8.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	8.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	7.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	9.
160.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	9.	9.
170.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	6.	9.	9.	8.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	8.
190.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	10.	11.	9.	8.
200.	5.	6.	9.	9.	8.	7.	7.	7.	5.	5.	7.	7.	9.	7.	8.	11.	10.	11.	8.	8.
210.	5.	5.	8.	8.	7.	8.	8.	9.	6.	5.	7.	8.	10.	9.	9.	10.	10.	10.	8.	8.
220.	5.	5.	6.	6.	6.	9.	9.	9.	6.	5.	8.	8.	10.	9.	10.	8.	8.	8.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	9.	6.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	7.
240.	6.	5.	6.	6.	6.	8.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	8.	8.
280.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	8.	10.	8.	8.	10.	10.	11.	8.	9.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	8.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	9.	10.	10.	6.	6.	8.	9.	11.	9.	9.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	9.	10.	9.	8.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
330.	8.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	9.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	9.	8.	7.	7.	10.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	10.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.
MAX	11.	11.	11.	10.	10.	10.	10.	11.	9.	9.	10.	10.	11.	9.	10.	11.	11.	11.	10.	10.
DEGR.	100	70	40	60	50	10	0	300	300	310	280	280	290	250	230	200	80	120	120	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.
30.	8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	8.	5.	5.	5.	5.	5.
40.	7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
50.	7.	7.	7.	7.	6.	10.	10.	9.	7.	7.	6.	6.	6.	10.	9.	6.	6.	6.	5.	5.
60.	7.	8.	8.	7.	7.	10.	10.	8.	7.	6.	5.	6.	6.	9.	9.	7.	7.	8.	5.	5.
70.	8.	9.	8.	8.	8.	10.	9.	8.	6.	6.	5.	5.	6.	8.	8.	8.	9.	9.	6.	5.
80.	8.	9.	7.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	6.	7.	9.	10.	10.	6.	6.
90.	8.	8.	6.	7.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	9.	10.	10.	7.	6.
100.	8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
110.	8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	9.	9.	7.	6.
120.	8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.
130.	8.	8.	7.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.
140.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	6.	8.	9.	8.	7.	6.
150.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	8.	8.	8.	7.	7.
160.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	8.	8.	8.	8.	7.
170.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.	8.	8.	6.	6.	5.	8.	9.	9.	8.	8.
180.	7.	7.	8.	7.	7.	6.	5.	6.	6.	6.	8.	8.	7.	6.	6.	9.	9.	9.	9.	8.
190.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	7.	7.	6.	10.	10.	9.	8.	8.
210.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	7.	7.	6.	10.	10.	9.	8.	8.
220.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	7.	6.	10.	10.	10.	8.	8.
230.	6.	7.	8.	8.	8.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	10.	10.	8.	8.
240.	6.	6.	8.	8.	8.	8.	8.	7.	6.	5.	7.	8.	7.	8.	8.	10.	10.	10.	8.	8.
250.	6.	6.	7.	8.	8.	10.	10.	9.	6.	6.	8.	9.	8.	10.	10.	9.	9.	9.	8.	7.
260.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	8.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	8.	7.	9.	10.	6.	6.	7.	7.	7.
280.	5.	5.	5.	5.	5.	9.	9.	8.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
300.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	8.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	8.	8.
330.	6.	6.	6.	5.	5.	8.	7.	8.	7.	6.	9.	9.	8.	10.	9.	6.	6.	7.	8.	8.
340.	6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	9.	8.	9.	8.	5.	6.	6.	7.	7.
350.	8.	8.	8.	6.	5.	8.	8.	9.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	8.	9.	8.	8.	8.	10.	10.	10.	8.	8.	9.	9.	8.	10.	10.	11.	10.	10.	9.	8.
DEGR.	90	80	70	230	240	260	260	260	0	0	340	260	330	50	270	230	230	80	180	180

THE HIGHEST CONCENTRATION OF 11. ug/m**3 OCCURRED AT RECEPTOR REC2 .

2030NB6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:26:11

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759518.7	********	296.	332.	AG	0.	100.0	1.0	10.0	1.01	15.1
3. Boston Ave. SB R	759646.0	********	759613.3	********	70.	332.	AG	0.	100.0	1.0	10.0	0.41	3.6
4. College Ave EB L	759636.4	********	759596.3	********	88.	207.	AG	0.	100.0	1.0	10.0	0.52	4.5
5. College Ave. EB TR	759648.1	********	759576.3	********	156.	207.	AG	0.	100.0	1.0	10.0	0.82	7.9
6. Boston Ave. NB	759699.9	********	760106.0	********	853.	152.	AG	0.	100.0	1.0	10.0	1.19	43.3
7. College Ave WB	759720.8	********	760078.1	********	616.	35.	AG	0.	100.0	1.0	10.0	1.09	31.3
8. Main St. SB	762042.2	********	761308.8	********	2387.	342.	AG	0.	100.0	1.0	10.0	1.48	121.3
9. Harvard St. EB	762026.6	********	760473.5	********	1770.	241.	AG	0.	100.0	1.0	10.0	1.29	89.9
10. Main st. NB	762078.3	********	762292.6	********	676.	162.	AG	0.	100.0	1.0	10.0	1.10	34.3
11. Harvard St. WB	762091.8	********	763593.7	********	1573.	73.	AG	0.	100.0	1.0	10.0	1.25	79.9
12. Broadway EB R	762959.1	********	762769.2	********	207.	293.	AG	0.	100.0	1.0	10.0	0.98	10.5
13. Broadway EB TL	762965.1	********	760926.9	********	2224.	294.	AG	0.	100.0	1.0	10.0	1.72	113.0
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	763946.7	********	1733.	150.	AG	0.	100.0	1.0	10.0	1.54	88.1
16. Broadway St. WB	763115.6	********	764854.5	********	1894.	113.	AG	0.	100.0	1.0	20.0	1.60	96.2
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762748.7	********	822.	342.	AG	0.	100.0	1.0	10.0	1.31	41.8
19. Highland St. EB	763277.6	********	763154.6	********	134.	294.	AG	0.	100.0	1.0	10.0	0.84	6.8
20. Central St NB	763301.4	********	763085.9	********	489.	206.	AG	0.	100.0	1.0	10.0	1.05	24.8
21. Highland St. WB	763328.5	********	763533.4	********	224.	114.	AG	0.	100.0	1.0	10.0	0.98	11.4
22. Central St. SB	763311.4	********	763331.4	********	43.	27.	AG	0.	100.0	1.0	10.0	0.33	2.2
23. Medford St. NWB	765022.2	********	766847.0	********	2971.	142.	AG	0.	100.0	1.0	10.0	1.45	150.9
24. School St. SB	765002.3	********	765143.9	********	328.	26.	AG	0.	100.0	1.0	10.0	1.05	16.7
25. Medford St. SEB	764967.1	********	764883.7	********	135.	322.	AG	0.	100.0	1.0	10.0	0.89	6.9
26. Prospect SB	765830.6	********	766084.6	********	491.	31.	AG	0.	100.0	1.0	20.0	1.06	24.9
27. Sommerville WB	765870.1	********	767064.5	********	1330.	116.	AG	0.	100.0	1.0	20.0	1.88	67.6
28. Prospect NB	765828.4	********	765687.0	********	319.	206.	AG	0.	100.0	1.0	30.0	1.01	16.2
29. Somerville EB	765797.5	********	765692.6	********	117.	296.	AG	0.	100.0	1.0	20.0	0.62	5.9
30. McGrath Highway SB1	766950.5	********	766512.9	********	2408.	350.	AG	0.	100.0	1.0	20.0	4.48	122.3
31. Washington St. EB	766952.8	********	757563.9	********	*****	249.	AG	0.	100.0	1.0	10.0	3.95	511.6
32. McGrath Hwy NB2 L	767105.3	********	767110.3	********	37.	172.	AG	0.	100.0	1.0	10.0	0.48	1.9
33. McGrath Hwy NB2 T	767119.9	********	767718.4	********	4876.	173.	AG	0.	100.0	1.0	10.0	4.62	247.7
34. Washington St. WB	767129.9	********	767296.0	********	181.	67.	AG	0.	100.0	1.0	30.0	0.74	9.2
35. Msgr Obrien EB	769756.4	********	769519.6	********	288.	305.	AG	0.	100.0	1.0	20.0	0.94	14.6
36. Third St. NB L	769779.2	********	769011.2	********	4470.	190.	AG	0.	100.0	1.0	10.0	1.83	227.1
37. Third St NB LR	769788.2	********	769786.2	********	13.	189.	AG	0.	100.0	1.0	10.0	0.06	0.7
38. Msgr Obrien WB	769858.1	********	770015.7	********	192.	125.	AG	0.	100.0	1.0	20.0	0.81	9.7
39. Msgr Obrien L	771462.2	********	768300.8	********	3838.	305.	AG	0.	100.0	1.0	10.0	2.71	195.0
40. Msgr Obrien WB T	771449.0	********	770740.6	********	857.	304.	AG	0.	100.0	1.0	30.0	1.23	43.5
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	0.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	769197.3	********	3672.	219.	AG	0.	100.0	1.0	10.0	2.22	186.5
44. Msgr Obrien WB L	771572.2	********	773370.4	********	2174.	124.	AG	0.	100.0	1.0	10.0	1.93	110.5

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:26:11

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	772722.5	********	1380.	124.	AG	0.	100.0	1.0	20.0	1.41	70.1
46. Msgr Obrien WB R	771588.6	********	773170.2	********	1913.	124.	AG	0.	100.0	1.0	10.0	1.60	97.2
47. Charlestown SB LT	771546.2	********	771845.5	********	580.	31.	AG	0.	100.0	1.0	10.0	1.13	29.5
48. Charlestown SB TR	771535.3	********	774509.8	********	5537.	32.	AG	0.	100.0	1.0	10.0	2.88	281.3
49. Camb. St at First L	770442.2	********	770346.2	********	97.	280.	AG	0.	100.0	1.0	10.0	0.58	4.9
50. Camb. St at First TR	770441.3	********	770311.5	********	132.	281.	AG	0.	100.0	1.0	10.0	0.75	6.7
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770461.5	********	41.	303.	AG	0.	100.0	1.0	10.0	0.17	2.1
54. MsgrOb/East EB T	770503.5	********	769730.5	********	915.	302.	AG	0.	100.0	1.0	20.0	1.14	46.5
55. MsgrOb/East WB T	770636.9	********	772117.0	********	1928.	130.	AG	0.	100.0	1.0	20.0	1.52	98.0
56. MsgrOb/East WB L	770624.7	********	770692.2	********	88.	130.	AG	0.	100.0	1.0	20.0	0.57	4.5
57. First at Camb. R	770501.2	********	770234.4	********	1824.	188.	AG	0.	100.0	1.0	10.0	1.25	92.7
58. First St. Ext. SB	770490.6	********	771143.6	********	1748.	22.	AG	0.	100.0	1.0	20.0	2.12	88.8
59. First Ext. NB L	770548.4	********	770436.0	********	296.	202.	AG	0.	100.0	1.0	10.0	1.06	15.0
60. First Ext. NB T	770557.7	********	770404.2	********	403.	202.	AG	0.	100.0	1.0	10.0	1.11	20.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2462.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2844.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1336.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1088.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1279.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1722.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	853.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1347.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	733.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2042.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2566.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	969.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	539.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1510.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2225.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2225.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	588.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2308.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1285.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3960.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2735.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3275.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3485.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3430.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	985.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1160.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2260.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2475.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	835.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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1. South St	*	120	90	3.0	667	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	105	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	105	3.0	122	1600	0.07	1	3
4. College Ave EB L	*	135	105	3.0	154	1600	0.07	1	3
5. College Ave. EB TR	*	135	105	3.0	244	1600	0.07	1	3
6. Boston Ave. NB	*	135	105	3.0	352	1600	0.07	1	3
7. College Ave WB	*	135	100	3.0	386	1600	0.07	1	3
8. Main St. SB	*	81	54	3.0	642	1600	0.07	1	3
9. Harvard St. EB	*	81	50	3.0	660	1600	0.07	1	3
10. Main st. NB	*	81	54	3.0	477	1600	0.07	1	3
11. Harvard St. WB	*	81	50	3.0	641	1600	0.07	1	3
12. Broadway EB R	*	122	97	3.0	258	1600	0.07	1	3
13. Broadway EB TL	*	122	97	3.0	450	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
15. Medford St. NB	*	122	97	3.0	404	1600	0.07	1	3
16. Broadway St. WB	*	122	97	3.0	839	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	122	102	3.0	256	1600	0.07	1	3
19. Highland St. EB	*	79	49	3.0	426	1600	0.07	1	3
20. Central St NB	*	79	50	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	79	49	3.0	496	1600	0.07	1	3
22. Central St. SB	*	79	50	3.0	159	1600	0.07	1	3
23. Medford St. NWB	*	62	34	3.0	861	1600	0.07	1	3
24. School St. SB	*	62	45	3.0	325	1600	0.07	1	3
25. Medford St. SEB	*	62	34	3.0	528	1600	0.07	1	3
26. Prospect SB	*	99	69	3.0	855	1600	0.07	1	3
27. Sommerville WB	*	99	86	3.0	485	1600	0.07	1	3
28. Prospect NB	*	99	66	3.0	1373	1600	0.07	1	3
29. Somerville EB	*	99	56	3.0	762	1600	0.07	1	3
30. McGrath Highway SB1	*	133	123	3.0	539	1600	0.07	1	3
31. Washington St. EB	*	133	102	3.0	1231	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	58	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	554	1600	0.07	1	3
34. Washington St. WB	*	133	83	3.0	1198	1600	0.07	1	3
35. Msgr Obrien EB	*	120	49	3.0	1655	1600	0.07	1	3
36. Third St. NB L	*	120	79	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	79	3.0	30	1600	0.07	1	3
38. Msgr Obrien WB	*	120	49	3.0	1430	1600	0.07	1	3
39. Msgr Obrien L	*	120	100	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	95	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1230	1600	0.07	1	3
43. Charlestown NB R	*	120	95	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	100	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	95	3.0	750	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	95	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	95	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	95	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	89	3.0	200	1600	0.07	1	3
50. Camb. St at First TR	*	120	89	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	63	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	83	3.0	970	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	92	3.0	930	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	92	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

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57. First at Camb. R	*	120	72	3.0	715	1600	0.07	1	3
58. First St. Ext. SB	*	120	105	3.0	565	1600	0.07	1	3
59. First Ext. NB L	*	120	100	3.0	210	1600	0.07	1	3
60. First Ext. NB T	*	120	100	3.0	220	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	10.	8.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	10.	8.	7.
10.	9.	9.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	11.	11.	9.	8.	8.
20.	9.	9.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	11.	11.	9.	9.	8.
30.	9.	9.	10.	8.	8.	6.	7.	7.	9.	8.	5.	5.	5.	5.	5.	11.	12.	11.	10.	10.
40.	9.	9.	10.	8.	8.	6.	7.	8.	9.	8.	5.	5.	5.	5.	5.	12.	13.	13.	12.	12.
50.	9.	9.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	12.	13.	13.	12.	12.
60.	9.	9.	9.	8.	8.	7.	7.	8.	9.	8.	5.	5.	5.	5.	5.	12.	13.	12.	12.	11.
70.	9.	9.	9.	9.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	13.	12.	11.	12.
80.	10.	10.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	6.	13.	14.	12.	11.	11.
90.	10.	11.	11.	9.	8.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	14.	14.	13.	11.	11.
100.	11.	11.	11.	9.	8.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	15.	15.	14.	12.	11.
110.	12.	12.	12.	10.	9.	7.	8.	11.	11.	11.	7.	7.	6.	7.	7.	16.	17.	16.	12.	11.
120.	12.	12.	12.	9.	8.	7.	8.	11.	11.	11.	9.	9.	9.	9.	10.	16.	17.	16.	11.	10.
130.	10.	10.	10.	8.	8.	6.	6.	9.	9.	9.	11.	11.	10.	11.	12.	13.	14.	15.	10.	9.
140.	7.	8.	8.	7.	7.	6.	6.	6.	6.	6.	11.	11.	10.	11.	11.	10.	11.	12.	9.	9.
150.	6.	7.	7.	8.	7.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	9.	10.	9.	9.
160.	6.	7.	7.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	10.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	10.	7.	8.	10.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	10.	9.	7.	8.	11.	10.	10.
200.	5.	5.	6.	7.	6.	8.	8.	7.	6.	6.	9.	9.	8.	10.	9.	7.	8.	12.	11.	11.
210.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	6.	8.	12.	12.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	8.	7.	8.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	9.	9.	6.	6.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	6.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	9.	9.	10.	10.	6.	6.	7.	5.	5.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	11.	11.	6.	7.	8.	5.	5.
290.	7.	7.	7.	5.	5.	6.	7.	8.	8.	7.	11.	11.	11.	12.	11.	8.	9.	10.	6.	5.
300.	10.	10.	10.	6.	6.	7.	8.	11.	10.	9.	11.	10.	10.	11.	11.	12.	13.	14.	7.	6.
310.	12.	12.	12.	8.	6.	8.	9.	12.	12.	11.	8.	8.	8.	9.	9.	15.	16.	16.	8.	6.
320.	12.	12.	12.	8.	7.	9.	10.	12.	11.	11.	6.	6.	6.	7.	7.	15.	16.	15.	8.	7.
330.	11.	11.	11.	8.	7.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	14.	14.	13.	9.	7.
340.	10.	10.	11.	8.	7.	9.	9.	10.	9.	9.	5.	5.	5.	5.	5.	13.	13.	12.	9.	8.
350.	10.	10.	10.	8.	7.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	10.	8.	8.
360.	9.	9.	10.	8.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	10.	8.	7.
MAX	12.	12.	12.	10.	9.	9.	10.	12.	12.	11.	11.	11.	11.	12.	12.	16.	17.	16.	12.	12.
DEGR.	120	110	320	110	110	330	320	310	310	310	130	140	290	290	130	110	110	120	50	50

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	11.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	13.	13.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	14.	14.	13.	11.	10.	6.	7.	9.	10.	10.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	10.	11.	9.	6.	5.
40.	11.	11.	10.	10.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	9.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	9.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	8.	9.	11.	11.	11.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	9.	12.	12.	12.	6.	6.	7.	5.	5.	9.	9.	10.	9.	8.
120.	6.	8.	13.	12.	12.	9.	9.	9.	6.	6.	9.	10.	13.	11.	11.
130.	5.	6.	11.	10.	10.	11.	11.	12.	8.	6.	10.	11.	14.	13.	12.
140.	5.	5.	9.	8.	8.	12.	12.	12.	8.	7.	11.	12.	14.	12.	12.
150.	5.	5.	8.	7.	7.	11.	11.	11.	8.	7.	11.	12.	13.	11.	11.
160.	5.	5.	7.	7.	6.	10.	10.	10.	8.	7.	11.	12.	12.	11.	11.
170.	5.	5.	7.	6.	6.	10.	10.	10.	8.	7.	11.	12.	12.	11.	11.
180.	5.	5.	7.	6.	6.	9.	10.	9.	8.	7.	12.	12.	12.	11.	11.
190.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	12.	13.	13.	12.	11.
200.	6.	7.	7.	6.	6.	9.	9.	9.	9.	8.	14.	14.	14.	12.	11.
210.	9.	10.	9.	6.	6.	10.	10.	11.	11.	10.	14.	14.	14.	12.	11.
220.	12.	13.	12.	8.	7.	10.	11.	13.	13.	13.	12.	12.	12.	10.	10.
230.	13.	14.	13.	9.	8.	11.	12.	13.	13.	12.	9.	10.	10.	9.	9.
240.	12.	12.	12.	9.	8.	11.	12.	12.	12.	11.	8.	8.	9.	9.	9.
250.	11.	12.	11.	9.	8.	11.	12.	12.	11.	11.	7.	8.	9.	9.	9.
260.	10.	11.	10.	9.	8.	12.	12.	12.	11.	11.	8.	8.	9.	10.	10.
270.	10.	10.	10.	9.	8.	12.	12.	12.	11.	10.	7.	8.	10.	10.	10.
280.	10.	10.	10.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	11.	11.
290.	10.	10.	12.	11.	10.	13.	13.	14.	11.	10.	7.	8.	11.	12.	12.
300.	11.	12.	16.	13.	12.	12.	12.	13.	11.	10.	6.	7.	10.	11.	11.
310.	12.	13.	16.	14.	13.	10.	10.	11.	9.	9.	6.	6.	8.	9.	9.
320.	12.	13.	15.	13.	13.	7.	8.	9.	8.	8.	5.	5.	6.	6.	6.
330.	12.	13.	13.	12.	12.	7.	7.	8.	8.	8.	5.	5.	5.	6.	6.
340.	12.	13.	12.	11.	11.	7.	7.	8.	9.	9.	6.	6.	5.	5.	5.
350.	12.	13.	12.	11.	11.	6.	7.	8.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	11.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	14.	14.	16.	14.	13.	13.	13.	14.	13.	13.	14.	14.	14.	13.	12.
DEGR.	20	20	310	310	310	290	290	290	230	220	210	210	130	130	130

THE HIGHEST CONCENTRATION OF 17. ug/m**3 OCCURRED AT RECEPTOR REC17.

Bus_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:18:55

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756146.5	********	69.	312.	AG	0.	100.0	1.0	20.0	0.32	3.5
2. MVP West	756216.0	********	752537.7	********	5976.	218.	AG	0.	100.0	1.0	10.0	1.88	303.6
3. Boston Ave South	756271.8	********	756541.5	********	362.	132.	AG	0.	100.0	1.0	10.0	1.01	18.4
4. MVP East	756253.6	********	756733.5	********	675.	45.	AG	0.	100.0	1.0	20.0	1.05	34.3
5. Winthrop North	759327.2	********	759302.9	********	858.	358.	AG	0.	100.0	1.0	20.0	1.11	43.6
6. MVP East RT	759381.7	********	759526.3	********	145.	93.	AG	0.	100.0	1.0	10.0	0.53	7.4
7. MVP East T	759381.8	********	764458.8	********	5080.	92.	AG	0.	100.0	1.0	10.0	1.69	258.1
8. Winthrop South	759345.1	********	759316.5	********	1115.	181.	AG	0.	100.0	1.0	20.0	1.37	56.6
9. MVP West	759293.5	********	754323.3	********	4975.	273.	AG	0.	100.0	1.0	10.0	1.67	252.7
10. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	0.	100.0	1.0	10.0	0.70	7.8
12. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	0.	100.0	1.0	10.0	0.57	6.4
15. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	0.	100.0	1.0	10.0	1.42	68.2
16. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	0.	100.0	1.0	10.0	1.42	74.3
17. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	0.	100.0	1.0	10.0	1.30	95.6
18. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	0.	100.0	1.0	10.0	1.27	91.6
19. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	0.	100.0	1.0	10.0	0.97	14.3
20. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	0.	100.0	1.0	10.0	1.14	54.9
21. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	0.	100.0	1.0	10.0	1.11	36.9
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	0.	100.0	1.0	10.0	1.62	94.8
25. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	0.	100.0	1.0	20.0	1.07	28.3
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	0.	100.0	1.0	10.0	2.17	82.5
28. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	0.	100.0	1.0	10.0	1.01	14.5
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	0.	100.0	1.0	10.0	1.18	51.4
31. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	0.	100.0	1.0	10.0	0.38	2.4
32. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	0.	100.0	1.0	10.0	1.10	56.9
33. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	0.	100.0	1.0	10.0	1.84	86.8
34. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	0.	100.0	1.0	10.0	0.68	6.0
35. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	0.	100.0	1.0	20.0	1.01	17.1
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	0.	100.0	1.0	30.0	1.27	66.1
38. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	0.	100.0	1.0	20.0	1.73	70.5
40. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	0.	100.0	1.0	10.0	4.49	529.6
41. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	0.	100.0	1.0	10.0	0.16	1.6
42. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	0.	100.0	1.0	10.0	1.51	115.9
43. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	0.	100.0	1.0	30.0	1.21	52.3
44. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:18:55

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	0.	100.0	1.0	10.0	0.72	6.4
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	0.	100.0	1.0	20.0	1.29	74.2
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	0.	100.0	1.0	10.0	1.51	168.4
53. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	0.	100.0	1.0	20.0	1.10	25.7
54. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	0.	100.0	1.0	10.0	0.80	6.2
55. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	0.	100.0	1.0	10.0	0.88	7.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2501.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2327.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	968.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3207.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	336	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1153	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	536	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1288	1600	0.07	1	3
5. Winthrop North	*	135	92	3.0	1000	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	427	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1100	1600	0.07	1	3
8. Winthrop South	*	135	111	3.0	618	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1090	1600	0.07	1	3
10. South St	*	120	90	3.0	667	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	122	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	154	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	244	1600	0.07	1	3
15. Boston Ave. NB	*	135	109	3.0	352	1600	0.07	1	3
16. College Ave WB	*	135	107	3.0	386	1600	0.07	1	3
17. Main St. SB	*	120	78	3.0	642	1600	0.07	1	3
18. Harvard St. EB	*	120	76	3.0	660	1600	0.07	1	3
19. Main st. NB	*	120	78	3.0	477	1600	0.07	1	3
20. Harvard St. WB	*	120	76	3.0	591	1600	0.07	1	3
21. Broadway EB R	*	122	57	3.0	248	1600	0.07	1	3
22. Broadway EB TL	*	122	87	3.0	435	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
24. Medford St. NB	*	122	98	3.0	404	1600	0.07	1	3
25. Broadway St. WB	*	122	87	3.0	839	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	122	108	3.0	256	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	426	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	496	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	159	1600	0.07	1	3
32. Medford St. NWB	*	90	41	3.0	861	1600	0.07	1	3
33. School St. SB	*	90	75	3.0	325	1600	0.07	1	3
34. Medford St. SEB	*	90	41	3.0	528	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	860	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1373	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	782	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	535	1600	0.07	1	3
40. Washington St. EB	*	135	107	3.0	1222	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	0.07	1	3
43. Washington St. WB	*	135	102	3.0	1208	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	206	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	258	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	997	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	944	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	844	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	586	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	212	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	233	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:18:55

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:18:55

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
10.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
20.	9.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	6.	6.	7.	6.
30.	9.	10.	10.	8.	7.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	7.	8.	8.
40.	9.	9.	10.	7.	7.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	9.	10.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	8.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	9.	9.	9.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	8.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	5.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	6.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	7.	8.	7.	6.	5.	8.	8.	9.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	7.	7.	7.	6.	5.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	9.	10.	9.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	9.	9.	9.
220.	9.	9.	9.	6.	5.	7.	7.	10.	8.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	7.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	7.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	6.	6.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	8.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
350.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
360.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
MAX	9.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	20	30	30	320	320	300	300	230	230	30	210	210	210	140	150	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 8.	8.	11.	9.	9.	10.	10.	11.	9.	8.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	* 8.	9.	11.	9.	9.	8.	8.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	* 8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	* 8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	* 9.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	8.	9.	6.	6.
50.	* 9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	* 9.	9.	10.	9.	8.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	* 10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	* 10.	11.	11.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	* 10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	* 8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	10.	10.	6.	6.	9.	10.	13.	11.	10.
110.	* 7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	* 6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	* 6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	10.	10.	11.	9.	8.
140.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	10.	11.	8.	8.
150.	* 6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	10.	11.	11.	8.	8.
160.	* 6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	* 5.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	* 5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	* 5.	5.	6.	7.	7.	9.	9.	8.	6.	5.	9.	9.	11.	10.	10.	8.	8.	9.	7.	7.
200.	* 5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	9.	6.	7.	8.	7.	7.
220.	* 5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	6.	8.	7.	8.
230.	* 5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	* 6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	* 7.	7.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	* 8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	8.	8.	6.	6.	8.	8.	8.
280.	* 9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	* 9.	9.	9.	7.	6.	8.	9.	10.	10.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	* 8.	8.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	* 8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	* 8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	* 8.	8.	7.	7.	6.	9.	9.	11.	10.	9.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	* 7.	7.	8.	7.	7.	10.	10.	11.	10.	9.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.
350.	* 7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.
360.	* 8.	8.	11.	9.	9.	10.	10.	11.	9.	8.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	* 10.	11.	11.	9.	9.	10.	11.	12.	10.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	* 80	80	80	10	10	350	350	350	290	290	260	260	260	190	190	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	10.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	7.	7.	7.
30.	8.	9.	9.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	8.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	8.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	7.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	8.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	10.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	8.	9.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	10.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	9.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
270.	5.	5.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	5.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	9.	9.	9.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	8.	8.	8.	8.	10.	10.	10.	9.	10.	9.	9.	9.
DEGR.	180	170	170	150	130	80	40	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

Bus_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756146.5	********	*	69.	312.	AG	0.	100.0	1.0	20.0	0.32	3.5
2. MVP West	*	756216.0	********	752537.7	********	*	5976.	218.	AG	0.	100.0	1.0	10.0	1.88	303.6
3. Boston Ave South	*	756271.8	********	756541.5	********	*	362.	132.	AG	0.	100.0	1.0	10.0	1.01	18.4
4. MVP East	*	756253.6	********	756733.5	********	*	675.	45.	AG	0.	100.0	1.0	20.0	1.05	34.3
5. Winthrop North	*	759327.2	********	759302.9	********	*	858.	358.	AG	0.	100.0	1.0	20.0	1.11	43.6
6. MVP East RT	*	759381.7	********	759526.3	********	*	145.	93.	AG	0.	100.0	1.0	10.0	0.53	7.4
7. MVP East T	*	759381.8	********	764458.8	********	*	5080.	92.	AG	0.	100.0	1.0	10.0	1.69	258.1
8. Winthrop South	*	759345.1	********	759316.5	********	*	1115.	181.	AG	0.	100.0	1.0	20.0	1.37	56.6
9. MVP West	*	759293.5	********	754323.3	********	*	4975.	273.	AG	0.	100.0	1.0	10.0	1.67	252.7
10. South St	*	761297.7	********	761050.9	********	*	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	*	759658.7	********	759585.9	********	*	154.	332.	AG	0.	100.0	1.0	10.0	0.70	7.8
12. Boston Ave. SB R	*	759646.0	********	759616.7	********	*	63.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	*	759636.4	********	759600.5	********	*	79.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759590.5	********	*	125.	207.	AG	0.	100.0	1.0	10.0	0.57	6.4
15. Boston Ave. NB	*	759699.9	********	760339.0	********	*	1342.	152.	AG	0.	100.0	1.0	10.0	1.42	68.2
16. College Ave WB	*	759720.8	********	760569.0	********	*	1462.	35.	AG	0.	100.0	1.0	10.0	1.42	74.3
17. Main St. SB	*	762042.2	********	761464.3	********	*	1881.	342.	AG	0.	100.0	1.0	10.0	1.30	95.6
18. Harvard St. EB	*	762026.6	********	760444.3	********	*	1803.	241.	AG	0.	100.0	1.0	10.0	1.27	91.6
19. Main st. NB	*	762078.3	********	762167.6	********	*	282.	162.	AG	0.	100.0	1.0	10.0	0.97	14.3
20. Harvard St. WB	*	762091.8	********	763123.2	********	*	1080.	73.	AG	0.	100.0	1.0	10.0	1.14	54.9
21. Broadway EB R	*	762959.1	********	762888.1	********	*	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	*	762965.1	********	762299.0	********	*	727.	294.	AG	0.	100.0	1.0	10.0	1.11	36.9
23. Parking Lot	*	763003.3	********	762870.0	********	*	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	*	763093.0	********	764012.4	********	*	1867.	150.	AG	0.	100.0	1.0	10.0	1.62	94.8
25. Broadway St. WB	*	763115.6	********	763628.1	********	*	558.	113.	AG	0.	100.0	1.0	20.0	1.07	28.3
26. Dexter St. SWB	*	763101.5	********	763427.6	********	*	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	*	763008.3	********	762495.6	********	*	1624.	342.	AG	0.	100.0	1.0	10.0	2.17	82.5
28. Highland St. EB	*	763277.6	********	763015.1	********	*	286.	294.	AG	0.	100.0	1.0	10.0	1.01	14.5
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764256.7	********	*	1013.	114.	AG	0.	100.0	1.0	10.0	1.18	51.4
31. Central St. SB	*	763311.4	********	763333.0	********	*	47.	27.	AG	0.	100.0	1.0	10.0	0.38	2.4
32. Medford St. NWB	*	765022.2	********	765710.7	********	*	1121.	142.	AG	0.	100.0	1.0	10.0	1.10	56.9
33. School St. SB	*	765002.3	********	765740.2	********	*	1709.	26.	AG	0.	100.0	1.0	10.0	1.84	86.8
34. Medford St. SEB	*	764967.1	********	764893.9	********	*	118.	322.	AG	0.	100.0	1.0	10.0	0.68	6.0
35. Prospect SB	*	765830.6	********	766004.3	********	*	336.	31.	AG	0.	100.0	1.0	20.0	1.01	17.1
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765251.5	********	*	1302.	206.	AG	0.	100.0	1.0	30.0	1.27	66.1
38. Somerville EB	*	765797.5	********	765680.2	********	*	130.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766698.3	********	*	1388.	350.	AG	0.	100.0	1.0	20.0	1.73	70.5
40. Washington St. EB	*	766952.8	********	757233.0	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.49	529.6
41. McGrath Hwy NB2 L	*	767105.3	********	767109.5	********	*	31.	172.	AG	0.	100.0	1.0	10.0	0.16	1.6
42. McGrath Hwy NB2 T	*	767119.9	********	767399.9	********	*	2281.	173.	AG	0.	100.0	1.0	10.0	1.51	115.9
43. Washington St. WB	*	767129.9	********	768075.0	********	*	1030.	67.	AG	0.	100.0	1.0	30.0	1.21	52.3
44. Camb. St at First L	*	770442.2	********	770344.4	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	0.	100.0	1.0	10.0	0.72	6.4
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	0.	100.0	1.0	20.0	1.29	74.2
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	0.	100.0	1.0	10.0	1.51	168.4
53. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	0.	100.0	1.0	20.0	1.10	25.7
54. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	0.	100.0	1.0	10.0	0.80	6.2
55. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	0.	100.0	1.0	10.0	0.88	7.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2501.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2327.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	968.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3207.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	336	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1153	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	536	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1288	1600	0.07	1	3
5. Winthrop North	*	135	92	3.0	1000	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	427	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1100	1600	0.07	1	3
8. Winthrop South	*	135	111	3.0	618	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1090	1600	0.07	1	3
10. South St	*	120	90	3.0	667	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	122	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	154	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	244	1600	0.07	1	3
15. Boston Ave. NB	*	135	109	3.0	352	1600	0.07	1	3
16. College Ave WB	*	135	107	3.0	386	1600	0.07	1	3
17. Main St. SB	*	120	78	3.0	642	1600	0.07	1	3
18. Harvard St. EB	*	120	76	3.0	660	1600	0.07	1	3
19. Main st. NB	*	120	78	3.0	477	1600	0.07	1	3
20. Harvard St. WB	*	120	76	3.0	591	1600	0.07	1	3
21. Broadway EB R	*	122	57	3.0	248	1600	0.07	1	3
22. Broadway EB TL	*	122	87	3.0	435	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
24. Medford St. NB	*	122	98	3.0	404	1600	0.07	1	3
25. Broadway St. WB	*	122	87	3.0	839	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	122	108	3.0	256	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	426	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	496	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	159	1600	0.07	1	3
32. Medford St. NWB	*	90	41	3.0	861	1600	0.07	1	3
33. School St. SB	*	90	75	3.0	325	1600	0.07	1	3
34. Medford St. SEB	*	90	41	3.0	528	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	860	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1373	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	782	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	535	1600	0.07	1	3
40. Washington St. EB	*	135	107	3.0	1222	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	0.07	1	3
43. Washington St. WB	*	135	102	3.0	1208	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	206	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	258	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	997	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	944	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	844	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	586	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	212	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	233	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:19:13

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	6.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	5.	7.	8.	7.	7.	6.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	6.	6.	6.	7.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	7.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	7.	6.	7.	8.	7.	7.	6.	6.
170.	5.	5.	6.	6.	6.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	6.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	7.	8.	7.	6.	6.	6.	7.	7.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
300.	6.	7.	6.	6.	6.	6.	6.	6.	7.	6.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	6.	6.	8.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	8.	6.	6.	5.
350.	7.	7.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	6.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	0	0	350	340	160	330	330	30	20	190	190	190	180	180	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	8.	8.	7.	7.	5.	6.	7.	8.	8.	7.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	7.	7.	8.	8.	8.	6.	5.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
130.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	7.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	5.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.
180.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	250	40	350	350	350	330	320	250	250	260	240	240	230	170	170	150	150	80	70	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

Bus_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:19:44

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756146.5	********	69.	312.	AG	0.	100.0	1.0	20.0	0.32	3.5
2. MVP West	756216.0	********	752537.7	********	5976.	218.	AG	0.	100.0	1.0	10.0	1.88	303.6
3. Boston Ave South	756271.8	********	756541.5	********	362.	132.	AG	0.	100.0	1.0	10.0	1.01	18.4
4. MVP East	756253.6	********	756733.5	********	675.	45.	AG	0.	100.0	1.0	20.0	1.05	34.3
5. Winthrop North	759327.2	********	759302.9	********	858.	358.	AG	0.	100.0	1.0	20.0	1.11	43.6
6. MVP East RT	759381.7	********	759526.3	********	145.	93.	AG	0.	100.0	1.0	10.0	0.53	7.4
7. MVP East T	759381.8	********	764458.8	********	5080.	92.	AG	0.	100.0	1.0	10.0	1.69	258.1
8. Winthrop South	759345.1	********	759316.5	********	1115.	181.	AG	0.	100.0	1.0	20.0	1.37	56.6
9. MVP West	759293.5	********	754323.3	********	4975.	273.	AG	0.	100.0	1.0	10.0	1.67	252.7
10. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
11. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	0.	100.0	1.0	10.0	0.70	7.8
12. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	0.	100.0	1.0	10.0	0.57	6.4
15. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	0.	100.0	1.0	10.0	1.42	68.2
16. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	0.	100.0	1.0	10.0	1.42	74.3
17. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	0.	100.0	1.0	10.0	1.30	95.6
18. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	0.	100.0	1.0	10.0	1.27	91.6
19. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	0.	100.0	1.0	10.0	0.97	14.3
20. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	0.	100.0	1.0	10.0	1.14	54.9
21. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	0.	100.0	1.0	10.0	1.11	36.9
23. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
24. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	0.	100.0	1.0	10.0	1.62	94.8
25. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	0.	100.0	1.0	20.0	1.07	28.3
26. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
27. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	0.	100.0	1.0	10.0	2.17	82.5
28. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	0.	100.0	1.0	10.0	1.01	14.5
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	0.	100.0	1.0	10.0	1.18	51.4
31. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	0.	100.0	1.0	10.0	0.38	2.4
32. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	0.	100.0	1.0	10.0	1.10	56.9
33. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	0.	100.0	1.0	10.0	1.84	86.8
34. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	0.	100.0	1.0	10.0	0.68	6.0
35. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	0.	100.0	1.0	20.0	1.01	17.1
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	0.	100.0	1.0	30.0	1.27	66.1
38. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	0.	100.0	1.0	20.0	1.73	70.5
40. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	0.	100.0	1.0	10.0	4.49	529.6
41. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	0.	100.0	1.0	10.0	0.16	1.6
42. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	0.	100.0	1.0	10.0	1.51	115.9
43. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	0.	100.0	1.0	30.0	1.21	52.3
44. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	0.	100.0	1.0	10.0	0.72	6.4
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	0.	100.0	1.0	20.0	1.29	74.2
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	0.	100.0	1.0	10.0	1.51	168.4
53. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	0.	100.0	1.0	20.0	1.10	25.7
54. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	0.	100.0	1.0	10.0	0.80	6.2
55. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	0.	100.0	1.0	10.0	0.88	7.5
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2501.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2327.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	968.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1146.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1857.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3207.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	0.0	1.0	42.0		

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LINK VARIABLES

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96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	0.0	1.0	66.0	

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1. Boston Ave. North	*	120	75	3.0	336	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1153	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	536	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1288	1600	0.07	1	3
5. Winthrop North	*	135	92	3.0	1000	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	427	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1100	1600	0.07	1	3
8. Winthrop South	*	135	111	3.0	618	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1090	1600	0.07	1	3
10. South St	*	120	90	3.0	667	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	122	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	154	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	244	1600	0.07	1	3
15. Boston Ave. NB	*	135	109	3.0	352	1600	0.07	1	3
16. College Ave WB	*	135	107	3.0	386	1600	0.07	1	3
17. Main St. SB	*	120	78	3.0	642	1600	0.07	1	3
18. Harvard St. EB	*	120	76	3.0	660	1600	0.07	1	3
19. Main st. NB	*	120	78	3.0	477	1600	0.07	1	3
20. Harvard St. WB	*	120	76	3.0	591	1600	0.07	1	3
21. Broadway EB R	*	122	57	3.0	248	1600	0.07	1	3
22. Broadway EB TL	*	122	87	3.0	435	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
24. Medford St. NB	*	122	98	3.0	404	1600	0.07	1	3
25. Broadway St. WB	*	122	87	3.0	839	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	122	108	3.0	256	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	426	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	496	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	159	1600	0.07	1	3
32. Medford St. NWB	*	90	41	3.0	861	1600	0.07	1	3
33. School St. SB	*	90	75	3.0	325	1600	0.07	1	3
34. Medford St. SEB	*	90	41	3.0	528	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	860	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1373	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	782	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	535	1600	0.07	1	3
40. Washington St. EB	*	135	107	3.0	1222	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	0.07	1	3
43. Washington St. WB	*	135	102	3.0	1208	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	206	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	258	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	997	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	944	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	844	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	586	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	212	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	233	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	6.	6.	7.	7.	8.	7.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	7.	7.	6.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	7.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	8.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	8.	7.	6.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	6.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	7.	6.	6.	6.	6.	5.	8.	8.	7.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	6.	6.	8.	8.	8.	6.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	5.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	5.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	5.	5.	5.	5.	5.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	5.	6.	6.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	7.	6.
300.	8.	8.	8.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	7.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	6.	7.	8.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	7.	8.	8.	6.	6.	6.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	7.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	6.	6.	7.	7.	8.	7.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	8.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	310	100	100	90	0	340	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	* 5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	8.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	9.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	9.	7.	9.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	8.	8.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	7.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	8.	8.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	7.	7.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	7.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	6.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	5.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	7.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	7.	6.	7.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	6.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	8.	8.	6.	8.	7.	8.	7.	7.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	9.	7.	9.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	280	170	150	150	150	130	130	110	120	110	320	110	80	70	290	60	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	8.	8.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	7.	6.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	8.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	7.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	6.	5.	8.	8.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	7.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	9.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	5.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	9.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	6.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	8.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	8.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	8.	8.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	0	330	340	320	320	320	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

Bus_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	0.	100.0	1.0	10.0	0.70	7.8
3. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	0.	100.0	1.0	10.0	0.57	6.4
6. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	0.	100.0	1.0	10.0	1.42	68.2
7. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	0.	100.0	1.0	10.0	1.42	74.3
8. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	0.	100.0	1.0	10.0	1.30	95.6
9. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	0.	100.0	1.0	10.0	1.27	91.6
10. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	0.	100.0	1.0	10.0	0.97	14.3
11. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	0.	100.0	1.0	10.0	1.14	54.9
12. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	0.	100.0	1.0	10.0	1.11	36.9
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	0.	100.0	1.0	10.0	1.62	94.8
16. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	0.	100.0	1.0	20.0	1.07	28.3
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	0.	100.0	1.0	10.0	2.17	82.5
19. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	0.	100.0	1.0	10.0	1.01	14.5
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	0.	100.0	1.0	10.0	1.18	51.4
22. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	0.	100.0	1.0	10.0	0.38	2.4
23. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	0.	100.0	1.0	10.0	1.10	56.9
24. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	0.	100.0	1.0	10.0	1.84	86.8
25. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	0.	100.0	1.0	10.0	0.68	6.0
26. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	0.	100.0	1.0	20.0	1.01	17.1
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	0.	100.0	1.0	30.0	1.27	66.1
29. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	0.	100.0	1.0	20.0	1.73	70.5
31. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	0.	100.0	1.0	10.0	4.49	529.6
32. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	0.	100.0	1.0	10.0	0.16	1.6
33. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	0.	100.0	1.0	10.0	1.51	115.9
34. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	0.	100.0	1.0	30.0	1.21	52.3
35. Msgr Obrien EB	769756.4	********	767221.9	********	3078.	305.	AG	0.	100.0	1.0	20.0	1.45	156.4
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.3	********	19.	189.	AG	0.	100.0	1.0	10.0	0.21	1.0
38. Msgr Obrien WB	769858.1	********	771361.0	********	1827.	125.	AG	0.	100.0	1.0	20.0	1.24	92.8
39. Msgr Obrien L	771462.2	********	767719.6	********	4544.	305.	AG	0.	100.0	1.0	10.0	3.79	230.8
40. Msgr Obrien WB T	771449.0	********	771329.4	********	145.	304.	AG	0.	100.0	1.0	30.0	0.70	7.4
41. Charlestown NB L	771477.7	********	770223.3	********	1977.	219.	AG	0.	100.0	1.0	10.0	1.62	100.4
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	0.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	0.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771753.2	********	208.	124.	AG	0.	100.0	1.0	20.0	0.89	10.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772093.8	********	1061.	31.	AG	0.	100.0	1.0	10.0	1.36	53.9
48. Charlestown SB TR	771535.3	********	774813.3	********	6102.	32.	AG	0.	100.0	1.0	10.0	3.44	310.0
49. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	0.	100.0	1.0	10.0	0.72	6.4
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	0.	100.0	1.0	20.0	1.29	74.2
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	0.	100.0	1.0	10.0	1.51	168.4
58. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	0.	100.0	1.0	20.0	1.10	25.7
59. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	0.	100.0	1.0	10.0	0.80	6.2
60. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	0.	100.0	1.0	10.0	0.88	7.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	0.0	1.0	42.0		

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1291.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	4028.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2807.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3337.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3504.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3475.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3294.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	667	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	122	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	154	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	244	1600	0.07	1	3
6. Boston Ave. NB	*	135	109	3.0	352	1600	0.07	1	3
7. College Ave WB	*	135	107	3.0	386	1600	0.07	1	3
8. Main St. SB	*	120	78	3.0	642	1600	0.07	1	3
9. Harvard St. EB	*	120	76	3.0	660	1600	0.07	1	3
10. Main st. NB	*	120	78	3.0	477	1600	0.07	1	3
11. Harvard St. WB	*	120	76	3.0	591	1600	0.07	1	3
12. Broadway EB R	*	122	57	3.0	248	1600	0.07	1	3
13. Broadway EB TL	*	122	87	3.0	435	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
15. Medford St. NB	*	122	98	3.0	404	1600	0.07	1	3
16. Broadway St. WB	*	122	87	3.0	839	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	122	108	3.0	256	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	426	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	496	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	159	1600	0.07	1	3
23. Medford St. NWB	*	90	41	3.0	861	1600	0.07	1	3
24. School St. SB	*	90	75	3.0	325	1600	0.07	1	3
25. Medford St. SEB	*	90	41	3.0	528	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	860	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1373	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	782	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	535	1600	0.07	1	3
31. Washington St. EB	*	135	107	3.0	1222	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	0.07	1	3
34. Washington St. WB	*	135	102	3.0	1208	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1697	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	34	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1457	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	553	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	1005	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	431	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1231	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	763	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	307	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	778	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	206	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	258	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	997	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	944	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:20: 0

57. First at Camb. R	*	120	73	3.0	844	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	586	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	212	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	233	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
10.	* 7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	* 7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	7.
30.	* 6.	7.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	8.	7.	7.
40.	* 6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	7.	7.	8.	7.	7.
50.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	* 6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
90.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	* 6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	* 5.	6.	8.	8.	8.	7.	7.	7.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	* 5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	8.	6.	6.	7.	6.	6.
140.	* 5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	* 6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	* 7.	7.	7.	5.	5.	7.	7.	7.	7.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	* 7.	7.	7.	6.	5.	7.	7.	8.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	* 7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
270.	* 6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	* 6.	6.	7.	6.	6.	8.	7.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	* 6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	* 6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
310.	* 6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.
320.	* 6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	* 6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
340.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
MAX	* 7.	7.	8.	8.	8.	8.	7.	8.	7.	6.	7.	7.	8.	7.	8.	8.	8.	8.	7.	7.
DEGR.	* 10	10	300	300	300	280	130	280	220	220	200	190	200	120	130	100	110	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	6.	6.	6.
10.	6.	7.	8.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.
20.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
30.	6.	6.	7.	7.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
50.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	7.	7.	7.	6.
60.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
70.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	6.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	5.	6.	7.	8.	8.	7.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	6.	7.	7.	7.	6.	6.	5.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	7.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	5.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	6.	6.	6.
MAX	6.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	8.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	330	130	330	150	150	150	220	230	190	190	150	150	150	140	140	140	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

Bus_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:20:18

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	0.	100.0	1.0	10.0	0.70	7.8
3. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	0.	100.0	1.0	10.0	0.57	6.4
6. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	0.	100.0	1.0	10.0	1.42	68.2
7. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	0.	100.0	1.0	10.0	1.42	74.3
8. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	0.	100.0	1.0	10.0	1.30	95.6
9. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	0.	100.0	1.0	10.0	1.27	91.6
10. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	0.	100.0	1.0	10.0	0.97	14.3
11. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	0.	100.0	1.0	10.0	1.14	54.9
12. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	0.	100.0	1.0	10.0	1.11	36.9
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	0.	100.0	1.0	10.0	1.62	94.8
16. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	0.	100.0	1.0	20.0	1.07	28.3
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	0.	100.0	1.0	10.0	2.17	82.5
19. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	0.	100.0	1.0	10.0	1.01	14.5
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	0.	100.0	1.0	10.0	1.18	51.4
22. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	0.	100.0	1.0	10.0	0.38	2.4
23. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	0.	100.0	1.0	10.0	1.10	56.9
24. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	0.	100.0	1.0	10.0	1.84	86.8
25. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	0.	100.0	1.0	10.0	0.68	6.0
26. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	0.	100.0	1.0	20.0	1.01	17.1
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	0.	100.0	1.0	30.0	1.27	66.1
29. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	0.	100.0	1.0	20.0	1.73	70.5
31. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	0.	100.0	1.0	10.0	4.49	529.6
32. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	0.	100.0	1.0	10.0	0.16	1.6
33. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	0.	100.0	1.0	10.0	1.51	115.9
34. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	0.	100.0	1.0	30.0	1.21	52.3
35. Msgr Obrien EB	769756.4	********	767221.9	********	3078.	305.	AG	0.	100.0	1.0	20.0	1.45	156.4
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.3	********	19.	189.	AG	0.	100.0	1.0	10.0	0.21	1.0
38. Msgr Obrien WB	769858.1	********	771361.0	********	1827.	125.	AG	0.	100.0	1.0	20.0	1.24	92.8
39. Msgr Obrien L	771462.2	********	767719.6	********	4544.	305.	AG	0.	100.0	1.0	10.0	3.79	230.8
40. Msgr Obrien WB T	771449.0	********	771329.4	********	145.	304.	AG	0.	100.0	1.0	30.0	0.70	7.4
41. Charlestown NB L	771477.7	********	770223.3	********	1977.	219.	AG	0.	100.0	1.0	10.0	1.62	100.4
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	0.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	0.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771753.2	********	208.	124.	AG	0.	100.0	1.0	20.0	0.89	10.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772093.8	********	1061.	31.	AG	0.	100.0	1.0	10.0	1.36	53.9
48. Charlestown SB TR	771535.3	********	774813.3	********	6102.	32.	AG	0.	100.0	1.0	10.0	3.44	310.0
49. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	0.	100.0	1.0	10.0	0.72	6.4
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	0.	100.0	1.0	20.0	1.29	74.2
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	0.	100.0	1.0	10.0	1.51	168.4
58. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	0.	100.0	1.0	20.0	1.10	25.7
59. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	0.	100.0	1.0	10.0	0.80	6.2
60. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	0.	100.0	1.0	10.0	0.88	7.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1291.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	4028.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2807.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3337.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3504.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3475.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3294.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	667	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	122	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	154	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	244	1600	0.07	1	3
6. Boston Ave. NB	*	135	109	3.0	352	1600	0.07	1	3
7. College Ave WB	*	135	107	3.0	386	1600	0.07	1	3
8. Main St. SB	*	120	78	3.0	642	1600	0.07	1	3
9. Harvard St. EB	*	120	76	3.0	660	1600	0.07	1	3
10. Main st. NB	*	120	78	3.0	477	1600	0.07	1	3
11. Harvard St. WB	*	120	76	3.0	591	1600	0.07	1	3
12. Broadway EB R	*	122	57	3.0	248	1600	0.07	1	3
13. Broadway EB TL	*	122	87	3.0	435	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
15. Medford St. NB	*	122	98	3.0	404	1600	0.07	1	3
16. Broadway St. WB	*	122	87	3.0	839	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	122	108	3.0	256	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	426	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	496	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	159	1600	0.07	1	3
23. Medford St. NWB	*	90	41	3.0	861	1600	0.07	1	3
24. School St. SB	*	90	75	3.0	325	1600	0.07	1	3
25. Medford St. SEB	*	90	41	3.0	528	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	860	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1373	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	782	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	535	1600	0.07	1	3
31. Washington St. EB	*	135	107	3.0	1222	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	0.07	1	3
34. Washington St. WB	*	135	102	3.0	1208	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1697	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	34	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1457	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	553	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	1005	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	431	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1231	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	763	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	307	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	778	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	206	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	258	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	997	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	944	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	844	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	586	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	212	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	233	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	10.	9.	8.	7.	6.	6.	8.	8.	7.	5.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	7.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.
30.	8.	8.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	6.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	7.	9.	10.	6.	5.
60.	10.	11.	11.	10.	10.	7.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	10.	10.	7.	6.
70.	11.	12.	10.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	9.	9.	11.	10.	8.	7.
80.	12.	11.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	7.	10.	10.	11.	10.	8.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	11.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	8.	6.	8.	11.	8.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	8.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	8.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	10.
160.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	9.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	10.	11.	9.	8.
200.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	11.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	9.	6.	5.	8.	8.	10.	9.	9.	10.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	9.	8.	9.	8.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	7.	7.	8.	8.	7.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	8.	7.	7.	10.	10.	10.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	9.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	8.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
330.	8.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	8.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	6.	5.	5.
MAX	12.	12.	11.	10.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	11.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	0	300	300	310	280	280	290	220	270	200	80	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	8.	6.	6.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	8.	8.	7.	6.	6.	8.	9.	8.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	7.	7.	7.	7.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	7.	8.	8.	8.	7.	10.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	8.	9.	8.	8.	8.	10.	9.	8.	6.	6.	5.	5.	6.	9.	9.	10.	10.	10.	6.	6.
80.	9.	9.	7.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	9.	9.	6.	7.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	8.	8.	6.	7.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	8.	8.	7.	8.	8.	6.	7.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	8.	7.	6.
140.	8.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	6.	5.	9.	9.	8.	8.	7.
170.	8.	7.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	6.	6.	7.	7.	7.	6.	5.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	6.	6.	7.	8.	8.	6.	6.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
210.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
220.	6.	7.	7.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	6.	7.	8.	9.	8.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	6.	6.	8.	8.	8.	9.	8.	8.	6.	5.	7.	8.	7.	9.	8.	11.	10.	10.	8.	8.
250.	6.	6.	7.	8.	8.	10.	10.	9.	6.	6.	8.	9.	8.	9.	10.	9.	9.	9.	7.	7.
260.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	8.	7.	9.	10.	6.	6.	7.	7.	7.
280.	5.	5.	5.	5.	5.	9.	9.	8.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	6.	9.	10.	6.	6.	7.	7.	7.
300.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	6.	6.	7.	7.	8.
340.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	7.	7.
350.	7.	8.	7.	6.	5.	8.	8.	9.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	8.	8.	8.	6.	6.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	9.	9.	8.	9.	8.	10.	10.	10.	8.	7.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	90	80	70	230	230	60	250	260	0	350	330	260	250	60	50	230	80	80	180	170

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC2 .

Bus_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:20:38

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761050.9	********	253.	282.	AG	0.	100.0	1.0	20.0	1.00	12.8
2. Boston Ave. SB LT	759658.7	********	759585.9	********	154.	332.	AG	0.	100.0	1.0	10.0	0.70	7.8
3. Boston Ave. SB R	759646.0	********	759616.7	********	63.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759600.5	********	79.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759590.5	********	125.	207.	AG	0.	100.0	1.0	10.0	0.57	6.4
6. Boston Ave. NB	759699.9	********	760339.0	********	1342.	152.	AG	0.	100.0	1.0	10.0	1.42	68.2
7. College Ave WB	759720.8	********	760569.0	********	1462.	35.	AG	0.	100.0	1.0	10.0	1.42	74.3
8. Main St. SB	762042.2	********	761464.3	********	1881.	342.	AG	0.	100.0	1.0	10.0	1.30	95.6
9. Harvard St. EB	762026.6	********	760444.3	********	1803.	241.	AG	0.	100.0	1.0	10.0	1.27	91.6
10. Main st. NB	762078.3	********	762167.6	********	282.	162.	AG	0.	100.0	1.0	10.0	0.97	14.3
11. Harvard St. WB	762091.8	********	763123.2	********	1080.	73.	AG	0.	100.0	1.0	10.0	1.14	54.9
12. Broadway EB R	762959.1	********	762888.1	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762299.0	********	727.	294.	AG	0.	100.0	1.0	10.0	1.11	36.9
14. Parking Lot	763003.3	********	762870.0	********	201.	222.	AG	0.	100.0	1.0	10.0	1.33	10.2
15. Medford St. NB	763093.0	********	764012.4	********	1867.	150.	AG	0.	100.0	1.0	10.0	1.62	94.8
16. Broadway St. WB	763115.6	********	763628.1	********	558.	113.	AG	0.	100.0	1.0	20.0	1.07	28.3
17. Dexter St. SWB	763101.5	********	763427.6	********	449.	47.	AG	0.	100.0	1.0	10.0	1.90	22.8
18. Medford St. SB	763008.3	********	762495.6	********	1624.	342.	AG	0.	100.0	1.0	10.0	2.17	82.5
19. Highland St. EB	763277.6	********	763015.1	********	286.	294.	AG	0.	100.0	1.0	10.0	1.01	14.5
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764256.7	********	1013.	114.	AG	0.	100.0	1.0	10.0	1.18	51.4
22. Central St. SB	763311.4	********	763333.0	********	47.	27.	AG	0.	100.0	1.0	10.0	0.38	2.4
23. Medford St. NWB	765022.2	********	765710.7	********	1121.	142.	AG	0.	100.0	1.0	10.0	1.10	56.9
24. School St. SB	765002.3	********	765740.2	********	1709.	26.	AG	0.	100.0	1.0	10.0	1.84	86.8
25. Medford St. SEB	764967.1	********	764893.9	********	118.	322.	AG	0.	100.0	1.0	10.0	0.68	6.0
26. Prospect SB	765830.6	********	766004.3	********	336.	31.	AG	0.	100.0	1.0	20.0	1.01	17.1
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765251.5	********	1302.	206.	AG	0.	100.0	1.0	30.0	1.27	66.1
29. Somerville EB	765797.5	********	765680.2	********	130.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766698.3	********	1388.	350.	AG	0.	100.0	1.0	20.0	1.73	70.5
31. Washington St. EB	766952.8	********	757233.0	********	*****	249.	AG	0.	100.0	1.0	10.0	4.49	529.6
32. McGrath Hwy NB2 L	767105.3	********	767109.5	********	31.	172.	AG	0.	100.0	1.0	10.0	0.16	1.6
33. McGrath Hwy NB2 T	767119.9	********	767399.9	********	2281.	173.	AG	0.	100.0	1.0	10.0	1.51	115.9
34. Washington St. WB	767129.9	********	768075.0	********	1030.	67.	AG	0.	100.0	1.0	30.0	1.21	52.3
35. Msgr Obrien EB	769756.4	********	767221.9	********	3078.	305.	AG	0.	100.0	1.0	20.0	1.45	156.4
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.3	********	19.	189.	AG	0.	100.0	1.0	10.0	0.21	1.0
38. Msgr Obrien WB	769858.1	********	771361.0	********	1827.	125.	AG	0.	100.0	1.0	20.0	1.24	92.8
39. Msgr Obrien L	771462.2	********	767719.6	********	4544.	305.	AG	0.	100.0	1.0	10.0	3.79	230.8
40. Msgr Obrien WB T	771449.0	********	771329.4	********	145.	304.	AG	0.	100.0	1.0	30.0	0.70	7.4
41. Charlestown NB L	771477.7	********	770223.3	********	1977.	219.	AG	0.	100.0	1.0	10.0	1.62	100.4
42. Charlestown NB T	771490.8	********	768999.9	********	3938.	219.	AG	0.	100.0	1.0	20.0	2.31	200.1
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	0.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:20:38

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771753.2	********	208.	124.	AG	0.	100.0	1.0	20.0	0.89	10.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772093.8	********	1061.	31.	AG	0.	100.0	1.0	10.0	1.36	53.9
48. Charlestown SB TR	771535.3	********	774813.3	********	6102.	32.	AG	0.	100.0	1.0	10.0	3.44	310.0
49. Camb. St at First L	770442.2	********	770344.4	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770317.2	********	126.	281.	AG	0.	100.0	1.0	10.0	0.72	6.4
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769270.3	********	1460.	302.	AG	0.	100.0	1.0	20.0	1.29	74.2
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770016.4	********	3316.	188.	AG	0.	100.0	1.0	10.0	1.51	168.4
58. First St. Ext. SB	770490.6	********	770679.4	********	505.	22.	AG	0.	100.0	1.0	20.0	1.10	25.7
59. First Ext. NB L	770548.4	********	770501.8	********	123.	202.	AG	0.	100.0	1.0	10.0	0.80	6.2
60. First Ext. NB T	770557.7	********	770501.2	********	149.	202.	AG	0.	100.0	1.0	10.0	0.88	7.5
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	667.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2487.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2869.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	986.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	755.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	755.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	579.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	796.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1137.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1296.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1078.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1229.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1697.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	94.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	843.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1339.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	568.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	657.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	973.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	597.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1306.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	518.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1088.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	516.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2057.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2591.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1373.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	979.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	535.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1324.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2222.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2222.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	535.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1324.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2318.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1291.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	4028.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2807.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3337.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3504.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3475.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3294.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1067.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	711.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2546.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2303.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2526.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	872.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

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1. South St	*	120	90	3.0	667	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	122	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	154	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	244	1600	0.07	1	3
6. Boston Ave. NB	*	135	109	3.0	352	1600	0.07	1	3
7. College Ave WB	*	135	107	3.0	386	1600	0.07	1	3
8. Main St. SB	*	120	78	3.0	642	1600	0.07	1	3
9. Harvard St. EB	*	120	76	3.0	660	1600	0.07	1	3
10. Main st. NB	*	120	78	3.0	477	1600	0.07	1	3
11. Harvard St. WB	*	120	76	3.0	591	1600	0.07	1	3
12. Broadway EB R	*	122	57	3.0	248	1600	0.07	1	3
13. Broadway EB TL	*	122	87	3.0	435	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	52	1600	0.07	1	3
15. Medford St. NB	*	122	98	3.0	404	1600	0.07	1	3
16. Broadway St. WB	*	122	87	3.0	839	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	122	108	3.0	256	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	426	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	496	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	159	1600	0.07	1	3
23. Medford St. NWB	*	90	41	3.0	861	1600	0.07	1	3
24. School St. SB	*	90	75	3.0	325	1600	0.07	1	3
25. Medford St. SEB	*	90	41	3.0	528	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	860	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1373	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	782	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	535	1600	0.07	1	3
31. Washington St. EB	*	135	107	3.0	1222	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	58	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	554	1600	0.07	1	3
34. Washington St. WB	*	135	102	3.0	1208	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1697	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	34	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1457	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	553	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	1005	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	431	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1231	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	763	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	307	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	778	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	206	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	258	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	997	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	944	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	844	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	586	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	212	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	233	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	10.	10.	9.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	9.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	9.	8.	5.	5.	5.	5.	5.	10.	10.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	7.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	12.	12.	11.
50.	10.	10.	10.	8.	8.	7.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	12.	12.
60.	10.	10.	9.	9.	8.	7.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	11.
100.	12.	12.	12.	10.	9.	7.	8.	11.	11.	11.	6.	6.	5.	6.	6.	13.	13.	13.	11.	10.
110.	14.	13.	12.	10.	9.	7.	8.	12.	12.	12.	7.	7.	7.	7.	7.	14.	14.	14.	11.	10.
120.	13.	12.	12.	9.	8.	7.	8.	11.	11.	11.	10.	10.	9.	10.	10.	14.	14.	13.	11.	10.
130.	11.	10.	10.	8.	8.	6.	6.	9.	9.	9.	12.	12.	11.	11.	12.	11.	11.	12.	10.	9.
140.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.	12.	12.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	11.	11.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	11.	11.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	10.	10.	8.	10.	10.	6.	8.	11.	12.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	10.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	6.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	11.	11.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	12.	12.	6.	6.	6.	5.	5.
290.	8.	8.	8.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	12.	10.	10.	11.	11.	11.	12.	12.	10.	11.	11.	7.	6.
310.	14.	14.	14.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	12.	13.	13.	7.	6.
320.	14.	14.	14.	9.	8.	9.	11.	13.	12.	11.	7.	6.	6.	7.	7.	11.	13.	12.	8.	7.
330.	13.	12.	12.	9.	8.	10.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	12.	11.	8.	7.
340.	12.	12.	11.	8.	8.	9.	10.	10.	9.	10.	5.	5.	5.	5.	5.	10.	11.	10.	8.	7.
350.	11.	11.	11.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	10.	10.	9.	8.	7.
MAX	14.	14.	14.	10.	9.	10.	11.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	14.	12.	12.
DEGR.	320	320	320	110	110	330	320	310	310	310	290	140	290	290	290	110	110	110	50	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	7.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	13.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	11.	11.	10.	9.	9.	5.	6.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	9.	7.	7.
90.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	9.	8.
120.	6.	7.	12.	11.	11.	8.	8.	9.	6.	6.	10.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	11.	7.	6.	10.	11.	14.	12.	12.
140.	5.	5.	7.	7.	7.	10.	11.	11.	8.	7.	10.	11.	13.	12.	12.
150.	5.	5.	6.	6.	6.	10.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	11.	11.
180.	5.	5.	6.	5.	5.	9.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	6.	6.	6.	5.	5.	9.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	9.	9.	9.	9.	8.	14.	14.	13.	12.	10.
210.	9.	9.	8.	6.	5.	9.	10.	11.	11.	10.	14.	14.	14.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	10.	10.	9.	9.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	9.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	9.
260.	10.	11.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	10.	10.
280.	10.	10.	9.	8.	8.	12.	12.	12.	11.	10.	7.	8.	10.	10.	10.
290.	10.	10.	11.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	11.	11.
300.	11.	11.	14.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	11.	11.
310.	12.	13.	15.	13.	13.	10.	10.	11.	10.	9.	6.	6.	8.	9.	9.
320.	11.	12.	14.	12.	12.	7.	8.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	13.	11.	12.	6.	7.	8.	8.	8.	5.	5.	5.	6.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	11.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	7.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	13.	12.	12.	13.	13.	12.	14.	14.	14.	12.	12.
DEGR.	20	230	310	310	310	290	290	290	220	220	210	210	130	130	130

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

1_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:31: 6

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756147.4	********	68.	312.	AG	0.	100.0	1.0	20.0	0.31	3.4
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756728.4	********	613.	132.	AG	0.	100.0	1.0	10.0	1.05	31.2
4. MVP East	756253.6	********	756741.0	********	685.	45.	AG	0.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759525.2	********	144.	92.	AG	0.	100.0	1.0	10.0	0.53	7.3
7. MVP East T	759381.8	********	764311.1	********	4932.	92.	AG	0.	100.0	1.0	10.0	1.64	250.5
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754627.0	********	4671.	273.	AG	0.	100.0	1.0	10.0	1.61	237.3
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	0.	100.0	1.0	10.0	0.72	8.0
12. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	0.	100.0	1.0	10.0	0.29	3.3
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	0.	100.0	1.0	10.0	1.37	61.6
16. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	0.	100.0	1.0	10.0	1.30	59.3
17. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	0.	100.0	1.0	10.0	1.30	94.5
18. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	0.	100.0	1.0	10.0	1.29	96.9
19. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	0.	100.0	1.0	10.0	1.01	19.9
20. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	0.	100.0	1.0	10.0	1.11	46.4
21. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	0.	100.0	1.0	10.0	0.39	4.7
22. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	0.	100.0	1.0	10.0	1.14	44.4
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	0.	100.0	1.0	20.0	1.09	33.7
26. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	0.	100.0	1.0	10.0	1.18	50.9
31. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	0.	100.0	1.0	10.0	1.21	92.5
33. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	0.	100.0	1.0	10.0	2.06	97.6
34. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	0.	100.0	1.0	10.0	0.76	5.9
35. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	0.	100.0	1.0	20.0	1.04	24.8
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	0.	100.0	1.0	30.0	1.37	82.6
38. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	0.	100.0	1.0	20.0	1.73	74.7
40. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.87	559.8
41. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	0.	100.0	1.0	10.0	0.17	1.7
42. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	0.	100.0	1.0	10.0	1.56	122.7
43. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	0.	100.0	1.0	30.0	1.30	65.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:31: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	0.	100.0	1.0	10.0	0.70	6.3
46. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	0.	100.0	1.0	10.0	1.68	83.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2520.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	995.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1875.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2265.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:31: 6

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	120	75	3.0	330	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	560	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1290	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	445	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1085	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	305	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	109	3.0	340	1600	0.07	1	3
16. College Ave WB	*	135	106	3.0	370	1600	0.07	1	3
17. Main St. SB	*	120	78	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	76	3.0	670	1600	0.07	1	3
19. Main st. NB	*	120	78	3.0	500	1600	0.07	1	3
20. Harvard St. WB	*	120	76	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	62	3.0	275	1600	0.07	1	3
22. Broadway EB TL	*	120	85	3.0	455	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
25. Broadway St. WB	*	120	85	3.0	871	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	495	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	80	39	3.0	870	1600	0.07	1	3
33. School St. SB	*	80	67	3.0	330	1600	0.07	1	3
34. Medford St. SEB	*	80	39	3.0	545	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	915	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	89	3.0	1425	1600	0.07	1	3
38. Somerville EB	*	120	60	3.0	780	1600	0.07	1	3
39. McGrath Highway SB1	*	135	116	3.0	570	1600	0.07	1	3
40. Washington St. EB	*	135	108	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	135	103	3.0	1245	1600	0.07	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	87	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	100	3.0	335	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	940	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:31: 6

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:31: 6

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
10.	9.	9.	10.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
20.	9.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	6.	6.	7.	6.
30.	10.	10.	10.	8.	7.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	7.	8.	8.
40.	9.	9.	10.	7.	7.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	9.	10.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	8.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	9.	9.	9.
90.	6.	6.	7.	6.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	8.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	6.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	9.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	10.	10.	10.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	9.	10.	9.
220.	9.	9.	9.	6.	5.	7.	7.	10.	8.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	7.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	7.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	7.	8.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	6.	6.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
360.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
MAX	10.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	30	30	30	330	320	300	300	230	230	30	210	210	210	140	150	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	9.	8.	8.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	11.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	10.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	9.	7.	7.	10.	11.	11.	9.	8.
140.	6.	6.	7.	7.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	9.	7.	7.	10.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	6.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	6.	9.	9.	11.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	9.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	9.	10.	9.	9.	6.	6.	8.	7.	7.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	8.	8.	6.	6.	8.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	10.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	8.	8.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	9.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	11.	10.	9.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	6.	6.	9.	9.	10.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	11.	10.	9.	10.	11.	12.	10.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	290	290	260	260	260	190	190	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	9.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	6.	7.	7.
30.	8.	9.	8.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	6.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	7.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	8.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	9.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	8.	8.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	9.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	7.
270.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	5.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	7.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	8.	8.	8.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	8.	8.	8.	8.	10.	10.	10.	9.	9.	9.	9.	9.
DEGR.	180	170	170	150	130	80	40	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

1_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:34:22

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756147.4	********	68.	312.	AG	0.	100.0	1.0	20.0	0.31	3.4
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756728.4	********	613.	132.	AG	0.	100.0	1.0	10.0	1.05	31.2
4. MVP East	756253.6	********	756741.0	********	685.	45.	AG	0.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759525.2	********	144.	92.	AG	0.	100.0	1.0	10.0	0.53	7.3
7. MVP East T	759381.8	********	764311.1	********	4932.	92.	AG	0.	100.0	1.0	10.0	1.64	250.5
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754627.0	********	4671.	273.	AG	0.	100.0	1.0	10.0	1.61	237.3
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	0.	100.0	1.0	10.0	0.72	8.0
12. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	0.	100.0	1.0	10.0	0.29	3.3
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	0.	100.0	1.0	10.0	1.37	61.6
16. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	0.	100.0	1.0	10.0	1.30	59.3
17. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	0.	100.0	1.0	10.0	1.30	94.5
18. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	0.	100.0	1.0	10.0	1.29	96.9
19. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	0.	100.0	1.0	10.0	1.01	19.9
20. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	0.	100.0	1.0	10.0	1.11	46.4
21. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	0.	100.0	1.0	10.0	0.39	4.7
22. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	0.	100.0	1.0	10.0	1.14	44.4
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	0.	100.0	1.0	20.0	1.09	33.7
26. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	0.	100.0	1.0	10.0	1.18	50.9
31. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	0.	100.0	1.0	10.0	1.21	92.5
33. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	0.	100.0	1.0	10.0	2.06	97.6
34. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	0.	100.0	1.0	10.0	0.76	5.9
35. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	0.	100.0	1.0	20.0	1.04	24.8
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	0.	100.0	1.0	30.0	1.37	82.6
38. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	0.	100.0	1.0	20.0	1.73	74.7
40. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.87	559.8
41. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	0.	100.0	1.0	10.0	0.17	1.7
42. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	0.	100.0	1.0	10.0	1.56	122.7
43. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	0.	100.0	1.0	30.0	1.30	65.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:34:22

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	0.	100.0	1.0	10.0	0.70	6.3
46. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	0.	100.0	1.0	10.0	1.68	83.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2520.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	995.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1875.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2265.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	120	75	3.0	330	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	560	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1290	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	445	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1085	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	305	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	109	3.0	340	1600	0.07	1	3
16. College Ave WB	*	135	106	3.0	370	1600	0.07	1	3
17. Main St. SB	*	120	78	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	76	3.0	670	1600	0.07	1	3
19. Main st. NB	*	120	78	3.0	500	1600	0.07	1	3
20. Harvard St. WB	*	120	76	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	62	3.0	275	1600	0.07	1	3
22. Broadway EB TL	*	120	85	3.0	455	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
25. Broadway St. WB	*	120	85	3.0	871	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	495	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	80	39	3.0	870	1600	0.07	1	3
33. School St. SB	*	80	67	3.0	330	1600	0.07	1	3
34. Medford St. SEB	*	80	39	3.0	545	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	915	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	89	3.0	1425	1600	0.07	1	3
38. Somerville EB	*	120	60	3.0	780	1600	0.07	1	3
39. McGrath Highway SB1	*	135	116	3.0	570	1600	0.07	1	3
40. Washington St. EB	*	135	108	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	135	103	3.0	1245	1600	0.07	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	87	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	100	3.0	335	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	940	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:34:22

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	7.	7.	6.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	5.	7.	8.	7.	7.	6.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	6.	6.	6.	6.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	7.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	6.	6.	7.	8.	7.	7.	6.	6.
170.	5.	5.	6.	6.	6.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	6.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	7.	8.	7.	6.	6.	6.	7.	6.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	6.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
300.	6.	7.	6.	6.	6.	6.	6.	6.	7.	6.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	7.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	8.	6.	6.	5.
350.	7.	7.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	20	0	350	350	140	160	330	330	30	20	200	190	200	180	180	150	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	8.	8.	7.	7.	5.	6.	7.	8.	8.	7.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	7.	7.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	6.	6.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	8.	7.	6.	8.	8.	9.	7.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	6.	5.	7.	7.	9.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	7.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.
180.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	9.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	250	40	350	350	350	320	330	250	260	260	240	240	230	170	170	150	150	80	70	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

1_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756147.4	********	68.	312.	AG	0.	100.0	1.0	20.0	0.31	3.4
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756728.4	********	613.	132.	AG	0.	100.0	1.0	10.0	1.05	31.2
4. MVP East	756253.6	********	756741.0	********	685.	45.	AG	0.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759525.2	********	144.	92.	AG	0.	100.0	1.0	10.0	0.53	7.3
7. MVP East T	759381.8	********	764311.1	********	4932.	92.	AG	0.	100.0	1.0	10.0	1.64	250.5
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754627.0	********	4671.	273.	AG	0.	100.0	1.0	10.0	1.61	237.3
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	0.	100.0	1.0	10.0	0.72	8.0
12. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	0.	100.0	1.0	10.0	0.29	3.3
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	0.	100.0	1.0	10.0	1.37	61.6
16. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	0.	100.0	1.0	10.0	1.30	59.3
17. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	0.	100.0	1.0	10.0	1.30	94.5
18. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	0.	100.0	1.0	10.0	1.29	96.9
19. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	0.	100.0	1.0	10.0	1.01	19.9
20. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	0.	100.0	1.0	10.0	1.11	46.4
21. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	0.	100.0	1.0	10.0	0.39	4.7
22. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	0.	100.0	1.0	10.0	1.14	44.4
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	0.	100.0	1.0	20.0	1.09	33.7
26. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	0.	100.0	1.0	10.0	1.18	50.9
31. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	0.	100.0	1.0	10.0	1.21	92.5
33. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	0.	100.0	1.0	10.0	2.06	97.6
34. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	0.	100.0	1.0	10.0	0.76	5.9
35. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	0.	100.0	1.0	20.0	1.04	24.8
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	0.	100.0	1.0	30.0	1.37	82.6
38. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	0.	100.0	1.0	20.0	1.73	74.7
40. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.87	559.8
41. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	0.	100.0	1.0	10.0	0.17	1.7
42. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	0.	100.0	1.0	10.0	1.56	122.7
43. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	0.	100.0	1.0	30.0	1.30	65.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	0.	100.0	1.0	10.0	0.70	6.3
46. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	0.	100.0	1.0	10.0	1.68	83.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	830.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2520.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	995.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1875.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2265.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	330	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	560	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1290	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	445	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1085	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	305	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	109	3.0	340	1600	0.07	1	3
16. College Ave WB	*	135	106	3.0	370	1600	0.07	1	3
17. Main St. SB	*	120	78	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	76	3.0	670	1600	0.07	1	3
19. Main st. NB	*	120	78	3.0	500	1600	0.07	1	3
20. Harvard St. WB	*	120	76	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	62	3.0	275	1600	0.07	1	3
22. Broadway EB TL	*	120	85	3.0	455	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
25. Broadway St. WB	*	120	85	3.0	871	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	495	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	80	39	3.0	870	1600	0.07	1	3
33. School St. SB	*	80	67	3.0	330	1600	0.07	1	3
34. Medford St. SEB	*	80	39	3.0	545	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	915	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	89	3.0	1425	1600	0.07	1	3
38. Somerville EB	*	120	60	3.0	780	1600	0.07	1	3
39. McGrath Highway SB1	*	135	116	3.0	570	1600	0.07	1	3
40. Washington St. EB	*	135	108	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	135	103	3.0	1245	1600	0.07	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	87	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	100	3.0	335	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	940	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:41:52

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:41:52

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	9.	8.	7.	7.	6.	6.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	9.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	6.	6.	8.	8.	8.	6.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	7.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	7.	6.	6.	6.	8.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	8.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	100	100	90	0	340	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	7.
20.	* 5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	8.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	8.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	8.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	7.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	5.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	7.	8.	7.	7.	6.	7.	9.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	6.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	6.	6.	6.	6.	7.	7.	7.	6.	6.	7.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	160	170	150	150	150	130	120	110	110	110	320	110	80	70	290	40	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	7.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	7.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	0	340	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

1_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:44:48

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	0.	100.0	1.0	10.0	0.72	8.0
3. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	0.	100.0	1.0	10.0	0.29	3.3
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	0.	100.0	1.0	10.0	1.37	61.6
7. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	0.	100.0	1.0	10.0	1.30	59.3
8. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	0.	100.0	1.0	10.0	1.30	94.5
9. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	0.	100.0	1.0	10.0	1.29	96.9
10. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	0.	100.0	1.0	10.0	1.01	19.9
11. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	0.	100.0	1.0	10.0	1.11	46.4
12. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	0.	100.0	1.0	10.0	0.39	4.7
13. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	0.	100.0	1.0	10.0	1.14	44.4
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	0.	100.0	1.0	20.0	1.09	33.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	0.	100.0	1.0	10.0	1.18	50.9
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	0.	100.0	1.0	10.0	1.21	92.5
24. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	0.	100.0	1.0	10.0	2.06	97.6
25. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	0.	100.0	1.0	10.0	0.76	5.9
26. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	0.	100.0	1.0	20.0	1.04	24.8
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	0.	100.0	1.0	30.0	1.37	82.6
29. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	0.	100.0	1.0	20.0	1.73	74.7
31. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.87	559.8
32. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	0.	100.0	1.0	10.0	0.17	1.7
33. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	0.	100.0	1.0	10.0	1.56	122.7
34. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	0.	100.0	1.0	30.0	1.30	65.6
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	0.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	0.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	0.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	0.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	0.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	0.	100.0	1.0	10.0	0.70	6.3
51. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	0.	100.0	1.0	10.0	1.68	83.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3235.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3470.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3250.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	305	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	109	3.0	340	1600	0.07	1	3
7. College Ave WB	*	135	106	3.0	370	1600	0.07	1	3
8. Main St. SB	*	120	78	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	76	3.0	670	1600	0.07	1	3
10. Main st. NB	*	120	78	3.0	500	1600	0.07	1	3
11. Harvard St. WB	*	120	76	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	62	3.0	275	1600	0.07	1	3
13. Broadway EB TL	*	120	85	3.0	455	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
16. Broadway St. WB	*	120	85	3.0	871	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	495	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	80	39	3.0	870	1600	0.07	1	3
24. School St. SB	*	80	67	3.0	330	1600	0.07	1	3
25. Medford St. SEB	*	80	39	3.0	545	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	915	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	89	3.0	1425	1600	0.07	1	3
29. Somerville EB	*	120	60	3.0	780	1600	0.07	1	3
30. McGrath Highway SB1	*	135	116	3.0	570	1600	0.07	1	3
31. Washington St. EB	*	135	108	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	135	103	3.0	1245	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	87	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	100	3.0	335	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	940	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
30.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	7.	7.	7.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	5.	6.	8.	8.	8.	7.	7.	7.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	7.	7.	7.	5.	5.	7.	7.	7.	7.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	7.	7.	7.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
270.	6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	7.	6.	6.	8.	7.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
310.	6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
320.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
340.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	8.	7.	8.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	10	300	300	300	280	130	280	220	220	200	200	200	120	120	100	110	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
20.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
50.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	6.	6.	6.	5.	6.	7.	7.	6.	6.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	6.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	5.	6.	7.	8.	8.	7.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	8.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	6.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
MAX	6.	7.	8.	8.	8.	8.	8.	8.	7.	7.	8.	8.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	140	330	140	150	150	150	220	230	190	190	150	150	150	130	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

1_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:46: 7

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	0.	100.0	1.0	10.0	0.72	8.0
3. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	0.	100.0	1.0	10.0	0.29	3.3
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	0.	100.0	1.0	10.0	1.37	61.6
7. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	0.	100.0	1.0	10.0	1.30	59.3
8. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	0.	100.0	1.0	10.0	1.30	94.5
9. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	0.	100.0	1.0	10.0	1.29	96.9
10. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	0.	100.0	1.0	10.0	1.01	19.9
11. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	0.	100.0	1.0	10.0	1.11	46.4
12. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	0.	100.0	1.0	10.0	0.39	4.7
13. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	0.	100.0	1.0	10.0	1.14	44.4
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	0.	100.0	1.0	20.0	1.09	33.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	0.	100.0	1.0	10.0	1.18	50.9
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	0.	100.0	1.0	10.0	1.21	92.5
24. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	0.	100.0	1.0	10.0	2.06	97.6
25. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	0.	100.0	1.0	10.0	0.76	5.9
26. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	0.	100.0	1.0	20.0	1.04	24.8
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	0.	100.0	1.0	30.0	1.37	82.6
29. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	0.	100.0	1.0	20.0	1.73	74.7
31. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.87	559.8
32. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	0.	100.0	1.0	10.0	0.17	1.7
33. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	0.	100.0	1.0	10.0	1.56	122.7
34. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	0.	100.0	1.0	30.0	1.30	65.6
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	0.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	0.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	0.	100.0	1.0	10.0	4.09	164.7

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	0.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	0.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	0.	100.0	1.0	10.0	0.70	6.3
51. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	0.	100.0	1.0	10.0	1.68	83.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	0.0	1.0	42.0		

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LINK VARIABLES

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96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3235.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3470.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3250.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	305	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	109	3.0	340	1600	0.07	1	3
7. College Ave WB	*	135	106	3.0	370	1600	0.07	1	3
8. Main St. SB	*	120	78	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	76	3.0	670	1600	0.07	1	3
10. Main st. NB	*	120	78	3.0	500	1600	0.07	1	3
11. Harvard St. WB	*	120	76	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	62	3.0	275	1600	0.07	1	3
13. Broadway EB TL	*	120	85	3.0	455	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
16. Broadway St. WB	*	120	85	3.0	871	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	495	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	80	39	3.0	870	1600	0.07	1	3
24. School St. SB	*	80	67	3.0	330	1600	0.07	1	3
25. Medford St. SEB	*	80	39	3.0	545	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	915	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	89	3.0	1425	1600	0.07	1	3
29. Somerville EB	*	120	60	3.0	780	1600	0.07	1	3
30. McGrath Highway SB1	*	135	116	3.0	570	1600	0.07	1	3
31. Washington St. EB	*	135	108	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	135	103	3.0	1245	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	87	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	100	3.0	335	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	940	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	10.	8.	7.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	8.	6.	6.	9.	8.	7.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	7.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	8.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	5.
60.	10.	11.	11.	11.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	11.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	11.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	7.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	9.
160.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	10.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	10.	10.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	6.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	9.	8.	9.	8.	8.	8.
230.	6.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	8.	7.	8.	8.	8.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	9.	10.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	8.	8.	7.	10.	10.	11.	9.	10.	6.	6.	10.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	9.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	9.	8.	7.	7.	10.	10.	9.	8.	8.	7.	7.	8.	9.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	11.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	0	300	310	310	280	280	290	220	230	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	* 8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	* 7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	* 7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	* 7.	8.	9.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	* 8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	5.	6.	9.	9.	10.	10.	10.	6.	6.
80.	* 9.	10.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	* 9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	* 8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	* 8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	* 8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	* 8.	8.	7.	8.	8.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	8.	7.	6.
140.	* 8.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	6.	5.	9.	9.	8.	8.	7.
170.	* 8.	8.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	* 7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	* 6.	6.	7.	7.	7.	6.	5.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
210.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	7.	8.	6.	7.	6.	10.	10.	9.	8.	8.
220.	* 6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	* 6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	* 6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	* 6.	6.	7.	8.	8.	11.	11.	10.	6.	6.	8.	9.	8.	10.	10.	9.	9.	9.	7.	7.
260.	* 5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	* 5.	5.	5.	6.	6.	10.	10.	10.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	* 5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	8.	7.	7.	9.	10.	6.	6.	7.	7.	7.
300.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	* 6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	6.	6.	7.	7.	8.
340.	* 6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	6.	7.
350.	* 8.	7.	7.	6.	5.	8.	8.	9.	8.	8.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	* 9.	10.	9.	9.	9.	11.	11.	10.	8.	8.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	* 80	80	60	230	230	260	260	260	0	350	330	260	250	50	60	230	80	80	180	180

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC16.

1_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 17:48: 5

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759584.7	********	157.	332.	AG	0.	100.0	1.0	10.0	0.72	8.0
3. Boston Ave. SB R	759646.0	********	759615.9	********	64.	332.	AG	0.	100.0	1.0	10.0	0.29	3.3
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760277.6	********	1213.	152.	AG	0.	100.0	1.0	10.0	1.37	61.6
7. College Ave WB	759720.8	********	760398.4	********	1168.	35.	AG	0.	100.0	1.0	10.0	1.30	59.3
8. Main St. SB	762042.2	********	761470.7	********	1860.	342.	AG	0.	100.0	1.0	10.0	1.30	94.5
9. Harvard St. EB	762026.6	********	760352.3	********	1908.	241.	AG	0.	100.0	1.0	10.0	1.29	96.9
10. Main st. NB	762078.3	********	762202.5	********	392.	162.	AG	0.	100.0	1.0	10.0	1.01	19.9
11. Harvard St. WB	762091.8	********	762963.2	********	913.	73.	AG	0.	100.0	1.0	10.0	1.11	46.4
12. Broadway EB R	762959.1	********	762873.5	********	93.	293.	AG	0.	100.0	1.0	10.0	0.39	4.7
13. Broadway EB TL	762965.1	********	762164.8	********	873.	294.	AG	0.	100.0	1.0	10.0	1.14	44.4
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763724.0	********	662.	113.	AG	0.	100.0	1.0	20.0	1.09	33.7
17. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764247.2	********	1002.	114.	AG	0.	100.0	1.0	10.0	1.18	50.9
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766140.3	********	1820.	142.	AG	0.	100.0	1.0	10.0	1.21	92.5
24. School St. SB	765002.3	********	765832.0	********	1922.	26.	AG	0.	100.0	1.0	10.0	2.06	97.6
25. Medford St. SEB	764967.1	********	764895.2	********	116.	322.	AG	0.	100.0	1.0	10.0	0.76	5.9
26. Prospect SB	765830.6	********	766083.1	********	488.	31.	AG	0.	100.0	1.0	20.0	1.04	24.8
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765108.2	********	1625.	206.	AG	0.	100.0	1.0	30.0	1.37	82.6
29. Somerville EB	765797.5	********	765682.4	********	128.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	766950.5	********	766683.3	********	1470.	350.	AG	0.	100.0	1.0	20.0	1.73	74.7
31. Washington St. EB	766952.8	********	756678.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.87	559.8
32. McGrath Hwy NB2 L	767105.3	********	767109.7	********	33.	172.	AG	0.	100.0	1.0	10.0	0.17	1.7
33. McGrath Hwy NB2 T	767119.9	********	767416.4	********	2415.	173.	AG	0.	100.0	1.0	10.0	1.56	122.7
34. Washington St. WB	767129.9	********	768314.5	********	1292.	67.	AG	0.	100.0	1.0	30.0	1.30	65.6
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	0.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	0.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	0.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 17:48: 5

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	0.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	0.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770319.6	********	124.	281.	AG	0.	100.0	1.0	10.0	0.70	6.3
51. First St NB TL	770491.0	********	770247.6	********	1637.	189.	AG	0.	100.0	1.0	10.0	1.68	83.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770765.1	********	167.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	985.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	741.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	741.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	566.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	770.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1150.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1295.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1780.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	875.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1381.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	570.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	945.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1340.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	520.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1110.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	520.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2145.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2665.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1425.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	570.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2370.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2370.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	570.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2375.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3235.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3470.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3250.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2475.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2420.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	305	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	109	3.0	340	1600	0.07	1	3
7. College Ave WB	*	135	106	3.0	370	1600	0.07	1	3
8. Main St. SB	*	120	78	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	76	3.0	670	1600	0.07	1	3
10. Main st. NB	*	120	78	3.0	500	1600	0.07	1	3
11. Harvard St. WB	*	120	76	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	62	3.0	275	1600	0.07	1	3
13. Broadway EB TL	*	120	85	3.0	455	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
16. Broadway St. WB	*	120	85	3.0	871	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	495	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	80	39	3.0	870	1600	0.07	1	3
24. School St. SB	*	80	67	3.0	330	1600	0.07	1	3
25. Medford St. SEB	*	80	39	3.0	545	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	915	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	89	3.0	1425	1600	0.07	1	3
29. Somerville EB	*	120	60	3.0	780	1600	0.07	1	3
30. McGrath Highway SB1	*	135	116	3.0	570	1600	0.07	1	3
31. Washington St. EB	*	135	108	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	100	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	100	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	135	103	3.0	1245	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	87	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	100	3.0	335	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	940	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	8.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	12.
60.	10.	10.	9.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	13.	13.	13.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	12.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	8.	11.	11.	11.	10.	10.	9.	10.	10.	14.	13.	13.	10.	10.
130.	10.	10.	10.	8.	7.	6.	6.	9.	9.	9.	11.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.	11.	11.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	10.	10.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	11.	6.	6.	6.	5.	5.
290.	8.	8.	7.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	9.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	11.	12.	12.	7.	6.
320.	14.	14.	13.	9.	8.	9.	10.	13.	11.	11.	6.	6.	6.	7.	7.	11.	12.	12.	8.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	8.	7.
340.	12.	11.	11.	8.	8.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
MAX	14.	14.	13.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	320	320	310	310	310	290	130	290	290	290	110	110	110	40	50

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	10.	9.	6.	5.
40.	10.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	8.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	9.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	10.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	11.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	9.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	13.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	9.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	9.	10.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	9.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	10.	10.	7.	8.	9.	10.	10.
290.	10.	10.	10.	9.	9.	12.	12.	13.	10.	10.	7.	8.	10.	10.	10.
300.	10.	11.	13.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	9.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	8.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	230	230	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

2A_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:56:43

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756140.3	********	77.	312.	AG	0.	100.0	1.0	20.0	0.48	3.9
2. MVP West	756216.0	********	753411.8	********	4556.	218.	AG	0.	100.0	1.0	10.0	1.52	231.5
3. Boston Ave South	756271.8	********	757967.7	********	2278.	132.	AG	0.	100.0	1.0	10.0	1.54	115.7
4. MVP East	756253.6	********	756406.0	********	214.	45.	AG	0.	100.0	1.0	20.0	0.86	10.9
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	0.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764206.9	********	4828.	92.	AG	0.	100.0	1.0	10.0	1.63	245.3
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	753949.8	********	5349.	273.	AG	0.	100.0	1.0	10.0	1.70	271.7
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:56:43

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	0.	100.0	1.0	10.0	0.71	6.5
46. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	0.	100.0	1.0	10.0	1.71	85.9
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	0.	100.0	1.0	10.0	0.81	6.4
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2415.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2320.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3270.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	340	1600	0.07	1	3
2. MVP West	*	113	53	3.0	1185	1600	0.07	1	3
3. Boston Ave South	*	113	83	3.0	545	1600	0.07	1	3
4. MVP East	*	113	53	3.0	1345	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1100	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1150	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
29. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
31. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	87	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	100	3.0	340	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	215	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:56:43

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
10.	9.	9.	10.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
20.	10.	9.	10.	8.	7.	6.	6.	9.	9.	8.	5.	5.	5.	5.	5.	6.	7.	6.	7.	6.
30.	9.	10.	10.	8.	7.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	7.	8.	8.
40.	8.	9.	10.	7.	7.	5.	6.	9.	9.	9.	7.	8.	8.	5.	5.	6.	7.	9.	9.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	7.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	10.	10.	6.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	9.	9.
90.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	7.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	10.	10.	8.	8.
130.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	9.	8.	8.
150.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	9.	10.	10.
210.	7.	7.	8.	5.	5.	7.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	10.	10.	10.
220.	9.	9.	9.	6.	5.	7.	8.	10.	9.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	10.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	7.	6.
240.	9.	9.	9.	7.	6.	8.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	8.	8.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	7.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	7.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
MAX	10.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	10.	11.	10.	10.
DEGR.	20	30	30	330	320	300	300	230	230	240	210	210	210	140	140	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	9.	8.	8.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	9.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	10.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	12.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	11.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	10.	11.	12.	9.	9.
140.	6.	6.	7.	7.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	9.	9.	7.	7.	10.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	6.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	6.	9.	9.	11.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	6.	8.	7.	7.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	9.	8.	6.	6.	8.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	10.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	9.	9.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	7.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	10.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	12.	10.	9.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	12.	10.	9.	10.	11.	12.	10.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	80	290	260	260	260	190	190	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	10.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	7.	7.	7.
30.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	8.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	7.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	9.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	10.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	9.	9.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	10.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	9.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
270.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	8.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	6.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	9.	9.	9.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	9.	8.	8.	8.	10.	10.	10.	9.	10.	9.	9.	9.
DEGR.	170	170	170	150	130	80	40	20	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

2A_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:58:56

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756140.3	********	77.	312.	AG	0.	100.0	1.0	20.0	0.48	3.9
2. MVP West	756216.0	********	753411.8	********	4556.	218.	AG	0.	100.0	1.0	10.0	1.52	231.5
3. Boston Ave South	756271.8	********	757967.7	********	2278.	132.	AG	0.	100.0	1.0	10.0	1.54	115.7
4. MVP East	756253.6	********	756406.0	********	214.	45.	AG	0.	100.0	1.0	20.0	0.86	10.9
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	0.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764206.9	********	4828.	92.	AG	0.	100.0	1.0	10.0	1.63	245.3
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	753949.8	********	5349.	273.	AG	0.	100.0	1.0	10.0	1.70	271.7
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:58:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	0.	100.0	1.0	10.0	0.71	6.5
46. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	0.	100.0	1.0	10.0	1.71	85.9
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	0.	100.0	1.0	10.0	0.81	6.4
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2415.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2320.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3270.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:58:56

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	340	1600	0.07	1	3
2. MVP West	*	113	53	3.0	1185	1600	0.07	1	3
3. Boston Ave South	*	113	83	3.0	545	1600	0.07	1	3
4. MVP East	*	113	53	3.0	1345	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1100	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1150	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
29. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
31. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	87	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	100	3.0	340	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	215	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 17:58:56

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	7.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	7.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	7.	7.	8.	7.	8.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	7.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	8.	8.	7.	6.	6.	6.	7.	7.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	7.	7.	7.	7.	7.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	7.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	7.	6.	6.	5.	6.	5.	5.	5.
300.	6.	7.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	7.	6.	7.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	7.	6.	8.	7.	6.	5.	6.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	9.	6.	6.	5.
350.	7.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	8.	9.	8.	7.	7.
DEGR.	10	0	350	340	140	160	340	330	20	30	190	190	190	180	170	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	7.	8.	7.	7.	5.	6.	7.	7.	8.	7.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	6.	7.	8.	8.	8.	6.	5.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
130.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	7.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	5.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.
180.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	6.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	7.	7.	6.	6.	7.	7.	8.	7.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	6.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	250	30	350	350	350	330	320	250	60	60	240	240	230	170	170	150	150	80	80	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

2A_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 0:48

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756140.3	********	*	77.	312.	AG	0.	100.0	1.0	20.0	0.48	3.9
2. MVP West	*	756216.0	********	753411.8	********	*	4556.	218.	AG	0.	100.0	1.0	10.0	1.52	231.5
3. Boston Ave South	*	756271.8	********	757967.7	********	*	2278.	132.	AG	0.	100.0	1.0	10.0	1.54	115.7
4. MVP East	*	756253.6	********	756406.0	********	*	214.	45.	AG	0.	100.0	1.0	20.0	0.86	10.9
5. Winthrop North	*	759327.2	********	759296.9	********	*	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	*	759381.7	********	759521.9	********	*	140.	92.	AG	0.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	*	759381.8	********	764206.9	********	*	4828.	92.	AG	0.	100.0	1.0	10.0	1.63	245.3
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	753949.8	********	*	5349.	273.	AG	0.	100.0	1.0	10.0	1.70	271.7
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	*	770442.2	********	770346.0	********	*	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 0:48

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	0.	100.0	1.0	10.0	0.71	6.5
46. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	0.	100.0	1.0	10.0	1.71	85.9
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	0.	100.0	1.0	10.0	0.81	6.4
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2415.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2320.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3270.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 0:48

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	340	1600	0.07	1	3
2. MVP West	*	113	53	3.0	1185	1600	0.07	1	3
3. Boston Ave South	*	113	83	3.0	545	1600	0.07	1	3
4. MVP East	*	113	53	3.0	1345	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1100	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1150	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
29. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
31. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	87	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	100	3.0	340	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	215	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 0:48

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 0:48

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	7.	6.	6.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	8.	8.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	8.	7.	7.	7.	7.	6.	6.	8.	8.	8.	6.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	7.	6.	6.	6.	8.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	7.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	7.	6.	6.	6.	7.	8.	8.	8.	8.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	100	100	90	0	0	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	* 5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	8.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	9.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	8.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	7.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	6.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	7.	8.	7.	7.	6.	7.	8.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	6.	6.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	160	170	150	150	130	130	120	110	110	110	320	110	80	70	290	40	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	7.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	7.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	0	340	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

2A_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 2:16

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	*	759658.7	********	759579.9	********	*	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	*	759646.0	********	759614.8	********	*	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	*	759636.4	********	759600.2	********	*	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	*	759648.1	********	759592.4	********	*	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	*	759699.9	********	760500.4	********	*	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	*	759720.8	********	760696.3	********	*	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	*	762042.2	********	761479.5	********	*	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	*	762026.6	********	760603.1	********	*	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	*	762078.3	********	762162.8	********	*	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	*	762091.8	********	763089.9	********	*	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	*	762959.1	********	762883.1	********	*	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	*	762965.1	********	762169.4	********	*	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	*	763093.0	********	764127.0	********	*	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	*	763115.6	********	763777.4	********	*	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	*	763101.5	********	763644.7	********	*	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	*	763008.3	********	762494.6	********	*	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	*	763277.6	********	763094.6	********	*	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	*	763301.4	********	762992.3	********	*	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	*	763328.5	********	763827.9	********	*	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	*	763311.4	********	763331.5	********	*	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	*	765022.2	********	765232.6	********	*	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	*	765002.3	********	765589.8	********	*	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	*	764967.1	********	764877.0	********	*	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	*	765830.6	********	766055.9	********	*	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	*	765870.1	********	766810.1	********	*	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	*	765828.4	********	765162.4	********	*	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	*	766950.5	********	766632.8	********	*	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	*	766952.8	********	757098.4	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	*	767119.9	********	767457.5	********	*	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	*	767129.9	********	768513.6	********	*	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	*	769756.4	********	767393.7	********	*	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.6	********	*	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	*	769858.1	********	771043.4	********	*	1441.	125.	AG	0.	100.0	1.0	20.0	1.18	73.2
39. Msgr Obrien L	*	771462.2	********	767835.4	********	*	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	*	771449.0	********	771332.6	********	*	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	*	771477.7	********	770263.9	********	*	1913.	219.	AG	0.	100.0	1.0	10.0	1.60	97.2
42. Charlestown NB T	*	771490.8	********	769053.8	********	*	3853.	219.	AG	0.	100.0	1.0	20.0	2.28	195.7
43. Charlestown NB R	*	771500.8	********	770695.7	********	*	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	*	771572.2	********	774298.4	********	*	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 2:16

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	0.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	0.	100.0	1.0	10.0	0.71	6.5
51. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	0.	100.0	1.0	10.0	1.71	85.9
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	0.	100.0	1.0	10.0	0.81	6.4
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3912.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2693.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3465.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
20. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
22. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1382	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	425	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1215	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	87	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	100	3.0	340	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	215	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	* 7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.
20.	* 7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
30.	* 6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	6.	7.	7.	7.	7.
50.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
90.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	* 5.	6.	8.	8.	7.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	* 5.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	* 5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	* 5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	* 6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	* 6.	6.	7.	5.	5.	6.	7.	7.	7.	6.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	* 7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	* 6.	6.	7.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
270.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	* 6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	* 6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	* 6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
310.	* 6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
320.	* 6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	* 6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.
340.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	* 7.	7.	8.	8.	8.	7.	7.	7.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	* 10	10	300	300	300	280	130	280	220	220	200	200	120	120	120	100	110	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.
30.	6.	6.	7.	7.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
50.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	6.	6.	6.	5.	7.	7.	7.	6.	6.
70.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	6.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	7.	7.	7.	6.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	8.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	330	140	330	150	150	150	220	230	190	190	150	150	150	130	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

2A_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 5:39

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771043.4	********	1441.	125.	AG	0.	100.0	1.0	20.0	1.18	73.2
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770263.9	********	1913.	219.	AG	0.	100.0	1.0	10.0	1.60	97.2
42. Charlestown NB T	771490.8	********	769053.8	********	3853.	219.	AG	0.	100.0	1.0	20.0	2.28	195.7
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 5:39

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	0.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	0.	100.0	1.0	10.0	0.71	6.5
51. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	0.	100.0	1.0	10.0	1.71	85.9
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	0.	100.0	1.0	10.0	0.81	6.4
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3912.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2693.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3465.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 5:39

1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
20. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
22. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1382	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	425	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1215	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	87	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	100	3.0	340	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18: 5:39

57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	215	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	9.	8.	7.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	7.	6.	6.	9.	8.	8.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	6.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	8.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	7.	10.	10.	6.	5.
60.	10.	11.	11.	11.	10.	7.	8.	8.	9.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	11.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	12.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
160.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	10.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	11.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	10.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	6.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	8.	7.	8.	8.	8.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	9.	8.	7.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	9.	7.	7.	9.	10.	10.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	7.	7.	8.	9.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	11.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	10	300	300	310	280	280	290	220	250	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	* 8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	* 7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	* 7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	* 7.	8.	9.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	* 8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	6.	6.	9.	9.	10.	10.	11.	6.	6.
80.	* 9.	10.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	* 9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	* 8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	* 8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	* 8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	* 8.	8.	7.	8.	8.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
140.	* 9.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	* 8.	8.	8.	8.	8.	6.	6.	6.	7.	7.	6.	6.	6.	6.	5.	9.	9.	8.	8.	8.
170.	* 8.	8.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	* 7.	7.	8.	7.	7.	6.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	* 6.	7.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
210.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	7.	6.	10.	10.	9.	8.	8.
220.	* 6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	* 6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	* 6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	* 6.	6.	7.	8.	8.	11.	10.	10.	6.	6.	8.	9.	8.	10.	10.	9.	9.	9.	7.	7.
260.	* 5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	* 5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	* 5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	8.	7.	7.	9.	10.	6.	6.	7.	7.	7.
300.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	* 6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	5.	6.	7.	7.	7.
340.	* 6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	6.	7.
350.	* 8.	8.	7.	6.	5.	8.	8.	10.	8.	8.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	* 9.	10.	9.	9.	9.	11.	11.	10.	8.	8.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	* 80	80	60	230	230	260	260	260	350	350	330	260	250	60	50	230	80	80	180	180

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC2 .

2A_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 18: 6:43

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761053.6	******** *	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	* 759658.7	********	759579.9	******** *	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	* 759646.0	********	759614.8	******** *	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	* 759636.4	********	759600.2	******** *	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	* 759648.1	********	759592.4	******** *	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	* 759699.9	********	760500.4	******** *	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	* 759720.8	********	760696.3	******** *	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	* 762042.2	********	761479.5	******** *	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	* 762026.6	********	760603.1	******** *	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	* 762078.3	********	762162.8	******** *	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	* 762091.8	********	763089.9	******** *	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	* 762959.1	********	762883.1	******** *	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	* 762965.1	********	762169.4	******** *	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	* 763093.0	********	764127.0	******** *	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	* 763115.6	********	763777.4	******** *	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	* 763101.5	********	763644.7	******** *	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	* 763008.3	********	762494.6	******** *	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	* 763277.6	********	763094.6	******** *	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	* 763301.4	********	762992.3	******** *	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	* 763328.5	********	763827.9	******** *	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	* 763311.4	********	763331.5	******** *	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	* 765022.2	********	765232.6	******** *	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	* 765002.3	********	765589.8	******** *	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	* 764967.1	********	764877.0	******** *	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	* 765830.6	********	766055.9	******** *	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	* 765870.1	********	766810.1	******** *	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	* 765828.4	********	765162.4	******** *	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	* 765797.5	********	765681.4	******** *	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	* 766950.5	********	766632.8	******** *	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	* 766952.8	********	757098.4	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	* 767119.9	********	767457.5	******** *	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	* 767129.9	********	768513.6	******** *	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	* 769756.4	********	767393.7	******** *	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.6	******** *	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	* 769858.1	********	771043.4	******** *	1441.	125.	AG	0.	100.0	1.0	20.0	1.18	73.2
39. Msgr Obrien L	* 771462.2	********	767835.4	******** *	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	* 771449.0	********	771332.6	******** *	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	* 771477.7	********	770263.9	******** *	1913.	219.	AG	0.	100.0	1.0	10.0	1.60	97.2
42. Charlestown NB T	* 771490.8	********	769053.8	******** *	3853.	219.	AG	0.	100.0	1.0	20.0	2.28	195.7
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774298.4	******** *	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	0.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770346.0	********	98.	280.	AG	0.	100.0	1.0	10.0	0.55	5.0
50. Camb. St at First TR	770441.3	********	770316.4	********	127.	281.	AG	0.	100.0	1.0	10.0	0.71	6.5
51. First St NB TL	770491.0	********	770239.6	********	1691.	189.	AG	0.	100.0	1.0	10.0	1.71	85.9
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770500.6	********	126.	202.	AG	0.	100.0	1.0	10.0	0.81	6.4
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1745.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3912.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2693.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3465.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3375.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2425.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
20. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
22. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1382	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	425	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1215	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	87	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	87	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	100	3.0	340	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 18: 6:43

57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	215	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	8.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	8.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	11.
60.	10.	10.	9.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	13.	13.	12.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	12.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	7.	11.	11.	11.	10.	10.	9.	10.	10.	14.	13.	13.	10.	10.
130.	10.	10.	10.	8.	7.	6.	6.	9.	9.	9.	11.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	7.	8.	8.	7.	7.	6.	6.	7.	7.	6.	11.	11.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	10.	10.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	11.	6.	6.	6.	5.	5.
290.	8.	8.	7.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	9.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	11.	12.	12.	7.	6.
320.	14.	14.	13.	9.	8.	9.	10.	13.	11.	11.	7.	6.	6.	7.	7.	11.	12.	12.	7.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	7.	7.
340.	12.	11.	11.	8.	8.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	8.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
MAX	14.	14.	13.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	320	320	310	310	310	290	130	290	290	290	110	110	110	50	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	10.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	8.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	10.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	10.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	10.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	8.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	14.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	9.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	9.	9.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	8.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	10.	10.	7.	7.	9.	10.	9.
290.	10.	10.	10.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	10.	10.
300.	10.	11.	13.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	8.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	230	230	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

2B_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:26:44

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756144.5	********	72.	312.	AG	0.	100.0	1.0	20.0	0.34	3.6
2. MVP West	756216.0	********	752532.9	********	5984.	218.	AG	0.	100.0	1.0	10.0	1.85	304.0
3. Boston Ave South	756271.8	********	756816.1	********	731.	132.	AG	0.	100.0	1.0	10.0	1.08	37.1
4. MVP East	756253.6	********	756677.8	********	596.	45.	AG	0.	100.0	1.0	20.0	1.04	30.3
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	0.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764154.8	********	4776.	92.	AG	0.	100.0	1.0	10.0	1.62	242.6
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754366.5	********	4932.	273.	AG	0.	100.0	1.0	10.0	1.64	250.5
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:26:44

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2545.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2390.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2275.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	77	3.0	340	1600	0.07	1	3
2. MVP West	*	120	67	3.0	1180	1600	0.07	1	3
3. Boston Ave South	*	120	77	3.0	545	1600	0.07	1	3
4. MVP East	*	120	67	3.0	1325	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1095	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1110	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
29. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
31. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

	RECEPTOR	X	Y	Z
51.	MVP/Winthrop E1	761376.2	********	6.0
52.	MVP/Winthrop E2	761375.3	********	6.0
53.	MVP/Winthrop E3	761375.3	********	6.0
54.	MVP/Winthrop E4	761388.2	********	6.0
55.	MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
10.	9.	9.	10.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
20.	10.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
30.	9.	10.	10.	8.	7.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	8.	8.	8.
40.	9.	9.	10.	7.	7.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	9.	10.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	8.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	10.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	9.	9.
90.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	7.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	10.	10.	10.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	10.	10.	10.
220.	9.	9.	9.	6.	5.	7.	7.	10.	9.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	7.	6.	7.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	7.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	8.	8.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
MAX	10.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	20	230	30	330	320	300	300	230	230	240	210	210	210	140	150	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	9.	8.	8.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	11.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	10.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	9.	7.	7.	10.	11.	11.	9.	8.
140.	6.	6.	7.	7.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	9.	7.	7.	10.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	6.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	6.	9.	9.	11.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	9.	10.	9.	9.	6.	6.	8.	7.	7.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	8.	8.	6.	6.	8.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	10.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	8.	9.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	9.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	12.	10.	9.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	11.	10.	9.	10.	11.	12.	10.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	290	290	260	260	260	190	190	160	160	110	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	10.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	7.	7.	7.
30.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	8.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	7.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	9.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	10.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	9.	9.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	10.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	9.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
270.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	8.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	5.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	9.	9.	9.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	9.	8.	8.	8.	10.	10.	10.	9.	10.	9.	9.	9.
DEGR.	170	170	170	150	130	80	40	20	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

2B_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:27:25

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756144.5	********	72.	312.	AG	0.	100.0	1.0	20.0	0.34	3.6
2. MVP West	756216.0	********	752532.9	********	5984.	218.	AG	0.	100.0	1.0	10.0	1.85	304.0
3. Boston Ave South	756271.8	********	756816.1	********	731.	132.	AG	0.	100.0	1.0	10.0	1.08	37.1
4. MVP East	756253.6	********	756677.8	********	596.	45.	AG	0.	100.0	1.0	20.0	1.04	30.3
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	0.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764154.8	********	4776.	92.	AG	0.	100.0	1.0	10.0	1.62	242.6
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754366.5	********	4932.	273.	AG	0.	100.0	1.0	10.0	1.64	250.5
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2545.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2390.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2275.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	77	3.0	340	1600	0.07	1	3
2. MVP West	*	120	67	3.0	1180	1600	0.07	1	3
3. Boston Ave South	*	120	77	3.0	545	1600	0.07	1	3
4. MVP East	*	120	67	3.0	1325	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1095	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1110	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
29. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
31. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	7.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	7.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	7.	7.	8.	7.	8.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	7.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	8.	8.	7.	6.	6.	6.	7.	7.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	7.	7.	7.	7.	7.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	7.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	7.	6.	6.	5.	6.	5.	5.	5.
300.	6.	7.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	7.	6.	7.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	7.	6.	8.	7.	6.	5.	6.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	9.	6.	6.	5.
350.	7.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	8.	9.	8.	7.	7.
DEGR.	10	0	350	340	140	160	340	330	20	30	190	190	190	180	170	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	7.	8.	7.	7.	5.	6.	7.	7.	8.	7.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	6.	7.	8.	8.	8.	6.	5.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
130.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	7.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	5.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.
180.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	6.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	7.	7.	6.	6.	7.	7.	8.	7.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	6.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	250	30	350	350	350	330	320	250	60	60	240	240	230	170	170	150	150	80	80	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

2B_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:28: 0

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756144.5	********	72.	312.	AG	0.	100.0	1.0	20.0	0.34	3.6
2. MVP West	756216.0	********	752532.9	********	5984.	218.	AG	0.	100.0	1.0	10.0	1.85	304.0
3. Boston Ave South	756271.8	********	756816.1	********	731.	132.	AG	0.	100.0	1.0	10.0	1.08	37.1
4. MVP East	756253.6	********	756677.8	********	596.	45.	AG	0.	100.0	1.0	20.0	1.04	30.3
5. Winthrop North	759327.2	********	759296.9	********	1071.	358.	AG	0.	100.0	1.0	20.0	1.17	54.4
6. MVP East RT	759381.7	********	759521.9	********	140.	92.	AG	0.	100.0	1.0	10.0	0.52	7.1
7. MVP East T	759381.8	********	764154.8	********	4776.	92.	AG	0.	100.0	1.0	10.0	1.62	242.6
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754366.5	********	4932.	273.	AG	0.	100.0	1.0	10.0	1.64	250.5
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
15. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
16. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
17. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
19. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
21. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
22. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
25. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
26. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
27. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
28. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
29. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
30. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
31. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
32. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
33. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
34. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
35. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
36. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
37. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
40. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
43. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:28: 0

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
50. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	855.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2545.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2390.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2275.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3225.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	120	77	3.0	340	1600	0.07	1	3
2. MVP West	*	120	67	3.0	1180	1600	0.07	1	3
3. Boston Ave South	*	120	77	3.0	545	1600	0.07	1	3
4. MVP East	*	120	67	3.0	1325	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	59	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	73	3.0	1095	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	73	3.0	1110	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
29. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
31. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
36. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:28: 0

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:28: 0

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	7.	6.	6.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	8.	8.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	8.	7.	7.	7.	7.	6.	6.	8.	8.	8.	6.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	7.	6.	6.	6.	8.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	7.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	6.	7.	8.	8.	8.	8.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	100	100	90	0	0	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	* 5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	9.	8.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	9.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	8.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	7.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	7.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	6.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	7.	8.	7.	7.	6.	7.	8.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	6.	6.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	160	170	150	150	130	130	120	110	110	110	320	110	80	70	180	50	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	7.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	350	340	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

2B_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:29:51

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	0.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:29:51

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0		

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3922.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2703.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3365.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
20. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
22. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	* 7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.
20.	* 7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
30.	* 6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	6.	7.	7.	7.	7.
50.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
90.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	* 5.	6.	8.	8.	7.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	* 5.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	* 5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	* 5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	* 6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	* 6.	6.	7.	5.	5.	6.	7.	7.	7.	6.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	* 7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	* 6.	6.	7.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
270.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	* 6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	* 6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	* 6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
310.	* 6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
320.	* 6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	* 6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.
340.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	* 7.	7.	8.	8.	8.	7.	7.	7.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	* 10	10	300	300	300	280	130	280	220	220	200	200	120	120	120	100	110	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.
30.	6.	6.	7.	7.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
50.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	6.	6.	6.	5.	7.	7.	7.	6.	6.
70.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	6.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	7.	7.	7.	6.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	8.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	330	140	330	150	150	150	220	230	190	190	150	150	150	130	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

2B_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:30:39

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	0.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 18:30:39

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3922.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2703.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3365.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
20. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
22. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

	COORDINATES (FT)		
RECEPTOR	X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	9.	8.	7.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	7.	6.	6.	9.	8.	8.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	6.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	8.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	7.	10.	10.	6.	5.
60.	10.	11.	11.	11.	10.	7.	8.	8.	9.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	11.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	12.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
160.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	10.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	11.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	10.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	6.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	8.	7.	8.	8.	8.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	9.	8.	7.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	9.	7.	7.	9.	10.	10.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	7.	7.	8.	9.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	11.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	10	300	300	310	280	280	290	220	250	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	* 8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	* 7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	* 7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	* 7.	8.	9.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	* 8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	6.	6.	9.	9.	10.	10.	11.	6.	6.
80.	* 9.	10.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	* 9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	* 8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	* 8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	* 8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	* 8.	8.	7.	8.	8.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
140.	* 9.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	* 8.	8.	8.	8.	8.	6.	6.	6.	7.	7.	6.	6.	6.	6.	5.	9.	9.	8.	8.	8.
170.	* 8.	8.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	* 7.	7.	8.	7.	7.	6.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	* 6.	7.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
210.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	7.	6.	10.	10.	9.	8.	8.
220.	* 6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	* 6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	* 6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	* 6.	6.	7.	8.	8.	11.	10.	10.	6.	6.	8.	9.	8.	10.	10.	9.	9.	9.	7.	7.
260.	* 5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	* 5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	* 5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	8.	7.	7.	9.	10.	6.	6.	7.	7.	7.
300.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	* 6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	5.	6.	7.	7.	7.
340.	* 6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	6.	7.
350.	* 8.	8.	7.	6.	5.	8.	8.	10.	8.	8.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	* 9.	10.	9.	9.	9.	11.	11.	10.	8.	8.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	* 80	80	60	230	230	260	260	260	350	350	330	260	250	60	50	230	80	80	180	180

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC2 .

2B_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 18:31:30

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759600.2	********	80.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.4	********	121.	207.	AG	0.	100.0	1.0	10.0	0.55	6.2
6. Boston Ave. NB	759699.9	********	760500.4	********	1681.	152.	AG	0.	100.0	1.0	10.0	1.52	85.4
7. College Ave WB	759720.8	********	760696.3	********	1681.	35.	AG	0.	100.0	1.0	10.0	1.52	85.4
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760603.1	********	1622.	241.	AG	0.	100.0	1.0	10.0	1.25	82.4
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763089.9	********	1046.	73.	AG	0.	100.0	1.0	10.0	1.14	53.1
12. Broadway EB R	762959.1	********	762883.1	********	83.	293.	AG	0.	100.0	1.0	10.0	0.34	4.2
13. Broadway EB TL	762965.1	********	762169.4	********	868.	294.	AG	0.	100.0	1.0	10.0	1.15	44.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764127.0	********	2099.	150.	AG	0.	100.0	1.0	10.0	1.70	106.7
16. Broadway St. WB	763115.6	********	763777.4	********	721.	113.	AG	0.	100.0	1.0	20.0	1.11	36.6
17. Dexter St. SWB	763101.5	********	763644.7	********	747.	47.	AG	0.	100.0	1.0	10.0	5.69	38.0
18. Medford St. SB	763008.3	********	762494.6	********	1628.	342.	AG	0.	100.0	1.0	10.0	2.31	82.7
19. Highland St. EB	763277.6	********	763094.6	********	200.	294.	AG	0.	100.0	1.0	10.0	0.94	10.1
20. Central St NB	763301.4	********	762992.3	********	701.	206.	AG	0.	100.0	1.0	10.0	1.09	35.6
21. Highland St. WB	763328.5	********	763827.9	********	545.	114.	AG	0.	100.0	1.0	10.0	1.06	27.7
22. Central St. SB	763311.4	********	763331.5	********	44.	27.	AG	0.	100.0	1.0	10.0	0.29	2.2
23. Medford St. NWB	765022.2	********	765232.6	********	343.	142.	AG	0.	100.0	1.0	10.0	0.98	17.4
24. School St. SB	765002.3	********	765589.8	********	1361.	26.	AG	0.	100.0	1.0	10.0	1.48	69.1
25. Medford St. SEB	764967.1	********	764877.0	********	146.	322.	AG	0.	100.0	1.0	10.0	0.62	7.4
26. Prospect SB	765830.6	********	766055.9	********	436.	31.	AG	0.	100.0	1.0	20.0	1.03	22.1
27. Sommerville WB	765870.1	********	766810.1	********	1047.	116.	AG	0.	100.0	1.0	20.0	1.52	53.2
28. Prospect NB	765828.4	********	765162.4	********	1503.	206.	AG	0.	100.0	1.0	30.0	1.33	76.3
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766632.8	********	1748.	350.	AG	0.	100.0	1.0	20.0	2.12	88.8
31. Washington St. EB	766952.8	********	757098.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.32	537.0
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767457.5	********	2750.	173.	AG	0.	100.0	1.0	10.0	1.74	139.7
34. Washington St. WB	767129.9	********	768513.6	********	1509.	67.	AG	0.	100.0	1.0	30.0	1.41	76.6
35. Msgr Obrien EB	769756.4	********	767393.7	********	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	0.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771332.6	********	141.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 18:31:30

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769457.7	********	1238.	302.	AG	0.	100.0	1.0	20.0	1.24	62.9
55. MsgrOb/East WB T	770636.9	********	770763.0	********	164.	130.	AG	0.	100.0	1.0	20.0	0.69	8.3
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2880.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1055.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	761.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	761.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	636.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1255.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1190.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1747.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	892.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	74.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	569.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1355.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	530.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1120.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	525.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2140.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2645.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1430.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	565.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1295.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	565.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1295.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2365.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3922.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2703.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3215.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3365.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	710.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 18:31:30

1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	236	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	630	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	96	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	74	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	245	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	435	1600	0.07	1	3
20. Central St NB	*	90	59	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	490	1600	0.07	1	3
22. Central St. SB	*	90	59	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	875	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	335	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	555	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	905	1600	0.07	1	3
27. Sommerville WB	*	120	103	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1430	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	565	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	555	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	980	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	955	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	925	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 18:31:30

57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	8.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	11.
60.	10.	10.	9.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	13.	13.	12.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	12.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	7.	11.	11.	11.	10.	10.	9.	10.	10.	14.	13.	13.	10.	10.
130.	11.	10.	10.	8.	7.	6.	6.	9.	9.	9.	11.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	7.	8.	8.	7.	7.	6.	6.	7.	7.	6.	11.	11.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	10.	11.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	11.	6.	6.	6.	5.	5.
290.	8.	8.	7.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	9.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	11.	12.	12.	7.	6.
320.	14.	14.	14.	9.	8.	9.	10.	13.	11.	11.	7.	6.	6.	7.	7.	11.	12.	12.	7.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	8.	7.
340.	12.	11.	11.	8.	8.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
MAX	14.	14.	14.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	320	320	310	310	310	290	130	290	290	290	110	110	110	50	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	9.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	11.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	8.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	11.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	10.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	10.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	10.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	8.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	13.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	10.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	9.	10.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	8.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	10.	10.	7.	8.	9.	10.	9.
290.	10.	10.	10.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	10.	10.
300.	10.	11.	13.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	230	220	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

3_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 3:17

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.3	********	*	71.	312.	AG	0.	100.0	1.0	20.0	0.32	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	0.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756718.7	********	*	654.	45.	AG	0.	100.0	1.0	20.0	1.05	33.2
5. Winthrop North	*	759327.2	********	759301.9	********	*	896.	358.	AG	0.	100.0	1.0	20.0	1.12	45.5
6. MVP East RT	*	759381.7	********	759541.7	********	*	160.	93.	AG	0.	100.0	1.0	10.0	0.59	8.1
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759318.8	********	*	1024.	181.	AG	0.	100.0	1.0	20.0	1.32	52.0
9. MVP West	*	759293.5	********	754605.5	********	*	4693.	273.	AG	0.	100.0	1.0	10.0	1.62	238.4
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759581.4	********	*	164.	332.	AG	0.	100.0	1.0	10.0	0.75	8.3
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.9	********	*	120.	207.	AG	0.	100.0	1.0	10.0	0.56	6.1
15. Boston Ave. NB	*	759699.9	********	760416.4	********	*	1505.	152.	AG	0.	100.0	1.0	10.0	1.43	76.4
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761426.7	********	*	2003.	342.	AG	0.	100.0	1.0	10.0	1.34	101.8
18. Harvard St. EB	*	762026.6	********	760202.6	********	*	2078.	241.	AG	0.	100.0	1.0	10.0	1.31	105.6
19. Main st. NB	*	762078.3	********	762174.5	********	*	303.	162.	AG	0.	100.0	1.0	10.0	0.99	15.4
20. Harvard St. WB	*	762091.8	********	762827.2	********	*	770.	73.	AG	0.	100.0	1.0	10.0	1.08	39.1
21. Broadway EB R	*	762959.1	********	762880.3	********	*	86.	293.	AG	0.	100.0	1.0	10.0	0.36	4.4
22. Broadway EB TL	*	762965.1	********	762043.6	********	*	1006.	294.	AG	0.	100.0	1.0	10.0	1.18	51.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764224.2	********	*	2297.	150.	AG	0.	100.0	1.0	10.0	1.82	116.7
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763696.2	********	*	818.	47.	AG	0.	100.0	1.0	10.0	6.15	41.6
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764294.7	********	*	1054.	114.	AG	0.	100.0	1.0	10.0	1.19	53.6
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766359.9	********	*	2178.	142.	AG	0.	100.0	1.0	10.0	1.26	110.6
33. School St. SB	*	765002.3	********	765834.3	********	*	1927.	26.	AG	0.	100.0	1.0	10.0	1.94	97.9
34. Medford St. SEB	*	764967.1	********	764889.7	********	*	125.	322.	AG	0.	100.0	1.0	10.0	0.79	6.4
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765185.8	********	*	1450.	206.	AG	0.	100.0	1.0	30.0	1.31	73.7
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756778.6	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.83	554.4
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	0.	100.0	1.0	10.0	0.15	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768275.4	********	*	1249.	67.	AG	0.	100.0	1.0	30.0	1.29	63.4
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	0.	100.0	1.0	10.0	1.60	78.6
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	0.	100.0	1.0	20.0	1.22	60.2
50. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	0.	100.0	1.0	20.0	0.68	8.2
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	0.	100.0	1.0	10.0	0.79	6.1
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2510.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2320.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1900.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3245.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. Boston Ave. North	*	120	75	3.0	345	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1285	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	985	1600	0.07	1	3
6. MVP East RT	*	135	61	3.0	480	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	110	3.0	625	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1075	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	310	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	231	1600	0.07	1	3
15. Boston Ave. NB	*	135	107	3.0	390	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
17. Main St. SB	*	120	79	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	75	3.0	700	1600	0.07	1	3
19. Main st. NB	*	120	79	3.0	475	1600	0.07	1	3
20. Harvard St. WB	*	120	75	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	57	3.0	275	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	455	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	435	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	80	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	500	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	80	40	3.0	885	1600	0.07	1	3
33. School St. SB	*	80	66	3.0	350	1600	0.07	1	3
34. Medford St. SEB	*	80	40	3.0	550	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1415	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
40. Washington St. EB	*	135	108	3.0	1255	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
43. Washington St. WB	*	135	103	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	340	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	945	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	910	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	210	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 3:17

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
10.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
20.	9.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
30.	9.	10.	10.	8.	7.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	8.	8.	8.
40.	8.	9.	10.	7.	7.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	9.	9.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	8.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	9.	9.	9.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	6.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	8.	8.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	9.	10.	10.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	9.	10.	9.
220.	9.	9.	9.	6.	5.	7.	7.	10.	8.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
360.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
MAX	9.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	20	30	30	320	320	300	300	230	230	30	210	210	210	140	150	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	9.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	11.	9.	8.	6.	7.	11.	11.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	11.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	8.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	10.	11.	11.	9.	9.
140.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	9.	7.	7.	11.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	5.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	5.	8.	8.	8.	8.	8.	8.	5.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	6.	7.	9.	9.	8.	6.	5.	9.	9.	11.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	9.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	6.	8.	7.	7.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	8.	8.	6.	6.	8.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	10.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	8.	8.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	9.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	11.	10.	9.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	6.	6.	9.	9.	10.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	11.	10.	9.	10.	11.	12.	11.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	80	290	260	260	260	190	190	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	9.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	6.	7.	7.
30.	8.	9.	8.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	6.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	7.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	8.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	9.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	8.	8.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	9.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	7.
270.	5.	5.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	6.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	7.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	8.	8.	8.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	8.	8.	8.	8.	10.	10.	10.	9.	9.	9.	9.	9.
DEGR.	180	170	170	150	130	80	40	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

3_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 3:45

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756145.3	********	*	71.	312.	AG	0.	100.0	1.0	20.0	0.32	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	0.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756718.7	********	*	654.	45.	AG	0.	100.0	1.0	20.0	1.05	33.2
5. Winthrop North	*	759327.2	********	759301.9	********	*	896.	358.	AG	0.	100.0	1.0	20.0	1.12	45.5
6. MVP East RT	*	759381.7	********	759541.7	********	*	160.	93.	AG	0.	100.0	1.0	10.0	0.59	8.1
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759318.8	********	*	1024.	181.	AG	0.	100.0	1.0	20.0	1.32	52.0
9. MVP West	*	759293.5	********	754605.5	********	*	4693.	273.	AG	0.	100.0	1.0	10.0	1.62	238.4
10. South St	*	761297.7	********	761053.6	********	*	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	*	759658.7	********	759581.4	********	*	164.	332.	AG	0.	100.0	1.0	10.0	0.75	8.3
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759592.9	********	*	120.	207.	AG	0.	100.0	1.0	10.0	0.56	6.1
15. Boston Ave. NB	*	759699.9	********	760416.4	********	*	1505.	152.	AG	0.	100.0	1.0	10.0	1.43	76.4
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761426.7	********	*	2003.	342.	AG	0.	100.0	1.0	10.0	1.34	101.8
18. Harvard St. EB	*	762026.6	********	760202.6	********	*	2078.	241.	AG	0.	100.0	1.0	10.0	1.31	105.6
19. Main st. NB	*	762078.3	********	762174.5	********	*	303.	162.	AG	0.	100.0	1.0	10.0	0.99	15.4
20. Harvard St. WB	*	762091.8	********	762827.2	********	*	770.	73.	AG	0.	100.0	1.0	10.0	1.08	39.1
21. Broadway EB R	*	762959.1	********	762880.3	********	*	86.	293.	AG	0.	100.0	1.0	10.0	0.36	4.4
22. Broadway EB TL	*	762965.1	********	762043.6	********	*	1006.	294.	AG	0.	100.0	1.0	10.0	1.18	51.1
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764224.2	********	*	2297.	150.	AG	0.	100.0	1.0	10.0	1.82	116.7
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763696.2	********	*	818.	47.	AG	0.	100.0	1.0	10.0	6.15	41.6
27. Medford St. SB	*	763008.3	********	762486.1	********	*	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764294.7	********	*	1054.	114.	AG	0.	100.0	1.0	10.0	1.19	53.6
31. Central St. SB	*	763311.4	********	763329.8	********	*	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	*	765022.2	********	766359.9	********	*	2178.	142.	AG	0.	100.0	1.0	10.0	1.26	110.6
33. School St. SB	*	765002.3	********	765834.3	********	*	1927.	26.	AG	0.	100.0	1.0	10.0	1.94	97.9
34. Medford St. SEB	*	764967.1	********	764889.7	********	*	125.	322.	AG	0.	100.0	1.0	10.0	0.79	6.4
35. Prospect SB	*	765830.6	********	766069.7	********	*	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765185.8	********	*	1450.	206.	AG	0.	100.0	1.0	30.0	1.31	73.7
38. Somerville EB	*	765797.5	********	765681.4	********	*	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756778.6	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.83	554.4
41. McGrath Hwy NB2 L	*	767105.3	********	767109.3	********	*	30.	172.	AG	0.	100.0	1.0	10.0	0.15	1.5
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768275.4	********	*	1249.	67.	AG	0.	100.0	1.0	30.0	1.29	63.4
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 3:45

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	0.	100.0	1.0	10.0	1.60	78.6
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	0.	100.0	1.0	20.0	1.22	60.2
50. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	0.	100.0	1.0	20.0	0.68	8.2
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	0.	100.0	1.0	10.0	0.79	6.1
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2510.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2320.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1900.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3245.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	345	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1285	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	985	1600	0.07	1	3
6. MVP East RT	*	135	61	3.0	480	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	110	3.0	625	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1075	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	310	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	231	1600	0.07	1	3
15. Boston Ave. NB	*	135	107	3.0	390	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
17. Main St. SB	*	120	79	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	75	3.0	700	1600	0.07	1	3
19. Main st. NB	*	120	79	3.0	475	1600	0.07	1	3
20. Harvard St. WB	*	120	75	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	57	3.0	275	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	455	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	435	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	80	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	500	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	80	40	3.0	885	1600	0.07	1	3
33. School St. SB	*	80	66	3.0	350	1600	0.07	1	3
34. Medford St. SEB	*	80	40	3.0	550	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1415	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
40. Washington St. EB	*	135	108	3.0	1255	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
43. Washington St. WB	*	135	103	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	340	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	945	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	910	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	210	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 3:45

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	8.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	7.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.	8.	8.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	6.	7.	8.	7.	8.	6.	6.
170.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	6.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	7.	8.	7.	6.	6.	6.	7.	6.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	7.	6.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	6.	5.	5.	5.
300.	6.	6.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	7.	6.	7.	7.	6.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	6.	6.	8.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	9.	6.	6.	5.
350.	7.	7.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	8.	9.	8.	7.	7.
DEGR.	20	0	0	340	140	160	330	330	30	20	200	190	190	180	170	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	* 7.	8.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	* 8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	* 8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	* 8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	* 8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	* 8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	* 7.	8.	8.	7.	7.	5.	6.	8.	8.	8.	7.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	* 6.	7.	7.	6.	6.	5.	5.	6.	6.	7.	8.	8.	8.	6.	5.	7.	7.	9.	8.	8.
90.	* 6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	7.	8.	8.	8.	7.
110.	* 6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
130.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	* 5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
150.	* 6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	7.	7.
160.	* 5.	6.	8.	8.	7.	7.	7.	7.	6.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	* 5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.
180.	* 5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	* 5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.
200.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.
210.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	7.	7.	7.
220.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
230.	* 6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	* 8.	8.	8.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	* 8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	* 8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	* 8.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	* 7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	* 7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	* 7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	* 7.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	* 7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	* 7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	* 7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	* 7.	7.	9.	8.	8.	7.	7.	8.	7.	7.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	* 7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	* 8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	* 250	250	350	350	350	330	330	250	250	260	240	240	230	170	170	150	150	80	70	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

3_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 4: 5

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756145.3	********	71.	312.	AG	0.	100.0	1.0	20.0	0.32	3.6
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756806.3	********	718.	132.	AG	0.	100.0	1.0	10.0	1.07	36.5
4. MVP East	756253.6	********	756718.7	********	654.	45.	AG	0.	100.0	1.0	20.0	1.05	33.2
5. Winthrop North	759327.2	********	759301.9	********	896.	358.	AG	0.	100.0	1.0	20.0	1.12	45.5
6. MVP East RT	759381.7	********	759541.7	********	160.	93.	AG	0.	100.0	1.0	10.0	0.59	8.1
7. MVP East T	759381.8	********	764437.1	********	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	759345.1	********	759318.8	********	1024.	181.	AG	0.	100.0	1.0	20.0	1.32	52.0
9. MVP West	759293.5	********	754605.5	********	4693.	273.	AG	0.	100.0	1.0	10.0	1.62	238.4
10. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
11. Boston Ave. SB LT	759658.7	********	759581.4	********	164.	332.	AG	0.	100.0	1.0	10.0	0.75	8.3
12. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759592.9	********	120.	207.	AG	0.	100.0	1.0	10.0	0.56	6.1
15. Boston Ave. NB	759699.9	********	760416.4	********	1505.	152.	AG	0.	100.0	1.0	10.0	1.43	76.4
16. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	762042.2	********	761426.7	********	2003.	342.	AG	0.	100.0	1.0	10.0	1.34	101.8
18. Harvard St. EB	762026.6	********	760202.6	********	2078.	241.	AG	0.	100.0	1.0	10.0	1.31	105.6
19. Main st. NB	762078.3	********	762174.5	********	303.	162.	AG	0.	100.0	1.0	10.0	0.99	15.4
20. Harvard St. WB	762091.8	********	762827.2	********	770.	73.	AG	0.	100.0	1.0	10.0	1.08	39.1
21. Broadway EB R	762959.1	********	762880.3	********	86.	293.	AG	0.	100.0	1.0	10.0	0.36	4.4
22. Broadway EB TL	762965.1	********	762043.6	********	1006.	294.	AG	0.	100.0	1.0	10.0	1.18	51.1
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764224.2	********	2297.	150.	AG	0.	100.0	1.0	10.0	1.82	116.7
25. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	763101.5	********	763696.2	********	818.	47.	AG	0.	100.0	1.0	10.0	6.15	41.6
27. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764294.7	********	1054.	114.	AG	0.	100.0	1.0	10.0	1.19	53.6
31. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
32. Medford St. NWB	765022.2	********	766359.9	********	2178.	142.	AG	0.	100.0	1.0	10.0	1.26	110.6
33. School St. SB	765002.3	********	765834.3	********	1927.	26.	AG	0.	100.0	1.0	10.0	1.94	97.9
34. Medford St. SEB	764967.1	********	764889.7	********	125.	322.	AG	0.	100.0	1.0	10.0	0.79	6.4
35. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765185.8	********	1450.	206.	AG	0.	100.0	1.0	30.0	1.31	73.7
38. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
39. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	766952.8	********	756778.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.83	554.4
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.15	1.5
42. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	767129.9	********	768275.4	********	1249.	67.	AG	0.	100.0	1.0	30.0	1.29	63.4
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 4: 5

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	0.	100.0	1.0	10.0	1.60	78.6
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	0.	100.0	1.0	20.0	1.22	60.2
50. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	0.	100.0	1.0	20.0	0.68	8.2
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	0.	100.0	1.0	10.0	0.79	6.1
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2510.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2320.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1145.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1900.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2260.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3245.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	345	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1285	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	985	1600	0.07	1	3
6. MVP East RT	*	135	61	3.0	480	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	110	3.0	625	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1075	1600	0.07	1	3
10. South St	*	120	90	3.0	665	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	310	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	231	1600	0.07	1	3
15. Boston Ave. NB	*	135	107	3.0	390	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
17. Main St. SB	*	120	79	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	75	3.0	700	1600	0.07	1	3
19. Main st. NB	*	120	79	3.0	475	1600	0.07	1	3
20. Harvard St. WB	*	120	75	3.0	575	1600	0.07	1	3
21. Broadway EB R	*	120	57	3.0	275	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	455	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	435	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	80	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	500	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	80	40	3.0	885	1600	0.07	1	3
33. School St. SB	*	80	66	3.0	350	1600	0.07	1	3
34. Medford St. SEB	*	80	40	3.0	550	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1415	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
40. Washington St. EB	*	135	108	3.0	1255	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
43. Washington St. WB	*	135	103	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	340	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	945	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	910	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	210	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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TIME : 19: 4: 5

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	8.	8.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	8.	7.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	7.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	9.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	9.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	8.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	8.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	8.	7.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	9.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	100	100	90	0	340	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	9.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	9.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	7.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	6.	8.	7.	7.	6.	7.	9.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	7.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	7.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	270	160	150	150	150	130	120	110	110	110	320	110	80	70	290	40	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	7.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	7.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	0	340	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

3_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 4:58

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759581.4	********	164.	332.	AG	0.	100.0	1.0	10.0	0.75	8.3
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.9	********	120.	207.	AG	0.	100.0	1.0	10.0	0.56	6.1
6. Boston Ave. NB	759699.9	********	760416.4	********	1505.	152.	AG	0.	100.0	1.0	10.0	1.43	76.4
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761426.7	********	2003.	342.	AG	0.	100.0	1.0	10.0	1.34	101.8
9. Harvard St. EB	762026.6	********	760202.6	********	2078.	241.	AG	0.	100.0	1.0	10.0	1.31	105.6
10. Main st. NB	762078.3	********	762174.5	********	303.	162.	AG	0.	100.0	1.0	10.0	0.99	15.4
11. Harvard St. WB	762091.8	********	762827.2	********	770.	73.	AG	0.	100.0	1.0	10.0	1.08	39.1
12. Broadway EB R	762959.1	********	762880.3	********	86.	293.	AG	0.	100.0	1.0	10.0	0.36	4.4
13. Broadway EB TL	762965.1	********	762043.6	********	1006.	294.	AG	0.	100.0	1.0	10.0	1.18	51.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764224.2	********	2297.	150.	AG	0.	100.0	1.0	10.0	1.82	116.7
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763696.2	********	818.	47.	AG	0.	100.0	1.0	10.0	6.15	41.6
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764294.7	********	1054.	114.	AG	0.	100.0	1.0	10.0	1.19	53.6
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766359.9	********	2178.	142.	AG	0.	100.0	1.0	10.0	1.26	110.6
24. School St. SB	765002.3	********	765834.3	********	1927.	26.	AG	0.	100.0	1.0	10.0	1.94	97.9
25. Medford St. SEB	764967.1	********	764889.7	********	125.	322.	AG	0.	100.0	1.0	10.0	0.79	6.4
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765185.8	********	1450.	206.	AG	0.	100.0	1.0	30.0	1.31	73.7
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756778.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.83	554.4
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.15	1.5
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768275.4	********	1249.	67.	AG	0.	100.0	1.0	30.0	1.29	63.4
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	0.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	0.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771333.0	********	140.	304.	AG	0.	100.0	1.0	30.0	0.68	7.1
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	0.	100.0	1.0	10.0	1.60	78.6
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	0.	100.0	1.0	20.0	1.22	60.2
55. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	0.	100.0	1.0	20.0	0.68	8.2
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	0.	100.0	1.0	10.0	0.79	6.1
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0		

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3230.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	310	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	231	1600	0.07	1	3
6. Boston Ave. NB	*	135	107	3.0	390	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
8. Main St. SB	*	120	79	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	75	3.0	700	1600	0.07	1	3
10. Main st. NB	*	120	79	3.0	475	1600	0.07	1	3
11. Harvard St. WB	*	120	75	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	57	3.0	275	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	455	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	435	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	80	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	500	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	80	40	3.0	885	1600	0.07	1	3
24. School St. SB	*	80	66	3.0	350	1600	0.07	1	3
25. Medford St. SEB	*	80	40	3.0	550	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1415	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
31. Washington St. EB	*	135	108	3.0	1255	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
34. Washington St. WB	*	135	103	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	975	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	340	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	945	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	910	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	210	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	* 7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	* 7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	* 6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	* 6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	7.	7.	7.	7.	7.
50.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
90.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	* 6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	* 5.	6.	8.	8.	8.	7.	7.	7.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	* 5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	* 5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	* 6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	* 7.	7.	7.	5.	5.	7.	7.	7.	7.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	* 7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	* 7.	7.	7.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
270.	* 6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	* 6.	6.	7.	6.	6.	8.	7.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	* 6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	* 6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
310.	* 6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
320.	* 6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	* 6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
340.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	* 7.	7.	8.	8.	8.	8.	7.	8.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	* 10	10	300	300	300	280	130	280	220	220	200	200	200	120	120	100	110	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
20.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.
30.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
50.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	7.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	5.	7.	7.	9.	8.	8.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	8.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	6.	6.	8.	8.	7.	7.	7.	7.	6.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	8.	8.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	140	140	130	150	150	150	220	230	180	170	150	150	150	130	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

3_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 5:19

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761053.6	********	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	759658.7	********	759581.4	********	164.	332.	AG	0.	100.0	1.0	10.0	0.75	8.3
3. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	759648.1	********	759592.9	********	120.	207.	AG	0.	100.0	1.0	10.0	0.56	6.1
6. Boston Ave. NB	759699.9	********	760416.4	********	1505.	152.	AG	0.	100.0	1.0	10.0	1.43	76.4
7. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	762042.2	********	761426.7	********	2003.	342.	AG	0.	100.0	1.0	10.0	1.34	101.8
9. Harvard St. EB	762026.6	********	760202.6	********	2078.	241.	AG	0.	100.0	1.0	10.0	1.31	105.6
10. Main st. NB	762078.3	********	762174.5	********	303.	162.	AG	0.	100.0	1.0	10.0	0.99	15.4
11. Harvard St. WB	762091.8	********	762827.2	********	770.	73.	AG	0.	100.0	1.0	10.0	1.08	39.1
12. Broadway EB R	762959.1	********	762880.3	********	86.	293.	AG	0.	100.0	1.0	10.0	0.36	4.4
13. Broadway EB TL	762965.1	********	762043.6	********	1006.	294.	AG	0.	100.0	1.0	10.0	1.18	51.1
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764224.2	********	2297.	150.	AG	0.	100.0	1.0	10.0	1.82	116.7
16. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	763101.5	********	763696.2	********	818.	47.	AG	0.	100.0	1.0	10.0	6.15	41.6
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	763328.5	********	764294.7	********	1054.	114.	AG	0.	100.0	1.0	10.0	1.19	53.6
22. Central St. SB	763311.4	********	763329.8	********	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	765022.2	********	766359.9	********	2178.	142.	AG	0.	100.0	1.0	10.0	1.26	110.6
24. School St. SB	765002.3	********	765834.3	********	1927.	26.	AG	0.	100.0	1.0	10.0	1.94	97.9
25. Medford St. SEB	764967.1	********	764889.7	********	125.	322.	AG	0.	100.0	1.0	10.0	0.79	6.4
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765185.8	********	1450.	206.	AG	0.	100.0	1.0	30.0	1.31	73.7
29. Somerville EB	765797.5	********	765681.4	********	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	766952.8	********	756778.6	********	*****	249.	AG	0.	100.0	1.0	10.0	4.83	554.4
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.15	1.5
33. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	767129.9	********	768275.4	********	1249.	67.	AG	0.	100.0	1.0	30.0	1.29	63.4
35. Msgr Obrien EB	769756.4	********	767436.6	********	2818.	305.	AG	0.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771103.5	********	1514.	125.	AG	0.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771333.0	********	140.	304.	AG	0.	100.0	1.0	30.0	0.68	7.1
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 5:19

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	0.	100.0	1.0	10.0	1.60	78.6
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	0.	100.0	1.0	20.0	1.22	60.2
55. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	0.	100.0	1.0	20.0	0.68	8.2
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	0.	100.0	1.0	10.0	0.79	6.1
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3230.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	310	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	231	1600	0.07	1	3
6. Boston Ave. NB	*	135	107	3.0	390	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
8. Main St. SB	*	120	79	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	75	3.0	700	1600	0.07	1	3
10. Main st. NB	*	120	79	3.0	475	1600	0.07	1	3
11. Harvard St. WB	*	120	75	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	57	3.0	275	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	455	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	435	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	80	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	500	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	80	40	3.0	885	1600	0.07	1	3
24. School St. SB	*	80	66	3.0	350	1600	0.07	1	3
25. Medford St. SEB	*	80	40	3.0	550	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1415	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
31. Washington St. EB	*	135	108	3.0	1255	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
34. Washington St. WB	*	135	103	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	975	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	340	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	945	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	910	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	210	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	10.	8.	7.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	8.	6.	6.	9.	8.	7.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	7.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	8.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	5.
60.	10.	11.	11.	10.	10.	7.	8.	8.	9.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	10.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	11.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	7.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	8.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	9.
160.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	9.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	6.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	6.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	8.	7.	8.	8.	7.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	9.	10.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	8.	8.	7.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	8.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	10.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	10	300	310	310	280	280	290	220	270	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	8.	6.	6.	8.	8.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	7.	8.	9.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	5.	6.	9.	9.	10.	10.	10.	6.	6.
80.	9.	10.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	8.	8.	7.	8.	8.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	8.	7.	6.
140.	8.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.	6.	6.	6.	6.	5.	9.	9.	8.	8.	7.
170.	8.	7.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	6.	6.	7.	7.	7.	6.	5.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	6.	6.	7.	8.	8.	6.	6.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
210.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	7.	8.	6.	6.	6.	10.	10.	9.	8.	8.
220.	6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	6.	6.	7.	8.	8.	10.	10.	10.	6.	6.	8.	9.	8.	9.	10.	9.	9.	9.	7.	7.
260.	5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	6.	9.	10.	6.	6.	7.	7.	7.
300.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	6.	6.	7.	7.	7.
340.	6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	6.	7.
350.	8.	8.	7.	6.	5.	8.	8.	9.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	8.	8.	8.	6.	6.	8.	8.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	9.	10.	9.	9.	9.	11.	11.	10.	8.	7.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	80	80	60	230	230	260	260	260	350	0	330	260	250	50	60	230	80	80	180	180

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC16.

3_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19: 6:30

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761053.6	******** *	250.	282.	AG	0.	100.0	1.0	20.0	1.00	12.7
2. Boston Ave. SB LT	* 759658.7	********	759581.4	******** *	164.	332.	AG	0.	100.0	1.0	10.0	0.75	8.3
3. Boston Ave. SB R	* 759646.0	********	759615.6	******** *	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	* 759636.4	********	759601.0	******** *	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	* 759648.1	********	759592.9	******** *	120.	207.	AG	0.	100.0	1.0	10.0	0.56	6.1
6. Boston Ave. NB	* 759699.9	********	760416.4	******** *	1505.	152.	AG	0.	100.0	1.0	10.0	1.43	76.4
7. College Ave WB	* 759720.8	********	760634.0	******** *	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	* 762042.2	********	761426.7	******** *	2003.	342.	AG	0.	100.0	1.0	10.0	1.34	101.8
9. Harvard St. EB	* 762026.6	********	760202.6	******** *	2078.	241.	AG	0.	100.0	1.0	10.0	1.31	105.6
10. Main st. NB	* 762078.3	********	762174.5	******** *	303.	162.	AG	0.	100.0	1.0	10.0	0.99	15.4
11. Harvard St. WB	* 762091.8	********	762827.2	******** *	770.	73.	AG	0.	100.0	1.0	10.0	1.08	39.1
12. Broadway EB R	* 762959.1	********	762880.3	******** *	86.	293.	AG	0.	100.0	1.0	10.0	0.36	4.4
13. Broadway EB TL	* 762965.1	********	762043.6	******** *	1006.	294.	AG	0.	100.0	1.0	10.0	1.18	51.1
14. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	* 763093.0	********	764224.2	******** *	2297.	150.	AG	0.	100.0	1.0	10.0	1.82	116.7
16. Broadway St. WB	* 763115.6	********	763796.8	******** *	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	* 763101.5	********	763696.2	******** *	818.	47.	AG	0.	100.0	1.0	10.0	6.15	41.6
18. Medford St. SB	* 763008.3	********	762486.1	******** *	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	* 763277.6	********	763024.7	******** *	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	* 763301.4	********	762790.7	******** *	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	* 763328.5	********	764294.7	******** *	1054.	114.	AG	0.	100.0	1.0	10.0	1.19	53.6
22. Central St. SB	* 763311.4	********	763329.8	******** *	40.	27.	AG	0.	100.0	1.0	10.0	0.32	2.0
23. Medford St. NWB	* 765022.2	********	766359.9	******** *	2178.	142.	AG	0.	100.0	1.0	10.0	1.26	110.6
24. School St. SB	* 765002.3	********	765834.3	******** *	1927.	26.	AG	0.	100.0	1.0	10.0	1.94	97.9
25. Medford St. SEB	* 764967.1	********	764889.7	******** *	125.	322.	AG	0.	100.0	1.0	10.0	0.79	6.4
26. Prospect SB	* 765830.6	********	766069.7	******** *	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	* 765828.4	********	765185.8	******** *	1450.	206.	AG	0.	100.0	1.0	30.0	1.31	73.7
29. Somerville EB	* 765797.5	********	765681.4	******** *	129.	296.	AG	0.	100.0	1.0	20.0	0.54	6.6
30. McGrath Highway SB1	* 766950.5	********	766682.5	******** *	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	* 766952.8	********	756778.6	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.83	554.4
32. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.15	1.5
33. McGrath Hwy NB2 T	* 767119.9	********	767407.7	******** *	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	* 767129.9	********	768275.4	******** *	1249.	67.	AG	0.	100.0	1.0	30.0	1.29	63.4
35. Msgr Obrien EB	* 769756.4	********	767436.6	******** *	2818.	305.	AG	0.	100.0	1.0	20.0	1.40	143.1
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.6	******** *	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	* 769858.1	********	771103.5	******** *	1514.	125.	AG	0.	100.0	1.0	20.0	1.19	76.9
39. Msgr Obrien L	* 771462.2	********	767835.4	******** *	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	* 771449.0	********	771333.0	******** *	140.	304.	AG	0.	100.0	1.0	30.0	0.68	7.1
41. Charlestown NB L	* 771477.7	********	770230.1	******** *	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	* 771490.8	********	769033.6	******** *	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774298.4	******** *	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19: 6:30

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770260.9	********	1548.	189.	AG	0.	100.0	1.0	10.0	1.60	78.6
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769502.3	********	1185.	302.	AG	0.	100.0	1.0	20.0	1.22	60.2
55. MsgrOb/East WB T	770636.9	********	770761.1	********	162.	130.	AG	0.	100.0	1.0	20.0	0.68	8.2
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770502.6	********	120.	202.	AG	0.	100.0	1.0	10.0	0.79	6.1
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	665.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1030.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	736.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	736.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1320.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1080.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1240.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1790.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	915.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1371.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	80.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	645.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1365.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1125.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2110.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2620.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1415.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1300.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2335.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2335.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1300.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3917.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3230.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3255.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1230.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2435.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2190.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2415.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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1. South St	*	120	90	3.0	665	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	310	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	231	1600	0.07	1	3
6. Boston Ave. NB	*	135	107	3.0	390	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
8. Main St. SB	*	120	79	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	75	3.0	700	1600	0.07	1	3
10. Main st. NB	*	120	79	3.0	475	1600	0.07	1	3
11. Harvard St. WB	*	120	75	3.0	575	1600	0.07	1	3
12. Broadway EB R	*	120	57	3.0	275	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	455	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	435	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	80	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	500	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	80	40	3.0	885	1600	0.07	1	3
24. School St. SB	*	80	66	3.0	350	1600	0.07	1	3
25. Medford St. SEB	*	80	40	3.0	550	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1415	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
31. Washington St. EB	*	135	108	3.0	1255	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	55	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
34. Washington St. WB	*	135	103	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1646	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1397	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	975	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	340	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	945	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	910	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	210	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	8.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	12.
60.	10.	10.	9.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	13.	13.	13.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	12.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	7.	11.	11.	11.	10.	10.	9.	10.	10.	14.	13.	13.	10.	10.
130.	10.	10.	10.	8.	7.	6.	6.	9.	9.	9.	11.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.	11.	11.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	10.	10.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	11.	6.	6.	6.	5.	5.
290.	8.	8.	7.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	6.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	9.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	11.	13.	12.	7.	6.
320.	14.	14.	13.	9.	8.	9.	10.	13.	11.	11.	6.	6.	6.	7.	7.	11.	12.	12.	8.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	8.	7.
340.	12.	11.	11.	8.	8.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
MAX	14.	14.	13.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	330	320	310	310	310	290	130	290	290	290	110	110	110	50	50

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	10.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	10.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	10.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	11.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	9.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	13.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	9.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	9.	10.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	8.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	10.	10.	7.	8.	9.	10.	10.
290.	10.	10.	10.	9.	9.	12.	12.	13.	10.	10.	7.	8.	10.	10.	10.
300.	10.	11.	13.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	8.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	230	230	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

4_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 7:32

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	* 756198.0	********	756144.4	******** *	72.	312.	AG	0.	100.0	1.0	20.0	0.33	3.6
2. MVP West	* 756216.0	********	752428.7	******** *	6154.	218.	AG	0.	100.0	1.0	10.0	1.91	312.6
3. Boston Ave South	* 756271.8	********	756689.4	******** *	561.	132.	AG	0.	100.0	1.0	10.0	1.04	28.5
4. MVP East	* 756253.6	********	756941.0	******** *	966.	45.	AG	0.	100.0	1.0	20.0	1.10	49.1
5. Winthrop North	* 759327.2	********	759300.4	******** *	949.	358.	AG	0.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	* 759381.7	********	759529.1	******** *	147.	93.	AG	0.	100.0	1.0	10.0	0.54	7.5
7. MVP East T	* 759381.8	********	764437.1	******** *	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	* 759345.1	********	759317.0	******** *	1093.	181.	AG	0.	100.0	1.0	20.0	1.36	55.5
9. MVP West	* 759293.5	********	753823.6	******** *	5476.	273.	AG	0.	100.0	1.0	10.0	1.73	278.2
10. South St	* 761297.7	********	761030.2	******** *	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	* 759658.7	********	759579.9	******** *	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	* 759646.0	********	759614.8	******** *	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	* 759636.4	********	759601.4	******** *	77.	207.	AG	0.	100.0	1.0	10.0	0.35	3.9
14. College Ave. EB TR	* 759648.1	********	759593.5	******** *	119.	207.	AG	0.	100.0	1.0	10.0	0.54	6.0
15. Boston Ave. NB	* 759699.9	********	760449.3	******** *	1574.	152.	AG	0.	100.0	1.0	10.0	1.48	79.9
16. College Ave WB	* 759720.8	********	760665.2	******** *	1627.	35.	AG	0.	100.0	1.0	10.0	1.50	82.7
17. Main St. SB	* 762042.2	********	761479.5	******** *	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	* 762026.6	********	760557.1	******** *	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	* 762078.3	********	762162.8	******** *	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	* 762091.8	********	763139.9	******** *	1098.	73.	AG	0.	100.0	1.0	10.0	1.15	55.8
21. Broadway EB R	* 762959.1	********	762875.0	******** *	92.	293.	AG	0.	100.0	1.0	10.0	0.38	4.7
22. Broadway EB TL	* 762965.1	********	761999.7	******** *	1054.	294.	AG	0.	100.0	1.0	10.0	1.20	53.5
23. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	* 763093.0	********	764035.0	******** *	1913.	150.	AG	0.	100.0	1.0	10.0	1.60	97.2
25. Broadway St. WB	* 763115.6	********	763869.6	******** *	821.	113.	AG	0.	100.0	1.0	20.0	1.14	41.7
26. Dexter St. SWB	* 763101.5	********	763610.3	******** *	700.	47.	AG	0.	100.0	1.0	10.0	5.38	35.6
27. Medford St. SB	* 763008.3	********	762477.5	******** *	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	* 763277.6	********	763108.3	******** *	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	* 763301.4	********	763148.5	******** *	347.	206.	AG	0.	100.0	1.0	10.0	1.02	17.6
30. Highland St. WB	* 763328.5	********	763875.5	******** *	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	* 763311.4	********	763332.9	******** *	47.	27.	AG	0.	100.0	1.0	10.0	0.30	2.4
32. Medford St. NWB	* 765022.2	********	765238.6	******** *	352.	142.	AG	0.	100.0	1.0	10.0	0.99	17.9
33. School St. SB	* 765002.3	********	765636.0	******** *	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	* 764967.1	********	764873.7	******** *	151.	322.	AG	0.	100.0	1.0	10.0	0.64	7.7
35. Prospect SB	* 765830.6	********	766069.7	******** *	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	* 765828.4	********	765190.5	******** *	1439.	206.	AG	0.	100.0	1.0	30.0	1.31	73.1
38. Somerville EB	* 765797.5	********	765682.0	******** *	128.	296.	AG	0.	100.0	1.0	20.0	0.54	6.5
39. McGrath Highway SB1	* 766950.5	********	766656.5	******** *	1618.	350.	AG	0.	100.0	1.0	20.0	2.03	82.2
40. Washington St. EB	* 766952.8	********	757247.1	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.27	528.8
41. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	* 767119.9	********	767438.0	******** *	2591.	173.	AG	0.	100.0	1.0	10.0	1.69	131.6
43. Washington St. WB	* 767129.9	********	768484.3	******** *	1477.	67.	AG	0.	100.0	1.0	30.0	1.40	75.0
44. Camb. St at First L	* 770442.2	********	770345.0	******** *	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	0.	100.0	1.0	20.0	0.70	8.4
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2405.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1005.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1140.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1860.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2330.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3280.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	350	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1170	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	555	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1345	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	111	3.0	615	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1150	1600	0.07	1	3
10. South St	*	120	90	3.0	670	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	231	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	385	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	390	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	580	1600	0.07	1	3
21. Broadway EB R	*	120	62	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	87	3.0	447	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	95	3.0	425	1600	0.07	1	3
25. Broadway St. WB	*	120	87	3.0	851	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	70	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
29. Central St NB	*	90	57	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
31. Central St. SB	*	90	57	3.0	150	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	880	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	575	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1410	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	770	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	540	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1250	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1230	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	930	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 7:32

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 7:32

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
10.	9.	9.	10.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
20.	10.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	7.	6.	7.	6.
30.	10.	10.	11.	8.	7.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	8.	8.	8.
40.	9.	9.	10.	7.	7.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	10.	10.	10.
50.	7.	8.	9.	7.	6.	5.	6.	8.	8.	8.	9.	10.	10.	6.	5.	6.	8.	11.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	9.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	10.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	9.	9.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	7.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	7.	6.	6.	9.	10.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	10.	10.	10.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	10.	10.	10.
220.	9.	9.	9.	6.	5.	7.	7.	10.	9.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	10.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	7.	6.
240.	9.	9.	9.	7.	6.	7.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	9.	9.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	8.	8.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
MAX	10.	10.	11.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	30	30	30	330	320	300	300	230	30	30	210	210	210	140	140	120	120	50	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	9.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	9.	8.	5.	5.	5.	5.	5.	9.	8.	9.	6.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	10.	10.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	12.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	9.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	11.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	10.	10.	12.	9.	9.
140.	6.	6.	7.	7.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	9.	9.	7.	7.	10.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	5.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	5.	5.	9.	9.	11.	9.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	8.	6.	5.	9.	10.	11.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	10.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	9.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	7.	8.	7.	7.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	9.	10.	10.	11.	9.	8.	6.	6.	9.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	11.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	9.	9.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	7.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	10.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	6.	10.	10.	11.	10.	9.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	12.	10.	9.	10.	11.	12.	11.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	290	290	260	260	260	190	190	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	10.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	7.	7.	7.
30.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	8.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	7.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	9.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	10.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	9.	9.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	10.	10.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	9.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
270.	5.	5.	7.	8.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	8.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	6.	6.	6.	6.	8.	8.	8.	6.	6.	9.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	9.	9.	9.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	9.	8.	8.	8.	10.	10.	10.	10.	10.	9.	9.	9.
DEGR.	170	170	170	150	130	80	40	20	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

4_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 7:54

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	* 756198.0	********	756144.4	******** *	72.	312.	AG	0.	100.0	1.0	20.0	0.33	3.6
2. MVP West	* 756216.0	********	752428.7	******** *	6154.	218.	AG	0.	100.0	1.0	10.0	1.91	312.6
3. Boston Ave South	* 756271.8	********	756689.4	******** *	561.	132.	AG	0.	100.0	1.0	10.0	1.04	28.5
4. MVP East	* 756253.6	********	756941.0	******** *	966.	45.	AG	0.	100.0	1.0	20.0	1.10	49.1
5. Winthrop North	* 759327.2	********	759300.4	******** *	949.	358.	AG	0.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	* 759381.7	********	759529.1	******** *	147.	93.	AG	0.	100.0	1.0	10.0	0.54	7.5
7. MVP East T	* 759381.8	********	764437.1	******** *	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	* 759345.1	********	759317.0	******** *	1093.	181.	AG	0.	100.0	1.0	20.0	1.36	55.5
9. MVP West	* 759293.5	********	753823.6	******** *	5476.	273.	AG	0.	100.0	1.0	10.0	1.73	278.2
10. South St	* 761297.7	********	761030.2	******** *	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	* 759658.7	********	759579.9	******** *	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	* 759646.0	********	759614.8	******** *	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	* 759636.4	********	759601.4	******** *	77.	207.	AG	0.	100.0	1.0	10.0	0.35	3.9
14. College Ave. EB TR	* 759648.1	********	759593.5	******** *	119.	207.	AG	0.	100.0	1.0	10.0	0.54	6.0
15. Boston Ave. NB	* 759699.9	********	760449.3	******** *	1574.	152.	AG	0.	100.0	1.0	10.0	1.48	79.9
16. College Ave WB	* 759720.8	********	760665.2	******** *	1627.	35.	AG	0.	100.0	1.0	10.0	1.50	82.7
17. Main St. SB	* 762042.2	********	761479.5	******** *	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	* 762026.6	********	760557.1	******** *	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	* 762078.3	********	762162.8	******** *	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	* 762091.8	********	763139.9	******** *	1098.	73.	AG	0.	100.0	1.0	10.0	1.15	55.8
21. Broadway EB R	* 762959.1	********	762875.0	******** *	92.	293.	AG	0.	100.0	1.0	10.0	0.38	4.7
22. Broadway EB TL	* 762965.1	********	761999.7	******** *	1054.	294.	AG	0.	100.0	1.0	10.0	1.20	53.5
23. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	* 763093.0	********	764035.0	******** *	1913.	150.	AG	0.	100.0	1.0	10.0	1.60	97.2
25. Broadway St. WB	* 763115.6	********	763869.6	******** *	821.	113.	AG	0.	100.0	1.0	20.0	1.14	41.7
26. Dexter St. SWB	* 763101.5	********	763610.3	******** *	700.	47.	AG	0.	100.0	1.0	10.0	5.38	35.6
27. Medford St. SB	* 763008.3	********	762477.5	******** *	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	* 763277.6	********	763108.3	******** *	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	* 763301.4	********	763148.5	******** *	347.	206.	AG	0.	100.0	1.0	10.0	1.02	17.6
30. Highland St. WB	* 763328.5	********	763875.5	******** *	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	* 763311.4	********	763332.9	******** *	47.	27.	AG	0.	100.0	1.0	10.0	0.30	2.4
32. Medford St. NWB	* 765022.2	********	765238.6	******** *	352.	142.	AG	0.	100.0	1.0	10.0	0.99	17.9
33. School St. SB	* 765002.3	********	765636.0	******** *	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	* 764967.1	********	764873.7	******** *	151.	322.	AG	0.	100.0	1.0	10.0	0.64	7.7
35. Prospect SB	* 765830.6	********	766069.7	******** *	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	* 765828.4	********	765190.5	******** *	1439.	206.	AG	0.	100.0	1.0	30.0	1.31	73.1
38. Somerville EB	* 765797.5	********	765682.0	******** *	128.	296.	AG	0.	100.0	1.0	20.0	0.54	6.5
39. McGrath Highway SB1	* 766950.5	********	766656.5	******** *	1618.	350.	AG	0.	100.0	1.0	20.0	2.03	82.2
40. Washington St. EB	* 766952.8	********	757247.1	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.27	528.8
41. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	* 767119.9	********	767438.0	******** *	2591.	173.	AG	0.	100.0	1.0	10.0	1.69	131.6
43. Washington St. WB	* 767129.9	********	768484.3	******** *	1477.	67.	AG	0.	100.0	1.0	30.0	1.40	75.0
44. Camb. St at First L	* 770442.2	********	770345.0	******** *	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	0.	100.0	1.0	20.0	0.70	8.4
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2405.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1005.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1140.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1860.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2330.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3280.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	350	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1170	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	555	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1345	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	111	3.0	615	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1150	1600	0.07	1	3
10. South St	*	120	90	3.0	670	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	231	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	385	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	390	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	580	1600	0.07	1	3
21. Broadway EB R	*	120	62	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	87	3.0	447	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	95	3.0	425	1600	0.07	1	3
25. Broadway St. WB	*	120	87	3.0	851	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	70	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
29. Central St NB	*	90	57	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
31. Central St. SB	*	90	57	3.0	150	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	880	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	575	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1410	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	770	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	540	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1250	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1230	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	930	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 7:54

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	7.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	6.	7.	8.	7.	8.	6.	6.
170.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	6.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	6.	6.	7.	6.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	7.	6.	7.	7.	7.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	6.	5.	5.	5.
300.	6.	7.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	7.	6.	7.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	6.	6.	8.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	9.	6.	6.	5.
350.	7.	7.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	7.	8.	8.	7.	7.	8.	9.	8.	7.	7.
DEGR.	10	0	0	340	140	160	330	330	20	30	50	190	190	180	170	140	340	40	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	7.	8.	7.	7.	5.	6.	7.	7.	8.	7.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	6.	7.	8.	8.	8.	6.	5.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
130.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	7.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	6.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.
180.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	7.	7.	6.	6.	7.	7.	8.	7.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	6.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	250	30	350	350	350	320	320	250	60	60	240	240	230	170	170	150	150	80	80	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

4_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 8:17

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	* 756198.0	********	756144.4	******** *	72.	312.	AG	0.	100.0	1.0	20.0	0.33	3.6
2. MVP West	* 756216.0	********	752428.7	******** *	6154.	218.	AG	0.	100.0	1.0	10.0	1.91	312.6
3. Boston Ave South	* 756271.8	********	756689.4	******** *	561.	132.	AG	0.	100.0	1.0	10.0	1.04	28.5
4. MVP East	* 756253.6	********	756941.0	******** *	966.	45.	AG	0.	100.0	1.0	20.0	1.10	49.1
5. Winthrop North	* 759327.2	********	759300.4	******** *	949.	358.	AG	0.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	* 759381.7	********	759529.1	******** *	147.	93.	AG	0.	100.0	1.0	10.0	0.54	7.5
7. MVP East T	* 759381.8	********	764437.1	******** *	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	* 759345.1	********	759317.0	******** *	1093.	181.	AG	0.	100.0	1.0	20.0	1.36	55.5
9. MVP West	* 759293.5	********	753823.6	******** *	5476.	273.	AG	0.	100.0	1.0	10.0	1.73	278.2
10. South St	* 761297.7	********	761030.2	******** *	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	* 759658.7	********	759579.9	******** *	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
12. Boston Ave. SB R	* 759646.0	********	759614.8	******** *	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
13. College Ave EB L	* 759636.4	********	759601.4	******** *	77.	207.	AG	0.	100.0	1.0	10.0	0.35	3.9
14. College Ave. EB TR	* 759648.1	********	759593.5	******** *	119.	207.	AG	0.	100.0	1.0	10.0	0.54	6.0
15. Boston Ave. NB	* 759699.9	********	760449.3	******** *	1574.	152.	AG	0.	100.0	1.0	10.0	1.48	79.9
16. College Ave WB	* 759720.8	********	760665.2	******** *	1627.	35.	AG	0.	100.0	1.0	10.0	1.50	82.7
17. Main St. SB	* 762042.2	********	761479.5	******** *	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
18. Harvard St. EB	* 762026.6	********	760557.1	******** *	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	* 762078.3	********	762162.8	******** *	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
20. Harvard St. WB	* 762091.8	********	763139.9	******** *	1098.	73.	AG	0.	100.0	1.0	10.0	1.15	55.8
21. Broadway EB R	* 762959.1	********	762875.0	******** *	92.	293.	AG	0.	100.0	1.0	10.0	0.38	4.7
22. Broadway EB TL	* 762965.1	********	761999.7	******** *	1054.	294.	AG	0.	100.0	1.0	10.0	1.20	53.5
23. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	* 763093.0	********	764035.0	******** *	1913.	150.	AG	0.	100.0	1.0	10.0	1.60	97.2
25. Broadway St. WB	* 763115.6	********	763869.6	******** *	821.	113.	AG	0.	100.0	1.0	20.0	1.14	41.7
26. Dexter St. SWB	* 763101.5	********	763610.3	******** *	700.	47.	AG	0.	100.0	1.0	10.0	5.38	35.6
27. Medford St. SB	* 763008.3	********	762477.5	******** *	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
28. Highland St. EB	* 763277.6	********	763108.3	******** *	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	* 763301.4	********	763148.5	******** *	347.	206.	AG	0.	100.0	1.0	10.0	1.02	17.6
30. Highland St. WB	* 763328.5	********	763875.5	******** *	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	* 763311.4	********	763332.9	******** *	47.	27.	AG	0.	100.0	1.0	10.0	0.30	2.4
32. Medford St. NWB	* 765022.2	********	765238.6	******** *	352.	142.	AG	0.	100.0	1.0	10.0	0.99	17.9
33. School St. SB	* 765002.3	********	765636.0	******** *	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	* 764967.1	********	764873.7	******** *	151.	322.	AG	0.	100.0	1.0	10.0	0.64	7.7
35. Prospect SB	* 765830.6	********	766069.7	******** *	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
36. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	* 765828.4	********	765190.5	******** *	1439.	206.	AG	0.	100.0	1.0	30.0	1.31	73.1
38. Somerville EB	* 765797.5	********	765682.0	******** *	128.	296.	AG	0.	100.0	1.0	20.0	0.54	6.5
39. McGrath Highway SB1	* 766950.5	********	766656.5	******** *	1618.	350.	AG	0.	100.0	1.0	20.0	2.03	82.2
40. Washington St. EB	* 766952.8	********	757247.1	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.27	528.8
41. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	* 767119.9	********	767438.0	******** *	2591.	173.	AG	0.	100.0	1.0	10.0	1.69	131.6
43. Washington St. WB	* 767129.9	********	768484.3	******** *	1477.	67.	AG	0.	100.0	1.0	30.0	1.40	75.0
44. Camb. St at First L	* 770442.2	********	770345.0	******** *	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
50. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	0.	100.0	1.0	20.0	0.70	8.4
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	860.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2570.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2405.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1005.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1140.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1860.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2330.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3280.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. Boston Ave. North	*	120	75	3.0	350	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1170	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	555	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1345	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	435	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	111	3.0	615	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1150	1600	0.07	1	3
10. South St	*	120	90	3.0	670	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	94	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	94	3.0	231	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	385	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	390	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	580	1600	0.07	1	3
21. Broadway EB R	*	120	62	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	87	3.0	447	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	95	3.0	425	1600	0.07	1	3
25. Broadway St. WB	*	120	87	3.0	851	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	70	1600	0.07	1	3
27. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
29. Central St NB	*	90	57	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
31. Central St. SB	*	90	57	3.0	150	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	880	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	575	1600	0.07	1	3
35. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	88	3.0	1410	1600	0.07	1	3
38. Somerville EB	*	120	61	3.0	770	1600	0.07	1	3
39. McGrath Highway SB1	*	120	105	3.0	540	1600	0.07	1	3
40. Washington St. EB	*	120	93	3.0	1250	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1230	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	930	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 8:17

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	7.	6.	6.	8.	8.	7.	6.	6.	8.	7.	7.	5.	5.	5.	5.	5.
90.	8.	9.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	9.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	6.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	6.	6.	8.	8.	8.	6.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	6.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	7.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	7.	6.	6.	6.	8.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	7.	9.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	8.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	6.	7.	8.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	7.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	9.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	100	100	90	0	0	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	* 5.	5.	5.	5.	5.	6.	7.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	9.	8.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	9.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	8.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	7.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	7.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	6.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	7.	8.	7.	7.	6.	7.	8.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	6.	6.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	160	170	150	150	120	130	120	110	110	110	320	110	80	70	180	50	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	7.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	350	340	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

4_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 8:38

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761030.2	********	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759601.4	********	77.	207.	AG	0.	100.0	1.0	10.0	0.35	3.9
5. College Ave. EB TR	759648.1	********	759593.5	********	119.	207.	AG	0.	100.0	1.0	10.0	0.54	6.0
6. Boston Ave. NB	759699.9	********	760449.3	********	1574.	152.	AG	0.	100.0	1.0	10.0	1.48	79.9
7. College Ave WB	759720.8	********	760665.2	********	1627.	35.	AG	0.	100.0	1.0	10.0	1.50	82.7
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763139.9	********	1098.	73.	AG	0.	100.0	1.0	10.0	1.15	55.8
12. Broadway EB R	762959.1	********	762875.0	********	92.	293.	AG	0.	100.0	1.0	10.0	0.38	4.7
13. Broadway EB TL	762965.1	********	761999.7	********	1054.	294.	AG	0.	100.0	1.0	10.0	1.20	53.5
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764035.0	********	1913.	150.	AG	0.	100.0	1.0	10.0	1.60	97.2
16. Broadway St. WB	763115.6	********	763869.6	********	821.	113.	AG	0.	100.0	1.0	20.0	1.14	41.7
17. Dexter St. SWB	763101.5	********	763610.3	********	700.	47.	AG	0.	100.0	1.0	10.0	5.38	35.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763148.5	********	347.	206.	AG	0.	100.0	1.0	10.0	1.02	17.6
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763332.9	********	47.	27.	AG	0.	100.0	1.0	10.0	0.30	2.4
23. Medford St. NWB	765022.2	********	765238.6	********	352.	142.	AG	0.	100.0	1.0	10.0	0.99	17.9
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764873.7	********	151.	322.	AG	0.	100.0	1.0	10.0	0.64	7.7
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765190.5	********	1439.	206.	AG	0.	100.0	1.0	30.0	1.31	73.1
29. Somerville EB	765797.5	********	765682.0	********	128.	296.	AG	0.	100.0	1.0	20.0	0.54	6.5
30. McGrath Highway SB1	766950.5	********	766656.5	********	1618.	350.	AG	0.	100.0	1.0	20.0	2.03	82.2
31. Washington St. EB	766952.8	********	757247.1	********	*****	249.	AG	0.	100.0	1.0	10.0	4.27	528.8
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767438.0	********	2591.	173.	AG	0.	100.0	1.0	10.0	1.69	131.6
34. Washington St. WB	767129.9	********	768484.3	********	1477.	67.	AG	0.	100.0	1.0	30.0	1.40	75.0
35. Msgr Obrien EB	769756.4	********	767419.5	********	2838.	305.	AG	0.	100.0	1.0	20.0	1.41	144.2
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	0.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	0.	100.0	1.0	20.0	0.70	8.4
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3916.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3225.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	670	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	231	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	385	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	390	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	580	1600	0.07	1	3
12. Broadway EB R	*	120	62	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	87	3.0	447	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	95	3.0	425	1600	0.07	1	3
16. Broadway St. WB	*	120	87	3.0	851	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	70	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
20. Central St NB	*	90	57	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
22. Central St. SB	*	90	57	3.0	150	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	880	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	575	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1410	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	770	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	540	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1250	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1230	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1651	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	930	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 8:38

57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.
20.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	7.
30.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	6.	7.	7.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
100.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	6.	6.	5.	5.	6.	7.	7.
210.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	6.	5.	6.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
310.	6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
320.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.
340.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	7.	7.	7.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	10	300	300	300	280	130	280	220	220	200	200	200	120	120	100	100	100	30	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
10.	* 6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	* 7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.
30.	* 6.	7.	7.	7.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
40.	* 6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
50.	* 6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
70.	* 6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	* 6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	* 6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
130.	* 6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	6.	6.
140.	* 6.	6.	8.	8.	8.	7.	7.	7.	6.	5.	6.	7.	9.	8.	8.	8.	8.	8.	6.	6.
150.	* 5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	* 5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
180.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	5.	5.	6.	6.	6.
190.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
200.	* 6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	* 6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	* 6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	* 6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	5.	5.	5.	5.	5.
280.	* 6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	* 6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	* 6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	* 6.	6.	7.	6.	7.	8.	8.	8.	6.	6.	5.	6.	8.	8.	7.	6.	6.	6.	5.	5.
320.	* 6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	5.	6.	8.	8.	7.	7.	7.	7.	6.	5.
330.	* 6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	8.	8.	7.	6.	6.
340.	* 6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	* 6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	* 6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
MAX	* 7.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	8.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	* 20	20	140	140	140	150	150	150	220	220	190	180	150	150	150	130	140	140	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

4_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19: 9:10

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761030.2	********	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759601.4	********	77.	207.	AG	0.	100.0	1.0	10.0	0.35	3.9
5. College Ave. EB TR	759648.1	********	759593.5	********	119.	207.	AG	0.	100.0	1.0	10.0	0.54	6.0
6. Boston Ave. NB	759699.9	********	760449.3	********	1574.	152.	AG	0.	100.0	1.0	10.0	1.48	79.9
7. College Ave WB	759720.8	********	760665.2	********	1627.	35.	AG	0.	100.0	1.0	10.0	1.50	82.7
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763139.9	********	1098.	73.	AG	0.	100.0	1.0	10.0	1.15	55.8
12. Broadway EB R	762959.1	********	762875.0	********	92.	293.	AG	0.	100.0	1.0	10.0	0.38	4.7
13. Broadway EB TL	762965.1	********	761999.7	********	1054.	294.	AG	0.	100.0	1.0	10.0	1.20	53.5
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764035.0	********	1913.	150.	AG	0.	100.0	1.0	10.0	1.60	97.2
16. Broadway St. WB	763115.6	********	763869.6	********	821.	113.	AG	0.	100.0	1.0	20.0	1.14	41.7
17. Dexter St. SWB	763101.5	********	763610.3	********	700.	47.	AG	0.	100.0	1.0	10.0	5.38	35.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763148.5	********	347.	206.	AG	0.	100.0	1.0	10.0	1.02	17.6
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763332.9	********	47.	27.	AG	0.	100.0	1.0	10.0	0.30	2.4
23. Medford St. NWB	765022.2	********	765238.6	********	352.	142.	AG	0.	100.0	1.0	10.0	0.99	17.9
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764873.7	********	151.	322.	AG	0.	100.0	1.0	10.0	0.64	7.7
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765190.5	********	1439.	206.	AG	0.	100.0	1.0	30.0	1.31	73.1
29. Somerville EB	765797.5	********	765682.0	********	128.	296.	AG	0.	100.0	1.0	20.0	0.54	6.5
30. McGrath Highway SB1	766950.5	********	766656.5	********	1618.	350.	AG	0.	100.0	1.0	20.0	2.03	82.2
31. Washington St. EB	766952.8	********	757247.1	********	*****	249.	AG	0.	100.0	1.0	10.0	4.27	528.8
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767438.0	********	2591.	173.	AG	0.	100.0	1.0	10.0	1.69	131.6
34. Washington St. WB	767129.9	********	768484.3	********	1477.	67.	AG	0.	100.0	1.0	30.0	1.40	75.0
35. Msgr Obrien EB	769756.4	********	767419.5	********	2838.	305.	AG	0.	100.0	1.0	20.0	1.41	144.2
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	0.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	0.	100.0	1.0	20.0	0.70	8.4
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0		

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LINK VARIABLES

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96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3916.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3225.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	670	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	231	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	385	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	390	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	580	1600	0.07	1	3
12. Broadway EB R	*	120	62	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	87	3.0	447	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	95	3.0	425	1600	0.07	1	3
16. Broadway St. WB	*	120	87	3.0	851	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	70	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
20. Central St NB	*	90	57	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
22. Central St. SB	*	90	57	3.0	150	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	880	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	575	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1410	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	770	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	540	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1250	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1230	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1651	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	930	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	9.	8.	7.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	8.	6.	6.	9.	8.	8.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	7.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	5.
60.	10.	11.	11.	10.	10.	7.	8.	8.	9.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	10.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	11.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	8.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	10.
160.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	9.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	6.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	8.	7.	8.	8.	7.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	8.	8.	7.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	10.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	8.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	10.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	0	300	310	310	280	280	290	220	270	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	8.	6.	6.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	7.	7.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	7.	8.	9.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	6.	6.	9.	9.	10.	10.	11.	6.	6.
80.	9.	10.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	8.	8.	7.	8.	8.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
140.	8.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	8.	7.	8.	8.	8.	6.	6.	6.	6.	7.	6.	6.	6.	6.	5.	9.	9.	8.	8.	8.
170.	7.	7.	8.	8.	7.	5.	6.	6.	6.	6.	7.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	6.	6.	7.	7.	7.	6.	5.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	6.	6.	7.	8.	8.	6.	6.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	7.
210.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
220.	6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	7.	6.	8.	7.	11.	11.	10.	8.	8.
240.	6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	6.	6.	7.	8.	8.	10.	10.	10.	6.	6.	8.	9.	8.	9.	10.	9.	9.	9.	7.	7.
260.	5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	6.	9.	10.	6.	6.	7.	7.	7.
300.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
320.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	5.	6.	7.	7.	7.
340.	6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	6.	7.
350.	7.	8.	7.	6.	5.	8.	8.	9.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	8.	8.	8.	6.	6.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	9.	10.	9.	9.	9.	11.	11.	10.	8.	7.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	80	80	60	230	230	60	260	260	350	350	340	260	250	60	50	230	80	80	180	180

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC16.

4_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19: 9:31

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761030.2	********	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	759658.7	********	759579.9	********	167.	332.	AG	0.	100.0	1.0	10.0	0.75	8.5
3. Boston Ave. SB R	759646.0	********	759614.8	********	67.	332.	AG	0.	100.0	1.0	10.0	0.31	3.4
4. College Ave EB L	759636.4	********	759601.4	********	77.	207.	AG	0.	100.0	1.0	10.0	0.35	3.9
5. College Ave. EB TR	759648.1	********	759593.5	********	119.	207.	AG	0.	100.0	1.0	10.0	0.54	6.0
6. Boston Ave. NB	759699.9	********	760449.3	********	1574.	152.	AG	0.	100.0	1.0	10.0	1.48	79.9
7. College Ave WB	759720.8	********	760665.2	********	1627.	35.	AG	0.	100.0	1.0	10.0	1.50	82.7
8. Main St. SB	762042.2	********	761479.5	********	1831.	342.	AG	0.	100.0	1.0	10.0	1.28	93.0
9. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	762078.3	********	762162.8	********	267.	162.	AG	0.	100.0	1.0	10.0	0.95	13.6
11. Harvard St. WB	762091.8	********	763139.9	********	1098.	73.	AG	0.	100.0	1.0	10.0	1.15	55.8
12. Broadway EB R	762959.1	********	762875.0	********	92.	293.	AG	0.	100.0	1.0	10.0	0.38	4.7
13. Broadway EB TL	762965.1	********	761999.7	********	1054.	294.	AG	0.	100.0	1.0	10.0	1.20	53.5
14. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	763093.0	********	764035.0	********	1913.	150.	AG	0.	100.0	1.0	10.0	1.60	97.2
16. Broadway St. WB	763115.6	********	763869.6	********	821.	113.	AG	0.	100.0	1.0	20.0	1.14	41.7
17. Dexter St. SWB	763101.5	********	763610.3	********	700.	47.	AG	0.	100.0	1.0	10.0	5.38	35.6
18. Medford St. SB	763008.3	********	762477.5	********	1682.	342.	AG	0.	100.0	1.0	10.0	2.36	85.5
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763148.5	********	347.	206.	AG	0.	100.0	1.0	10.0	1.02	17.6
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763332.9	********	47.	27.	AG	0.	100.0	1.0	10.0	0.30	2.4
23. Medford St. NWB	765022.2	********	765238.6	********	352.	142.	AG	0.	100.0	1.0	10.0	0.99	17.9
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764873.7	********	151.	322.	AG	0.	100.0	1.0	10.0	0.64	7.7
26. Prospect SB	765830.6	********	766069.7	********	462.	31.	AG	0.	100.0	1.0	20.0	1.04	23.5
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765190.5	********	1439.	206.	AG	0.	100.0	1.0	30.0	1.31	73.1
29. Somerville EB	765797.5	********	765682.0	********	128.	296.	AG	0.	100.0	1.0	20.0	0.54	6.5
30. McGrath Highway SB1	766950.5	********	766656.5	********	1618.	350.	AG	0.	100.0	1.0	20.0	2.03	82.2
31. Washington St. EB	766952.8	********	757247.1	********	*****	249.	AG	0.	100.0	1.0	10.0	4.27	528.8
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767438.0	********	2591.	173.	AG	0.	100.0	1.0	10.0	1.69	131.6
34. Washington St. WB	767129.9	********	768484.3	********	1477.	67.	AG	0.	100.0	1.0	30.0	1.40	75.0
35. Msgr Obrien EB	769756.4	********	767419.5	********	2838.	305.	AG	0.	100.0	1.0	20.0	1.41	144.2
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.6	********	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	769858.1	********	771086.3	********	1493.	125.	AG	0.	100.0	1.0	20.0	1.19	75.8
39. Msgr Obrien L	771462.2	********	767835.4	********	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	771449.0	********	771331.9	********	142.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769033.6	********	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	771500.8	********	770695.7	********	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	771572.2	********	774298.4	********	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19: 9:31

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771722.2	********	170.	124.	AG	0.	100.0	1.0	20.0	0.81	8.6
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774767.3	********	6016.	32.	AG	0.	100.0	1.0	10.0	3.41	305.6
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770312.2	********	131.	281.	AG	0.	100.0	1.0	10.0	0.74	6.7
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769475.5	********	1217.	302.	AG	0.	100.0	1.0	20.0	1.23	61.8
55. MsgrOb/East WB T	770636.9	********	770763.8	********	165.	130.	AG	0.	100.0	1.0	20.0	0.70	8.4
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2885.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	746.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	746.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	800.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1140.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1260.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1095.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1195.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1754.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	885.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	565.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	650.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	970.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	580.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1145.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2100.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1410.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	975.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1280.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1280.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2350.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3916.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2698.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3225.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3475.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1075.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2430.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2410.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

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1. South St	*	120	90	3.0	670	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	94	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	94	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	94	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	94	3.0	231	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	385	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	390	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	650	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	480	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	580	1600	0.07	1	3
12. Broadway EB R	*	120	62	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	87	3.0	447	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	95	3.0	425	1600	0.07	1	3
16. Broadway St. WB	*	120	87	3.0	851	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	70	1600	0.07	1	3
18. Medford St. SB	*	120	107	3.0	250	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
20. Central St NB	*	90	57	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
22. Central St. SB	*	90	57	3.0	150	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	880	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	575	1600	0.07	1	3
26. Prospect SB	*	120	83	3.0	885	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	88	3.0	1410	1600	0.07	1	3
29. Somerville EB	*	120	61	3.0	770	1600	0.07	1	3
30. McGrath Highway SB1	*	120	105	3.0	540	1600	0.07	1	3
31. Washington St. EB	*	120	93	3.0	1250	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	540	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1230	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1651	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1392	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	695	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	770	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	265	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	950	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	930	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	9.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	12.
60.	10.	10.	9.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	10.	10.	10.	6.	6.	5.	6.	6.	13.	13.	12.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	11.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	7.	11.	11.	11.	10.	10.	9.	10.	10.	14.	13.	13.	10.	10.
130.	10.	10.	10.	8.	7.	6.	6.	9.	9.	9.	11.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.	11.	11.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	10.	10.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	11.	6.	6.	6.	5.	5.
290.	8.	8.	7.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	9.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	11.	13.	12.	7.	6.
320.	14.	14.	13.	9.	8.	9.	10.	13.	11.	11.	7.	6.	6.	7.	7.	11.	12.	12.	7.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	8.	7.
340.	12.	11.	11.	8.	8.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
MAX	14.	14.	13.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	330	320	310	310	310	290	130	290	290	290	110	110	110	50	50

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	10.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	10.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	10.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	10.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	8.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	13.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	9.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	9.	10.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	8.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	10.	10.	7.	8.	9.	10.	9.
290.	10.	10.	10.	9.	9.	12.	12.	13.	10.	10.	7.	8.	10.	10.	10.
300.	10.	11.	13.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	9.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	230	230	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

Alt-5A -- 7_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:15

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756143.0	********	*	74.	312.	AG	0.	100.0	1.0	20.0	0.46	3.7
2. MVP West	*	756216.0	********	753443.5	********	*	4505.	218.	AG	0.	100.0	1.0	10.0	1.52	228.8
3. Boston Ave South	*	756271.8	********	758046.3	********	*	2384.	132.	AG	0.	100.0	1.0	10.0	1.57	121.1
4. MVP East	*	756253.6	********	756410.7	********	*	221.	45.	AG	0.	100.0	1.0	20.0	0.87	11.2
5. Winthrop North	*	759327.2	********	759307.3	********	*	704.	358.	AG	0.	100.0	1.0	20.0	1.08	35.8
6. MVP East RT	*	759381.7	********	759513.9	********	*	132.	92.	AG	0.	100.0	1.0	10.0	0.50	6.7
7. MVP East T	*	759381.8	********	764824.1	********	*	5445.	92.	AG	0.	100.0	1.0	10.0	1.74	276.6
8. Winthrop South	*	759345.1	********	759303.0	********	*	1639.	181.	AG	0.	100.0	1.0	20.0	1.76	83.3
9. MVP West	*	759293.5	********	753906.0	********	*	5393.	273.	AG	0.	100.0	1.0	10.0	1.74	274.0
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	0.	100.0	1.0	10.0	1.08	25.9
12. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	0.	100.0	1.0	10.0	0.44	3.8
13. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	0.	100.0	1.0	10.0	0.54	4.7
14. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	0.	100.0	1.0	10.0	0.83	8.1
15. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	0.	100.0	1.0	10.0	1.30	61.3
16. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	0.	100.0	1.0	10.0	1.10	33.4
17. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	0.	100.0	1.0	10.0	1.69	151.3
18. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	0.	100.0	1.0	10.0	1.46	122.9
19. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	0.	100.0	1.0	10.0	1.28	69.1
20. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	0.	100.0	1.0	10.0	1.37	101.7
21. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	0.	100.0	1.0	10.0	0.43	5.1
22. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	0.	100.0	1.0	10.0	1.84	130.4
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	0.	100.0	1.0	10.0	1.68	107.6
25. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	0.	100.0	1.0	20.0	1.63	101.1
26. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	0.	100.0	1.0	10.0	1.92	23.4
27. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	0.	100.0	1.0	10.0	1.33	44.0
28. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	0.	100.0	1.0	10.0	0.94	9.6
29. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	0.	100.0	1.0	10.0	1.09	33.7
30. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	0.	100.0	1.0	10.0	1.06	28.4
31. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	0.	100.0	1.0	10.0	0.29	2.1
32. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	0.	100.0	1.0	10.0	1.69	199.9
33. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	0.	100.0	1.0	10.0	1.24	43.1
34. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	0.	100.0	1.0	10.0	1.09	35.3
35. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	0.	100.0	1.0	20.0	1.20	52.3
36. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	0.	100.0	1.0	20.0	2.07	74.5
37. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	0.	100.0	1.0	30.0	1.11	38.8
38. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	0.	100.0	1.0	20.0	0.63	6.7
39. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	0.	100.0	1.0	20.0	4.42	120.0
40. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	0.	100.0	1.0	10.0	3.40	496.8
41. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	0.	100.0	1.0	10.0	0.46	1.8
42. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	0.	100.0	1.0	10.0	4.38	231.6
43. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	0.	100.0	1.0	30.0	0.76	9.5
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:15

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	0.	100.0	1.0	20.0	1.20	56.5
50. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	0.	100.0	1.0	20.0	0.73	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	840.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2590.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2420.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2340.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2395.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	325	1600	0.07	1	3
2. MVP West	*	113	53	3.0	1180	1600	0.07	1	3
3. Boston Ave South	*	113	83	3.0	555	1600	0.07	1	3
4. MVP East	*	113	53	3.0	1360	1600	0.07	1	3
5. Winthrop North	*	135	91	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	55	3.0	440	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1135	1600	0.07	1	3
8. Winthrop South	*	135	115	3.0	625	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1130	1600	0.07	1	3
10. South St	*	120	90	3.0	670	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	105	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	105	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	105	3.0	160	1600	0.07	1	3
14. College Ave. EB TR	*	135	105	3.0	246	1600	0.07	1	3
15. Boston Ave. NB	*	135	105	3.0	385	1600	0.07	1	3
16. College Ave WB	*	135	100	3.0	390	1600	0.07	1	3
17. Main St. SB	*	92	65	3.0	645	1600	0.07	1	3
18. Harvard St. EB	*	92	61	3.0	660	1600	0.07	1	3
19. Main st. NB	*	92	65	3.0	490	1600	0.07	1	3
20. Harvard St. WB	*	92	61	3.0	620	1600	0.07	1	3
21. Broadway EB R	*	122	72	3.0	255	1600	0.07	1	3
22. Broadway EB TL	*	122	97	3.0	482	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	122	97	3.0	440	1600	0.07	1	3
25. Broadway St. WB	*	122	97	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	122	102	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	86	56	3.0	435	1600	0.07	1	3
29. Central St NB	*	86	56	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	86	56	3.0	495	1600	0.07	1	3
31. Central St. SB	*	86	56	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	70	42	3.0	885	1600	0.07	1	3
33. School St. SB	*	70	53	3.0	340	1600	0.07	1	3
34. Medford St. SEB	*	70	42	3.0	570	1600	0.07	1	3
35. Prospect SB	*	109	79	3.0	880	1600	0.07	1	3
36. Sommerville WB	*	109	96	3.0	485	1600	0.07	1	3
37. Prospect NB	*	109	76	3.0	1375	1600	0.07	1	3
38. Somerville EB	*	109	62	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	133	123	3.0	530	1600	0.07	1	3
40. Washington St. EB	*	133	97	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	0.07	1	3
43. Washington St. WB	*	133	83	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	930	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	975	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:15

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:15

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
10.	9.	9.	10.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
20.	10.	10.	10.	8.	7.	6.	7.	9.	9.	8.	5.	5.	5.	5.	5.	6.	7.	6.	7.	6.
30.	9.	10.	10.	8.	7.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	7.	8.	8.
40.	8.	9.	10.	7.	7.	5.	6.	9.	9.	9.	7.	8.	8.	5.	5.	6.	7.	9.	9.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	7.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	10.	10.	6.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	9.	9.	9.
90.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	7.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	10.	10.	8.	8.
130.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	9.	8.	8.
150.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	7.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	9.	9.	10.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	10.	10.	10.
210.	7.	8.	8.	5.	5.	7.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	10.	10.	10.
220.	9.	9.	9.	6.	5.	7.	8.	10.	9.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	10.	10.	10.	6.	6.	7.	8.	10.	10.	9.	8.	8.	8.	6.	6.	5.	5.	6.	7.	7.
240.	9.	9.	9.	7.	6.	8.	8.	10.	9.	9.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	8.	8.	8.	7.	6.	8.	8.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	6.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	6.	7.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	7.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
MAX	10.	10.	10.	8.	8.	8.	9.	10.	10.	9.	10.	10.	10.	8.	8.	8.	10.	11.	10.	10.
DEGR.	20	230	30	330	320	300	300	230	230	240	210	210	210	140	140	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	10.	9.	9.	10.	10.	10.	8.	8.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	9.	9.	8.	8.	9.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	8.	9.	6.	7.	8.	8.	7.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	9.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	9.	9.	9.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	10.	9.	8.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	10.	10.	8.	8.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	8.	8.	9.	7.	7.
90.	10.	9.	10.	8.	8.	6.	6.	9.	9.	9.	8.	8.	8.	6.	5.	8.	9.	11.	9.	9.
100.	8.	8.	8.	8.	7.	5.	6.	8.	7.	7.	9.	9.	9.	6.	6.	9.	9.	12.	10.	10.
110.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	12.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	10.	11.	9.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	5.	6.	8.	8.	8.	7.	6.	10.	10.	11.	9.	8.
140.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	10.	10.	10.	8.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	10.	10.	10.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	8.	8.	7.	7.	11.	10.	10.	8.	8.
170.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.	7.	8.	9.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	8.	8.	10.	9.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	8.	9.	10.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	9.	10.	10.	9.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	8.	9.	10.	9.	9.	6.	7.	8.	7.	8.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	9.	9.	10.	9.	9.	6.	7.	8.	8.	8.
240.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	9.	9.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	10.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	10.	10.	12.	9.	8.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	9.	9.	8.	10.	10.	11.	9.	8.	6.	6.	9.	9.	9.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	10.	8.	8.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	10.	10.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
300.	9.	9.	8.	7.	6.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	7.	6.	9.	9.	10.	9.	9.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	10.	9.	8.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	11.	9.	8.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	7.	10.	11.	11.	8.	8.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.
360.	8.	8.	10.	9.	9.	10.	10.	10.	8.	8.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	10.	11.	9.	9.	10.	11.	11.	10.	10.	10.	10.	12.	10.	10.	11.	11.	12.	10.	10.
DEGR.	80	80	10	10	10	350	350	350	290	290	260	260	260	190	190	170	170	100	100	110

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	10.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	7.	7.	7.
30.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	7.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	9.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	10.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	9.	9.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	10.	10.	9.	9.	9.
200.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	7.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	9.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	8.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
270.	5.	6.	7.	8.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	8.
280.	5.	5.	6.	7.	7.	6.	6.	7.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	5.	6.	6.	6.	7.	8.	8.	6.	6.	8.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	9.	9.	9.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	9.	8.	8.	8.	10.	10.	10.	10.	10.	9.	9.	9.
DEGR.	170	170	170	150	130	80	40	20	20	10	190	190	190	190	200

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC38.

Alt-5A -- 7_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:35

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756143.0	********	*	74.	312.	AG	0.	100.0	1.0	20.0	0.46	3.7
2. MVP West	*	756216.0	********	753443.5	********	*	4505.	218.	AG	0.	100.0	1.0	10.0	1.52	228.8
3. Boston Ave South	*	756271.8	********	758046.3	********	*	2384.	132.	AG	0.	100.0	1.0	10.0	1.57	121.1
4. MVP East	*	756253.6	********	756410.7	********	*	221.	45.	AG	0.	100.0	1.0	20.0	0.87	11.2
5. Winthrop North	*	759327.2	********	759307.3	********	*	704.	358.	AG	0.	100.0	1.0	20.0	1.08	35.8
6. MVP East RT	*	759381.7	********	759513.9	********	*	132.	92.	AG	0.	100.0	1.0	10.0	0.50	6.7
7. MVP East T	*	759381.8	********	764824.1	********	*	5445.	92.	AG	0.	100.0	1.0	10.0	1.74	276.6
8. Winthrop South	*	759345.1	********	759303.0	********	*	1639.	181.	AG	0.	100.0	1.0	20.0	1.76	83.3
9. MVP West	*	759293.5	********	753906.0	********	*	5393.	273.	AG	0.	100.0	1.0	10.0	1.74	274.0
10. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	0.	100.0	1.0	10.0	1.08	25.9
12. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	0.	100.0	1.0	10.0	0.44	3.8
13. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	0.	100.0	1.0	10.0	0.54	4.7
14. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	0.	100.0	1.0	10.0	0.83	8.1
15. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	0.	100.0	1.0	10.0	1.30	61.3
16. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	0.	100.0	1.0	10.0	1.10	33.4
17. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	0.	100.0	1.0	10.0	1.69	151.3
18. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	0.	100.0	1.0	10.0	1.46	122.9
19. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	0.	100.0	1.0	10.0	1.28	69.1
20. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	0.	100.0	1.0	10.0	1.37	101.7
21. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	0.	100.0	1.0	10.0	0.43	5.1
22. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	0.	100.0	1.0	10.0	1.84	130.4
23. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	0.	100.0	1.0	10.0	1.68	107.6
25. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	0.	100.0	1.0	20.0	1.63	101.1
26. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	0.	100.0	1.0	10.0	1.92	23.4
27. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	0.	100.0	1.0	10.0	1.33	44.0
28. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	0.	100.0	1.0	10.0	0.94	9.6
29. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	0.	100.0	1.0	10.0	1.09	33.7
30. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	0.	100.0	1.0	10.0	1.06	28.4
31. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	0.	100.0	1.0	10.0	0.29	2.1
32. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	0.	100.0	1.0	10.0	1.69	199.9
33. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	0.	100.0	1.0	10.0	1.24	43.1
34. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	0.	100.0	1.0	10.0	1.09	35.3
35. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	0.	100.0	1.0	20.0	1.20	52.3
36. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	0.	100.0	1.0	20.0	2.07	74.5
37. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	0.	100.0	1.0	30.0	1.11	38.8
38. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	0.	100.0	1.0	20.0	0.63	6.7
39. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	0.	100.0	1.0	20.0	4.42	120.0
40. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	0.	100.0	1.0	10.0	3.40	496.8
41. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	0.	100.0	1.0	10.0	0.46	1.8
42. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	0.	100.0	1.0	10.0	4.38	231.6
43. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	0.	100.0	1.0	30.0	0.76	9.5
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:35

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	0.	100.0	1.0	20.0	1.20	56.5
50. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	0.	100.0	1.0	20.0	0.73	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	840.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2590.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2420.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2340.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2395.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	325	1600	0.07	1	3
2. MVP West	*	113	53	3.0	1180	1600	0.07	1	3
3. Boston Ave South	*	113	83	3.0	555	1600	0.07	1	3
4. MVP East	*	113	53	3.0	1360	1600	0.07	1	3
5. Winthrop North	*	135	91	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	55	3.0	440	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1135	1600	0.07	1	3
8. Winthrop South	*	135	115	3.0	625	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1130	1600	0.07	1	3
10. South St	*	120	90	3.0	670	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	105	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	105	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	105	3.0	160	1600	0.07	1	3
14. College Ave. EB TR	*	135	105	3.0	246	1600	0.07	1	3
15. Boston Ave. NB	*	135	105	3.0	385	1600	0.07	1	3
16. College Ave WB	*	135	100	3.0	390	1600	0.07	1	3
17. Main St. SB	*	92	65	3.0	645	1600	0.07	1	3
18. Harvard St. EB	*	92	61	3.0	660	1600	0.07	1	3
19. Main st. NB	*	92	65	3.0	490	1600	0.07	1	3
20. Harvard St. WB	*	92	61	3.0	620	1600	0.07	1	3
21. Broadway EB R	*	122	72	3.0	255	1600	0.07	1	3
22. Broadway EB TL	*	122	97	3.0	482	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	122	97	3.0	440	1600	0.07	1	3
25. Broadway St. WB	*	122	97	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	122	102	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	86	56	3.0	435	1600	0.07	1	3
29. Central St NB	*	86	56	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	86	56	3.0	495	1600	0.07	1	3
31. Central St. SB	*	86	56	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	70	42	3.0	885	1600	0.07	1	3
33. School St. SB	*	70	53	3.0	340	1600	0.07	1	3
34. Medford St. SEB	*	70	42	3.0	570	1600	0.07	1	3
35. Prospect SB	*	109	79	3.0	880	1600	0.07	1	3
36. Sommerville WB	*	109	96	3.0	485	1600	0.07	1	3
37. Prospect NB	*	109	76	3.0	1375	1600	0.07	1	3
38. Somerville EB	*	109	62	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	133	123	3.0	530	1600	0.07	1	3
40. Washington St. EB	*	133	97	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	0.07	1	3
43. Washington St. WB	*	133	83	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	930	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	975	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:35

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
20.	8.	8.	7.	7.	6.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	5.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	7.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	6.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	8.	7.	6.	7.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	9.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.	9.	8.	7.	7.	7.
160.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	7.	7.	8.	7.	8.	6.	6.
170.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	7.
180.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	7.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.
210.	7.	7.	7.	5.	5.	6.	7.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	5.	5.	6.	7.	7.	7.	7.	7.	6.	7.	6.	6.	5.	5.	6.	6.	5.
230.	7.	7.	7.	6.	5.	6.	7.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	7.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	7.	7.	6.	6.	5.	7.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.	6.	6.	5.	6.	5.	5.	5.
300.	6.	7.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	7.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	7.	6.	7.	7.	7.	5.	6.	7.	7.	7.	6.	6.	5.	5.	5.
320.	6.	7.	6.	6.	6.	7.	6.	8.	7.	6.	5.	6.	7.	7.	7.	7.	8.	5.	5.	5.
330.	7.	7.	7.	7.	7.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	9.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.	8.	9.	6.	6.	5.
350.	7.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	8.	9.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	9.	9.	8.	7.	7.
DEGR.	10	10	350	340	340	320	340	330	20	20	190	200	190	180	170	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	8.	6.	6.	6.	5.	5.	7.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	8.	8.	7.	7.	5.	6.	8.	8.	8.	8.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	7.	6.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	8.	10.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	7.	7.
150.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	8.	7.	6.	8.	8.	9.	8.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	6.	5.	7.	7.	9.	8.	8.	8.	8.	9.	7.	7.
170.	5.	5.	7.	7.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	7.	7.	8.	7.	7.
180.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	9.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	8.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	7.	8.	8.	9.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	10.	8.	8.
DEGR.	250	250	350	350	350	330	330	250	60	260	240	240	230	170	170	150	150	80	70	70

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC38.

Alt-5A -- 7_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:50

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756143.0	********	74.	312.	AG	0.	100.0	1.0	20.0	0.46	3.7
2. MVP West	756216.0	********	753443.5	********	4505.	218.	AG	0.	100.0	1.0	10.0	1.52	228.8
3. Boston Ave South	756271.8	********	758046.3	********	2384.	132.	AG	0.	100.0	1.0	10.0	1.57	121.1
4. MVP East	756253.6	********	756410.7	********	221.	45.	AG	0.	100.0	1.0	20.0	0.87	11.2
5. Winthrop North	759327.2	********	759307.3	********	704.	358.	AG	0.	100.0	1.0	20.0	1.08	35.8
6. MVP East RT	759381.7	********	759513.9	********	132.	92.	AG	0.	100.0	1.0	10.0	0.50	6.7
7. MVP East T	759381.8	********	764824.1	********	5445.	92.	AG	0.	100.0	1.0	10.0	1.74	276.6
8. Winthrop South	759345.1	********	759303.0	********	1639.	181.	AG	0.	100.0	1.0	20.0	1.76	83.3
9. MVP West	759293.5	********	753906.0	********	5393.	273.	AG	0.	100.0	1.0	10.0	1.74	274.0
10. South St	761297.7	********	761030.2	********	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
11. Boston Ave. SB LT	759658.7	********	759417.7	********	510.	332.	AG	0.	100.0	1.0	10.0	1.08	25.9
12. Boston Ave. SB R	759646.0	********	759611.1	********	75.	332.	AG	0.	100.0	1.0	10.0	0.44	3.8
13. College Ave EB L	759636.4	********	759594.7	********	92.	207.	AG	0.	100.0	1.0	10.0	0.54	4.7
14. College Ave. EB TR	759648.1	********	759575.2	********	159.	207.	AG	0.	100.0	1.0	10.0	0.83	8.1
15. Boston Ave. NB	759699.9	********	760274.1	********	1206.	152.	AG	0.	100.0	1.0	10.0	1.30	61.3
16. College Ave WB	759720.8	********	760102.8	********	658.	35.	AG	0.	100.0	1.0	10.0	1.10	33.4
17. Main St. SB	762042.2	********	761127.0	********	2979.	342.	AG	0.	100.0	1.0	10.0	1.69	151.3
18. Harvard St. EB	762026.6	********	759903.7	********	2419.	241.	AG	0.	100.0	1.0	10.0	1.46	122.9
19. Main st. NB	762078.3	********	762509.4	********	1359.	162.	AG	0.	100.0	1.0	10.0	1.28	69.1
20. Harvard St. WB	762091.8	********	764003.5	********	2003.	73.	AG	0.	100.0	1.0	10.0	1.37	101.7
21. Broadway EB R	762959.1	********	762866.8	********	100.	293.	AG	0.	100.0	1.0	10.0	0.43	5.1
22. Broadway EB TL	762965.1	********	760613.9	********	2566.	294.	AG	0.	100.0	1.0	10.0	1.84	130.4
23. Parking Lot	763003.3	********	762884.9	********	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
24. Medford St. NB	763093.0	********	764136.0	********	2118.	150.	AG	0.	100.0	1.0	10.0	1.68	107.6
25. Broadway St. WB	763115.6	********	764942.7	********	1990.	113.	AG	0.	100.0	1.0	20.0	1.63	101.1
26. Dexter St. SWB	763101.5	********	763435.8	********	460.	47.	AG	0.	100.0	1.0	10.0	1.92	23.4
27. Medford St. SB	763008.3	********	762735.2	********	865.	342.	AG	0.	100.0	1.0	10.0	1.33	44.0
28. Highland St. EB	763277.6	********	763104.1	********	189.	294.	AG	0.	100.0	1.0	10.0	0.94	9.6
29. Central St NB	763301.4	********	763009.2	********	663.	206.	AG	0.	100.0	1.0	10.0	1.09	33.7
30. Highland St. WB	763328.5	********	763840.7	********	559.	114.	AG	0.	100.0	1.0	10.0	1.06	28.4
31. Central St. SB	763311.4	********	763330.5	********	41.	27.	AG	0.	100.0	1.0	10.0	0.29	2.1
32. Medford St. NWB	765022.2	********	767439.5	********	3935.	142.	AG	0.	100.0	1.0	10.0	1.69	199.9
33. School St. SB	765002.3	********	765368.6	********	849.	26.	AG	0.	100.0	1.0	10.0	1.24	43.1
34. Medford St. SEB	764967.1	********	764536.8	********	695.	322.	AG	0.	100.0	1.0	10.0	1.09	35.3
35. Prospect SB	765830.6	********	766363.7	********	1030.	31.	AG	0.	100.0	1.0	20.0	1.20	52.3
36. Sommerville WB	765870.1	********	767187.0	********	1467.	116.	AG	0.	100.0	1.0	20.0	2.07	74.5
37. Prospect NB	765828.4	********	765490.3	********	763.	206.	AG	0.	100.0	1.0	30.0	1.11	38.8
38. Somerville EB	765797.5	********	765679.5	********	131.	296.	AG	0.	100.0	1.0	20.0	0.63	6.7
39. McGrath Highway SB1	766950.5	********	766521.0	********	2363.	350.	AG	0.	100.0	1.0	20.0	4.42	120.0
40. Washington St. EB	766952.8	********	757835.8	********	9779.	249.	AG	0.	100.0	1.0	10.0	3.40	496.8
41. McGrath Hwy NB2 L	767105.3	********	767110.0	********	35.	172.	AG	0.	100.0	1.0	10.0	0.46	1.8
42. McGrath Hwy NB2 T	767119.9	********	767679.5	********	4559.	173.	AG	0.	100.0	1.0	10.0	4.38	231.6
43. Washington St. WB	767129.9	********	767301.0	********	187.	67.	AG	0.	100.0	1.0	30.0	0.76	9.5
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:50

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	0.	100.0	1.0	20.0	1.20	56.5
50. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	0.	100.0	1.0	20.0	0.73	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	840.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2590.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2420.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	990.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1865.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2340.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	2395.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:50

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	113	83	3.0	325	1600	0.07	1	3
2. MVP West	*	113	53	3.0	1180	1600	0.07	1	3
3. Boston Ave South	*	113	83	3.0	555	1600	0.07	1	3
4. MVP East	*	113	53	3.0	1360	1600	0.07	1	3
5. Winthrop North	*	135	91	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	55	3.0	440	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1135	1600	0.07	1	3
8. Winthrop South	*	135	115	3.0	625	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1130	1600	0.07	1	3
10. South St	*	120	90	3.0	670	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	105	3.0	320	1600	0.07	1	3
12. Boston Ave. SB R	*	135	105	3.0	130	1600	0.07	1	3
13. College Ave EB L	*	135	105	3.0	160	1600	0.07	1	3
14. College Ave. EB TR	*	135	105	3.0	246	1600	0.07	1	3
15. Boston Ave. NB	*	135	105	3.0	385	1600	0.07	1	3
16. College Ave WB	*	135	100	3.0	390	1600	0.07	1	3
17. Main St. SB	*	92	65	3.0	645	1600	0.07	1	3
18. Harvard St. EB	*	92	61	3.0	660	1600	0.07	1	3
19. Main st. NB	*	92	65	3.0	490	1600	0.07	1	3
20. Harvard St. WB	*	92	61	3.0	620	1600	0.07	1	3
21. Broadway EB R	*	122	72	3.0	255	1600	0.07	1	3
22. Broadway EB TL	*	122	97	3.0	482	1600	0.07	1	3
23. Parking Lot	*	122	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	122	97	3.0	440	1600	0.07	1	3
25. Broadway St. WB	*	122	97	3.0	856	1600	0.07	1	3
26. Dexter St. SWB	*	122	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	122	102	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	86	56	3.0	435	1600	0.07	1	3
29. Central St NB	*	86	56	3.0	505	1600	0.07	1	3
30. Highland St. WB	*	86	56	3.0	495	1600	0.07	1	3
31. Central St. SB	*	86	56	3.0	135	1600	0.07	1	3
32. Medford St. NWB	*	70	42	3.0	885	1600	0.07	1	3
33. School St. SB	*	70	53	3.0	340	1600	0.07	1	3
34. Medford St. SEB	*	70	42	3.0	570	1600	0.07	1	3
35. Prospect SB	*	109	79	3.0	880	1600	0.07	1	3
36. Sommerville WB	*	109	96	3.0	485	1600	0.07	1	3
37. Prospect NB	*	109	76	3.0	1375	1600	0.07	1	3
38. Somerville EB	*	109	62	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	133	123	3.0	530	1600	0.07	1	3
40. Washington St. EB	*	133	97	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	0.07	1	3
43. Washington St. WB	*	133	83	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	930	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	975	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:50

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:15:50

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	7.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	8.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	9.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
90.	9.	9.	8.	7.	7.	6.	7.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	9.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	7.	8.	8.	8.	6.	6.	6.	5.	5.
110.	9.	9.	9.	7.	6.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	8.	8.	7.	6.	5.
120.	8.	8.	8.	6.	6.	6.	6.	8.	8.	7.	5.	6.	7.	7.	7.	9.	9.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	8.	7.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
160.	5.	5.	6.	6.	5.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	5.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	5.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	5.	5.	5.	5.	5.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	7.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	9.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	9.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	8.	9.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	10.	9.	8.	7.	7.	7.	6.	6.
310.	8.	9.	9.	6.	6.	7.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	9.	8.	6.	6.	6.	7.	8.	8.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	6.	7.	9.	8.	8.	7.	8.	8.	8.	8.	6.	6.	6.	6.	6.
340.	7.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	8.	8.	8.	7.	6.	7.	7.	9.	8.	8.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	9.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	10.	9.	8.	9.	9.	9.	7.	7.
DEGR.	100	100	100	90	90	0	0	100	340	340	310	310	300	300	300	280	120	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	7.
20.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	* 6.	6.	7.	6.	6.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	7.	8.	6.	6.	7.	8.	9.	9.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	7.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	8.	7.	6.	8.	8.	9.	9.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	7.	6.	6.	6.	5.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	5.	6.	5.	6.	7.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	6.	8.	7.	7.	6.	6.	6.	5.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	* 6.	7.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	7.	8.	7.	7.	6.	7.	9.	9.	9.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 5.	6.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	7.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	270	160	150	150	120	120	120	110	110	110	320	110	80	70	290	40	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	7.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	8.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	7.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	5.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	7.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	7.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	0	330	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

Alt-5A -- 7_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:16: 9

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761030.2	******** *	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	* 759658.7	********	759417.7	******** *	510.	332.	AG	0.	100.0	1.0	10.0	1.08	25.9
3. Boston Ave. SB R	* 759646.0	********	759611.1	******** *	75.	332.	AG	0.	100.0	1.0	10.0	0.44	3.8
4. College Ave EB L	* 759636.4	********	759594.7	******** *	92.	207.	AG	0.	100.0	1.0	10.0	0.54	4.7
5. College Ave. EB TR	* 759648.1	********	759575.2	******** *	159.	207.	AG	0.	100.0	1.0	10.0	0.83	8.1
6. Boston Ave. NB	* 759699.9	********	760274.1	******** *	1206.	152.	AG	0.	100.0	1.0	10.0	1.30	61.3
7. College Ave WB	* 759720.8	********	760102.8	******** *	658.	35.	AG	0.	100.0	1.0	10.0	1.10	33.4
8. Main St. SB	* 762042.2	********	761127.0	******** *	2979.	342.	AG	0.	100.0	1.0	10.0	1.69	151.3
9. Harvard St. EB	* 762026.6	********	759903.7	******** *	2419.	241.	AG	0.	100.0	1.0	10.0	1.46	122.9
10. Main st. NB	* 762078.3	********	762509.4	******** *	1359.	162.	AG	0.	100.0	1.0	10.0	1.28	69.1
11. Harvard St. WB	* 762091.8	********	764003.5	******** *	2003.	73.	AG	0.	100.0	1.0	10.0	1.37	101.7
12. Broadway EB R	* 762959.1	********	762866.8	******** *	100.	293.	AG	0.	100.0	1.0	10.0	0.43	5.1
13. Broadway EB TL	* 762965.1	********	760613.9	******** *	2566.	294.	AG	0.	100.0	1.0	10.0	1.84	130.4
14. Parking Lot	* 763003.3	********	762884.9	******** *	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
15. Medford St. NB	* 763093.0	********	764136.0	******** *	2118.	150.	AG	0.	100.0	1.0	10.0	1.68	107.6
16. Broadway St. WB	* 763115.6	********	764942.7	******** *	1990.	113.	AG	0.	100.0	1.0	20.0	1.63	101.1
17. Dexter St. SWB	* 763101.5	********	763435.8	******** *	460.	47.	AG	0.	100.0	1.0	10.0	1.92	23.4
18. Medford St. SB	* 763008.3	********	762735.2	******** *	865.	342.	AG	0.	100.0	1.0	10.0	1.33	44.0
19. Highland St. EB	* 763277.6	********	763104.1	******** *	189.	294.	AG	0.	100.0	1.0	10.0	0.94	9.6
20. Central St NB	* 763301.4	********	763009.2	******** *	663.	206.	AG	0.	100.0	1.0	10.0	1.09	33.7
21. Highland St. WB	* 763328.5	********	763840.7	******** *	559.	114.	AG	0.	100.0	1.0	10.0	1.06	28.4
22. Central St. SB	* 763311.4	********	763330.5	******** *	41.	27.	AG	0.	100.0	1.0	10.0	0.29	2.1
23. Medford St. NWB	* 765022.2	********	767439.5	******** *	3935.	142.	AG	0.	100.0	1.0	10.0	1.69	199.9
24. School St. SB	* 765002.3	********	765368.6	******** *	849.	26.	AG	0.	100.0	1.0	10.0	1.24	43.1
25. Medford St. SEB	* 764967.1	********	764536.8	******** *	695.	322.	AG	0.	100.0	1.0	10.0	1.09	35.3
26. Prospect SB	* 765830.6	********	766363.7	******** *	1030.	31.	AG	0.	100.0	1.0	20.0	1.20	52.3
27. Sommerville WB	* 765870.1	********	767187.0	******** *	1467.	116.	AG	0.	100.0	1.0	20.0	2.07	74.5
28. Prospect NB	* 765828.4	********	765490.3	******** *	763.	206.	AG	0.	100.0	1.0	30.0	1.11	38.8
29. Somerville EB	* 765797.5	********	765679.5	******** *	131.	296.	AG	0.	100.0	1.0	20.0	0.63	6.7
30. McGrath Highway SB1	* 766950.5	********	766521.0	******** *	2363.	350.	AG	0.	100.0	1.0	20.0	4.42	120.0
31. Washington St. EB	* 766952.8	********	757835.8	******** *	9779.	249.	AG	0.	100.0	1.0	10.0	3.40	496.8
32. McGrath Hwy NB2 L	* 767105.3	********	767110.0	******** *	35.	172.	AG	0.	100.0	1.0	10.0	0.46	1.8
33. McGrath Hwy NB2 T	* 767119.9	********	767679.5	******** *	4559.	173.	AG	0.	100.0	1.0	10.0	4.38	231.6
34. Washington St. WB	* 767129.9	********	767301.0	******** *	187.	67.	AG	0.	100.0	1.0	30.0	0.76	9.5
35. Msgr Obrien EB	* 769756.4	********	767694.3	******** *	2505.	305.	AG	0.	100.0	1.0	20.0	1.35	127.2
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.1	******** *	20.	189.	AG	0.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	* 769858.1	********	771232.3	******** *	1670.	125.	AG	0.	100.0	1.0	20.0	1.22	84.8
39. Msgr Obrien L	* 771462.2	********	767924.5	******** *	4295.	305.	AG	0.	100.0	1.0	10.0	3.63	218.2
40. Msgr Obrien WB T	* 771449.0	********	771334.4	******** *	139.	304.	AG	0.	100.0	1.0	30.0	0.67	7.0
41. Charlestown NB L	* 771477.7	********	770230.1	******** *	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	* 771490.8	********	769020.1	******** *	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774207.9	******** *	3187.	124.	AG	0.	100.0	1.0	10.0	4.03	161.9

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:16: 9

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771743.7	********	196.	124.	AG	0.	100.0	1.0	20.0	0.87	10.0
46. Msgr Obrien WB R	771588.6	********	771703.1	********	138.	124.	AG	0.	100.0	1.0	10.0	0.58	7.0
47. Charlestown SB LT	771546.2	********	772027.6	********	933.	31.	AG	0.	100.0	1.0	10.0	1.31	47.4
48. Charlestown SB TR	771535.3	********	774709.8	********	5909.	32.	AG	0.	100.0	1.0	10.0	3.36	300.2
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	0.	100.0	1.0	20.0	1.20	56.5
55. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	0.	100.0	1.0	20.0	0.73	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1253.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3887.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2708.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3455.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3225.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. South St	*	120	90	3.0	670	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	105	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	105	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	105	3.0	160	1600	0.07	1	3
5. College Ave. EB TR	*	135	105	3.0	246	1600	0.07	1	3
6. Boston Ave. NB	*	135	105	3.0	385	1600	0.07	1	3
7. College Ave WB	*	135	100	3.0	390	1600	0.07	1	3
8. Main St. SB	*	92	65	3.0	645	1600	0.07	1	3
9. Harvard St. EB	*	92	61	3.0	660	1600	0.07	1	3
10. Main st. NB	*	92	65	3.0	490	1600	0.07	1	3
11. Harvard St. WB	*	92	61	3.0	620	1600	0.07	1	3
12. Broadway EB R	*	122	72	3.0	255	1600	0.07	1	3
13. Broadway EB TL	*	122	97	3.0	482	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	122	97	3.0	440	1600	0.07	1	3
16. Broadway St. WB	*	122	97	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	122	102	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	86	56	3.0	435	1600	0.07	1	3
20. Central St NB	*	86	56	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	86	56	3.0	495	1600	0.07	1	3
22. Central St. SB	*	86	56	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	70	42	3.0	885	1600	0.07	1	3
24. School St. SB	*	70	53	3.0	340	1600	0.07	1	3
25. Medford St. SEB	*	70	42	3.0	570	1600	0.07	1	3
26. Prospect SB	*	109	79	3.0	880	1600	0.07	1	3
27. Sommerville WB	*	109	96	3.0	485	1600	0.07	1	3
28. Prospect NB	*	109	76	3.0	1375	1600	0.07	1	3
29. Somerville EB	*	109	62	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	133	123	3.0	530	1600	0.07	1	3
31. Washington St. EB	*	133	97	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	0.07	1	3
34. Washington St. WB	*	133	83	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1586	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1427	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	530	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	965	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	375	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	745	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	415	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	295	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	760	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	930	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	975	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
30.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	6.	7.	7.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	5.	6.	8.	8.	7.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	7.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
310.	6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
320.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.
340.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	7.	7.	7.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	10	300	300	300	280	130	280	220	220	200	200	120	120	120	100	100	100	50	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	8.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.
30.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	7.	7.	7.	5.	5.	7.	7.	8.	7.	7.
40.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	8.	7.	6.
50.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	8.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
130.	6.	6.	9.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	7.	6.
140.	6.	6.	9.	8.	8.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	8.	8.	8.	6.	6.
150.	5.	6.	8.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	8.	8.	7.	7.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	7.	7.	8.	8.	8.	7.	6.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	6.	6.	8.	8.	8.	8.	7.	7.	6.	5.
330.	6.	6.	9.	8.	8.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
340.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
350.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	8.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
MAX	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	10	130	130	130	150	150	150	220	220	190	190	150	150	150	140	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

Alt-5A -- 7_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	0.	100.0	1.0	10.0	1.08	25.9
3. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	0.	100.0	1.0	10.0	0.44	3.8
4. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	0.	100.0	1.0	10.0	0.54	4.7
5. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	0.	100.0	1.0	10.0	0.83	8.1
6. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	0.	100.0	1.0	10.0	1.30	61.3
7. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	0.	100.0	1.0	10.0	1.10	33.4
8. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	0.	100.0	1.0	10.0	1.69	151.3
9. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	0.	100.0	1.0	10.0	1.46	122.9
10. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	0.	100.0	1.0	10.0	1.28	69.1
11. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	0.	100.0	1.0	10.0	1.37	101.7
12. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	0.	100.0	1.0	10.0	0.43	5.1
13. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	0.	100.0	1.0	10.0	1.84	130.4
14. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
15. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	0.	100.0	1.0	10.0	1.68	107.6
16. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	0.	100.0	1.0	20.0	1.63	101.1
17. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	0.	100.0	1.0	10.0	1.92	23.4
18. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	0.	100.0	1.0	10.0	1.33	44.0
19. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	0.	100.0	1.0	10.0	0.94	9.6
20. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	0.	100.0	1.0	10.0	1.09	33.7
21. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	0.	100.0	1.0	10.0	1.06	28.4
22. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	0.	100.0	1.0	10.0	0.29	2.1
23. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	0.	100.0	1.0	10.0	1.69	199.9
24. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	0.	100.0	1.0	10.0	1.24	43.1
25. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	0.	100.0	1.0	10.0	1.09	35.3
26. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	0.	100.0	1.0	20.0	1.20	52.3
27. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	0.	100.0	1.0	20.0	2.07	74.5
28. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	0.	100.0	1.0	30.0	1.11	38.8
29. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	0.	100.0	1.0	20.0	0.63	6.7
30. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	0.	100.0	1.0	20.0	4.42	120.0
31. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	0.	100.0	1.0	10.0	3.40	496.8
32. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	0.	100.0	1.0	10.0	0.46	1.8
33. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	0.	100.0	1.0	10.0	4.38	231.6
34. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	0.	100.0	1.0	30.0	0.76	9.5
35. Msgr Obrien EB	*	769756.4	********	767694.3	********	*	2505.	305.	AG	0.	100.0	1.0	20.0	1.35	127.2
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.1	********	*	20.	189.	AG	0.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	*	769858.1	********	771232.3	********	*	1670.	125.	AG	0.	100.0	1.0	20.0	1.22	84.8
39. Msgr Obrien L	*	771462.2	********	767924.5	********	*	4295.	305.	AG	0.	100.0	1.0	10.0	3.63	218.2
40. Msgr Obrien WB T	*	771449.0	********	771334.4	********	*	139.	304.	AG	0.	100.0	1.0	30.0	0.67	7.0
41. Charlestown NB L	*	771477.7	********	770230.1	********	*	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	*	771490.8	********	769020.1	********	*	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	*	771500.8	********	770695.7	********	*	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	*	771572.2	********	774207.9	********	*	3187.	124.	AG	0.	100.0	1.0	10.0	4.03	161.9

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771743.7	********	196.	124.	AG	0.	100.0	1.0	20.0	0.87	10.0
46. Msgr Obrien WB R	771588.6	********	771703.1	********	138.	124.	AG	0.	100.0	1.0	10.0	0.58	7.0
47. Charlestown SB LT	771546.2	********	772027.6	********	933.	31.	AG	0.	100.0	1.0	10.0	1.31	47.4
48. Charlestown SB TR	771535.3	********	774709.8	********	5909.	32.	AG	0.	100.0	1.0	10.0	3.36	300.2
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	0.	100.0	1.0	20.0	1.20	56.5
55. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	0.	100.0	1.0	20.0	0.73	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1253.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3887.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2708.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3455.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3225.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	670	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	105	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	105	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	105	3.0	160	1600	0.07	1	3
5. College Ave. EB TR	*	135	105	3.0	246	1600	0.07	1	3
6. Boston Ave. NB	*	135	105	3.0	385	1600	0.07	1	3
7. College Ave WB	*	135	100	3.0	390	1600	0.07	1	3
8. Main St. SB	*	92	65	3.0	645	1600	0.07	1	3
9. Harvard St. EB	*	92	61	3.0	660	1600	0.07	1	3
10. Main st. NB	*	92	65	3.0	490	1600	0.07	1	3
11. Harvard St. WB	*	92	61	3.0	620	1600	0.07	1	3
12. Broadway EB R	*	122	72	3.0	255	1600	0.07	1	3
13. Broadway EB TL	*	122	97	3.0	482	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	122	97	3.0	440	1600	0.07	1	3
16. Broadway St. WB	*	122	97	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	122	102	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	86	56	3.0	435	1600	0.07	1	3
20. Central St NB	*	86	56	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	86	56	3.0	495	1600	0.07	1	3
22. Central St. SB	*	86	56	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	70	42	3.0	885	1600	0.07	1	3
24. School St. SB	*	70	53	3.0	340	1600	0.07	1	3
25. Medford St. SEB	*	70	42	3.0	570	1600	0.07	1	3
26. Prospect SB	*	109	79	3.0	880	1600	0.07	1	3
27. Sommerville WB	*	109	96	3.0	485	1600	0.07	1	3
28. Prospect NB	*	109	76	3.0	1375	1600	0.07	1	3
29. Somerville EB	*	109	62	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	133	123	3.0	530	1600	0.07	1	3
31. Washington St. EB	*	133	97	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	0.07	1	3
34. Washington St. WB	*	133	83	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1586	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1427	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	530	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	965	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	375	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	745	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	415	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	295	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	760	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	930	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	975	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:16:24

57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	7.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	9.	8.	8.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	10.	8.	8.	6.	6.	9.	9.	8.	6.	6.	7.	5.	5.
30.	8.	9.	11.	10.	10.	9.	10.	9.	8.	8.	6.	6.	8.	8.	8.	7.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	8.	8.	7.	9.	9.	6.	5.
50.	9.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	6.
60.	10.	11.	11.	10.	10.	7.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	10.	10.	7.	6.
70.	11.	12.	10.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	10.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	7.	10.	10.	11.	10.	8.	8.
90.	12.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	12.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	8.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	12.	10.	10.
130.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	7.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	9.
160.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	9.	9.
170.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	8.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	8.
190.	6.	6.	9.	9.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	9.	9.	7.	7.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	9.	6.	5.	7.	8.	10.	9.	9.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	10.	9.	10.	7.	7.	8.	8.	7.
240.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	9.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	9.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	9.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	9.	8.	7.	7.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	7.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	10.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	12.	10.	10.
DEGR.	100	70	40	60	50	10	0	300	300	310	280	280	290	220	260	200	70	120	120	120

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	8.	6.	6.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	8.	5.	5.	5.	5.	5.
30.	8.	7.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
40.	7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	6.	7.	9.	9.	5.	6.	6.	5.	5.
50.	7.	7.	7.	7.	6.	10.	10.	9.	7.	7.	6.	6.	7.	10.	9.	6.	6.	6.	5.	5.
60.	7.	8.	8.	7.	7.	10.	10.	8.	7.	6.	5.	6.	6.	10.	9.	7.	7.	8.	5.	5.
70.	8.	9.	8.	8.	8.	10.	9.	8.	6.	6.	5.	5.	6.	8.	8.	9.	9.	10.	6.	6.
80.	8.	9.	7.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	9.	10.	10.	6.	6.
90.	8.	8.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	9.	10.	10.	7.	6.
100.	8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
110.	8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	9.	8.	7.	6.
130.	8.	8.	7.	8.	8.	7.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.
140.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	8.	7.	7.
150.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	8.	9.	8.	7.	7.
170.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.	8.	8.	6.	6.	5.	8.	9.	9.	8.	8.
180.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	9.	9.	9.	8.	8.
190.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	7.	7.	6.	10.	10.	9.	8.	8.
210.	6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	7.	6.	6.	10.	10.	9.	8.	8.
220.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	8.	6.	7.	6.	10.	10.	10.	8.	8.
230.	6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	7.	6.	8.	7.	11.	11.	10.	8.	8.
240.	6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	10.	10.	10.	8.	8.
250.	6.	6.	7.	8.	8.	10.	10.	10.	6.	6.	8.	9.	8.	9.	10.	9.	9.	9.	7.	7.
260.	5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	8.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	8.	7.	9.	10.	6.	6.	7.	7.	7.
280.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	6.	9.	9.	6.	6.	7.	7.	7.
300.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
320.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	7.
330.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	6.	6.	7.	7.	8.
340.	6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	9.	8.	9.	9.	5.	6.	6.	7.	7.
350.	8.	8.	8.	6.	5.	8.	8.	10.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	8.	8.	8.	6.	6.	8.	8.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	8.	9.	8.	9.	9.	11.	11.	10.	8.	7.	9.	9.	8.	10.	10.	11.	11.	10.	8.	8.
DEGR.	90	80	150	230	230	260	260	260	350	0	340	260	250	50	250	230	230	80	180	180

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC2 .

Alt-5A -- 7_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:16:39

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761030.2	********	*	274.	282.	AG	0.	100.0	1.0	20.0	1.01	13.9
2. Boston Ave. SB LT	*	759658.7	********	759417.7	********	*	510.	332.	AG	0.	100.0	1.0	10.0	1.08	25.9
3. Boston Ave. SB R	*	759646.0	********	759611.1	********	*	75.	332.	AG	0.	100.0	1.0	10.0	0.44	3.8
4. College Ave EB L	*	759636.4	********	759594.7	********	*	92.	207.	AG	0.	100.0	1.0	10.0	0.54	4.7
5. College Ave. EB TR	*	759648.1	********	759575.2	********	*	159.	207.	AG	0.	100.0	1.0	10.0	0.83	8.1
6. Boston Ave. NB	*	759699.9	********	760274.1	********	*	1206.	152.	AG	0.	100.0	1.0	10.0	1.30	61.3
7. College Ave WB	*	759720.8	********	760102.8	********	*	658.	35.	AG	0.	100.0	1.0	10.0	1.10	33.4
8. Main St. SB	*	762042.2	********	761127.0	********	*	2979.	342.	AG	0.	100.0	1.0	10.0	1.69	151.3
9. Harvard St. EB	*	762026.6	********	759903.7	********	*	2419.	241.	AG	0.	100.0	1.0	10.0	1.46	122.9
10. Main st. NB	*	762078.3	********	762509.4	********	*	1359.	162.	AG	0.	100.0	1.0	10.0	1.28	69.1
11. Harvard St. WB	*	762091.8	********	764003.5	********	*	2003.	73.	AG	0.	100.0	1.0	10.0	1.37	101.7
12. Broadway EB R	*	762959.1	********	762866.8	********	*	100.	293.	AG	0.	100.0	1.0	10.0	0.43	5.1
13. Broadway EB TL	*	762965.1	********	760613.9	********	*	2566.	294.	AG	0.	100.0	1.0	10.0	1.84	130.4
14. Parking Lot	*	763003.3	********	762884.9	********	*	179.	222.	AG	0.	100.0	1.0	10.0	1.28	9.1
15. Medford St. NB	*	763093.0	********	764136.0	********	*	2118.	150.	AG	0.	100.0	1.0	10.0	1.68	107.6
16. Broadway St. WB	*	763115.6	********	764942.7	********	*	1990.	113.	AG	0.	100.0	1.0	20.0	1.63	101.1
17. Dexter St. SWB	*	763101.5	********	763435.8	********	*	460.	47.	AG	0.	100.0	1.0	10.0	1.92	23.4
18. Medford St. SB	*	763008.3	********	762735.2	********	*	865.	342.	AG	0.	100.0	1.0	10.0	1.33	44.0
19. Highland St. EB	*	763277.6	********	763104.1	********	*	189.	294.	AG	0.	100.0	1.0	10.0	0.94	9.6
20. Central St NB	*	763301.4	********	763009.2	********	*	663.	206.	AG	0.	100.0	1.0	10.0	1.09	33.7
21. Highland St. WB	*	763328.5	********	763840.7	********	*	559.	114.	AG	0.	100.0	1.0	10.0	1.06	28.4
22. Central St. SB	*	763311.4	********	763330.5	********	*	41.	27.	AG	0.	100.0	1.0	10.0	0.29	2.1
23. Medford St. NWB	*	765022.2	********	767439.5	********	*	3935.	142.	AG	0.	100.0	1.0	10.0	1.69	199.9
24. School St. SB	*	765002.3	********	765368.6	********	*	849.	26.	AG	0.	100.0	1.0	10.0	1.24	43.1
25. Medford St. SEB	*	764967.1	********	764536.8	********	*	695.	322.	AG	0.	100.0	1.0	10.0	1.09	35.3
26. Prospect SB	*	765830.6	********	766363.7	********	*	1030.	31.	AG	0.	100.0	1.0	20.0	1.20	52.3
27. Sommerville WB	*	765870.1	********	767187.0	********	*	1467.	116.	AG	0.	100.0	1.0	20.0	2.07	74.5
28. Prospect NB	*	765828.4	********	765490.3	********	*	763.	206.	AG	0.	100.0	1.0	30.0	1.11	38.8
29. Somerville EB	*	765797.5	********	765679.5	********	*	131.	296.	AG	0.	100.0	1.0	20.0	0.63	6.7
30. McGrath Highway SB1	*	766950.5	********	766521.0	********	*	2363.	350.	AG	0.	100.0	1.0	20.0	4.42	120.0
31. Washington St. EB	*	766952.8	********	757835.8	********	*	9779.	249.	AG	0.	100.0	1.0	10.0	3.40	496.8
32. McGrath Hwy NB2 L	*	767105.3	********	767110.0	********	*	35.	172.	AG	0.	100.0	1.0	10.0	0.46	1.8
33. McGrath Hwy NB2 T	*	767119.9	********	767679.5	********	*	4559.	173.	AG	0.	100.0	1.0	10.0	4.38	231.6
34. Washington St. WB	*	767129.9	********	767301.0	********	*	187.	67.	AG	0.	100.0	1.0	30.0	0.76	9.5
35. Msgr Obrien EB	*	769756.4	********	767694.3	********	*	2505.	305.	AG	0.	100.0	1.0	20.0	1.35	127.2
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.1	********	*	20.	189.	AG	0.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	*	769858.1	********	771232.3	********	*	1670.	125.	AG	0.	100.0	1.0	20.0	1.22	84.8
39. Msgr Obrien L	*	771462.2	********	767924.5	********	*	4295.	305.	AG	0.	100.0	1.0	10.0	3.63	218.2
40. Msgr Obrien WB T	*	771449.0	********	771334.4	********	*	139.	304.	AG	0.	100.0	1.0	30.0	0.67	7.0
41. Charlestown NB L	*	771477.7	********	770230.1	********	*	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	*	771490.8	********	769020.1	********	*	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	*	771500.8	********	770695.7	********	*	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	*	771572.2	********	774207.9	********	*	3187.	124.	AG	0.	100.0	1.0	10.0	4.03	161.9

JOB: Greenline Extension RUN: No Build

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771743.7	********	196.	124.	AG	0.	100.0	1.0	20.0	0.87	10.0
46. Msgr Obrien WB R	771588.6	********	771703.1	********	138.	124.	AG	0.	100.0	1.0	10.0	0.58	7.0
47. Charlestown SB LT	771546.2	********	772027.6	********	933.	31.	AG	0.	100.0	1.0	10.0	1.31	47.4
48. Charlestown SB TR	771535.3	********	774709.8	********	5909.	32.	AG	0.	100.0	1.0	10.0	3.36	300.2
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770276.9	********	1440.	189.	AG	0.	100.0	1.0	10.0	1.55	73.2
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769564.7	********	1111.	302.	AG	0.	100.0	1.0	20.0	1.20	56.5
55. MsgrOb/East WB T	770636.9	********	770769.8	********	173.	130.	AG	0.	100.0	1.0	20.0	0.73	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770504.4	********	116.	202.	AG	0.	100.0	1.0	10.0	0.77	5.9
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	670.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2500.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2890.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1050.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	771.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	771.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	626.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	815.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1145.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1325.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1100.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1260.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1794.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	895.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1391.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	585.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	955.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	640.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	570.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1385.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	540.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1155.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	510.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2085.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2600.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1375.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	530.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1255.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2330.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2330.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	530.	0.0	1.0	42.0		

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1255.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2360.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1253.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3887.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2708.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3455.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3380.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3225.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	700.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1215.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2460.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2200.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	670	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	105	3.0	320	1600	0.07	1	3
3. Boston Ave. SB R	*	135	105	3.0	130	1600	0.07	1	3
4. College Ave EB L	*	135	105	3.0	160	1600	0.07	1	3
5. College Ave. EB TR	*	135	105	3.0	246	1600	0.07	1	3
6. Boston Ave. NB	*	135	105	3.0	385	1600	0.07	1	3
7. College Ave WB	*	135	100	3.0	390	1600	0.07	1	3
8. Main St. SB	*	92	65	3.0	645	1600	0.07	1	3
9. Harvard St. EB	*	92	61	3.0	660	1600	0.07	1	3
10. Main st. NB	*	92	65	3.0	490	1600	0.07	1	3
11. Harvard St. WB	*	92	61	3.0	620	1600	0.07	1	3
12. Broadway EB R	*	122	72	3.0	255	1600	0.07	1	3
13. Broadway EB TL	*	122	97	3.0	482	1600	0.07	1	3
14. Parking Lot	*	122	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	122	97	3.0	440	1600	0.07	1	3
16. Broadway St. WB	*	122	97	3.0	856	1600	0.07	1	3
17. Dexter St. SWB	*	122	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	122	102	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	86	56	3.0	435	1600	0.07	1	3
20. Central St NB	*	86	56	3.0	505	1600	0.07	1	3
21. Highland St. WB	*	86	56	3.0	495	1600	0.07	1	3
22. Central St. SB	*	86	56	3.0	135	1600	0.07	1	3
23. Medford St. NWB	*	70	42	3.0	885	1600	0.07	1	3
24. School St. SB	*	70	53	3.0	340	1600	0.07	1	3
25. Medford St. SEB	*	70	42	3.0	570	1600	0.07	1	3
26. Prospect SB	*	109	79	3.0	880	1600	0.07	1	3
27. Sommerville WB	*	109	96	3.0	485	1600	0.07	1	3
28. Prospect NB	*	109	76	3.0	1375	1600	0.07	1	3
29. Somerville EB	*	109	62	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	133	123	3.0	530	1600	0.07	1	3
31. Washington St. EB	*	133	97	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	133	118	3.0	55	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	133	118	3.0	525	1600	0.07	1	3
34. Washington St. WB	*	133	83	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1586	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1427	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	530	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	965	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	375	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	745	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	415	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	295	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	760	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	330	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	930	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	975	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	205	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	8.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	8.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	8.	5.	5.	5.	5.	5.	8.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.	8.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	9.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	10.	12.	12.	12.	12.
60.	10.	10.	9.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	10.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	8.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	11.	10.	10.	6.	6.	5.	6.	6.	13.	13.	13.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	11.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	8.	11.	11.	11.	10.	10.	9.	10.	10.	14.	13.	13.	10.	10.
130.	10.	10.	10.	8.	8.	6.	6.	9.	9.	9.	12.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	7.	8.	8.	7.	7.	6.	6.	7.	6.	6.	11.	12.	10.	11.	11.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	9.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	10.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	9.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	11.	10.	10.	11.	11.	6.	6.	6.	5.	5.
290.	7.	7.	7.	5.	5.	7.	7.	8.	8.	7.	11.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	10.	10.	11.	6.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	10.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	9.	13.	12.	12.	9.	9.	8.	9.	9.	11.	13.	13.	7.	6.
320.	13.	13.	13.	9.	8.	9.	10.	13.	11.	11.	6.	6.	6.	7.	7.	11.	12.	12.	8.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	8.	7.
340.	11.	11.	11.	8.	7.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	8.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	8.	10.	8.	8.	7.
MAX	13.	13.	13.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	110	320	320	110	110	330	320	310	310	310	130	130	290	290	290	110	110	110	40	50

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	10.	10.	9.	6.	5.
40.	10.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	9.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	10.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	11.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	10.	10.	10.	8.	7.	10.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	9.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	14.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	9.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	9.	9.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	9.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	10.	10.	7.	8.	10.	10.	10.
290.	10.	10.	10.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	11.	10.
300.	10.	11.	14.	12.	11.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	9.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	8.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	230	220	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

Alt-5B -- 5_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10: 4

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	0.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	0.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756741.0	********	*	685.	45.	AG	0.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	*	759327.2	********	759295.4	********	*	1124.	358.	AG	0.	100.0	1.0	20.0	1.18	57.1
6. MVP East RT	*	759381.7	********	759534.1	********	*	153.	93.	AG	0.	100.0	1.0	10.0	0.56	7.8
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754553.4	********	*	4745.	273.	AG	0.	100.0	1.0	10.0	1.63	241.0
10. South St	*	761297.7	********	761107.0	********	*	195.	282.	AG	0.	100.0	1.0	20.0	0.92	9.9
11. Boston Ave. SB LT	*	759658.7	********	759579.6	********	*	168.	332.	AG	0.	100.0	1.0	10.0	0.76	8.5
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759594.2	********	*	117.	207.	AG	0.	100.0	1.0	10.0	0.55	6.0
15. Boston Ave. NB	*	759699.9	********	760441.9	********	*	1558.	152.	AG	0.	100.0	1.0	10.0	1.45	79.2
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762175.9	********	*	308.	162.	AG	0.	100.0	1.0	10.0	0.99	15.6
20. Harvard St. WB	*	762091.8	********	763340.0	********	*	1308.	73.	AG	0.	100.0	1.0	10.0	1.19	66.4
21. Broadway EB R	*	762959.1	********	762881.8	********	*	84.	293.	AG	0.	100.0	1.0	10.0	0.35	4.3
22. Broadway EB TL	*	762965.1	********	762140.3	********	*	900.	294.	AG	0.	100.0	1.0	10.0	1.15	45.7
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764197.9	********	*	2243.	150.	AG	0.	100.0	1.0	10.0	1.80	114.0
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	*	763008.3	********	762468.9	********	*	1709.	342.	AG	0.	100.0	1.0	10.0	2.23	86.8
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764342.3	********	*	1106.	114.	AG	0.	100.0	1.0	10.0	1.20	56.2
31. Central St. SB	*	763311.4	********	763331.8	********	*	44.	27.	AG	0.	100.0	1.0	10.0	0.36	2.2
32. Medford St. NWB	*	765022.2	********	766006.0	********	*	1602.	142.	AG	0.	100.0	1.0	10.0	1.16	81.4
33. School St. SB	*	765002.3	********	765774.9	********	*	1790.	26.	AG	0.	100.0	1.0	10.0	1.79	90.9
34. Medford St. SEB	*	764967.1	********	764889.0	********	*	126.	322.	AG	0.	100.0	1.0	10.0	0.72	6.4
35. Prospect SB	*	765830.6	********	766028.7	********	*	383.	31.	AG	0.	100.0	1.0	20.0	1.02	19.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765178.6	********	*	1466.	206.	AG	0.	100.0	1.0	30.0	1.33	74.5
38. Somerville EB	*	765797.5	********	765683.3	********	*	127.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756603.2	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.72	563.9
41. McGrath Hwy NB2 L	*	767105.3	********	767109.6	********	*	32.	172.	AG	0.	100.0	1.0	10.0	0.16	1.7
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768182.6	********	*	1148.	67.	AG	0.	100.0	1.0	30.0	1.25	58.3
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10: 4

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	0.	100.0	1.0	20.0	1.24	64.5
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2515.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1890.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2360.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3230.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10: 4

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	350	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1290	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	1005	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	450	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1080	1600	0.07	1	3
10. South St	*	120	90	3.0	615	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	315	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	226	1600	0.07	1	3
15. Boston Ave. NB	*	135	107	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	500	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	600	1600	0.07	1	3
21. Broadway EB R	*	120	57	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	445	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	265	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	505	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	150	1600	0.07	1	3
32. Medford St. NWB	*	90	42	3.0	890	1600	0.07	1	3
33. School St. SB	*	90	74	3.0	350	1600	0.07	1	3
34. Medford St. SEB	*	90	42	3.0	550	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	895	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	89	3.0	1380	1600	0.07	1	3
38. Somerville EB	*	120	60	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
40. Washington St. EB	*	135	107	3.0	1285	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
43. Washington St. WB	*	135	102	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	960	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	945	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10: 4

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
10.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
20.	9.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	7.	6.	7.	6.
30.	10.	10.	10.	8.	7.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	8.	8.	8.
40.	9.	9.	10.	7.	7.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	9.	10.	10.
50.	7.	8.	9.	6.	6.	5.	5.	8.	8.	8.	9.	9.	9.	6.	5.	6.	8.	10.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	9.	9.	9.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	6.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	8.	8.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	9.	10.	10.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	9.	10.	9.
220.	9.	9.	9.	6.	5.	7.	7.	10.	8.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	6.	6.	7.	8.	10.	9.	9.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	7.	8.	8.	7.	6.	8.	9.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	7.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
360.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	6.	6.	6.
MAX	10.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	30	30	30	330	320	300	300	230	230	240	210	210	210	140	150	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	9.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.	11.	10.	10.	6.	6.
20.	8.	9.	11.	9.	9.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	11.	9.	8.	6.	7.	11.	10.	10.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	11.	9.	9.
100.	8.	9.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	10.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	10.	11.	11.	7.	6.	9.	10.	13.	10.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	10.	11.	12.	9.	9.
140.	6.	6.	7.	7.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	9.	8.
150.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	8.	8.	9.	7.	7.	10.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	6.	6.	8.	8.	8.	7.	7.	6.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	6.	9.	9.	11.	10.	10.	8.	8.	9.	8.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	9.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	7.	8.	8.	8.
230.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
240.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	7.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	10.	9.	9.	10.	11.	12.	9.	8.	6.	6.	9.	9.	9.
280.	9.	9.	9.	6.	6.	8.	9.	11.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	11.	11.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
300.	9.	9.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	7.	6.	9.	9.	10.	10.	10.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	9.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	12.	10.	9.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	10.	11.	12.	9.	9.	6.	6.	9.	9.	10.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	11.	10.	9.	10.	11.	12.	11.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	290	290	260	260	260	190	190	170	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	6.	7.	9.	9.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	9.	6.	6.	6.	6.	6.
30.	8.	9.	8.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	7.	8.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	6.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	6.	7.	8.	7.	7.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
140.	7.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	8.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	9.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	8.	8.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	9.	9.	9.	9.
200.	7.	7.	6.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	5.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	7.
270.	5.	6.	6.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	8.	7.
280.	5.	5.	6.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	8.	8.
290.	5.	5.	6.	6.	6.	6.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	6.	6.	6.	6.	7.	7.	7.	6.	6.	8.	9.	8.	8.	7.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	8.	8.	8.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	8.	8.	8.	8.	10.	10.	10.	9.	9.	9.	9.	9.
DEGR.	170	170	170	160	130	80	30	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

Alt-5B -- 5_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10:29

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756144.4	********	72.	312.	AG	0.	100.0	1.0	20.0	0.33	3.6
2. MVP West	756216.0	********	752524.9	********	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	756271.8	********	756806.3	********	718.	132.	AG	0.	100.0	1.0	10.0	1.07	36.5
4. MVP East	756253.6	********	756741.0	********	685.	45.	AG	0.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	759327.2	********	759295.4	********	1124.	358.	AG	0.	100.0	1.0	20.0	1.18	57.1
6. MVP East RT	759381.7	********	759534.1	********	153.	93.	AG	0.	100.0	1.0	10.0	0.56	7.8
7. MVP East T	759381.8	********	764437.1	********	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	759345.1	********	759313.0	********	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	759293.5	********	754553.4	********	4745.	273.	AG	0.	100.0	1.0	10.0	1.63	241.0
10. South St	761297.7	********	761107.0	********	195.	282.	AG	0.	100.0	1.0	20.0	0.92	9.9
11. Boston Ave. SB LT	759658.7	********	759579.6	********	168.	332.	AG	0.	100.0	1.0	10.0	0.76	8.5
12. Boston Ave. SB R	759646.0	********	759615.6	********	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	759636.4	********	759601.0	********	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	759648.1	********	759594.2	********	117.	207.	AG	0.	100.0	1.0	10.0	0.55	6.0
15. Boston Ave. NB	759699.9	********	760441.9	********	1558.	152.	AG	0.	100.0	1.0	10.0	1.45	79.2
16. College Ave WB	759720.8	********	760634.0	********	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	762026.6	********	760557.1	********	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	762078.3	********	762175.9	********	308.	162.	AG	0.	100.0	1.0	10.0	0.99	15.6
20. Harvard St. WB	762091.8	********	763340.0	********	1308.	73.	AG	0.	100.0	1.0	10.0	1.19	66.4
21. Broadway EB R	762959.1	********	762881.8	********	84.	293.	AG	0.	100.0	1.0	10.0	0.35	4.3
22. Broadway EB TL	762965.1	********	762140.3	********	900.	294.	AG	0.	100.0	1.0	10.0	1.15	45.7
23. Parking Lot	763003.3	********	762696.2	********	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	763093.0	********	764197.9	********	2243.	150.	AG	0.	100.0	1.0	10.0	1.80	114.0
25. Broadway St. WB	763115.6	********	763796.8	********	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	763101.5	********	763653.3	********	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	763008.3	********	762468.9	********	1709.	342.	AG	0.	100.0	1.0	10.0	2.23	86.8
28. Highland St. EB	763277.6	********	763024.7	********	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	763301.4	********	762790.7	********	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	763328.5	********	764342.3	********	1106.	114.	AG	0.	100.0	1.0	10.0	1.20	56.2
31. Central St. SB	763311.4	********	763331.8	********	44.	27.	AG	0.	100.0	1.0	10.0	0.36	2.2
32. Medford St. NWB	765022.2	********	766006.0	********	1602.	142.	AG	0.	100.0	1.0	10.0	1.16	81.4
33. School St. SB	765002.3	********	765774.9	********	1790.	26.	AG	0.	100.0	1.0	10.0	1.79	90.9
34. Medford St. SEB	764967.1	********	764889.0	********	126.	322.	AG	0.	100.0	1.0	10.0	0.72	6.4
35. Prospect SB	765830.6	********	766028.7	********	383.	31.	AG	0.	100.0	1.0	20.0	1.02	19.5
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765178.6	********	1466.	206.	AG	0.	100.0	1.0	30.0	1.33	74.5
38. Somerville EB	765797.5	********	765683.3	********	127.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	766950.5	********	766682.5	********	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	766952.8	********	756603.2	********	*****	249.	AG	0.	100.0	1.0	10.0	4.72	563.9
41. McGrath Hwy NB2 L	767105.3	********	767109.6	********	32.	172.	AG	0.	100.0	1.0	10.0	0.16	1.7
42. McGrath Hwy NB2 T	767119.9	********	767407.7	********	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	767129.9	********	768182.6	********	1148.	67.	AG	0.	100.0	1.0	30.0	1.25	58.3
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10:29

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	0.	100.0	1.0	20.0	1.24	64.5
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2515.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1890.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2360.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3230.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	350	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1290	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	1005	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	450	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1080	1600	0.07	1	3
10. South St	*	120	90	3.0	615	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	315	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	226	1600	0.07	1	3
15. Boston Ave. NB	*	135	107	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	500	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	600	1600	0.07	1	3
21. Broadway EB R	*	120	57	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	445	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	265	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	505	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	150	1600	0.07	1	3
32. Medford St. NWB	*	90	42	3.0	890	1600	0.07	1	3
33. School St. SB	*	90	74	3.0	350	1600	0.07	1	3
34. Medford St. SEB	*	90	42	3.0	550	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	895	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	89	3.0	1380	1600	0.07	1	3
38. Somerville EB	*	120	60	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
40. Washington St. EB	*	135	107	3.0	1285	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
43. Washington St. WB	*	135	102	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	960	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	945	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	8.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.	8.	8.	7.	7.	6.
160.	5.	5.	6.	6.	6.	7.	7.	6.	6.	5.	7.	7.	7.	6.	7.	8.	7.	8.	6.	6.
170.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	6.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	7.	8.	7.	6.	6.	6.	7.	6.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	7.	6.	7.	7.	6.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	6.	5.	5.	5.
300.	6.	6.	6.	6.	6.	7.	6.	6.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	7.	6.	7.	7.	7.	5.	6.	7.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	7.	6.	8.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	9.	6.	6.	5.
350.	7.	7.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	8.	9.	8.	7.	7.
DEGR.	20	0	350	340	140	160	330	330	30	20	200	190	190	180	170	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	8.	8.	7.
70.	7.	7.	8.	7.	7.	5.	6.	7.	7.	8.	8.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	6.	7.	8.	8.	8.	6.	5.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.	7.	8.	8.	8.	8.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	8.	7.
160.	5.	6.	8.	8.	7.	7.	7.	7.	6.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	7.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.
180.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	9.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	8.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	7.	8.	8.	9.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	50	40	350	350	350	320	330	250	60	260	240	240	230	170	170	150	150	80	80	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

Alt-5B -- 5_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10:49

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	*	756198.0	********	756144.4	********	*	72.	312.	AG	0.	100.0	1.0	20.0	0.33	3.6
2. MVP West	*	756216.0	********	752524.9	********	*	5997.	218.	AG	0.	100.0	1.0	10.0	1.88	304.7
3. Boston Ave South	*	756271.8	********	756806.3	********	*	718.	132.	AG	0.	100.0	1.0	10.0	1.07	36.5
4. MVP East	*	756253.6	********	756741.0	********	*	685.	45.	AG	0.	100.0	1.0	20.0	1.05	34.8
5. Winthrop North	*	759327.2	********	759295.4	********	*	1124.	358.	AG	0.	100.0	1.0	20.0	1.18	57.1
6. MVP East RT	*	759381.7	********	759534.1	********	*	153.	93.	AG	0.	100.0	1.0	10.0	0.56	7.8
7. MVP East T	*	759381.8	********	764437.1	********	*	5058.	92.	AG	0.	100.0	1.0	10.0	1.67	257.0
8. Winthrop South	*	759345.1	********	759313.0	********	*	1248.	181.	AG	0.	100.0	1.0	20.0	1.46	63.4
9. MVP West	*	759293.5	********	754553.4	********	*	4745.	273.	AG	0.	100.0	1.0	10.0	1.63	241.0
10. South St	*	761297.7	********	761107.0	********	*	195.	282.	AG	0.	100.0	1.0	20.0	0.92	9.9
11. Boston Ave. SB LT	*	759658.7	********	759579.6	********	*	168.	332.	AG	0.	100.0	1.0	10.0	0.76	8.5
12. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
13. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
14. College Ave. EB TR	*	759648.1	********	759594.2	********	*	117.	207.	AG	0.	100.0	1.0	10.0	0.55	6.0
15. Boston Ave. NB	*	759699.9	********	760441.9	********	*	1558.	152.	AG	0.	100.0	1.0	10.0	1.45	79.2
16. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
17. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
19. Main st. NB	*	762078.3	********	762175.9	********	*	308.	162.	AG	0.	100.0	1.0	10.0	0.99	15.6
20. Harvard St. WB	*	762091.8	********	763340.0	********	*	1308.	73.	AG	0.	100.0	1.0	10.0	1.19	66.4
21. Broadway EB R	*	762959.1	********	762881.8	********	*	84.	293.	AG	0.	100.0	1.0	10.0	0.35	4.3
22. Broadway EB TL	*	762965.1	********	762140.3	********	*	900.	294.	AG	0.	100.0	1.0	10.0	1.15	45.7
23. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
24. Medford St. NB	*	763093.0	********	764197.9	********	*	2243.	150.	AG	0.	100.0	1.0	10.0	1.80	114.0
25. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
26. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
27. Medford St. SB	*	763008.3	********	762468.9	********	*	1709.	342.	AG	0.	100.0	1.0	10.0	2.23	86.8
28. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
29. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
30. Highland St. WB	*	763328.5	********	764342.3	********	*	1106.	114.	AG	0.	100.0	1.0	10.0	1.20	56.2
31. Central St. SB	*	763311.4	********	763331.8	********	*	44.	27.	AG	0.	100.0	1.0	10.0	0.36	2.2
32. Medford St. NWB	*	765022.2	********	766006.0	********	*	1602.	142.	AG	0.	100.0	1.0	10.0	1.16	81.4
33. School St. SB	*	765002.3	********	765774.9	********	*	1790.	26.	AG	0.	100.0	1.0	10.0	1.79	90.9
34. Medford St. SEB	*	764967.1	********	764889.0	********	*	126.	322.	AG	0.	100.0	1.0	10.0	0.72	6.4
35. Prospect SB	*	765830.6	********	766028.7	********	*	383.	31.	AG	0.	100.0	1.0	20.0	1.02	19.5
36. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	*	765828.4	********	765178.6	********	*	1466.	206.	AG	0.	100.0	1.0	30.0	1.33	74.5
38. Somerville EB	*	765797.5	********	765683.3	********	*	127.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
39. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
40. Washington St. EB	*	766952.8	********	756603.2	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.72	563.9
41. McGrath Hwy NB2 L	*	767105.3	********	767109.6	********	*	32.	172.	AG	0.	100.0	1.0	10.0	0.16	1.7
42. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
43. Washington St. WB	*	767129.9	********	768182.6	********	*	1148.	67.	AG	0.	100.0	1.0	30.0	1.25	58.3
44. Camb. St at First L	*	770442.2	********	770345.0	********	*	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10:49

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	0.	100.0	1.0	20.0	1.24	64.5
50. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2515.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2325.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1020.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1150.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1890.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2360.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3230.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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1. Boston Ave. North	*	120	75	3.0	350	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1155	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	570	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1290	1600	0.07	1	3
5. Winthrop North	*	135	94	3.0	1005	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	450	1600	0.07	1	3
7. MVP East T	*	135	74	3.0	1110	1600	0.07	1	3
8. Winthrop South	*	135	112	3.0	620	1600	0.07	1	3
9. MVP West	*	135	74	3.0	1080	1600	0.07	1	3
10. South St	*	120	90	3.0	615	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	315	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	226	1600	0.07	1	3
15. Boston Ave. NB	*	135	107	3.0	395	1600	0.07	1	3
16. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	500	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	600	1600	0.07	1	3
21. Broadway EB R	*	120	57	3.0	270	1600	0.07	1	3
22. Broadway EB TL	*	120	86	3.0	445	1600	0.07	1	3
23. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	430	1600	0.07	1	3
25. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
26. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	265	1600	0.07	1	3
28. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
29. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	80	54	3.0	505	1600	0.07	1	3
31. Central St. SB	*	80	54	3.0	150	1600	0.07	1	3
32. Medford St. NWB	*	90	42	3.0	890	1600	0.07	1	3
33. School St. SB	*	90	74	3.0	350	1600	0.07	1	3
34. Medford St. SEB	*	90	42	3.0	550	1600	0.07	1	3
35. Prospect SB	*	120	82	3.0	895	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	89	3.0	1380	1600	0.07	1	3
38. Somerville EB	*	120	60	3.0	775	1600	0.07	1	3
39. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
40. Washington St. EB	*	135	107	3.0	1285	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
43. Washington St. WB	*	135	102	3.0	1240	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	960	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	945	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10:49

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:10:49

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	7.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	8.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	7.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	8.	8.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	9.	7.	7.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	7.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	8.	7.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	8.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	7.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	9.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	7.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	8.	8.	8.	8.	8.	8.	8.	7.	6.
300.	8.	9.	9.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	9.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	8.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	8.	8.	8.	6.	6.	6.	7.	9.	8.	8.	8.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	8.	7.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	7.	6.	7.	7.	8.	8.	8.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	9.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	100	100	90	0	340	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
10.	* 5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	* 5.	5.	5.	5.	5.	6.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	8.	7.	8.
30.	* 5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	9.	8.	8.	8.
60.	* 6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	* 6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	* 6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	* 6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	8.	7.	8.	7.	7.	7.	7.	7.
120.	* 6.	6.	7.	6.	6.	7.	8.	9.	9.	9.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	* 6.	7.	8.	6.	6.	8.	8.	9.	9.	9.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	* 6.	7.	7.	6.	6.	8.	8.	9.	9.	9.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	* 7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	* 7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	7.	8.	8.
180.	* 7.	7.	7.	7.	7.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	* 7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	* 6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	* 6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	* 6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	* 6.	6.	8.	7.	7.	6.	7.	8.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	* 6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	7.	8.	8.	6.	5.
300.	* 5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	* 5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	8.	7.	8.	7.	6.	6.
320.	* 6.	6.	6.	6.	7.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	* 5.	6.	6.	7.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	* 5.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	* 5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	* 5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
MAX	* 7.	7.	8.	7.	7.	8.	8.	9.	9.	9.	9.	9.	8.	7.	8.	10.	9.	8.	8.	8.
DEGR.	* 160	160	280	270	160	140	150	130	130	120	110	110	110	320	110	80	70	180	50	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	6.	6.	7.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	8.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	6.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	7.	7.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	7.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	8.	7.	7.	6.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	7.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	7.	7.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	350	340	340	320	320	10	330	110	320	320	290	290	270	230	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

Alt-5B -- 5_2030BD4.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:11:13

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	*	761297.7	********	761107.0	********	*	195.	282.	AG	0.	100.0	1.0	20.0	0.92	9.9
2. Boston Ave. SB LT	*	759658.7	********	759579.6	********	*	168.	332.	AG	0.	100.0	1.0	10.0	0.76	8.5
3. Boston Ave. SB R	*	759646.0	********	759615.6	********	*	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	*	759636.4	********	759601.0	********	*	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	*	759648.1	********	759594.2	********	*	117.	207.	AG	0.	100.0	1.0	10.0	0.55	6.0
6. Boston Ave. NB	*	759699.9	********	760441.9	********	*	1558.	152.	AG	0.	100.0	1.0	10.0	1.45	79.2
7. College Ave WB	*	759720.8	********	760634.0	********	*	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	*	762042.2	********	761511.7	********	*	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	*	762026.6	********	760557.1	********	*	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	*	762078.3	********	762175.9	********	*	308.	162.	AG	0.	100.0	1.0	10.0	0.99	15.6
11. Harvard St. WB	*	762091.8	********	763340.0	********	*	1308.	73.	AG	0.	100.0	1.0	10.0	1.19	66.4
12. Broadway EB R	*	762959.1	********	762881.8	********	*	84.	293.	AG	0.	100.0	1.0	10.0	0.35	4.3
13. Broadway EB TL	*	762965.1	********	762140.3	********	*	900.	294.	AG	0.	100.0	1.0	10.0	1.15	45.7
14. Parking Lot	*	763003.3	********	762696.2	********	*	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	*	763093.0	********	764197.9	********	*	2243.	150.	AG	0.	100.0	1.0	10.0	1.80	114.0
16. Broadway St. WB	*	763115.6	********	763796.8	********	*	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	*	763101.5	********	763653.3	********	*	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	*	763008.3	********	762468.9	********	*	1709.	342.	AG	0.	100.0	1.0	10.0	2.23	86.8
19. Highland St. EB	*	763277.6	********	763024.7	********	*	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	*	763301.4	********	762790.7	********	*	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	*	763328.5	********	764342.3	********	*	1106.	114.	AG	0.	100.0	1.0	10.0	1.20	56.2
22. Central St. SB	*	763311.4	********	763331.8	********	*	44.	27.	AG	0.	100.0	1.0	10.0	0.36	2.2
23. Medford St. NWB	*	765022.2	********	766006.0	********	*	1602.	142.	AG	0.	100.0	1.0	10.0	1.16	81.4
24. School St. SB	*	765002.3	********	765774.9	********	*	1790.	26.	AG	0.	100.0	1.0	10.0	1.79	90.9
25. Medford St. SEB	*	764967.1	********	764889.0	********	*	126.	322.	AG	0.	100.0	1.0	10.0	0.72	6.4
26. Prospect SB	*	765830.6	********	766028.7	********	*	383.	31.	AG	0.	100.0	1.0	20.0	1.02	19.5
27. Sommerville WB	*	765870.1	********	766681.6	********	*	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	*	765828.4	********	765178.6	********	*	1466.	206.	AG	0.	100.0	1.0	30.0	1.33	74.5
29. Somerville EB	*	765797.5	********	765683.3	********	*	127.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	*	766950.5	********	766682.5	********	*	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	*	766952.8	********	756603.2	********	*	*****	249.	AG	0.	100.0	1.0	10.0	4.72	563.9
32. McGrath Hwy NB2 L	*	767105.3	********	767109.6	********	*	32.	172.	AG	0.	100.0	1.0	10.0	0.16	1.7
33. McGrath Hwy NB2 T	*	767119.9	********	767407.7	********	*	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	*	767129.9	********	768182.6	********	*	1148.	67.	AG	0.	100.0	1.0	30.0	1.25	58.3
35. Msgr Obrien EB	*	769756.4	********	767393.7	********	*	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	*	769779.2	********	768425.6	********	*	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	*	769788.2	********	769785.6	********	*	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	*	769858.1	********	771172.2	********	*	1597.	125.	AG	0.	100.0	1.0	20.0	1.20	81.1
39. Msgr Obrien L	*	771462.2	********	767835.4	********	*	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	*	771449.0	********	771331.9	********	*	142.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	*	771477.7	********	770230.1	********	*	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	*	771490.8	********	769033.6	********	*	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	*	771500.8	********	770695.7	********	*	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	*	771572.2	********	774298.4	********	*	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:11:13

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	0.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774796.0	********	6070.	32.	AG	0.	100.0	1.0	10.0	3.43	308.4
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	0.	100.0	1.0	20.0	1.24	64.5
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0		

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3942.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2722.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3395.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3265.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. South St	*	120	90	3.0	615	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	315	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	226	1600	0.07	1	3
6. Boston Ave. NB	*	135	107	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	500	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	600	1600	0.07	1	3
12. Broadway EB R	*	120	57	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	445	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	265	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	505	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	150	1600	0.07	1	3
23. Medford St. NWB	*	90	42	3.0	890	1600	0.07	1	3
24. School St. SB	*	90	74	3.0	350	1600	0.07	1	3
25. Medford St. SEB	*	90	42	3.0	550	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	895	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	89	3.0	1380	1600	0.07	1	3
29. Somerville EB	*	120	60	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
31. Washington St. EB	*	135	107	3.0	1285	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
34. Washington St. WB	*	135	102	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1412	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	775	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	960	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	945	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.
20.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	7.	7.
30.	6.	7.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	7.	7.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
100.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	5.	6.	8.	8.	8.	7.	7.	7.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	7.	7.	7.	5.	5.	7.	7.	7.	7.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	6.	5.	7.	7.	8.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
270.	6.	6.	7.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	7.	6.	6.	8.	7.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
310.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	8.	8.	6.	5.
320.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
340.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	8.	7.	8.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	10	300	300	300	280	130	280	220	220	200	190	200	120	120	100	110	100	30	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
10.	6.	7.	8.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
20.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.
30.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
50.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	6.	6.	6.	5.	6.	7.	7.	6.	6.
70.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	7.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	5.	7.	7.	8.	8.	8.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	7.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	8.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	6.	6.	8.	8.	7.	7.	7.	7.	6.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	8.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	8.	8.	8.	7.	7.	8.	8.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	140	330	140	150	150	150	220	230	190	190	150	150	150	130	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

Alt-5B -- 5_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:11:33

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761107.0	******** *	195.	282.	AG	0.	100.0	1.0	20.0	0.92	9.9
2. Boston Ave. SB LT	* 759658.7	********	759579.6	******** *	168.	332.	AG	0.	100.0	1.0	10.0	0.76	8.5
3. Boston Ave. SB R	* 759646.0	********	759615.6	******** *	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	* 759636.4	********	759601.0	******** *	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	* 759648.1	********	759594.2	******** *	117.	207.	AG	0.	100.0	1.0	10.0	0.55	6.0
6. Boston Ave. NB	* 759699.9	********	760441.9	******** *	1558.	152.	AG	0.	100.0	1.0	10.0	1.45	79.2
7. College Ave WB	* 759720.8	********	760634.0	******** *	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	* 762042.2	********	761511.7	******** *	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	* 762026.6	********	760557.1	******** *	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	* 762078.3	********	762175.9	******** *	308.	162.	AG	0.	100.0	1.0	10.0	0.99	15.6
11. Harvard St. WB	* 762091.8	********	763340.0	******** *	1308.	73.	AG	0.	100.0	1.0	10.0	1.19	66.4
12. Broadway EB R	* 762959.1	********	762881.8	******** *	84.	293.	AG	0.	100.0	1.0	10.0	0.35	4.3
13. Broadway EB TL	* 762965.1	********	762140.3	******** *	900.	294.	AG	0.	100.0	1.0	10.0	1.15	45.7
14. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	* 763093.0	********	764197.9	******** *	2243.	150.	AG	0.	100.0	1.0	10.0	1.80	114.0
16. Broadway St. WB	* 763115.6	********	763796.8	******** *	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	* 763101.5	********	763653.3	******** *	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	* 763008.3	********	762468.9	******** *	1709.	342.	AG	0.	100.0	1.0	10.0	2.23	86.8
19. Highland St. EB	* 763277.6	********	763024.7	******** *	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	* 763301.4	********	762790.7	******** *	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	* 763328.5	********	764342.3	******** *	1106.	114.	AG	0.	100.0	1.0	10.0	1.20	56.2
22. Central St. SB	* 763311.4	********	763331.8	******** *	44.	27.	AG	0.	100.0	1.0	10.0	0.36	2.2
23. Medford St. NWB	* 765022.2	********	766006.0	******** *	1602.	142.	AG	0.	100.0	1.0	10.0	1.16	81.4
24. School St. SB	* 765002.3	********	765774.9	******** *	1790.	26.	AG	0.	100.0	1.0	10.0	1.79	90.9
25. Medford St. SEB	* 764967.1	********	764889.0	******** *	126.	322.	AG	0.	100.0	1.0	10.0	0.72	6.4
26. Prospect SB	* 765830.6	********	766028.7	******** *	383.	31.	AG	0.	100.0	1.0	20.0	1.02	19.5
27. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	* 765828.4	********	765178.6	******** *	1466.	206.	AG	0.	100.0	1.0	30.0	1.33	74.5
29. Somerville EB	* 765797.5	********	765683.3	******** *	127.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	* 766950.5	********	766682.5	******** *	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	* 766952.8	********	756603.2	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.72	563.9
32. McGrath Hwy NB2 L	* 767105.3	********	767109.6	******** *	32.	172.	AG	0.	100.0	1.0	10.0	0.16	1.7
33. McGrath Hwy NB2 T	* 767119.9	********	767407.7	******** *	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	* 767129.9	********	768182.6	******** *	1148.	67.	AG	0.	100.0	1.0	30.0	1.25	58.3
35. Msgr Obrien EB	* 769756.4	********	767393.7	******** *	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.6	******** *	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	* 769858.1	********	771172.2	******** *	1597.	125.	AG	0.	100.0	1.0	20.0	1.20	81.1
39. Msgr Obrien L	* 771462.2	********	767835.4	******** *	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	* 771449.0	********	771331.9	******** *	142.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	* 771477.7	********	770230.1	******** *	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	* 771490.8	********	769033.6	******** *	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774298.4	******** *	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:11:33

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	0.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774796.0	********	6070.	32.	AG	0.	100.0	1.0	10.0	3.43	308.4
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	0.	100.0	1.0	20.0	1.24	64.5
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3942.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2722.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3395.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3265.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	615	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	315	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	226	1600	0.07	1	3
6. Boston Ave. NB	*	135	107	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	500	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	600	1600	0.07	1	3
12. Broadway EB R	*	120	57	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	445	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	265	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	505	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	150	1600	0.07	1	3
23. Medford St. NWB	*	90	42	3.0	890	1600	0.07	1	3
24. School St. SB	*	90	74	3.0	350	1600	0.07	1	3
25. Medford St. SEB	*	90	42	3.0	550	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	895	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	89	3.0	1380	1600	0.07	1	3
29. Somerville EB	*	120	60	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
31. Washington St. EB	*	135	107	3.0	1285	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
34. Washington St. WB	*	135	102	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1412	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	775	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	960	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	945	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: Existing

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	9.	8.	7.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	9.	8.	7.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.
30.	8.	9.	11.	9.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	7.	6.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	7.	9.	9.	5.	5.
50.	8.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	5.
60.	10.	11.	11.	10.	10.	7.	8.	8.	9.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	10.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	11.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	11.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	7.	7.	7.	9.	9.	9.	6.	7.	11.	9.	11.	10.	10.
130.	8.	8.	8.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	9.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	9.	9.
160.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	9.	9.
170.	6.	7.	8.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	10.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	9.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	5.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	9.	10.	8.	7.	8.	8.	7.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	8.	7.	6.	9.	9.	9.	10.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	8.	8.	7.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	9.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	9.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	7.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	8.	7.	6.	9.	10.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	10.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	11.	10.	10.
DEGR.	80	70	40	60	50	10	0	300	300	310	280	280	290	220	270	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	* 8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	* 7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	* 7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	* 7.	8.	8.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	* 8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	5.	6.	9.	9.	10.	10.	11.	6.	6.
80.	* 9.	9.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	* 9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	* 8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	* 8.	7.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	* 8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	* 8.	8.	7.	8.	8.	7.	7.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	8.	7.	6.
140.	* 8.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	* 8.	8.	8.	8.	8.	6.	6.	6.	6.	6.	6.	6.	6.	6.	5.	9.	9.	8.	8.	8.
170.	* 8.	7.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	* 7.	7.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	8.	8.
190.	* 6.	6.	7.	7.	7.	6.	5.	6.	5.	5.	8.	8.	7.	7.	6.	9.	10.	9.	8.	8.
200.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	8.
210.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	7.	8.	6.	7.	6.	10.	10.	9.	8.	8.
220.	* 6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	* 6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	* 6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	* 6.	6.	7.	8.	8.	11.	11.	10.	6.	6.	8.	9.	8.	9.	10.	9.	9.	9.	7.	7.
260.	* 5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	* 5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	6.	9.	10.	6.	6.	7.	7.	7.
300.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	* 6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	6.	6.	7.	7.	7.
340.	* 6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	7.	7.
350.	* 8.	8.	7.	6.	5.	8.	8.	9.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	* 8.	8.	8.	6.	6.	8.	9.	10.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	* 9.	9.	9.	9.	9.	11.	11.	10.	8.	7.	9.	9.	8.	10.	10.	11.	11.	11.	8.	8.
DEGR.	* 80	80	70	230	230	260	250	260	350	0	330	260	250	60	50	230	80	80	180	170

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC16.

Alt-5B -- 5_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:11:52

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	* 761297.7	********	761107.0	******** *	195.	282.	AG	0.	100.0	1.0	20.0	0.92	9.9
2. Boston Ave. SB LT	* 759658.7	********	759579.6	******** *	168.	332.	AG	0.	100.0	1.0	10.0	0.76	8.5
3. Boston Ave. SB R	* 759646.0	********	759615.6	******** *	65.	332.	AG	0.	100.0	1.0	10.0	0.30	3.3
4. College Ave EB L	* 759636.4	********	759601.0	******** *	78.	207.	AG	0.	100.0	1.0	10.0	0.36	4.0
5. College Ave. EB TR	* 759648.1	********	759594.2	******** *	117.	207.	AG	0.	100.0	1.0	10.0	0.55	6.0
6. Boston Ave. NB	* 759699.9	********	760441.9	******** *	1558.	152.	AG	0.	100.0	1.0	10.0	1.45	79.2
7. College Ave WB	* 759720.8	********	760634.0	******** *	1574.	35.	AG	0.	100.0	1.0	10.0	1.48	79.9
8. Main St. SB	* 762042.2	********	761511.7	******** *	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	* 762026.6	********	760557.1	******** *	1674.	241.	AG	0.	100.0	1.0	10.0	1.25	85.1
10. Main st. NB	* 762078.3	********	762175.9	******** *	308.	162.	AG	0.	100.0	1.0	10.0	0.99	15.6
11. Harvard St. WB	* 762091.8	********	763340.0	******** *	1308.	73.	AG	0.	100.0	1.0	10.0	1.19	66.4
12. Broadway EB R	* 762959.1	********	762881.8	******** *	84.	293.	AG	0.	100.0	1.0	10.0	0.35	4.3
13. Broadway EB TL	* 762965.1	********	762140.3	******** *	900.	294.	AG	0.	100.0	1.0	10.0	1.15	45.7
14. Parking Lot	* 763003.3	********	762696.2	******** *	463.	222.	AG	0.	100.0	1.0	10.0	3.85	23.5
15. Medford St. NB	* 763093.0	********	764197.9	******** *	2243.	150.	AG	0.	100.0	1.0	10.0	1.80	114.0
16. Broadway St. WB	* 763115.6	********	763796.8	******** *	742.	113.	AG	0.	100.0	1.0	20.0	1.11	37.7
17. Dexter St. SWB	* 763101.5	********	763653.3	******** *	759.	47.	AG	0.	100.0	1.0	10.0	5.77	38.6
18. Medford St. SB	* 763008.3	********	762468.9	******** *	1709.	342.	AG	0.	100.0	1.0	10.0	2.23	86.8
19. Highland St. EB	* 763277.6	********	763024.7	******** *	276.	294.	AG	0.	100.0	1.0	10.0	1.01	14.0
20. Central St NB	* 763301.4	********	762790.7	******** *	1158.	206.	AG	0.	100.0	1.0	10.0	1.21	58.8
21. Highland St. WB	* 763328.5	********	764342.3	******** *	1106.	114.	AG	0.	100.0	1.0	10.0	1.20	56.2
22. Central St. SB	* 763311.4	********	763331.8	******** *	44.	27.	AG	0.	100.0	1.0	10.0	0.36	2.2
23. Medford St. NWB	* 765022.2	********	766006.0	******** *	1602.	142.	AG	0.	100.0	1.0	10.0	1.16	81.4
24. School St. SB	* 765002.3	********	765774.9	******** *	1790.	26.	AG	0.	100.0	1.0	10.0	1.79	90.9
25. Medford St. SEB	* 764967.1	********	764889.0	******** *	126.	322.	AG	0.	100.0	1.0	10.0	0.72	6.4
26. Prospect SB	* 765830.6	********	766028.7	******** *	383.	31.	AG	0.	100.0	1.0	20.0	1.02	19.5
27. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	* 765828.4	********	765178.6	******** *	1466.	206.	AG	0.	100.0	1.0	30.0	1.33	74.5
29. Somerville EB	* 765797.5	********	765683.3	******** *	127.	296.	AG	0.	100.0	1.0	20.0	0.53	6.5
30. McGrath Highway SB1	* 766950.5	********	766682.5	******** *	1475.	350.	AG	0.	100.0	1.0	20.0	1.79	74.9
31. Washington St. EB	* 766952.8	********	756603.2	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.72	563.9
32. McGrath Hwy NB2 L	* 767105.3	********	767109.6	******** *	32.	172.	AG	0.	100.0	1.0	10.0	0.16	1.7
33. McGrath Hwy NB2 T	* 767119.9	********	767407.7	******** *	2345.	173.	AG	0.	100.0	1.0	10.0	1.53	119.1
34. Washington St. WB	* 767129.9	********	768182.6	******** *	1148.	67.	AG	0.	100.0	1.0	30.0	1.25	58.3
35. Msgr Obrien EB	* 769756.4	********	767393.7	******** *	2870.	305.	AG	0.	100.0	1.0	20.0	1.41	145.8
36. Third St. NB L	* 769779.2	********	768425.6	******** *	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	* 769788.2	********	769785.6	******** *	17.	189.	AG	0.	100.0	1.0	10.0	0.19	0.9
38. Msgr Obrien WB	* 769858.1	********	771172.2	******** *	1597.	125.	AG	0.	100.0	1.0	20.0	1.20	81.1
39. Msgr Obrien L	* 771462.2	********	767835.4	******** *	4403.	305.	AG	0.	100.0	1.0	10.0	3.70	223.7
40. Msgr Obrien WB T	* 771449.0	********	771331.9	******** *	142.	304.	AG	0.	100.0	1.0	30.0	0.68	7.2
41. Charlestown NB L	* 771477.7	********	770230.1	******** *	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	* 771490.8	********	769033.6	******** *	3885.	219.	AG	0.	100.0	1.0	20.0	2.29	197.3
43. Charlestown NB R	* 771500.8	********	770695.7	******** *	1283.	219.	AG	0.	100.0	1.0	10.0	1.19	65.2
44. Msgr Obrien WB L	* 771572.2	********	774298.4	******** *	3296.	124.	AG	0.	100.0	1.0	10.0	4.14	167.5

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:11:52

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771728.4	********	178.	124.	AG	0.	100.0	1.0	20.0	0.83	9.0
46. Msgr Obrien WB R	771588.6	********	771705.8	********	142.	124.	AG	0.	100.0	1.0	10.0	0.59	7.2
47. Charlestown SB LT	771546.2	********	772082.8	********	1040.	31.	AG	0.	100.0	1.0	10.0	1.35	52.8
48. Charlestown SB TR	771535.3	********	774796.0	********	6070.	32.	AG	0.	100.0	1.0	10.0	3.43	308.4
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770245.0	********	1655.	189.	AG	0.	100.0	1.0	10.0	1.64	84.1
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769430.9	********	1270.	302.	AG	0.	100.0	1.0	20.0	1.24	64.5
55. MsgrOb/East WB T	770636.9	********	770765.7	********	168.	130.	AG	0.	100.0	1.0	20.0	0.71	8.5
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770496.1	********	137.	202.	AG	0.	100.0	1.0	10.0	0.85	7.0
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	615.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2425.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2810.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1040.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	731.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	731.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	631.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	790.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1160.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1275.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1110.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1215.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1770.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	905.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1361.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	75.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	590.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	960.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	655.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	980.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	585.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1370.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	545.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1130.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	535.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2105.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2615.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1380.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	970.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	550.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1305.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2365.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2365.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	550.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:11:52

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1305.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1283.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3942.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2722.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3240.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3395.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3265.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1240.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2450.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2225.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2435.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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1. South St	*	120	90	3.0	615	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	315	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	125	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	150	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	226	1600	0.07	1	3
6. Boston Ave. NB	*	135	107	3.0	395	1600	0.07	1	3
7. College Ave WB	*	135	108	3.0	385	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	635	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	500	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	600	1600	0.07	1	3
12. Broadway EB R	*	120	57	3.0	270	1600	0.07	1	3
13. Broadway EB TL	*	120	86	3.0	445	1600	0.07	1	3
14. Parking Lot	*	120	114	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	430	1600	0.07	1	3
16. Broadway St. WB	*	120	86	3.0	861	1600	0.07	1	3
17. Dexter St. SWB	*	120	114	3.0	75	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	265	1600	0.07	1	3
19. Highland St. EB	*	80	54	3.0	425	1600	0.07	1	3
20. Central St NB	*	80	54	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	80	54	3.0	505	1600	0.07	1	3
22. Central St. SB	*	80	54	3.0	150	1600	0.07	1	3
23. Medford St. NWB	*	90	42	3.0	890	1600	0.07	1	3
24. School St. SB	*	90	74	3.0	350	1600	0.07	1	3
25. Medford St. SEB	*	90	42	3.0	550	1600	0.07	1	3
26. Prospect SB	*	120	82	3.0	895	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	89	3.0	1380	1600	0.07	1	3
29. Somerville EB	*	120	60	3.0	775	1600	0.07	1	3
30. McGrath Highway SB1	*	135	117	3.0	550	1600	0.07	1	3
31. Washington St. EB	*	135	107	3.0	1285	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	135	99	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	135	99	3.0	560	1600	0.07	1	3
34. Washington St. WB	*	135	102	3.0	1240	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1656	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	31	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1412	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	540	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	985	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1220	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	585	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	385	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	710	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	425	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	305	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	775	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	350	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	960	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	945	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	225	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	9.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	9.	8.	5.	5.	5.	5.	5.	9.	9.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	9.	8.	8.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	12.
60.	10.	10.	9.	8.	8.	7.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	10.
100.	12.	12.	11.	10.	9.	7.	8.	11.	11.	10.	6.	6.	5.	6.	6.	13.	13.	13.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	11.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	12.	12.	9.	8.	7.	8.	11.	11.	11.	10.	10.	9.	10.	10.	14.	14.	13.	10.	10.
130.	11.	10.	10.	8.	8.	6.	6.	9.	9.	9.	11.	12.	11.	11.	12.	11.	11.	11.	10.	9.
140.	7.	8.	8.	7.	7.	6.	6.	7.	6.	6.	12.	11.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	11.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	8.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	9.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	9.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	5.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	10.	11.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	11.	6.	6.	6.	5.	5.
290.	8.	8.	8.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	10.	11.	11.	7.	6.
310.	13.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	11.	13.	12.	7.	6.
320.	14.	14.	14.	9.	8.	9.	10.	13.	11.	11.	7.	6.	6.	7.	7.	11.	12.	12.	8.	7.
330.	12.	12.	12.	9.	8.	9.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	11.	11.	8.	7.
340.	12.	11.	11.	8.	8.	9.	10.	10.	9.	9.	5.	5.	5.	5.	5.	9.	11.	10.	8.	7.
350.	11.	11.	10.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	8.	8.	7.
MAX	14.	14.	14.	10.	9.	9.	10.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	330	320	310	310	310	290	130	290	290	290	110	110	110	50	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	11.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	11.	11.	11.	8.	8.	8.	6.	6.	10.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	11.	7.	6.	10.	11.	14.	12.	11.
140.	5.	5.	7.	7.	7.	10.	11.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	9.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	5.	6.	6.	5.	5.	8.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	14.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	10.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	10.	10.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	11.	11.	10.	7.	7.	9.	9.	9.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	9.	9.
280.	10.	10.	9.	8.	8.	11.	11.	12.	11.	10.	7.	8.	9.	10.	10.
290.	10.	10.	10.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	11.	10.
300.	10.	11.	14.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	10.	10.
310.	11.	12.	15.	13.	12.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.
320.	11.	12.	14.	12.	12.	7.	7.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	12.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	12.	12.	12.	13.	13.	12.	14.	14.	14.	12.	11.
DEGR.	20	230	310	310	310	290	290	290	220	220	210	210	130	130	140

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

6_2030BD1a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:12:24

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	756198.0	********	756146.8	********	68.	312.	AG	0.	100.0	1.0	20.0	0.31	3.5
2. MVP West	756216.0	********	752396.6	********	6206.	218.	AG	0.	100.0	1.0	10.0	1.92	315.2
3. Boston Ave South	756271.8	********	756845.2	********	770.	132.	AG	0.	100.0	1.0	10.0	1.08	39.1
4. MVP East	756253.6	********	756792.8	********	758.	45.	AG	0.	100.0	1.0	20.0	1.06	38.5
5. Winthrop North	759327.2	********	759300.4	********	949.	358.	AG	0.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	759381.7	********	759537.5	********	156.	93.	AG	0.	100.0	1.0	10.0	0.57	7.9
7. MVP East T	759381.8	********	764876.3	********	5497.	92.	AG	0.	100.0	1.0	10.0	1.75	279.3
8. Winthrop South	759345.1	********	759315.3	********	1159.	181.	AG	0.	100.0	1.0	20.0	1.35	58.9
9. MVP West	759293.5	********	754219.0	********	5080.	273.	AG	0.	100.0	1.0	10.0	1.69	258.1
10. South St	761297.7	********	761070.9	********	232.	282.	AG	0.	100.0	1.0	20.0	0.98	11.8
11. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	0.	100.0	1.0	10.0	0.72	7.9
12. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	0.	100.0	1.0	10.0	0.37	4.1
14. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	0.	100.0	1.0	10.0	0.58	6.4
15. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	0.	100.0	1.0	10.0	1.44	74.5
16. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	0.	100.0	1.0	10.0	1.45	79.2
17. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	0.	100.0	1.0	10.0	1.28	93.0
19. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	0.	100.0	1.0	10.0	0.96	14.0
20. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	0.	100.0	1.0	10.0	1.18	63.8
21. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	0.	100.0	1.0	10.0	1.11	37.4
23. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	0.	100.0	1.0	10.0	****	23.0
24. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	0.	100.0	1.0	20.0	1.05	25.6
26. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	0.	100.0	1.0	10.0	****	65.4
27. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	0.	100.0	1.0	10.0	1.03	20.2
30. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	0.	100.0	1.0	10.0	0.32	2.5
32. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	0.	100.0	1.0	10.0	0.97	16.5
33. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	0.	100.0	1.0	10.0	0.58	6.9
35. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	0.	100.0	1.0	20.0	1.08	32.9
36. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	0.	100.0	1.0	30.0	1.30	73.9
38. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	0.	100.0	1.0	20.0	0.55	6.6
39. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	0.	100.0	1.0	20.0	2.27	89.6
40. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.13	529.7
41. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	0.	100.0	1.0	10.0	1.72	137.0
43. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	0.	100.0	1.0	30.0	1.40	75.6
44. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	0.	100.0	1.0	10.0	1.62	81.3
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	0.	100.0	1.0	20.0	1.27	69.9
50. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	0.	100.0	1.0	20.0	0.74	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	0.	100.0	1.0	10.0	0.83	6.7
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2540.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2360.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1010.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1195.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1925.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2310.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3300.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

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1. Boston Ave. North	*	120	75	3.0	335	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1175	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	575	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1305	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	460	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1140	1600	0.07	1	3
8. Winthrop South	*	135	109	3.0	670	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1100	1600	0.07	1	3
10. South St	*	120	90	3.0	650	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	120	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	241	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	375	1600	0.07	1	3
16. College Ave WB	*	135	107	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	650	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	485	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	595	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	250	1600	0.07	1	3
22. Broadway EB TL	*	120	85	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	116	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
25. Broadway St. WB	*	120	85	3.0	841	1600	0.07	1	3
26. Dexter St. SWB	*	120	116	3.0	70	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
29. Central St NB	*	90	57	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
31. Central St. SB	*	90	57	3.0	160	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	865	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	520	1600	0.07	1	3
35. Prospect SB	*	120	84	3.0	895	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	87	3.0	1455	1600	0.07	1	3
38. Somerville EB	*	120	62	3.0	770	1600	0.07	1	3
39. McGrath Highway SB1	*	120	106	3.0	540	1600	0.07	1	3
40. Washington St. EB	*	120	92	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	345	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	980	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	980	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	220	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. MVP/Boston SW1	756158.9	********	6.0
2. MVP/Boston SW2	756203.3	********	6.0
3. MVP/Boston SW3	756246.9	********	6.0
4. MVP/Boston SW4	756302.7	********	6.0
5. MVP/Boston SW5	756358.4	********	6.0
6. MVP/Boston SE1	756386.2	********	6.0
7. MVP/Boston SE2	756328.9	********	6.0
8. MVP/Boston SE3	756278.1	********	6.0
9. MVP/Boston SE4	756331.9	********	6.0
10. MVP/Boston SE5	756384.9	********	6.0
11. MVP/Boston NE1	756333.6	********	6.0
12. MVP/Boston NE2	756279.2	********	6.0
13. MVP/Boston NE3	756226.2	********	6.0
14. MVP/Boston NE4	756173.6	********	6.0
15. MVP/Boston NE5	756117.0	********	6.0
16. MVP/Boston NW1	756086.6	********	6.0
17. MVP/Boston NW2	756144.7	********	6.0
18. MVP/Boston NW3	756200.1	********	6.0
19. MVP/Boston NW4	756157.8	********	6.0
20. MVP/Boston NW5	756112.8	********	6.0
21. MVP/Winthrop SW1	759161.9	********	6.0
22. MVP/Winthrop SW2	759238.9	********	6.0
23. MVP/Winthrop SW3	759314.4	********	6.0
24. MVP/Winthrop SW4	759314.9	********	6.0
25. MVP/Winthrop SW5	759314.0	********	6.0
26. MVP/Winthrop SE1	759355.9	********	6.0
27. MVP/Winthrop SE2	759356.8	********	6.0
28. MVP/Winthrop SE3	759359.9	********	6.0
29. MVP/Winthrop SE4	759434.2	********	6.0
30. MVP/Winthrop SE5	759507.6	********	6.0
31. MVP/Winthrop NE1	759505.5	********	6.0
32. MVP/Winthrop NE2	759431.3	********	6.0
33. MVP/Winthrop NE3	759358.7	********	6.0
34. MVP/Winthrop NE4	759357.1	********	6.0
35. MVP/Winthrop NE5	759353.3	********	6.0
36. MVP/Winthrop NW1	759311.4	********	6.0
37. MVP/Winthrop NW2	759312.3	********	6.0
38. MVP/Winthrop NW3	759314.4	********	6.0
39. MVP/Winthrop NW4	759239.6	********	6.0
40. MVP/Winthrop NW5	759163.3	********	6.0
41. MVP/Winthrop NW1	761332.4	********	6.0
42. MVP/Winthrop NW2	761320.6	********	6.0
43. MVP/Winthrop NW3	761306.0	********	6.0
44. MVP/Winthrop NW4	761241.1	********	6.0
45. MVP/Winthrop NW5	761169.4	********	6.0
46. MVP/Winthrop SW1	761156.9	********	6.0
47. MVP/Winthrop NW2	761231.8	********	6.0
48. MVP/Winthrop NW3	761306.7	********	6.0
49. MVP/Winthrop NW4	761305.2	********	6.0
50. MVP/Winthrop NW5	761307.4	********	6.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:12:24

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MVP/Winthrop E1	761376.2	********	6.0
52. MVP/Winthrop E2	761375.3	********	6.0
53. MVP/Winthrop E3	761375.3	********	6.0
54. MVP/Winthrop E4	761388.2	********	6.0
55. MVP/Winthrop E5	761400.5	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
10.	9.	9.	10.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
20.	10.	9.	10.	8.	7.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
30.	10.	10.	10.	8.	7.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.	6.	7.	8.	8.	8.
40.	9.	9.	10.	7.	7.	5.	6.	9.	9.	9.	8.	8.	8.	5.	5.	6.	7.	9.	10.	10.
50.	7.	8.	9.	7.	6.	5.	6.	8.	8.	8.	9.	9.	9.	6.	5.	6.	8.	11.	10.	10.
60.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	10.	10.	10.	7.	6.	7.	8.	11.	10.	10.
70.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	10.	9.
80.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	7.	9.	10.	9.	9.
90.	6.	6.	7.	6.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	7.	9.	9.	8.	8.
110.	6.	6.	7.	7.	7.	5.	6.	6.	5.	5.	8.	8.	8.	7.	6.	8.	9.	9.	8.	8.
120.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	8.	7.	7.	8.	9.	10.	8.	8.
130.	5.	6.	7.	7.	7.	7.	7.	7.	5.	5.	8.	8.	9.	8.	8.	8.	9.	9.	8.	8.
140.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	8.	8.	9.	8.	8.	7.	8.	8.	8.	8.
150.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.
160.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	6.	8.	8.	8.
170.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	9.	9.	8.	7.	6.	7.	8.	8.	8.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.
190.	5.	5.	6.	5.	5.	6.	6.	7.	6.	6.	9.	9.	9.	8.	7.	6.	7.	9.	9.	9.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	10.	10.	10.	8.	7.	6.	7.	10.	10.	10.
210.	7.	8.	8.	5.	5.	6.	7.	8.	7.	7.	10.	10.	10.	8.	6.	6.	6.	10.	10.	10.
220.	9.	9.	9.	6.	5.	7.	7.	10.	8.	8.	10.	10.	9.	7.	6.	5.	6.	8.	8.	8.
230.	9.	10.	10.	6.	6.	7.	8.	10.	9.	9.	8.	8.	8.	6.	6.	5.	5.	6.	6.	6.
240.	9.	9.	9.	7.	6.	7.	8.	10.	9.	9.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
250.	8.	8.	8.	6.	6.	7.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	8.	8.	8.	6.	6.	8.	8.	9.	9.	9.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	8.	8.	8.	6.	6.	8.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	8.	8.	8.	7.	6.	8.	9.	9.	8.	8.	5.	6.	7.	6.	6.	5.	5.	6.	5.	5.
300.	8.	8.	8.	7.	7.	8.	9.	9.	8.	8.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
310.	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	5.	5.	7.	6.	6.	6.	6.	7.	5.	5.
320.	8.	8.	10.	8.	8.	7.	8.	8.	8.	8.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
330.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	8.	6.	5.
340.	8.	8.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	7.	7.	6.	6.
350.	8.	9.	9.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
360.	9.	9.	9.	8.	7.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
MAX	10.	10.	10.	8.	8.	8.	9.	10.	9.	9.	10.	10.	10.	8.	8.	8.	9.	11.	10.	10.
DEGR.	20	30	30	330	320	300	300	230	230	30	210	210	210	140	140	120	120	60	50	50

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
10.	8.	9.	11.	10.	10.	8.	9.	10.	8.	8.	5.	5.	7.	7.	7.	10.	10.	10.	6.	6.
20.	8.	9.	10.	9.	9.	7.	8.	9.	8.	8.	5.	5.	6.	6.	6.	10.	10.	10.	6.	6.
30.	8.	9.	10.	9.	9.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	6.	6.
40.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
50.	9.	9.	10.	9.	9.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.
60.	9.	10.	10.	9.	8.	6.	7.	10.	10.	9.	5.	5.	6.	5.	5.	8.	8.	8.	6.	6.
70.	10.	10.	11.	9.	8.	6.	7.	10.	10.	10.	6.	6.	6.	5.	5.	8.	8.	8.	7.	6.
80.	10.	11.	12.	9.	8.	6.	7.	11.	11.	11.	7.	7.	7.	5.	5.	8.	8.	9.	8.	7.
90.	10.	10.	11.	8.	8.	6.	6.	10.	10.	10.	9.	9.	9.	6.	5.	8.	9.	12.	9.	9.
100.	8.	8.	9.	8.	7.	5.	6.	8.	8.	8.	10.	11.	11.	6.	6.	9.	10.	13.	11.	10.
110.	7.	7.	8.	7.	7.	5.	5.	7.	6.	6.	11.	11.	11.	7.	6.	9.	10.	13.	11.	10.
120.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	10.	10.	10.	7.	7.	10.	10.	12.	10.	9.
130.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.	9.	10.	10.	7.	7.	10.	11.	12.	9.	9.
140.	6.	6.	7.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	10.	11.	11.	8.	8.
150.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.	11.	11.	11.	8.	8.
160.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.	11.	11.	11.	8.	8.
170.	5.	6.	8.	8.	8.	7.	7.	7.	5.	5.	8.	8.	10.	8.	8.	11.	11.	11.	8.	8.
180.	5.	6.	8.	8.	8.	8.	8.	8.	6.	5.	9.	9.	11.	10.	10.	10.	10.	10.	8.	8.
190.	5.	5.	6.	7.	7.	9.	9.	9.	6.	5.	9.	10.	12.	10.	10.	8.	8.	9.	7.	7.
200.	5.	5.	6.	6.	6.	9.	9.	8.	6.	6.	9.	10.	11.	10.	10.	7.	7.	8.	7.	7.
210.	5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	7.	7.
220.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	9.	10.	10.	9.	9.	6.	6.	8.	7.	8.
230.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	10.	10.	10.	9.	9.	6.	6.	8.	8.	8.
240.	5.	5.	5.	5.	5.	8.	8.	6.	6.	6.	10.	10.	10.	9.	9.	6.	7.	8.	8.	8.
250.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	11.	10.	11.	9.	9.	6.	7.	9.	9.	9.
260.	7.	7.	6.	5.	5.	7.	8.	8.	7.	7.	11.	11.	12.	9.	9.	6.	7.	9.	9.	9.
270.	8.	8.	8.	6.	5.	8.	8.	10.	9.	9.	10.	11.	11.	9.	8.	6.	6.	8.	8.	8.
280.	9.	9.	9.	6.	6.	8.	9.	10.	10.	11.	9.	9.	10.	8.	8.	5.	5.	7.	7.	7.
290.	9.	9.	9.	7.	6.	8.	9.	10.	11.	11.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
300.	9.	9.	8.	7.	6.	8.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
310.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
320.	8.	8.	8.	6.	6.	9.	9.	10.	10.	10.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
330.	8.	8.	7.	7.	6.	9.	10.	11.	10.	10.	6.	7.	9.	9.	9.	6.	5.	6.	5.	5.
340.	7.	7.	8.	7.	7.	10.	10.	12.	10.	9.	6.	7.	9.	9.	9.	6.	6.	6.	5.	5.
350.	7.	8.	9.	8.	8.	11.	11.	12.	9.	9.	6.	6.	10.	9.	10.	8.	8.	8.	5.	5.
360.	8.	8.	11.	9.	9.	10.	10.	11.	9.	9.	5.	6.	8.	8.	8.	10.	10.	10.	6.	5.
MAX	10.	11.	12.	10.	10.	11.	11.	12.	11.	11.	11.	11.	12.	10.	10.	11.	11.	13.	11.	10.
DEGR.	80	80	80	10	10	350	350	350	80	290	260	260	260	190	190	160	160	100	100	100

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
10.	8.	8.	8.	6.	5.	7.	7.	10.	9.	10.	7.	7.	8.	8.	8.
20.	8.	9.	9.	6.	5.	7.	8.	10.	10.	10.	6.	6.	6.	7.	7.
30.	8.	9.	8.	6.	6.	7.	8.	10.	9.	9.	5.	5.	6.	6.	6.
40.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
50.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.
60.	8.	8.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
70.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	5.	5.	5.	5.	5.
80.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.
90.	7.	7.	7.	6.	6.	8.	7.	8.	8.	8.	5.	5.	5.	5.	5.
100.	7.	7.	7.	7.	7.	7.	7.	8.	8.	8.	5.	5.	5.	5.	5.
110.	7.	7.	8.	8.	8.	7.	7.	8.	7.	8.	5.	5.	5.	5.	5.
120.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
130.	7.	7.	8.	8.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
140.	8.	8.	8.	8.	8.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
150.	8.	8.	9.	8.	8.	6.	7.	9.	9.	9.	5.	5.	5.	5.	5.
160.	8.	9.	10.	8.	8.	6.	7.	9.	9.	9.	6.	6.	6.	6.	5.
170.	9.	10.	10.	8.	7.	6.	6.	10.	9.	9.	7.	7.	7.	6.	6.
180.	9.	10.	9.	7.	7.	5.	6.	9.	8.	8.	8.	9.	8.	8.	7.
190.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	9.	9.	9.	9.	9.
200.	7.	7.	6.	7.	7.	5.	5.	6.	6.	6.	9.	9.	9.	9.	9.
210.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	9.	9.
220.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
230.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
240.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
250.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.
260.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	8.	8.	8.	8.	7.
270.	5.	5.	7.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	7.
280.	5.	5.	6.	7.	7.	6.	6.	6.	5.	5.	8.	8.	9.	8.	8.
290.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	8.	8.	8.
300.	5.	6.	6.	6.	6.	7.	7.	8.	6.	6.	8.	9.	8.	8.	8.
310.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	7.	7.
320.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	8.	8.
330.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	8.	8.	8.
340.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	9.	9.	8.	8.	8.
350.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	9.	9.	8.	8.	8.
360.	6.	6.	6.	5.	5.	6.	6.	8.	8.	9.	8.	8.	9.	9.	9.
MAX	9.	10.	10.	8.	8.	8.	8.	10.	10.	10.	9.	9.	9.	9.	9.
DEGR.	180	170	170	150	120	80	60	20	20	10	190	190	190	200	200

THE HIGHEST CONCENTRATION OF 13. ug/m**3 OCCURRED AT RECEPTOR REC38.

6_2030BD2a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:13: 1

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	* 756198.0	********	756146.8	******** *	68.	312.	AG	0.	100.0	1.0	20.0	0.31	3.5
2. MVP West	* 756216.0	********	752396.6	******** *	6206.	218.	AG	0.	100.0	1.0	10.0	1.92	315.2
3. Boston Ave South	* 756271.8	********	756845.2	******** *	770.	132.	AG	0.	100.0	1.0	10.0	1.08	39.1
4. MVP East	* 756253.6	********	756792.8	******** *	758.	45.	AG	0.	100.0	1.0	20.0	1.06	38.5
5. Winthrop North	* 759327.2	********	759300.4	******** *	949.	358.	AG	0.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	* 759381.7	********	759537.5	******** *	156.	93.	AG	0.	100.0	1.0	10.0	0.57	7.9
7. MVP East T	* 759381.8	********	764876.3	******** *	5497.	92.	AG	0.	100.0	1.0	10.0	1.75	279.3
8. Winthrop South	* 759345.1	********	759315.3	******** *	1159.	181.	AG	0.	100.0	1.0	20.0	1.35	58.9
9. MVP West	* 759293.5	********	754219.0	******** *	5080.	273.	AG	0.	100.0	1.0	10.0	1.69	258.1
10. South St	* 761297.7	********	761070.9	******** *	232.	282.	AG	0.	100.0	1.0	20.0	0.98	11.8
11. Boston Ave. SB LT	* 759658.7	********	759585.1	******** *	156.	332.	AG	0.	100.0	1.0	10.0	0.72	7.9
12. Boston Ave. SB R	* 759646.0	********	759616.9	******** *	62.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	* 759636.4	********	759599.8	******** *	81.	207.	AG	0.	100.0	1.0	10.0	0.37	4.1
14. College Ave. EB TR	* 759648.1	********	759590.6	******** *	125.	207.	AG	0.	100.0	1.0	10.0	0.58	6.4
15. Boston Ave. NB	* 759699.9	********	760398.2	******** *	1466.	152.	AG	0.	100.0	1.0	10.0	1.44	74.5
16. College Ave WB	* 759720.8	********	760625.0	******** *	1558.	35.	AG	0.	100.0	1.0	10.0	1.45	79.2
17. Main St. SB	* 762042.2	********	761511.7	******** *	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	* 762026.6	********	760419.2	******** *	1831.	241.	AG	0.	100.0	1.0	10.0	1.28	93.0
19. Main st. NB	* 762078.3	********	762165.8	******** *	276.	162.	AG	0.	100.0	1.0	10.0	0.96	14.0
20. Harvard St. WB	* 762091.8	********	763289.9	******** *	1255.	73.	AG	0.	100.0	1.0	10.0	1.18	63.8
21. Broadway EB R	* 762959.1	********	762888.7	******** *	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	* 762965.1	********	762290.4	******** *	736.	294.	AG	0.	100.0	1.0	10.0	1.11	37.4
23. Parking Lot	* 763003.3	********	762703.0	******** *	453.	222.	AG	0.	100.0	1.0	10.0	****	23.0
24. Medford St. NB	* 763093.0	********	764092.6	******** *	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	* 763115.6	********	763578.6	******** *	504.	113.	AG	0.	100.0	1.0	20.0	1.05	25.6
26. Dexter St. SWB	* 763101.5	********	764036.9	******** *	1287.	47.	AG	0.	100.0	1.0	10.0	****	65.4
27. Medford St. SB	* 763008.3	********	762486.1	******** *	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	* 763277.6	********	763108.3	******** *	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	* 763301.4	********	763125.6	******** *	398.	206.	AG	0.	100.0	1.0	10.0	1.03	20.2
30. Highland St. WB	* 763328.5	********	763875.5	******** *	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	* 763311.4	********	763334.4	******** *	50.	27.	AG	0.	100.0	1.0	10.0	0.32	2.5
32. Medford St. NWB	* 765022.2	********	765221.5	******** *	324.	142.	AG	0.	100.0	1.0	10.0	0.97	16.5
33. School St. SB	* 765002.3	********	765636.0	******** *	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	* 764967.1	********	764882.7	******** *	136.	322.	AG	0.	100.0	1.0	10.0	0.58	6.9
35. Prospect SB	* 765830.6	********	766165.3	******** *	647.	31.	AG	0.	100.0	1.0	20.0	1.08	32.9
36. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	* 765828.4	********	765183.5	******** *	1455.	206.	AG	0.	100.0	1.0	30.0	1.30	73.9
38. Somerville EB	* 765797.5	********	765680.1	******** *	131.	296.	AG	0.	100.0	1.0	20.0	0.55	6.6
39. McGrath Highway SB1	* 766950.5	********	766630.0	******** *	1764.	350.	AG	0.	100.0	1.0	20.0	2.27	89.6
40. Washington St. EB	* 766952.8	********	757231.4	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.13	529.7
41. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	* 767119.9	********	767451.0	******** *	2697.	173.	AG	0.	100.0	1.0	10.0	1.72	137.0
43. Washington St. WB	* 767129.9	********	768494.1	******** *	1487.	67.	AG	0.	100.0	1.0	30.0	1.40	75.6
44. Camb. St at First L	* 770442.2	********	770345.0	******** *	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	0.	100.0	1.0	10.0	1.62	81.3
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	0.	100.0	1.0	20.0	1.27	69.9
50. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	0.	100.0	1.0	20.0	0.74	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	0.	100.0	1.0	10.0	0.83	6.7
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2540.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2360.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1010.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1195.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1925.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2310.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3300.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	335	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1175	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	575	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1305	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	460	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1140	1600	0.07	1	3
8. Winthrop South	*	135	109	3.0	670	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1100	1600	0.07	1	3
10. South St	*	120	90	3.0	650	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	120	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	241	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	375	1600	0.07	1	3
16. College Ave WB	*	135	107	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	650	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	485	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	595	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	250	1600	0.07	1	3
22. Broadway EB TL	*	120	85	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	116	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
25. Broadway St. WB	*	120	85	3.0	841	1600	0.07	1	3
26. Dexter St. SWB	*	120	116	3.0	70	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
29. Central St NB	*	90	57	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
31. Central St. SB	*	90	57	3.0	160	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	865	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	520	1600	0.07	1	3
35. Prospect SB	*	120	84	3.0	895	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	87	3.0	1455	1600	0.07	1	3
38. Somerville EB	*	120	62	3.0	770	1600	0.07	1	3
39. McGrath Highway SB1	*	120	106	3.0	540	1600	0.07	1	3
40. Washington St. EB	*	120	92	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	345	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	980	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	980	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	220	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. College/Boston S1	759601.3	********	6.0
2. College/Boston S2	759636.4	********	6.0
3. College/Boston S3	759671.5	********	6.0
4. College/Boston S4	759707.5	********	6.0
5. College/Boston S5	759743.5	********	6.0
6. College/Boston E1	759744.5	********	6.0
7. College/Boston E2	759706.2	********	6.0
8. College/Boston E3	759706.4	********	6.0
9. College/Boston E4	759737.3	********	6.0
10. College/Boston E5	759781.7	********	6.0
11. College/Boston N1	759784.9	********	6.0
12. College/Boston N2	759740.9	********	6.0
13. College/Boston N3	759696.9	********	6.0
14. College/Boston N4	759660.8	********	6.0
15. College/Boston N5	759624.7	********	6.0
16. College/Boston W1	759605.4	********	6.0
17. College/Boston W2	759643.2	********	6.0
18. College/Boston W3	759650.2	********	6.0
19. College/Boston W4	759623.4	********	6.0
20. College/Boston W5	759588.2	********	6.0
21. Harvard/Main SW1	761916.4	********	6.0
22. Harvard/Main SW2	761982.9	********	6.0
23. Harvard/Main SW3	762049.4	********	6.0
24. Harvard/Main SW4	762072.9	********	6.0
25. Harvard/Main SW5	762096.4	********	6.0
26. Harvard/Main SE1	762133.9	********	6.0
27. Harvard/Main SE2	762110.4	********	6.0
28. Harvard/Main SE3	762086.9	********	6.0
29. Harvard/Main SE4	762158.4	********	6.0
30. Harvard/Main SE5	762229.9	********	6.0
31. Harvard/Main NE1	762214.0	********	6.0
32. Harvard/Main NE2	762142.5	********	6.0
33. Harvard/Main NE3	762070.9	********	6.0
34. Harvard/Main NE4	762048.6	********	6.0
35. Harvard/Main NE5	762026.3	********	6.0
36. Harvard/Main NW1	761988.7	********	6.0
37. Harvard/Main NW2	762010.9	********	6.0
38. Harvard/Main NW3	762033.3	********	6.0
39. Harvard/Main NW4	761966.9	********	6.0
40. Harvard/Main NW5	761900.4	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	6.	6.	7.	6.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
10.	8.	8.	7.	7.	7.	5.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	7.	7.	7.	6.	6.	6.	7.	7.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.
30.	7.	7.	7.	6.	6.	5.	6.	6.	7.	7.	7.	7.	7.	5.	5.	7.	8.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	7.	8.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	6.	6.	7.	7.	7.	6.	6.	7.	8.	7.	7.	7.
60.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	6.	6.	6.
70.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	5.	7.	7.	6.	6.	7.
80.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	6.
90.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	6.	6.	6.	7.
100.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	6.	7.
110.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	6.	6.	7.
120.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	6.	7.	7.
130.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	6.	7.	7.
140.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	7.	7.	7.	7.
150.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.	7.	7.	6.	6.	6.	8.	7.	7.	7.	6.
160.	5.	5.	6.	6.	6.	7.	6.	6.	6.	5.	7.	7.	7.	7.	7.	8.	7.	7.	6.	6.
170.	5.	5.	6.	6.	6.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
180.	6.	5.	6.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	7.	7.	6.	7.	7.	7.	6.
190.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	8.	7.	8.	7.	6.	6.	6.	7.	7.	6.
210.	6.	7.	7.	5.	5.	6.	6.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	7.	7.	5.	5.	6.	6.	7.	7.	7.	7.	6.	7.	6.	6.	5.	5.	6.	5.	5.
230.	6.	7.	7.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	7.	6.	6.	5.	7.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	7.	6.	6.	5.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	5.	6.	5.	5.	5.
300.	6.	7.	6.	6.	6.	6.	6.	6.	7.	7.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
310.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	5.	5.	5.
320.	6.	6.	6.	6.	6.	7.	6.	8.	7.	6.	5.	5.	6.	6.	6.	6.	7.	5.	5.	5.
330.	6.	7.	7.	7.	7.	6.	7.	8.	6.	6.	5.	5.	6.	6.	6.	7.	8.	6.	5.	5.
340.	7.	7.	8.	7.	7.	6.	7.	7.	6.	6.	5.	5.	6.	5.	5.	7.	8.	6.	6.	5.
350.	7.	7.	8.	7.	7.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
360.	8.	8.	8.	7.	7.	6.	6.	7.	6.	7.	5.	5.	5.	5.	5.	7.	8.	7.	6.	6.
MAX	8.	8.	8.	7.	7.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	0	0	340	140	160	330	330	20	30	190	190	190	180	180	140	340	30	30	30

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
10.	7.	8.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
20.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
30.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
40.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
50.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.
60.	8.	8.	8.	7.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	7.	8.	8.	7.
70.	7.	8.	8.	7.	7.	5.	6.	7.	8.	8.	8.	8.	8.	5.	5.	7.	7.	9.	8.	8.
80.	6.	7.	7.	6.	6.	5.	5.	6.	7.	7.	8.	8.	8.	6.	5.	7.	8.	9.	8.	8.
90.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	8.	9.	8.	8.
100.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	8.	8.	7.	6.	6.	7.	8.	8.	8.	7.
110.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
120.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.
130.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
140.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.
150.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	8.	8.	9.	7.	7.
160.	5.	6.	8.	7.	7.	7.	7.	7.	6.	5.	7.	7.	8.	8.	7.	8.	8.	9.	7.	7.
170.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.
180.	5.	5.	6.	6.	6.	8.	8.	7.	6.	6.	7.	7.	9.	8.	8.	6.	6.	7.	7.	7.
190.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	8.	6.	6.	7.	7.	7.
200.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	8.	8.	8.	7.	6.	6.	7.	7.	7.
210.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	7.	7.	7.
220.	6.	6.	6.	5.	5.	7.	6.	6.	6.	6.	8.	8.	9.	7.	7.	6.	6.	8.	8.	8.
230.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.	8.	9.	9.	7.	7.	6.	6.	8.	8.	8.
240.	8.	8.	7.	6.	5.	7.	7.	8.	7.	7.	9.	9.	9.	7.	7.	5.	6.	8.	8.	8.
250.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	8.	8.	8.	7.	6.	5.	5.	7.	7.	7.
260.	8.	8.	8.	6.	6.	7.	8.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
270.	8.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	7.	7.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
290.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.
300.	7.	7.	7.	6.	6.	7.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	7.	7.	6.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
320.	7.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	7.	7.	7.	6.	6.	6.	5.	5.
330.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.
340.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
350.	7.	7.	9.	8.	8.	7.	7.	8.	7.	7.	5.	5.	7.	7.	6.	8.	8.	8.	6.	5.
360.	7.	8.	9.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
MAX	8.	8.	9.	8.	8.	8.	8.	9.	8.	8.	9.	9.	9.	8.	8.	8.	8.	9.	8.	8.
DEGR.	40	40	350	350	350	330	320	250	60	260	240	240	230	170	170	150	150	80	70	70

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC38.

6_2030BD3a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:13:20

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Boston Ave. North	* 756198.0	********	756146.8	******** *	68.	312.	AG	0.	100.0	1.0	20.0	0.31	3.5
2. MVP West	* 756216.0	********	752396.6	******** *	6206.	218.	AG	0.	100.0	1.0	10.0	1.92	315.2
3. Boston Ave South	* 756271.8	********	756845.2	******** *	770.	132.	AG	0.	100.0	1.0	10.0	1.08	39.1
4. MVP East	* 756253.6	********	756792.8	******** *	758.	45.	AG	0.	100.0	1.0	20.0	1.06	38.5
5. Winthrop North	* 759327.2	********	759300.4	******** *	949.	358.	AG	0.	100.0	1.0	20.0	1.13	48.2
6. MVP East RT	* 759381.7	********	759537.5	******** *	156.	93.	AG	0.	100.0	1.0	10.0	0.57	7.9
7. MVP East T	* 759381.8	********	764876.3	******** *	5497.	92.	AG	0.	100.0	1.0	10.0	1.75	279.3
8. Winthrop South	* 759345.1	********	759315.3	******** *	1159.	181.	AG	0.	100.0	1.0	20.0	1.35	58.9
9. MVP West	* 759293.5	********	754219.0	******** *	5080.	273.	AG	0.	100.0	1.0	10.0	1.69	258.1
10. South St	* 761297.7	********	761070.9	******** *	232.	282.	AG	0.	100.0	1.0	20.0	0.98	11.8
11. Boston Ave. SB LT	* 759658.7	********	759585.1	******** *	156.	332.	AG	0.	100.0	1.0	10.0	0.72	7.9
12. Boston Ave. SB R	* 759646.0	********	759616.9	******** *	62.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
13. College Ave EB L	* 759636.4	********	759599.8	******** *	81.	207.	AG	0.	100.0	1.0	10.0	0.37	4.1
14. College Ave. EB TR	* 759648.1	********	759590.6	******** *	125.	207.	AG	0.	100.0	1.0	10.0	0.58	6.4
15. Boston Ave. NB	* 759699.9	********	760398.2	******** *	1466.	152.	AG	0.	100.0	1.0	10.0	1.44	74.5
16. College Ave WB	* 759720.8	********	760625.0	******** *	1558.	35.	AG	0.	100.0	1.0	10.0	1.45	79.2
17. Main St. SB	* 762042.2	********	761511.7	******** *	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
18. Harvard St. EB	* 762026.6	********	760419.2	******** *	1831.	241.	AG	0.	100.0	1.0	10.0	1.28	93.0
19. Main st. NB	* 762078.3	********	762165.8	******** *	276.	162.	AG	0.	100.0	1.0	10.0	0.96	14.0
20. Harvard St. WB	* 762091.8	********	763289.9	******** *	1255.	73.	AG	0.	100.0	1.0	10.0	1.18	63.8
21. Broadway EB R	* 762959.1	********	762888.7	******** *	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
22. Broadway EB TL	* 762965.1	********	762290.4	******** *	736.	294.	AG	0.	100.0	1.0	10.0	1.11	37.4
23. Parking Lot	* 763003.3	********	762703.0	******** *	453.	222.	AG	0.	100.0	1.0	10.0	****	23.0
24. Medford St. NB	* 763093.0	********	764092.6	******** *	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
25. Broadway St. WB	* 763115.6	********	763578.6	******** *	504.	113.	AG	0.	100.0	1.0	20.0	1.05	25.6
26. Dexter St. SWB	* 763101.5	********	764036.9	******** *	1287.	47.	AG	0.	100.0	1.0	10.0	****	65.4
27. Medford St. SB	* 763008.3	********	762486.1	******** *	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
28. Highland St. EB	* 763277.6	********	763108.3	******** *	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
29. Central St NB	* 763301.4	********	763125.6	******** *	398.	206.	AG	0.	100.0	1.0	10.0	1.03	20.2
30. Highland St. WB	* 763328.5	********	763875.5	******** *	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
31. Central St. SB	* 763311.4	********	763334.4	******** *	50.	27.	AG	0.	100.0	1.0	10.0	0.32	2.5
32. Medford St. NWB	* 765022.2	********	765221.5	******** *	324.	142.	AG	0.	100.0	1.0	10.0	0.97	16.5
33. School St. SB	* 765002.3	********	765636.0	******** *	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
34. Medford St. SEB	* 764967.1	********	764882.7	******** *	136.	322.	AG	0.	100.0	1.0	10.0	0.58	6.9
35. Prospect SB	* 765830.6	********	766165.3	******** *	647.	31.	AG	0.	100.0	1.0	20.0	1.08	32.9
36. Sommerville WB	* 765870.1	********	766681.6	******** *	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
37. Prospect NB	* 765828.4	********	765183.5	******** *	1455.	206.	AG	0.	100.0	1.0	30.0	1.30	73.9
38. Somerville EB	* 765797.5	********	765680.1	******** *	131.	296.	AG	0.	100.0	1.0	20.0	0.55	6.6
39. McGrath Highway SB1	* 766950.5	********	766630.0	******** *	1764.	350.	AG	0.	100.0	1.0	20.0	2.27	89.6
40. Washington St. EB	* 766952.8	********	757231.4	******** *	*****	249.	AG	0.	100.0	1.0	10.0	4.13	529.7
41. McGrath Hwy NB2 L	* 767105.3	********	767109.3	******** *	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
42. McGrath Hwy NB2 T	* 767119.9	********	767451.0	******** *	2697.	173.	AG	0.	100.0	1.0	10.0	1.72	137.0
43. Washington St. WB	* 767129.9	********	768494.1	******** *	1487.	67.	AG	0.	100.0	1.0	30.0	1.40	75.6
44. Camb. St at First L	* 770442.2	********	770345.0	******** *	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:13:20

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
46. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	0.	100.0	1.0	10.0	1.62	81.3
47. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
48. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
49. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	0.	100.0	1.0	20.0	1.27	69.9
50. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	0.	100.0	1.0	20.0	0.74	8.8
51. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
52. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
53. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
54. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	0.	100.0	1.0	10.0	0.83	6.7
55. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
56. Boston Ave. North	756236.2	********	754979.9	********	1652.	311.	AG	870.	0.0	1.0	42.0		
57. MVP West	756236.4	********	755664.5	********	961.	217.	AG	2540.	0.0	1.0	58.0		
58. MVP East	756236.3	********	756857.2	********	867.	46.	AG	2360.	0.0	1.0	66.0		
59. Boston Ave. South	756236.7	********	757224.6	********	1320.	132.	AG	1010.	0.0	1.0	42.0		
60. Winthrop South	759337.5	********	759326.8	********	663.	181.	AG	1195.	0.0	1.0	42.0		
61. Winthrop North	759337.5	********	759313.4	********	855.	358.	AG	1925.	0.0	1.0	42.0		
62. MVP West	759335.1	********	758131.8	********	1204.	272.	AG	2310.	0.0	1.0	66.0		
63. MVP East	759335.6	********	760246.6	********	913.	93.	AG	3300.	0.0	1.0	66.0		
64. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	0.0	1.0	42.0		
65. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
66. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
67. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	0.0	1.0	54.0		
68. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	0.0	1.0	54.0		
69. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	0.0	1.0	54.0		
70. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	0.0	1.0	42.0		
71. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
72. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
73. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	0.0	1.0	42.0		
74. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
75. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
76. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	0.0	1.0	66.0		
77. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
78. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	0.0	1.0	42.0		
79. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	0.0	1.0	66.0		
80. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
81. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	0.0	1.0	42.0		
82. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
83. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	0.0	1.0	42.0		
84. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
85. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	0.0	1.0	42.0		
86. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	0.0	1.0	42.0		
87. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	0.0	1.0	42.0		
88. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	0.0	1.0	42.0		
89. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
90. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	0.0	1.0	66.0		
91. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	0.0	1.0	66.0		
92. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	0.0	1.0	54.0		
93. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	0.0	1.0	66.0		
94. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
95. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	0.0	1.0	66.0	
97. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	0.0	1.0	66.0	
98. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0	
99. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	0.0	1.0	42.0	
100. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
101. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
102. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
103. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	0.0	1.0	66.0	
104. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
105. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	0.0	1.0	****	
106. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	0.0	1.0	90.0	
107. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	0.0	1.0	****	
108. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. Boston Ave. North	*	120	75	3.0	335	1600	0.07	1	3
2. MVP West	*	120	69	3.0	1175	1600	0.07	1	3
3. Boston Ave South	*	120	75	3.0	575	1600	0.07	1	3
4. MVP East	*	120	69	3.0	1305	1600	0.07	1	3
5. Winthrop North	*	135	93	3.0	995	1600	0.07	1	3
6. MVP East RT	*	135	62	3.0	460	1600	0.07	1	3
7. MVP East T	*	135	75	3.0	1140	1600	0.07	1	3
8. Winthrop South	*	135	109	3.0	670	1600	0.07	1	3
9. MVP West	*	135	75	3.0	1100	1600	0.07	1	3
10. South St	*	120	90	3.0	650	1600	0.07	1	3
11. Boston Ave. SB LT	*	135	95	3.0	300	1600	0.07	1	3
12. Boston Ave. SB R	*	135	95	3.0	120	1600	0.07	1	3
13. College Ave EB L	*	135	95	3.0	155	1600	0.07	1	3
14. College Ave. EB TR	*	135	95	3.0	241	1600	0.07	1	3
15. Boston Ave. NB	*	135	108	3.0	375	1600	0.07	1	3
16. College Ave WB	*	135	107	3.0	395	1600	0.07	1	3
17. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
18. Harvard St. EB	*	120	77	3.0	650	1600	0.07	1	3
19. Main st. NB	*	120	77	3.0	485	1600	0.07	1	3
20. Harvard St. WB	*	120	77	3.0	595	1600	0.07	1	3
21. Broadway EB R	*	120	56	3.0	250	1600	0.07	1	3
22. Broadway EB TL	*	120	85	3.0	442	1600	0.07	1	3
23. Parking Lot	*	120	116	3.0	50	1600	0.07	1	3
24. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
25. Broadway St. WB	*	120	85	3.0	841	1600	0.07	1	3
26. Dexter St. SWB	*	120	116	3.0	70	1600	0.07	1	3
27. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
28. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
29. Central St NB	*	90	57	3.0	510	1600	0.07	1	3
30. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
31. Central St. SB	*	90	57	3.0	160	1600	0.07	1	3
32. Medford St. NWB	*	120	48	3.0	865	1600	0.07	1	3
33. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
34. Medford St. SEB	*	120	48	3.0	520	1600	0.07	1	3
35. Prospect SB	*	120	84	3.0	895	1600	0.07	1	3
36. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
37. Prospect NB	*	120	87	3.0	1455	1600	0.07	1	3
38. Somerville EB	*	120	62	3.0	770	1600	0.07	1	3
39. McGrath Highway SB1	*	120	106	3.0	540	1600	0.07	1	3
40. Washington St. EB	*	120	92	3.0	1265	1600	0.07	1	3
41. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
42. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	0.07	1	3
43. Washington St. WB	*	120	93	3.0	1235	1600	0.07	1	3
44. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
45. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
46. First St NB TL	*	120	99	3.0	345	1600	0.07	1	3
47. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
48. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
49. MsgrOb/East EB T	*	120	86	3.0	980	1600	0.07	1	3
50. MsgrOb/East WB T	*	120	65	3.0	980	1600	0.07	1	3
51. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3
52. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
53. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
54. First Ext. NB L	*	120	95	3.0	220	1600	0.07	1	3
55. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Broadway SB/Lot NEB1	762845.8	********	6.0
2. Broadway SB/Lot NEB2	762915.0	********	6.0
3. Broadway SB/Lot NEB3	762984.3	********	6.0
4. Broadway SB/Lot NEB4	762936.2	********	6.0
5. Broadway SB/Lot NEB5	762888.1	********	6.0
6. Medford NB/Lot NEB1	762931.0	********	6.0
7. Medford NB/Lot NEB2	762979.2	********	6.0
8. Medford NB/Lot NEB3	763027.3	********	6.0
9. Medford NB/Lot NEB4	763064.2	********	6.0
10. Medford NB/Lot NEB5	763100.9	********	6.0
11. Med. NB/Broad. WB 1	763162.9	********	6.0
12. Med. NB/Broad. WB 2	763126.1	********	6.0
13. Med. NB/Broad. WB 3	763089.2	********	6.0
14. Med. NB/Broad. WB 4	763158.0	********	6.0
15. Med. NB/Broad. WB 5	763226.8	********	6.0
16. Broadway WB/Dexter 1	763213.0	********	6.0
17. Broadway WB/Dexter2	763144.2	********	6.0
18. Broadway WB/Dexter3	763075.4	********	6.0
19. Broadway WB/Dexter4	763130.4	********	6.0
20. Broadway WB/Dexter5	763185.3	********	6.0
21. Medford SB/Dexter 1	763164.8	********	6.0
22. Medford SB/Dexter 2	763109.8	********	6.0
23. Medford SB/Dexter 3	763054.8	********	6.0
24. Medford SB/Dexter 4	763029.9	********	6.0
25. Medford SB/Dexter 5	763005.0	********	6.0
26. Med. SB/Broad. EB 1	762960.8	********	6.0
27. Med. SB/Broad. EB 2	762985.7	********	6.0
28. Med. SB/Broad. EB 3	763010.6	********	6.0
29. Med. SB/Broad. EB 4	762941.3	********	6.0
30. Med. SB/Broad. EB 5	762872.1	********	6.0
31. Msgr Camb. St 1	770578.8	********	6.0
32. Msgr Camb. St 2	770639.8	********	6.0
33. Msgr Camb. St 3	770691.0	********	6.0
34. Msgr Camb. St 4	770617.3	********	6.0
35. Msgr Camb. St 5	770691.0	********	6.0
36. Camb St/First SW1	770320.8	********	6.0
37. Camb St/First SW2	770394.7	********	6.0
38. Camb St/First SW3	770468.2	********	6.0
39. Camb St/First SW4	770456.7	********	6.0
40. Camb St/First SW5	770443.4	********	6.0
41. Camb St/First SE1	770505.4	********	6.0
42. Camb St/First SE2	770518.6	********	6.0
43. Camb St/First SE3	770537.1	********	6.0
44. Camb St/First SE4	770611.3	********	6.0
45. Camb St/First SE5	770685.7	********	6.0
46. MsgrOb/CambSt S1	770694.9	********	6.0
47. MsgrOb/CambSt S2	770768.9	********	6.0
48. MsgrOb/CambSt S3	770842.2	********	6.0
49. MsgrOb/CambSt S4	770902.7	********	6.0
50. MsgrOb/CambSt S5	770961.0	********	6.0

JOB: Greenline Extension RUN: Existing

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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
51. MsgrOb/East E1	770883.9	********	6.0
52. MsgrOb/East E2	770830.8	********	6.0
53. MsgrOb/East E3	770776.1	********	6.0
54. MsgrOb/East E4	770825.0	********	6.0
55. MsgrOb/East E5	770874.0	********	6.0
56. MsgrOb/East W1	770852.8	********	6.0
57. MsgrOb/East W2	770803.8	********	6.0
58. MsgrOb/East W3	770749.8	********	6.0
59. MsgrOb/East W4	770687.5	********	6.0
60. MsgrOb/East W5	770626.9	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	8.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
10.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
20.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	6.	6.
30.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
40.	7.	8.	7.	6.	6.	7.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
50.	7.	8.	7.	7.	6.	6.	7.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	6.	6.
60.	7.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	6.	5.	5.
70.	8.	8.	8.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
80.	8.	8.	8.	7.	7.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
90.	8.	8.	8.	7.	7.	6.	7.	8.	8.	7.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
100.	8.	9.	8.	7.	6.	6.	7.	9.	8.	7.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.
110.	8.	9.	8.	7.	6.	6.	6.	9.	8.	7.	6.	6.	8.	8.	8.	7.	7.	7.	5.	5.
120.	7.	7.	8.	6.	6.	6.	6.	8.	7.	7.	5.	6.	7.	7.	7.	8.	8.	8.	6.	6.
130.	6.	6.	7.	6.	6.	6.	6.	8.	7.	7.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.
140.	6.	6.	7.	6.	6.	5.	6.	8.	8.	8.	6.	6.	6.	6.	5.	8.	8.	7.	6.	6.
150.	6.	6.	6.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	6.	6.	8.	8.	8.	6.	6.
160.	5.	5.	6.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.	8.	8.	8.	7.	6.
170.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	8.	8.	7.	7.	6.
180.	5.	5.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
190.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	8.	8.	7.	6.	6.
200.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	7.	6.	6.
210.	5.	5.	6.	6.	6.	5.	6.	6.	5.	5.	6.	6.	6.	6.	5.	8.	8.	7.	6.	6.
220.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	7.	8.	7.	6.	6.
230.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
240.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
250.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
260.	5.	5.	5.	5.	5.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
270.	5.	5.	6.	5.	5.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	7.
280.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.	9.	8.	8.	7.	7.
290.	7.	8.	8.	6.	5.	6.	6.	8.	6.	6.	7.	7.	8.	8.	8.	8.	8.	8.	7.	6.
300.	8.	8.	8.	6.	6.	6.	7.	9.	7.	6.	8.	8.	9.	8.	8.	7.	7.	7.	6.	6.
310.	8.	9.	8.	6.	6.	6.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.
320.	8.	8.	8.	6.	6.	6.	7.	8.	8.	7.	8.	8.	8.	8.	8.	6.	6.	6.	6.	6.
330.	7.	8.	7.	6.	6.	6.	7.	8.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
340.	7.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	8.	8.	8.	6.	6.	6.	6.	6.
350.	7.	8.	7.	6.	6.	7.	7.	8.	8.	8.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
360.	7.	8.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	7.	7.	5.	5.	5.	6.	6.
MAX	8.	9.	8.	7.	7.	7.	7.	9.	8.	8.	8.	8.	9.	8.	8.	9.	8.	8.	7.	7.
DEGR.	100	100	300	90	90	0	340	100	340	340	310	300	300	300	300	280	130	280	280	260

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
10.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	6.	8.	8.	7.	8.	8.	8.	7.	7.	8.
20.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	8.	8.	8.
30.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	5.	8.	8.	7.	8.	8.	8.	7.	8.	8.
40.	6.	6.	6.	5.	5.	6.	6.	6.	6.	5.	6.	8.	8.	7.	8.	8.	8.	7.	8.	8.
50.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	6.	8.	8.	7.	8.	8.	9.	8.	8.	8.
60.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	8.	9.	7.	8.	8.
70.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	7.	8.	8.	7.	8.	9.	9.	7.	8.	8.
80.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	10.	9.	7.	8.	7.
90.	6.	6.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	9.	9.	7.	8.	7.
100.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	9.	8.	7.	8.	9.	8.	7.	7.	7.
110.	6.	6.	6.	6.	5.	7.	7.	8.	8.	8.	9.	9.	9.	7.	9.	7.	7.	7.	7.	7.
120.	6.	6.	7.	6.	6.	7.	8.	9.	8.	8.	9.	9.	8.	6.	8.	6.	7.	6.	7.	7.
130.	6.	7.	7.	6.	6.	8.	8.	9.	9.	8.	8.	8.	8.	6.	8.	6.	6.	6.	7.	7.
140.	6.	7.	7.	6.	6.	8.	8.	9.	8.	8.	7.	7.	6.	6.	6.	6.	6.	6.	7.	7.
150.	7.	7.	8.	7.	7.	8.	8.	9.	8.	8.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
160.	7.	7.	8.	7.	7.	8.	8.	9.	7.	7.	6.	6.	6.	6.	6.	6.	6.	7.	7.	7.
170.	7.	7.	8.	7.	7.	7.	7.	8.	7.	7.	6.	6.	6.	6.	6.	5.	6.	7.	8.	8.
180.	7.	7.	7.	7.	7.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	6.	8.	8.	8.
190.	7.	7.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	7.	7.	7.
200.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	6.	6.	6.
210.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
220.	6.	6.	8.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
230.	6.	6.	7.	7.	6.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	8.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	7.	7.	7.	6.	6.	7.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.
270.	6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	6.	7.	6.	5.	5.
280.	6.	6.	8.	7.	7.	6.	6.	8.	8.	8.	6.	7.	6.	6.	6.	7.	8.	7.	5.	5.
290.	6.	6.	8.	7.	6.	6.	6.	8.	8.	8.	7.	7.	7.	6.	7.	7.	8.	8.	6.	5.
300.	5.	6.	7.	6.	6.	5.	6.	7.	7.	7.	8.	8.	7.	6.	7.	7.	8.	7.	6.	5.
310.	5.	6.	6.	6.	6.	5.	5.	6.	6.	6.	8.	9.	8.	7.	8.	7.	8.	7.	6.	6.
320.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	8.	7.	8.	7.	8.	7.	6.	6.
330.	5.	6.	6.	7.	7.	6.	6.	6.	6.	5.	7.	8.	8.	7.	8.	7.	8.	7.	6.	6.
340.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	8.	8.	6.	8.	7.	8.	7.	6.	6.
350.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	7.	8.	7.	7.	6.
360.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	6.	8.	8.	6.	8.	8.	8.	7.	7.	6.
MAX	7.	7.	8.	7.	7.	8.	8.	9.	9.	8.	9.	9.	9.	7.	9.	10.	9.	8.	8.	8.
DEGR.	160	160	280	280	160	150	150	150	130	120	110	110	110	320	110	80	70	180	60	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55	REC56	REC57	REC58	REC59	REC60
0.	8.	8.	8.	7.	8.	8.	8.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
10.	7.	7.	7.	7.	8.	8.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
20.	7.	7.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
30.	6.	6.	7.	7.	7.	7.	7.	6.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
40.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
50.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
60.	6.	6.	7.	7.	7.	7.	6.	7.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
70.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.	6.	6.	7.	7.	7.	7.	6.	8.	8.	7.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
90.	6.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
100.	5.	6.	7.	7.	7.	7.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
110.	5.	5.	6.	6.	7.	6.	7.	8.	8.	8.	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
120.	5.	5.	5.	6.	6.	6.	6.	8.	8.	7.	8.	6.	6.	5.	5.	5.	5.	5.	6.	6.
130.	5.	5.	5.	5.	5.	5.	6.	7.	7.	6.	8.	7.	7.	5.	5.	5.	5.	6.	7.	7.
140.	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	8.	8.	8.	6.	5.	5.	6.	7.	8.	8.
150.	5.	5.	5.	5.	5.	5.	5.	5.	6.	5.	8.	8.	8.	6.	6.	6.	6.	7.	8.	8.
160.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	7.	8.	8.
170.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	8.	7.	8.	6.	6.	6.	6.	8.	8.	7.
180.	6.	6.	6.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
190.	7.	7.	7.	5.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	6.	8.	8.	7.
200.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	7.	7.	8.	6.	6.	6.	7.	8.	8.	7.
210.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	8.	8.	7.	6.	7.	7.	8.	8.	7.
220.	7.	7.	7.	6.	6.	6.	5.	5.	5.	5.	6.	8.	9.	7.	7.	6.	7.	8.	9.	6.
230.	7.	7.	7.	6.	6.	6.	6.	5.	5.	5.	6.	8.	9.	7.	7.	7.	7.	8.	8.	6.
240.	7.	7.	7.	6.	6.	6.	6.	5.	6.	5.	7.	8.	8.	7.	7.	6.	7.	8.	8.	6.
250.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	7.	8.	9.	7.	7.	6.	7.	8.	8.	7.
260.	7.	7.	6.	6.	6.	6.	6.	6.	6.	6.	8.	8.	9.	7.	6.	6.	7.	8.	7.	7.
270.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	7.
280.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	8.	9.	9.	7.	6.	6.	6.	8.	7.	8.
290.	7.	7.	7.	7.	7.	7.	7.	6.	6.	6.	9.	9.	9.	6.	6.	6.	6.	8.	7.	8.
300.	7.	7.	7.	7.	7.	7.	7.	7.	8.	7.	8.	9.	8.	6.	6.	5.	6.	7.	7.	7.
310.	7.	7.	7.	8.	8.	8.	8.	8.	9.	8.	8.	8.	7.	5.	5.	5.	5.	6.	6.	6.
320.	8.	8.	7.	8.	8.	8.	8.	8.	9.	9.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.
330.	8.	8.	8.	8.	7.	7.	8.	8.	8.	9.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
340.	8.	8.	8.	7.	7.	7.	8.	8.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
350.	8.	8.	8.	7.	8.	7.	8.	7.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
360.	8.	8.	8.	7.	8.	8.	8.	6.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
MAX	8.	8.	8.	8.	8.	8.	8.	8.	9.	9.	9.	9.	9.	7.	7.	7.	7.	8.	9.	8.
DEGR.	350	340	340	320	320	320	330	110	320	320	290	290	270	220	240	210	220	260	220	150

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC36.

6_2030BD4a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:13:49

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761070.9	********	232.	282.	AG	0.	100.0	1.0	20.0	0.98	11.8
2. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	0.	100.0	1.0	10.0	0.72	7.9
3. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	0.	100.0	1.0	10.0	0.37	4.1
5. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	0.	100.0	1.0	10.0	0.58	6.4
6. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	0.	100.0	1.0	10.0	1.44	74.5
7. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	0.	100.0	1.0	10.0	1.45	79.2
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	0.	100.0	1.0	10.0	1.28	93.0
10. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	0.	100.0	1.0	10.0	0.96	14.0
11. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	0.	100.0	1.0	10.0	1.18	63.8
12. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	0.	100.0	1.0	10.0	1.11	37.4
14. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	0.	100.0	1.0	10.0	****	23.0
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	0.	100.0	1.0	20.0	1.05	25.6
17. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	0.	100.0	1.0	10.0	****	65.4
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	0.	100.0	1.0	10.0	1.03	20.2
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	0.	100.0	1.0	10.0	0.32	2.5
23. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	0.	100.0	1.0	10.0	0.97	16.5
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	0.	100.0	1.0	10.0	0.58	6.9
26. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	0.	100.0	1.0	20.0	1.08	32.9
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	0.	100.0	1.0	30.0	1.30	73.9
29. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	0.	100.0	1.0	20.0	0.55	6.6
30. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	0.	100.0	1.0	20.0	2.27	89.6
31. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.13	529.7
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	0.	100.0	1.0	10.0	1.72	137.0
34. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	0.	100.0	1.0	30.0	1.40	75.6
35. Msgr Obrien EB	769756.4	********	767307.8	********	2974.	305.	AG	0.	100.0	1.0	20.0	1.43	151.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.1	********	20.	189.	AG	0.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	769858.1	********	771318.1	********	1774.	125.	AG	0.	100.0	1.0	20.0	1.23	90.1
39. Msgr Obrien L	771462.2	********	767746.3	********	4511.	305.	AG	0.	100.0	1.0	10.0	3.77	229.2
40. Msgr Obrien WB T	771449.0	********	771330.8	********	143.	304.	AG	0.	100.0	1.0	30.0	0.69	7.3
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	0.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	0.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771746.7	********	200.	124.	AG	0.	100.0	1.0	20.0	0.88	10.2
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	0.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	0.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	0.	100.0	1.0	10.0	1.62	81.3
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	0.	100.0	1.0	20.0	1.27	69.9
55. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	0.	100.0	1.0	20.0	0.74	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	0.	100.0	1.0	10.0	0.83	6.7
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1293.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3997.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2778.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3305.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3435.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	650	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	120	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	241	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	375	1600	0.07	1	3
7. College Ave WB	*	135	107	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	650	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	485	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	595	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	250	1600	0.07	1	3
13. Broadway EB TL	*	120	85	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	116	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
16. Broadway St. WB	*	120	85	3.0	841	1600	0.07	1	3
17. Dexter St. SWB	*	120	116	3.0	70	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
20. Central St NB	*	90	57	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
22. Central St. SB	*	90	57	3.0	160	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	865	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	520	1600	0.07	1	3
26. Prospect SB	*	120	84	3.0	895	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	87	3.0	1455	1600	0.07	1	3
29. Somerville EB	*	120	62	3.0	770	1600	0.07	1	3
30. McGrath Highway SB1	*	120	106	3.0	540	1600	0.07	1	3
31. Washington St. EB	*	120	92	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1676	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1447	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	550	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	995	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	750	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	345	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	980	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	980	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	220	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Highland/Central SE1	763246.9	********	6.0
2. Highland/Central SE2	763279.9	********	6.0
3. Highland/Central SE3	763312.9	********	6.0
4. Highland/Central SE4	763381.4	********	6.0
5. Highland/Central SE5	763450.0	********	6.0
6. Highland/Central NE1	763472.5	********	6.0
7. Highland/Central NE2	763404.0	********	6.0
8. Highland/Central NE3	763335.4	********	6.0
9. Highland/Central NE4	763369.8	********	6.0
10. Highland/Central NE5	763404.2	********	6.0
11. Highland/Central NW1	763365.1	********	6.0
12. Highland/Central NW2	763330.8	********	6.0
13. Highland/Central NW3	763296.4	********	6.0
14. Highland/Central NW4	763227.8	********	6.0
15. Highland/Central NW5	763159.1	********	6.0
16. Highland/Central SW1	763136.6	********	6.0
17. Highland/Central NW2	763205.3	********	6.0
18. Highland/Central NW3	763274.0	********	6.0
19. Highland/Central NW4	763240.9	********	6.0
20. Highland/Central NW5	763207.9	********	6.0
21. Medford/School S1	764934.1	********	6.0
22. Medford/School S2	764967.1	********	6.0
23. Medford/School S3	765000.2	********	6.0
24. Medford/School S4	765045.4	********	6.0
25. Medford/School S5	765090.7	********	6.0
26. Medford/School E1	765113.9	********	6.0
27. Medford/School E2	765068.6	********	6.0
28. Medford/School E3	765023.3	********	6.0
29. Medford/School E4	765055.6	********	6.0
30. Medford/School E5	765087.9	********	6.0
31. Medford/School N1	765057.8	********	6.0
32. Medford/School N2	765025.5	********	6.0
33. Medford/School N3	764992.9	********	6.0
34. Medford/School N4	764948.5	********	6.0
35. Medford/School N5	764903.8	********	6.0
36. Medford/School W1	764880.7	********	6.0
37. Medford/School W2	764925.3	********	6.0
38. Medford/School W3	764969.9	********	6.0
39. Medford/School W4	764937.0	********	6.0
40. Medford/School W5	764904.1	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
10.	7.	7.	7.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.
20.	7.	7.	7.	7.	6.	5.	5.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	7.	7.
30.	6.	7.	7.	6.	6.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	8.	7.	7.
40.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	5.	5.	6.	7.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.
60.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
70.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
80.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	7.	7.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
100.	6.	6.	8.	8.	7.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	7.	6.
110.	5.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	7.	8.	8.	8.	6.	6.
120.	5.	5.	7.	7.	7.	7.	7.	7.	6.	5.	6.	6.	8.	7.	7.	7.	7.	8.	6.	6.
130.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	8.	7.	7.	6.	6.	7.	6.	6.
140.	5.	5.	5.	5.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	6.
150.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
160.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	7.	5.	6.	6.	6.	6.
170.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	6.	7.	7.	6.	5.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	6.	7.	7.	7.	6.	5.	6.	6.	6.	6.
190.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	8.	7.	6.	5.	6.	7.	7.	7.
200.	6.	6.	6.	5.	5.	6.	6.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	7.	7.	7.
210.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.	7.	7.	8.	6.	6.	5.	5.	6.	6.	6.
220.	7.	7.	7.	6.	5.	6.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	7.	6.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.
280.	6.	6.	7.	6.	6.	7.	7.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
290.	6.	6.	8.	7.	7.	7.	7.	7.	6.	6.	5.	5.	7.	7.	7.	7.	7.	7.	5.	5.
300.	6.	7.	8.	8.	8.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
310.	6.	7.	8.	8.	7.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	8.	6.	5.
320.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
330.	6.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.
340.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
350.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.
360.	7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	7.	6.	6.
MAX	7.	7.	8.	8.	8.	7.	7.	8.	7.	6.	7.	7.	8.	7.	7.	8.	8.	8.	7.	7.
DEGR.	10	10	300	300	300	280	130	280	230	220	200	200	200	120	130	100	100	100	30	40

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	6.	6.	6.
10.	6.	7.	8.	7.	7.	5.	6.	6.	6.	6.	6.	6.	6.	5.	5.	6.	7.	7.	6.	6.
20.	6.	7.	8.	7.	7.	5.	5.	6.	6.	6.	6.	6.	7.	5.	5.	6.	7.	7.	7.	6.
30.	6.	7.	7.	7.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	5.	6.	7.	8.	7.	7.
40.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	8.	7.	7.
50.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	7.	7.	7.	6.	5.	7.	7.	7.	7.	6.
60.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
70.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
80.	6.	6.	6.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
90.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
100.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.
110.	6.	6.	7.	7.	7.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.
120.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	8.	8.	8.	6.	6.
130.	6.	6.	8.	8.	8.	6.	6.	6.	5.	5.	6.	6.	7.	7.	6.	8.	8.	8.	6.	6.
140.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	6.	7.	8.	8.	8.	8.	8.	8.	6.	6.
150.	5.	5.	7.	7.	7.	8.	8.	8.	6.	6.	7.	7.	9.	8.	8.	7.	7.	7.	6.	6.
160.	5.	5.	6.	6.	6.	8.	8.	8.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
170.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.	7.	7.	8.	8.	7.	6.	6.	6.	6.	6.
180.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
190.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	7.	5.	5.	6.	6.	6.
200.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	7.	7.	8.	7.	6.	5.	5.	6.	6.	6.
210.	6.	6.	6.	5.	5.	6.	7.	7.	7.	6.	7.	7.	7.	6.	6.	5.	5.	6.	6.	6.
220.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	6.	6.	6.
230.	6.	6.	6.	5.	5.	7.	7.	7.	7.	7.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
240.	6.	6.	6.	5.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
250.	6.	6.	6.	6.	5.	7.	7.	7.	7.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
260.	6.	6.	6.	6.	5.	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.
270.	6.	6.	6.	6.	6.	7.	7.	7.	7.	6.	6.	6.	7.	6.	6.	5.	5.	5.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	5.	6.	7.	6.	6.	5.	5.	5.	5.	5.
290.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
300.	6.	6.	6.	6.	6.	7.	7.	7.	6.	6.	5.	6.	7.	7.	7.	5.	5.	5.	5.	5.
310.	6.	6.	7.	6.	6.	8.	8.	8.	6.	6.	5.	6.	7.	7.	7.	6.	6.	6.	5.	5.
320.	6.	6.	8.	8.	8.	8.	8.	8.	6.	6.	5.	6.	8.	7.	7.	7.	7.	7.	5.	5.
330.	6.	6.	8.	8.	8.	7.	7.	7.	6.	6.	5.	5.	7.	7.	6.	7.	7.	7.	6.	6.
340.	6.	6.	8.	8.	8.	6.	6.	6.	6.	6.	5.	5.	6.	6.	6.	7.	7.	7.	6.	6.
350.	6.	6.	8.	8.	8.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	7.	7.	7.	6.	6.
360.	6.	6.	8.	8.	7.	5.	6.	6.	6.	6.	5.	5.	6.	5.	5.	6.	7.	6.	6.	6.
MAX	6.	7.	8.	8.	8.	8.	8.	8.	7.	7.	7.	7.	9.	8.	8.	8.	8.	8.	7.	7.
DEGR.	20	20	330	140	330	150	150	150	210	230	190	190	150	150	150	140	140	130	30	30

THE HIGHEST CONCENTRATION OF 9. ug/m**3 OCCURRED AT RECEPTOR REC33.

6_2030BD5a.out

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:14:19

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761070.9	********	232.	282.	AG	0.	100.0	1.0	20.0	0.98	11.8
2. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	0.	100.0	1.0	10.0	0.72	7.9
3. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	0.	100.0	1.0	10.0	0.37	4.1
5. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	0.	100.0	1.0	10.0	0.58	6.4
6. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	0.	100.0	1.0	10.0	1.44	74.5
7. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	0.	100.0	1.0	10.0	1.45	79.2
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	0.	100.0	1.0	10.0	1.28	93.0
10. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	0.	100.0	1.0	10.0	0.96	14.0
11. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	0.	100.0	1.0	10.0	1.18	63.8
12. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	0.	100.0	1.0	10.0	1.11	37.4
14. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	0.	100.0	1.0	10.0	****	23.0
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	0.	100.0	1.0	20.0	1.05	25.6
17. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	0.	100.0	1.0	10.0	****	65.4
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	0.	100.0	1.0	10.0	1.03	20.2
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	0.	100.0	1.0	10.0	0.32	2.5
23. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	0.	100.0	1.0	10.0	0.97	16.5
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	0.	100.0	1.0	10.0	0.58	6.9
26. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	0.	100.0	1.0	20.0	1.08	32.9
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	0.	100.0	1.0	30.0	1.30	73.9
29. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	0.	100.0	1.0	20.0	0.55	6.6
30. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	0.	100.0	1.0	20.0	2.27	89.6
31. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.13	529.7
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	0.	100.0	1.0	10.0	1.72	137.0
34. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	0.	100.0	1.0	30.0	1.40	75.6
35. Msgr Obrien EB	769756.4	********	767307.8	********	2974.	305.	AG	0.	100.0	1.0	20.0	1.43	151.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.1	********	20.	189.	AG	0.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	769858.1	********	771318.1	********	1774.	125.	AG	0.	100.0	1.0	20.0	1.23	90.1
39. Msgr Obrien L	771462.2	********	767746.3	********	4511.	305.	AG	0.	100.0	1.0	10.0	3.77	229.2
40. Msgr Obrien WB T	771449.0	********	771330.8	********	143.	304.	AG	0.	100.0	1.0	30.0	0.69	7.3
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	0.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	0.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: Existing

DATE : 11/ 1/ 8
TIME : 19:14:19

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771746.7	********	200.	124.	AG	0.	100.0	1.0	20.0	0.88	10.2
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	0.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	0.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	0.	100.0	1.0	10.0	1.62	81.3
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	0.	100.0	1.0	20.0	1.27	69.9
55. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	0.	100.0	1.0	20.0	0.74	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	0.	100.0	1.0	10.0	0.83	6.7
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: Existing

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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1293.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3997.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2778.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3305.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3435.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: Existing

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1. South St	*	120	90	3.0	650	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	120	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	241	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	375	1600	0.07	1	3
7. College Ave WB	*	135	107	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	650	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	485	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	595	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	250	1600	0.07	1	3
13. Broadway EB TL	*	120	85	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	116	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
16. Broadway St. WB	*	120	85	3.0	841	1600	0.07	1	3
17. Dexter St. SWB	*	120	116	3.0	70	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
20. Central St NB	*	90	57	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
22. Central St. SB	*	90	57	3.0	160	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	865	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	520	1600	0.07	1	3
26. Prospect SB	*	120	84	3.0	895	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	87	3.0	1455	1600	0.07	1	3
29. Somerville EB	*	120	62	3.0	770	1600	0.07	1	3
30. McGrath Highway SB1	*	120	106	3.0	540	1600	0.07	1	3
31. Washington St. EB	*	120	92	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1676	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1447	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	550	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	995	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	750	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	345	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	980	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	980	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	220	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Sville/Wash/Webs SW1	765663.8	********	0.0
2. Sville/Wash/Webs SW2	765731.4	********	6.0
3. Sville/Wash/Webs SW3	765799.1	********	6.0
4. Sville/Wash/Webs SW4	765765.3	********	6.0
5. Sville/Wash/Webs SW5	765731.4	********	6.0
6. Sville/Wash/Webs SE1	765778.5	********	6.0
7. Sville/Wash/Webs SE2	765812.4	********	6.0
8. Sville/Wash/Webs SE3	765846.3	********	6.0
9. Sville/Wash/Webs SE4	765913.8	********	6.0
10. Sville/Wash/Webs SE5	765981.3	********	6.0
11. Sville/Wash/Webs NE1	766011.4	********	6.0
12. Sville/Wash/Webs NE2	765943.9	********	6.0
13. Sville/Wash/Webs NE3	765876.4	********	6.0
14. Sville/Wash/Webs NE4	765916.8	********	6.0
15. Sville/Wash/Webs NE5	765956.8	********	6.0
16. Sville/Wash/Webs NW1	765899.4	********	6.0
17. Sville/Wash/Webs NW2	765858.8	********	6.0
18. Sville/Wash/Webs NW3	765818.3	********	6.0
19. Sville/Wash/Webs NW4	765750.7	********	6.0
20. Sville/Wash/Webs NW5	765682.9	********	6.0
21. WashMcgrath NW1	766907.8	********	6.0
22. WashMcgrath NW2	766920.9	********	6.0
23. WashMcgrath NW3	766934.0	********	6.0
24. WashMcgrath NW4	766873.4	********	6.0
25. WashMcgrath NW5	766801.5	********	6.0
26. WashMcgrath SW1	766811.1	********	6.0
27. WashMcgrath SW2	766881.8	********	6.0
28. WashMcgrath SW3	766954.7	********	6.0
29. WashMcgrath SW4	766969.2	********	6.0
30. WashMcgrath SW5	766983.8	********	6.0
31. WashMcgrath SE1	767148.1	********	6.0
32. WashMcgrath SE2	767137.9	********	6.0
33. WashMcgrath SE3	767164.3	********	6.0
34. WashMcgrath SE4	767159.9	********	6.0
35. WashMcgrath SE5	767258.5	********	6.0
36. WashMcgrath NE1	767254.4	********	6.0
37. WashMcgrath NE2	767185.4	********	6.0
38. WashMcgrath NE3	767116.4	********	6.0
39. WashMcgrath NE4	767083.3	********	6.0
40. WashMcgrath NE5	767055.7	********	6.0

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
10.	8.	8.	9.	7.	7.	10.	11.	10.	8.	8.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
20.	8.	8.	10.	8.	8.	10.	10.	10.	8.	8.	6.	6.	9.	9.	8.	6.	6.	6.	5.	5.
30.	8.	9.	11.	10.	10.	9.	9.	9.	8.	7.	6.	6.	8.	8.	8.	7.	8.	8.	5.	5.
40.	8.	9.	11.	10.	10.	8.	8.	8.	8.	8.	6.	6.	7.	8.	7.	7.	9.	9.	6.	5.
50.	9.	10.	11.	10.	11.	7.	8.	8.	8.	8.	7.	6.	7.	7.	8.	8.	10.	10.	6.	5.
60.	10.	11.	11.	11.	10.	7.	8.	8.	9.	8.	7.	7.	7.	8.	9.	8.	10.	10.	7.	6.
70.	11.	12.	11.	10.	10.	7.	8.	8.	8.	8.	7.	7.	7.	8.	10.	9.	11.	10.	8.	7.
80.	12.	12.	10.	10.	9.	6.	7.	8.	8.	7.	6.	6.	7.	8.	10.	10.	11.	10.	9.	8.
90.	11.	11.	10.	9.	8.	6.	6.	8.	8.	7.	6.	6.	6.	6.	10.	11.	10.	9.	8.	8.
100.	12.	11.	10.	9.	8.	6.	6.	8.	8.	8.	6.	6.	6.	6.	9.	11.	9.	9.	8.	8.
110.	11.	10.	10.	9.	8.	6.	6.	8.	8.	8.	7.	8.	7.	6.	8.	11.	9.	10.	9.	9.
120.	10.	9.	10.	9.	8.	6.	6.	8.	7.	7.	9.	9.	9.	6.	7.	11.	9.	12.	10.	10.
130.	8.	8.	9.	8.	8.	5.	5.	6.	6.	6.	9.	9.	9.	7.	7.	11.	10.	11.	10.	10.
140.	7.	7.	8.	8.	8.	5.	5.	6.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
150.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	8.	8.	8.	6.	7.	10.	9.	10.	10.	10.
160.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.	7.	8.	8.	6.	7.	10.	9.	10.	10.	9.
170.	6.	7.	9.	9.	8.	5.	5.	6.	5.	5.	7.	8.	7.	6.	6.	10.	10.	10.	9.	9.
180.	6.	7.	9.	9.	9.	5.	5.	6.	5.	5.	7.	7.	7.	6.	7.	11.	10.	11.	9.	9.
190.	6.	7.	10.	10.	9.	6.	6.	6.	5.	5.	7.	7.	8.	7.	7.	11.	11.	11.	9.	8.
200.	6.	6.	9.	10.	9.	8.	8.	8.	5.	5.	7.	8.	9.	8.	8.	12.	11.	11.	9.	8.
210.	5.	6.	8.	8.	8.	9.	9.	10.	6.	6.	8.	8.	10.	9.	10.	11.	10.	10.	8.	8.
220.	5.	5.	6.	7.	6.	10.	10.	10.	6.	6.	8.	9.	10.	10.	10.	9.	8.	9.	8.	7.
230.	5.	5.	6.	6.	6.	9.	9.	10.	7.	6.	8.	9.	10.	10.	10.	8.	7.	8.	8.	8.
240.	6.	5.	6.	6.	6.	9.	9.	9.	7.	6.	8.	9.	9.	9.	10.	7.	7.	8.	8.	8.
250.	5.	5.	6.	6.	6.	9.	9.	9.	7.	6.	9.	9.	9.	9.	10.	6.	7.	8.	8.	8.
260.	5.	5.	6.	5.	6.	8.	9.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	8.	8.
270.	6.	6.	6.	5.	6.	8.	8.	8.	7.	6.	9.	9.	10.	9.	10.	6.	7.	9.	9.	9.
280.	6.	6.	6.	5.	6.	8.	8.	9.	8.	7.	10.	10.	11.	9.	10.	6.	6.	9.	9.	9.
290.	8.	8.	8.	5.	5.	8.	8.	10.	8.	8.	10.	10.	11.	8.	10.	5.	6.	9.	9.	9.
300.	9.	10.	10.	6.	6.	8.	9.	11.	9.	9.	9.	9.	10.	8.	9.	5.	5.	8.	8.	8.
310.	10.	10.	10.	6.	6.	8.	10.	11.	9.	9.	7.	7.	9.	8.	9.	5.	5.	6.	6.	6.
320.	9.	10.	10.	7.	6.	9.	10.	10.	9.	8.	7.	7.	8.	8.	8.	5.	5.	6.	6.	6.
330.	9.	9.	9.	7.	6.	9.	10.	10.	9.	8.	6.	6.	8.	8.	8.	5.	5.	5.	5.	5.
340.	8.	9.	9.	7.	6.	9.	10.	10.	8.	8.	6.	7.	8.	8.	8.	5.	5.	6.	5.	5.
350.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	7.	7.	8.	9.	8.	5.	5.	6.	5.	5.
360.	8.	8.	8.	7.	7.	10.	11.	9.	8.	8.	6.	6.	8.	9.	8.	6.	5.	6.	5.	5.
MAX	12.	12.	11.	11.	11.	10.	11.	11.	9.	9.	10.	10.	11.	10.	10.	12.	11.	12.	10.	10.
DEGR.	80	70	40	60	50	10	0	300	310	310	280	280	290	220	230	200	70	120	120	130

JOB: Greenline Extension RUN: Existing

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39	REC40
0.	* 8.	8.	8.	6.	6.	8.	9.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
10.	* 8.	8.	8.	6.	6.	8.	9.	9.	7.	7.	6.	7.	7.	8.	8.	5.	5.	5.	5.	5.
20.	* 8.	8.	7.	6.	6.	9.	9.	9.	7.	7.	6.	6.	7.	9.	9.	5.	5.	5.	5.	5.
30.	* 8.	7.	7.	6.	6.	9.	9.	9.	7.	7.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.
40.	* 7.	7.	7.	6.	6.	10.	10.	9.	7.	7.	6.	7.	7.	10.	10.	5.	6.	6.	5.	5.
50.	* 7.	7.	7.	7.	6.	11.	10.	9.	8.	7.	6.	7.	7.	10.	10.	6.	6.	6.	5.	5.
60.	* 7.	8.	9.	8.	7.	11.	10.	9.	7.	7.	6.	6.	7.	10.	10.	8.	8.	8.	6.	5.
70.	* 8.	9.	9.	8.	8.	10.	9.	8.	6.	6.	5.	6.	6.	9.	9.	10.	10.	11.	6.	6.
80.	* 9.	10.	8.	7.	8.	8.	8.	7.	6.	6.	5.	5.	5.	7.	7.	11.	11.	11.	7.	6.
90.	* 9.	9.	6.	8.	8.	7.	7.	6.	6.	6.	5.	5.	5.	6.	6.	10.	10.	10.	7.	6.
100.	* 8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	10.	10.	10.	7.	6.
110.	* 8.	8.	6.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
120.	* 8.	7.	7.	8.	8.	6.	6.	6.	6.	6.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
130.	* 8.	8.	7.	8.	8.	7.	7.	7.	7.	7.	5.	5.	5.	5.	5.	9.	9.	9.	7.	6.
140.	* 8.	8.	8.	8.	8.	6.	7.	7.	7.	7.	6.	6.	6.	6.	6.	9.	9.	9.	7.	7.
150.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	5.	5.	5.	9.	9.	8.	7.	7.
160.	* 8.	8.	8.	8.	8.	6.	6.	7.	7.	7.	6.	6.	6.	6.	5.	9.	9.	8.	8.	8.
170.	* 8.	7.	8.	8.	7.	5.	6.	6.	6.	6.	8.	7.	6.	6.	5.	9.	9.	9.	8.	8.
180.	* 7.	7.	7.	7.	7.	5.	5.	6.	6.	6.	8.	8.	6.	6.	6.	9.	9.	9.	9.	8.
190.	* 6.	6.	7.	7.	7.	6.	5.	6.	5.	5.	8.	8.	7.	7.	6.	10.	10.	9.	8.	8.
200.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	6.	6.	10.	10.	9.	8.	7.
210.	* 6.	6.	7.	8.	8.	6.	6.	6.	5.	5.	8.	8.	6.	7.	6.	10.	10.	9.	8.	8.
220.	* 6.	7.	8.	8.	8.	6.	6.	6.	5.	5.	7.	7.	6.	7.	6.	11.	10.	10.	8.	8.
230.	* 6.	7.	8.	9.	9.	7.	7.	6.	5.	5.	7.	8.	6.	8.	7.	11.	11.	10.	8.	8.
240.	* 6.	7.	8.	9.	9.	9.	9.	8.	6.	5.	7.	8.	7.	9.	9.	11.	10.	10.	8.	8.
250.	* 6.	6.	7.	8.	8.	10.	10.	10.	6.	6.	8.	9.	8.	9.	10.	9.	9.	9.	8.	7.
260.	* 5.	5.	6.	6.	7.	11.	11.	10.	7.	6.	9.	9.	8.	9.	10.	7.	7.	8.	7.	7.
270.	* 5.	5.	5.	6.	6.	10.	10.	9.	7.	6.	8.	9.	7.	9.	10.	6.	6.	7.	7.	7.
280.	* 5.	5.	5.	5.	5.	9.	9.	9.	7.	6.	8.	8.	6.	9.	10.	6.	6.	7.	7.	7.
290.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	6.	9.	10.	6.	6.	7.	7.	7.
300.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	7.	9.	9.	6.	6.	7.	7.	7.
310.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	7.	8.	9.	9.	6.	6.	7.	7.	7.
320.	* 5.	5.	5.	5.	5.	8.	8.	8.	6.	6.	8.	8.	8.	9.	9.	6.	6.	7.	7.	8.
330.	* 6.	6.	6.	5.	5.	8.	8.	8.	7.	6.	9.	8.	8.	9.	9.	6.	6.	7.	7.	7.
340.	* 6.	6.	6.	5.	5.	8.	8.	9.	7.	7.	9.	8.	8.	9.	9.	5.	5.	6.	7.	7.
350.	* 7.	8.	8.	6.	5.	8.	8.	9.	8.	7.	8.	8.	7.	8.	8.	5.	5.	6.	6.	6.
360.	* 8.	8.	8.	6.	6.	8.	9.	9.	8.	7.	7.	7.	7.	8.	8.	5.	5.	5.	5.	5.
MAX	* 9.	10.	9.	9.	9.	11.	11.	10.	8.	7.	9.	9.	8.	10.	10.	11.	11.	11.	9.	8.
DEGR.	* 80	80	60	230	230	260	260	260	350	0	340	260	250	60	50	230	80	80	180	170

THE HIGHEST CONCENTRATION OF 12. ug/m**3 OCCURRED AT RECEPTOR REC16.

6_2030BD6a.out

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:14:39

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 5.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. South St	761297.7	********	761070.9	********	232.	282.	AG	0.	100.0	1.0	20.0	0.98	11.8
2. Boston Ave. SB LT	759658.7	********	759585.1	********	156.	332.	AG	0.	100.0	1.0	10.0	0.72	7.9
3. Boston Ave. SB R	759646.0	********	759616.9	********	62.	332.	AG	0.	100.0	1.0	10.0	0.29	3.2
4. College Ave EB L	759636.4	********	759599.8	********	81.	207.	AG	0.	100.0	1.0	10.0	0.37	4.1
5. College Ave. EB TR	759648.1	********	759590.6	********	125.	207.	AG	0.	100.0	1.0	10.0	0.58	6.4
6. Boston Ave. NB	759699.9	********	760398.2	********	1466.	152.	AG	0.	100.0	1.0	10.0	1.44	74.5
7. College Ave WB	759720.8	********	760625.0	********	1558.	35.	AG	0.	100.0	1.0	10.0	1.45	79.2
8. Main St. SB	762042.2	********	761511.7	********	1727.	342.	AG	0.	100.0	1.0	10.0	1.26	87.7
9. Harvard St. EB	762026.6	********	760419.2	********	1831.	241.	AG	0.	100.0	1.0	10.0	1.28	93.0
10. Main st. NB	762078.3	********	762165.8	********	276.	162.	AG	0.	100.0	1.0	10.0	0.96	14.0
11. Harvard St. WB	762091.8	********	763289.9	********	1255.	73.	AG	0.	100.0	1.0	10.0	1.18	63.8
12. Broadway EB R	762959.1	********	762888.7	********	77.	293.	AG	0.	100.0	1.0	10.0	0.32	3.9
13. Broadway EB TL	762965.1	********	762290.4	********	736.	294.	AG	0.	100.0	1.0	10.0	1.11	37.4
14. Parking Lot	763003.3	********	762703.0	********	453.	222.	AG	0.	100.0	1.0	10.0	****	23.0
15. Medford St. NB	763093.0	********	764092.6	********	2030.	150.	AG	0.	100.0	1.0	10.0	1.72	103.1
16. Broadway St. WB	763115.6	********	763578.6	********	504.	113.	AG	0.	100.0	1.0	20.0	1.05	25.6
17. Dexter St. SWB	763101.5	********	764036.9	********	1287.	47.	AG	0.	100.0	1.0	10.0	****	65.4
18. Medford St. SB	763008.3	********	762486.1	********	1655.	342.	AG	0.	100.0	1.0	10.0	2.18	84.1
19. Highland St. EB	763277.6	********	763108.3	********	185.	294.	AG	0.	100.0	1.0	10.0	0.92	9.4
20. Central St NB	763301.4	********	763125.6	********	398.	206.	AG	0.	100.0	1.0	10.0	1.03	20.2
21. Highland St. WB	763328.5	********	763875.5	********	597.	114.	AG	0.	100.0	1.0	10.0	1.07	30.3
22. Central St. SB	763311.4	********	763334.4	********	50.	27.	AG	0.	100.0	1.0	10.0	0.32	2.5
23. Medford St. NWB	765022.2	********	765221.5	********	324.	142.	AG	0.	100.0	1.0	10.0	0.97	16.5
24. School St. SB	765002.3	********	765636.0	********	1468.	26.	AG	0.	100.0	1.0	10.0	1.53	74.6
25. Medford St. SEB	764967.1	********	764882.7	********	136.	322.	AG	0.	100.0	1.0	10.0	0.58	6.9
26. Prospect SB	765830.6	********	766165.3	********	647.	31.	AG	0.	100.0	1.0	20.0	1.08	32.9
27. Sommerville WB	765870.1	********	766681.6	********	904.	116.	AG	0.	100.0	1.0	20.0	1.40	45.9
28. Prospect NB	765828.4	********	765183.5	********	1455.	206.	AG	0.	100.0	1.0	30.0	1.30	73.9
29. Somerville EB	765797.5	********	765680.1	********	131.	296.	AG	0.	100.0	1.0	20.0	0.55	6.6
30. McGrath Highway SB1	766950.5	********	766630.0	********	1764.	350.	AG	0.	100.0	1.0	20.0	2.27	89.6
31. Washington St. EB	766952.8	********	757231.4	********	*****	249.	AG	0.	100.0	1.0	10.0	4.13	529.7
32. McGrath Hwy NB2 L	767105.3	********	767109.3	********	30.	172.	AG	0.	100.0	1.0	10.0	0.19	1.5
33. McGrath Hwy NB2 T	767119.9	********	767451.0	********	2697.	173.	AG	0.	100.0	1.0	10.0	1.72	137.0
34. Washington St. WB	767129.9	********	768494.1	********	1487.	67.	AG	0.	100.0	1.0	30.0	1.40	75.6
35. Msgr Obrien EB	769756.4	********	767307.8	********	2974.	305.	AG	0.	100.0	1.0	20.0	1.43	151.1
36. Third St. NB L	769779.2	********	768425.6	********	7878.	190.	AG	0.	100.0	1.0	10.0	5.50	400.2
37. Third St NB LR	769788.2	********	769785.1	********	20.	189.	AG	0.	100.0	1.0	10.0	0.23	1.0
38. Msgr Obrien WB	769858.1	********	771318.1	********	1774.	125.	AG	0.	100.0	1.0	20.0	1.23	90.1
39. Msgr Obrien L	771462.2	********	767746.3	********	4511.	305.	AG	0.	100.0	1.0	10.0	3.77	229.2
40. Msgr Obrien WB T	771449.0	********	771330.8	********	143.	304.	AG	0.	100.0	1.0	30.0	0.69	7.3
41. Charlestown NB L	771477.7	********	770230.1	********	1966.	219.	AG	0.	100.0	1.0	10.0	1.62	99.9
42. Charlestown NB T	771490.8	********	769020.1	********	3906.	219.	AG	0.	100.0	1.0	20.0	2.30	198.4
43. Charlestown NB R	771500.8	********	770662.9	********	1336.	219.	AG	0.	100.0	1.0	10.0	1.20	67.8
44. Msgr Obrien WB L	771572.2	********	774253.2	********	3242.	124.	AG	0.	100.0	1.0	10.0	4.09	164.7

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
TIME : 19:14:39

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
45. Msgr Obrien WB T	771581.4	********	771746.7	********	200.	124.	AG	0.	100.0	1.0	20.0	0.88	10.2
46. Msgr Obrien WB R	771588.6	********	771704.5	********	140.	124.	AG	0.	100.0	1.0	10.0	0.58	7.1
47. Charlestown SB LT	771546.2	********	772055.2	********	986.	31.	AG	0.	100.0	1.0	10.0	1.33	50.1
48. Charlestown SB TR	771535.3	********	774738.6	********	5963.	32.	AG	0.	100.0	1.0	10.0	3.38	302.9
49. Camb. St at First L	770442.2	********	770345.0	********	99.	280.	AG	0.	100.0	1.0	10.0	0.57	5.0
50. Camb. St at First TR	770441.3	********	770315.8	********	128.	280.	AG	0.	100.0	1.0	10.0	0.72	6.5
51. First St NB TL	770491.0	********	770253.0	********	1601.	189.	AG	0.	100.0	1.0	10.0	1.62	81.3
52. East St SB R	770778.2	********	770779.2	********	2.	32.	AG	0.	100.0	1.0	10.0	0.01	0.1
53. MsgrOb/East EB R	770496.3	********	770465.4	********	37.	303.	AG	0.	100.0	1.0	10.0	0.15	1.9
54. MsgrOb/East EB T	770503.5	********	769341.7	********	1375.	302.	AG	0.	100.0	1.0	20.0	1.27	69.9
55. MsgrOb/East WB T	770636.9	********	770770.6	********	174.	130.	AG	0.	100.0	1.0	20.0	0.74	8.8
56. MsgrOb/East WB L	770624.7	********	770973.9	********	456.	130.	AG	0.	100.0	1.0	20.0	1.20	23.1
57. First at Camb. R	770501.2	********	770014.9	********	3326.	188.	AG	0.	100.0	1.0	10.0	1.51	169.0
58. First St. Ext. SB	770490.6	********	770675.4	********	495.	22.	AG	0.	100.0	1.0	20.0	1.10	25.1
59. First Ext. NB L	770548.4	********	770498.4	********	131.	202.	AG	0.	100.0	1.0	10.0	0.83	6.7
60. First Ext. NB T	770557.7	********	770500.0	********	152.	202.	AG	0.	100.0	1.0	10.0	0.88	7.7
61. South Street	761345.7	********	760087.5	********	1291.	283.	AG	650.	0.0	1.0	42.0		
62. Main St North	761336.6	********	761454.9	********	676.	10.	AG	2445.	0.0	1.0	66.0		
63. Main St South	761340.3	********	761346.3	********	842.	180.	AG	2825.	0.0	1.0	66.0		
64. Boston Ave. SB	759689.9	********	759291.3	********	834.	331.	AG	1005.	0.0	1.0	54.0		
65. College Ave. EB	759682.8	********	759503.5	********	402.	206.	AG	756.	0.0	1.0	54.0		
66. College Ave. EB2	759494.1	********	759662.7	********	1634.	174.	AG	756.	0.0	1.0	54.0		
67. Boston Ave. NB	759638.3	********	760480.3	********	1710.	151.	AG	601.	0.0	1.0	42.0		
68. College Ave. WB	759667.3	********	760588.5	********	1597.	35.	AG	810.	0.0	1.0	42.0		
69. Main St. SB	762056.3	********	761788.3	********	898.	343.	AG	1135.	0.0	1.0	42.0		
70. Harvard St. EB	762057.7	********	760514.6	********	1752.	242.	AG	1290.	0.0	1.0	42.0		
71. Main St. NB	762056.8	********	762406.1	********	1071.	161.	AG	1090.	0.0	1.0	42.0		
72. Harvard St. WB	762057.1	********	763589.7	********	1603.	73.	AG	1225.	0.0	1.0	42.0		
73. Broadway St. EB	763029.8	********	761172.6	********	2021.	293.	AG	1674.	0.0	1.0	66.0		
74. Parking Lot NEB	763030.0	********	762877.3	********	237.	220.	AG	90.	0.0	1.0	42.0		
75. Medford St. NB	763025.4	********	764069.8	********	2059.	150.	AG	855.	0.0	1.0	42.0		
76. Broadway St. WB	763030.1	********	764419.9	********	1513.	113.	AG	1351.	0.0	1.0	66.0		
77. Dexter St. SWB	763031.1	********	764132.1	********	1524.	46.	AG	70.	0.0	1.0	30.0		
78. Medford St. SB	763047.7	********	762503.6	********	1637.	341.	AG	575.	0.0	1.0	42.0		
79. Highland St. EB	763300.2	********	762029.2	********	1386.	293.	AG	950.	0.0	1.0	42.0		
80. Central St. NB	763299.4	********	762852.7	********	981.	207.	AG	660.	0.0	1.0	42.0		
81. Highland St. WB	763299.4	********	764576.9	********	1400.	114.	AG	975.	0.0	1.0	42.0		
82. Central St. SB	763299.7	********	764053.4	********	1632.	27.	AG	595.	0.0	1.0	42.0		
83. Medford St. NWB	764993.5	********	765926.1	********	1536.	143.	AG	1305.	0.0	1.0	42.0		
84. School St. SB	764992.8	********	765406.3	********	930.	26.	AG	535.	0.0	1.0	42.0		
85. Medford St. SEB	764996.8	********	764392.9	********	986.	322.	AG	1090.	0.0	1.0	42.0		
86. School St. NB	764991.8	********	764577.6	********	935.	206.	AG	530.	0.0	1.0	42.0		
87. Prospect St. SB	765833.6	********	765929.0	********	177.	33.	AG	2125.	0.0	1.0	66.0		
88. Sommerville Ave. EB	765828.2	********	765178.4	********	720.	295.	AG	2650.	0.0	1.0	66.0		
89. Prospect St. NB	765839.9	********	765452.5	********	858.	207.	AG	1455.	0.0	1.0	54.0		
90. Somerville Ave WB	765826.5	********	767169.2	********	1492.	116.	AG	980.	0.0	1.0	66.0		
91. McGrath Hwy SB1	766957.3	********	766833.9	********	714.	350.	AG	540.	0.0	1.0	42.0		
92. McGrath Highway NB1	767104.5	********	766885.0	********	694.	342.	AG	1315.	0.0	1.0	42.0		
93. Washington St. EB	766982.4	********	766385.3	********	638.	249.	AG	2355.	0.0	1.0	66.0		
94. Washington St. EB2	766381.6	********	765898.7	********	483.	273.	AG	2355.	0.0	1.0	66.0		
95. McGrath Highway SB2	766962.2	********	767150.7	********	1031.	169.	AG	540.	0.0	1.0	42.0		

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
96. McGrath Highway NB2	767099.7	********	767239.2	********	921.	171.	AG	1315.	0.0	1.0	42.0	
97. Washington St. WB	767048.1	********	768293.4	********	1346.	68.	AG	2380.	0.0	1.0	66.0	
98. Third St NB	769791.9	********	769526.6	********	1537.	190.	AG	1293.	0.0	1.0	54.0	
99. Msgr Obrien EB	769802.7	********	768122.6	********	2023.	304.	AG	3997.	0.0	1.0	90.0	
100. MSgr Obrien WB	769839.9	********	770237.3	********	479.	124.	AG	2778.	0.0	1.0	90.0	
101. Msgr Obrien EB	771475.8	********	771189.8	********	342.	303.	AG	3305.	0.0	1.0	90.0	
102. Charlestown NB	771517.3	********	770541.8	********	1594.	218.	AG	3480.	0.0	1.0	90.0	
103. Msgr Obrien WB	771486.1	********	773351.8	********	2260.	124.	AG	3435.	0.0	1.0	90.0	
104. Charlestown Ave SB	771515.1	********	772209.9	********	1245.	34.	AG	3260.	0.0	1.0	66.0	
105. Cambridge St EB	770470.7	********	769731.3	********	750.	280.	AG	1070.	0.0	1.0	42.0	
106. Cambridge St WB	770764.9	********	770529.7	********	239.	280.	AG	715.	0.0	1.0	30.0	
107. First St NB	770502.0	********	770420.6	********	461.	190.	AG	1235.	0.0	1.0	66.0	
108. East St SB	770747.8	********	770875.9	********	196.	41.	AG	35.	0.0	1.0	42.0	
109. Msgr. Ob at East EB	770538.9	********	770215.9	********	379.	302.	AG	2510.	0.0	1.0	****	
110. Msgr Ob at First Ext	770613.9	********	770820.4	********	271.	130.	AG	2275.	0.0	1.0	90.0	
111. MsgrOb at First WB L	770873.2	********	771176.3	********	382.	128.	AG	2490.	0.0	1.0	****	
112. First St. Extension	770547.8	********	770501.2	********	118.	203.	AG	875.	0.0	1.0	66.0	

JOB: Greenline Extension RUN: No Build

DATE : 11/ 1/ 8
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1. South St	*	120	90	3.0	650	1600	0.07	1	3
2. Boston Ave. SB LT	*	135	95	3.0	300	1600	0.07	1	3
3. Boston Ave. SB R	*	135	95	3.0	120	1600	0.07	1	3
4. College Ave EB L	*	135	95	3.0	155	1600	0.07	1	3
5. College Ave. EB TR	*	135	95	3.0	241	1600	0.07	1	3
6. Boston Ave. NB	*	135	108	3.0	375	1600	0.07	1	3
7. College Ave WB	*	135	107	3.0	395	1600	0.07	1	3
8. Main St. SB	*	120	77	3.0	640	1600	0.07	1	3
9. Harvard St. EB	*	120	77	3.0	650	1600	0.07	1	3
10. Main st. NB	*	120	77	3.0	485	1600	0.07	1	3
11. Harvard St. WB	*	120	77	3.0	595	1600	0.07	1	3
12. Broadway EB R	*	120	56	3.0	250	1600	0.07	1	3
13. Broadway EB TL	*	120	85	3.0	442	1600	0.07	1	3
14. Parking Lot	*	120	116	3.0	50	1600	0.07	1	3
15. Medford St. NB	*	120	97	3.0	410	1600	0.07	1	3
16. Broadway St. WB	*	120	85	3.0	841	1600	0.07	1	3
17. Dexter St. SWB	*	120	116	3.0	70	1600	0.07	1	3
18. Medford St. SB	*	120	106	3.0	260	1600	0.07	1	3
19. Highland St. EB	*	90	59	3.0	425	1600	0.07	1	3
20. Central St NB	*	90	57	3.0	510	1600	0.07	1	3
21. Highland St. WB	*	90	59	3.0	495	1600	0.07	1	3
22. Central St. SB	*	90	57	3.0	160	1600	0.07	1	3
23. Medford St. NWB	*	120	48	3.0	865	1600	0.07	1	3
24. School St. SB	*	120	98	3.0	345	1600	0.07	1	3
25. Medford St. SEB	*	120	48	3.0	520	1600	0.07	1	3
26. Prospect SB	*	120	84	3.0	895	1600	0.07	1	3
27. Sommerville WB	*	120	102	3.0	485	1600	0.07	1	3
28. Prospect NB	*	120	87	3.0	1455	1600	0.07	1	3
29. Somerville EB	*	120	62	3.0	770	1600	0.07	1	3
30. McGrath Highway SB1	*	120	106	3.0	540	1600	0.07	1	3
31. Washington St. EB	*	120	92	3.0	1265	1600	0.07	1	3
32. McGrath Hwy NB2 L	*	120	91	3.0	60	1600	0.07	1	3
33. McGrath Hwy NB2 T	*	120	91	3.0	550	1600	0.07	1	3
34. Washington St. WB	*	120	93	3.0	1235	1600	0.07	1	3
35. Msgr Obrien EB	*	120	71	3.0	1676	1600	0.07	1	3
36. Third St. NB L	*	120	103	3.0	875	1600	0.07	1	3
37. Third St NB LR	*	120	103	3.0	36	1600	0.07	1	3
38. Msgr Obrien WB	*	120	71	3.0	1447	1600	0.07	1	3
39. Msgr Obrien L	*	120	104	3.0	550	1600	0.07	1	3
40. Msgr Obrien WB T	*	120	79	3.0	995	1600	0.07	1	3
41. Charlestown NB L	*	120	95	3.0	430	1600	0.07	1	3
42. Charlestown NB T	*	120	95	3.0	1225	1600	0.07	1	3
43. Charlestown NB R	*	120	78	3.0	590	1600	0.07	1	3
44. Msgr Obrien WB L	*	120	108	3.0	380	1600	0.07	1	3
45. Msgr Obrien WB T	*	120	83	3.0	750	1600	0.07	1	3
46. Msgr Obrien WB R	*	120	61	3.0	420	1600	0.07	1	3
47. Charlestown SB LT	*	120	98	3.0	300	1600	0.07	1	3
48. Charlestown SB TR	*	120	98	3.0	765	1600	0.07	1	3
49. Camb. St at First L	*	120	88	3.0	205	1600	0.07	1	3
50. Camb. St at First TR	*	120	88	3.0	260	1600	0.07	1	3
51. First St NB TL	*	120	99	3.0	345	1600	0.07	1	3
52. East St SB R	*	120	70	3.0	5	1600	0.07	1	3
53. MsgrOb/East EB R	*	120	56	3.0	120	1600	0.07	1	3
54. MsgrOb/East EB T	*	120	86	3.0	980	1600	0.07	1	3
55. MsgrOb/East WB T	*	120	65	3.0	980	1600	0.07	1	3
56. MsgrOb/East WB L	*	120	104	3.0	350	1600	0.07	1	3

JOB: Greenline Extension RUN: No Build

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57. First at Camb. R	*	120	73	3.0	845	1600	0.07	1	3
58. First St. Ext. SB	*	120	95	3.0	585	1600	0.07	1	3
59. First Ext. NB L	*	120	95	3.0	220	1600	0.07	1	3
60. First Ext. NB T	*	120	95	3.0	235	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Obrien/Third SW1	769633.1	********	6.0
2. Obrien/Third SW2	769695.4	********	6.0
3. Obrien/Third SW3	769757.6	********	6.0
4. Obrien/Third SW4	769750.1	********	6.0
5. Obrien/Third SW5	769736.9	********	6.0
6. Obrien/Third SE1	769786.0	********	6.0
7. Obrien/Third SE2	769799.2	********	6.0
8. Obrien/Third SE3	769815.2	********	6.0
9. Obrien/Third SE4	769877.1	********	6.0
10. Obrien/Third SE5	769939.2	********	6.0
11. Obrien/Third N1	769959.4	********	6.0
12. Obrien/Third N2	769897.3	********	6.0
13. Obrien/Third N3	769835.9	********	6.0
14. Obrien/Third N4	769770.9	********	6.0
15. Obrien/Third N5	769708.6	********	6.0
16. Obrien/Charles W1	771328.7	********	6.0
17. Obrien/Charles W2	771390.7	********	6.0
18. Obrien/Charles W3	771453.0	********	6.0
19. Obrien/Charles W4	771408.5	********	6.0
20. Obrien/Charles W5	771364.0	********	6.0
21. Obrien/Charles S1	771443.6	********	6.0
22. Obrien/Charles S2	771488.2	********	6.0
23. Obrien/Charles S3	771537.1	********	6.0
24. Obrien/Charles S4	771597.8	********	6.0
25. Obrien/Charles S5	771659.7	********	6.0
26. Obrien/Charles E1	771712.7	********	6.0
27. Obrien/Charles E2	771650.6	********	6.0
28. Obrien/Charles E3	771588.7	********	6.0
29. Obrien/Charles E4	771617.4	********	6.0
30. Obrien/Charles E5	771659.7	********	6.0
31. Obrien/Charles N1	771605.5	********	6.0
32. Obrien/Charles N2	771563.4	********	6.0
33. Obrien/Charles N3	771514.4	********	6.0
34. Obrien/Charles N4	771448.9	********	6.0
35. Obrien/Charles N5	771386.5	********	6.0

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
10.	10.	10.	10.	9.	8.	7.	7.	7.	9.	9.	5.	5.	5.	5.	5.	9.	9.	8.	8.	7.
20.	10.	10.	10.	8.	8.	7.	7.	7.	9.	8.	5.	5.	5.	5.	5.	9.	10.	8.	8.	8.
30.	10.	10.	10.	8.	8.	6.	7.	7.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	10.	10.
40.	10.	10.	10.	8.	8.	7.	7.	8.	9.	9.	5.	5.	5.	5.	5.	10.	11.	12.	12.	11.
50.	10.	10.	10.	8.	8.	7.	7.	8.	9.	8.	5.	5.	5.	5.	5.	11.	12.	12.	12.	12.
60.	10.	10.	9.	9.	8.	7.	7.	8.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
70.	10.	10.	9.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	11.	12.	12.	11.	11.
80.	11.	11.	10.	9.	8.	7.	7.	9.	9.	9.	5.	5.	5.	5.	5.	12.	12.	12.	11.	11.
90.	12.	11.	11.	9.	9.	7.	8.	10.	10.	10.	6.	6.	5.	5.	6.	12.	12.	12.	11.	11.
100.	12.	12.	12.	10.	9.	7.	8.	10.	11.	10.	6.	6.	5.	6.	6.	13.	13.	13.	11.	10.
110.	13.	13.	12.	10.	9.	7.	8.	12.	11.	11.	7.	7.	7.	7.	7.	14.	14.	13.	11.	10.
120.	13.	13.	12.	9.	8.	7.	8.	11.	11.	11.	10.	10.	9.	10.	10.	14.	14.	13.	10.	10.
130.	10.	10.	10.	8.	8.	6.	6.	9.	9.	9.	12.	12.	11.	11.	12.	11.	11.	12.	10.	9.
140.	8.	8.	8.	7.	7.	6.	6.	7.	7.	6.	12.	12.	10.	11.	12.	9.	9.	9.	9.	9.
150.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	11.	11.	9.	10.	11.	8.	8.	9.	9.	9.
160.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	10.	9.	10.	11.	7.	8.	9.	9.	9.
170.	6.	7.	8.	8.	8.	6.	6.	6.	6.	6.	10.	9.	8.	10.	11.	7.	8.	9.	9.	9.
180.	6.	6.	8.	8.	8.	6.	6.	6.	6.	5.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
190.	6.	6.	7.	8.	8.	7.	7.	7.	6.	6.	9.	9.	8.	11.	10.	7.	8.	10.	10.	10.
200.	5.	5.	6.	7.	7.	8.	8.	8.	6.	6.	9.	10.	8.	10.	9.	7.	8.	11.	11.	11.
210.	5.	5.	5.	6.	6.	8.	8.	7.	6.	6.	10.	10.	8.	10.	10.	6.	7.	11.	11.	12.
220.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	10.	8.	9.	10.	6.	6.	10.	10.	10.
230.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	8.	9.	9.	5.	5.	7.	7.	7.
240.	5.	5.	5.	5.	5.	7.	7.	7.	6.	6.	9.	9.	9.	9.	9.	5.	5.	6.	6.	6.
250.	5.	5.	5.	5.	5.	7.	7.	6.	6.	6.	9.	9.	9.	10.	10.	5.	5.	6.	5.	6.
260.	5.	5.	5.	5.	5.	6.	6.	6.	6.	6.	10.	9.	10.	10.	10.	6.	6.	6.	5.	5.
270.	6.	6.	6.	5.	5.	6.	6.	6.	6.	6.	10.	10.	10.	11.	11.	6.	6.	6.	5.	5.
280.	6.	6.	6.	5.	5.	7.	7.	7.	6.	6.	11.	10.	11.	11.	12.	6.	6.	6.	5.	5.
290.	8.	8.	8.	5.	5.	7.	7.	8.	8.	7.	12.	11.	12.	12.	12.	7.	8.	8.	6.	5.
300.	11.	11.	11.	7.	6.	7.	8.	11.	10.	10.	11.	11.	11.	12.	12.	10.	11.	11.	7.	6.
310.	14.	13.	13.	8.	7.	8.	10.	13.	12.	12.	9.	9.	8.	9.	9.	12.	13.	13.	7.	6.
320.	14.	14.	14.	9.	8.	9.	11.	13.	11.	11.	7.	6.	6.	7.	7.	11.	13.	12.	8.	7.
330.	12.	12.	12.	9.	8.	10.	10.	11.	10.	10.	6.	6.	5.	6.	6.	10.	12.	11.	8.	7.
340.	12.	12.	11.	8.	8.	9.	10.	10.	9.	10.	5.	5.	5.	5.	5.	10.	11.	10.	8.	7.
350.	11.	11.	11.	8.	8.	9.	9.	9.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
360.	10.	10.	10.	9.	8.	8.	8.	8.	9.	9.	5.	5.	5.	5.	5.	9.	10.	9.	8.	7.
MAX	14.	14.	14.	10.	9.	10.	11.	13.	12.	12.	12.	12.	12.	12.	12.	14.	14.	13.	12.	12.
DEGR.	320	320	320	110	110	330	320	310	310	310	290	130	290	290	290	110	110	110	50	210

JOB: Greenline Extension RUN: No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (ug/m**3) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35
0.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
10.	12.	12.	12.	11.	10.	6.	7.	9.	10.	10.	6.	6.	6.	5.	5.
20.	13.	13.	13.	11.	10.	6.	7.	9.	11.	11.	8.	8.	7.	5.	5.
30.	13.	13.	12.	10.	10.	6.	6.	8.	10.	10.	11.	11.	9.	6.	5.
40.	11.	11.	10.	9.	9.	5.	5.	7.	8.	8.	12.	12.	11.	7.	6.
50.	8.	9.	9.	9.	9.	5.	5.	5.	6.	6.	12.	12.	11.	7.	6.
60.	7.	8.	8.	9.	9.	5.	5.	5.	5.	5.	11.	11.	10.	7.	7.
70.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	10.	10.	10.	7.	7.
80.	7.	8.	9.	9.	9.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
90.	7.	8.	10.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
100.	7.	8.	11.	10.	10.	5.	5.	5.	5.	5.	9.	9.	9.	7.	7.
110.	7.	8.	12.	11.	11.	6.	6.	6.	5.	5.	9.	9.	10.	8.	8.
120.	6.	7.	12.	11.	11.	8.	8.	9.	6.	6.	9.	10.	12.	11.	10.
130.	5.	6.	10.	9.	9.	10.	10.	11.	7.	6.	10.	11.	14.	12.	12.
140.	5.	5.	7.	7.	7.	10.	11.	11.	7.	7.	10.	11.	13.	12.	11.
150.	5.	5.	6.	6.	6.	10.	10.	10.	8.	7.	11.	11.	12.	11.	11.
160.	5.	5.	6.	6.	6.	9.	10.	10.	8.	7.	11.	12.	12.	10.	11.
170.	5.	5.	6.	5.	5.	9.	9.	9.	8.	7.	11.	12.	12.	10.	11.
180.	5.	5.	6.	5.	5.	9.	9.	9.	7.	7.	12.	12.	12.	11.	10.
190.	6.	6.	6.	5.	5.	9.	9.	8.	8.	7.	12.	13.	12.	11.	10.
200.	6.	7.	6.	5.	5.	8.	9.	9.	8.	8.	13.	14.	13.	11.	10.
210.	9.	9.	8.	6.	5.	9.	10.	11.	11.	10.	14.	14.	13.	11.	10.
220.	12.	12.	11.	7.	6.	10.	11.	13.	13.	12.	12.	12.	12.	10.	9.
230.	13.	13.	12.	8.	7.	10.	12.	13.	13.	12.	9.	10.	10.	9.	8.
240.	12.	12.	11.	8.	7.	11.	11.	12.	12.	11.	7.	8.	8.	8.	8.
250.	11.	11.	10.	8.	7.	11.	11.	12.	11.	11.	7.	7.	8.	9.	8.
260.	10.	11.	9.	8.	7.	11.	11.	12.	11.	10.	7.	7.	9.	9.	9.
270.	10.	10.	9.	8.	7.	11.	11.	12.	11.	10.	7.	8.	9.	10.	9.
280.	10.	10.	9.	8.	8.	12.	11.	12.	11.	10.	7.	8.	10.	10.	10.
290.	10.	10.	10.	9.	9.	12.	12.	13.	11.	10.	7.	8.	10.	11.	11.
300.	11.	11.	14.	12.	12.	12.	12.	13.	11.	10.	6.	7.	10.	11.	11.
310.	11.	12.	15.	13.	13.	10.	10.	11.	10.	9.	5.	6.	8.	9.	9.
320.	11.	12.	14.	12.	12.	7.	8.	9.	8.	8.	5.	5.	6.	6.	6.
330.	11.	12.	13.	11.	11.	6.	7.	8.	8.	8.	5.	5.	5.	5.	5.
340.	11.	12.	12.	11.	11.	6.	7.	8.	9.	9.	5.	5.	5.	5.	5.
350.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
360.	12.	12.	12.	11.	10.	6.	7.	9.	9.	9.	6.	6.	5.	5.	5.
MAX	13.	13.	15.	13.	13.	12.	12.	13.	13.	12.	14.	14.	14.	12.	12.
DEGR.	20	230	310	310	310	290	290	290	220	220	210	210	130	130	130

THE HIGHEST CONCENTRATION OF 15. ug/m**3 OCCURRED AT RECEPTOR REC23.

Hot Spot: Microscale (Local) Analysis

- Microscale Results

PM 2.5 24-Hour Results

				2007.0		2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Number	Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 5A Mystic Valley Parkway	Alternative 5B Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway at Boston Avenue														
			MVP/BostonNW1	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/BostonNW2	31.3	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
1	Northwest	Mystic Valley Greenway	MVP/BostonNW3	**31.7**	**30.9**	**30.9**	**30.9**	**32.1**	**30.9**	30.9	31.3	30.9	30.9	30.9
			MVP/BostonNW4	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonNW5	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonNE1	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonNE2	**31.7**	**30.9**	**30.9**	**30.9**	**31.7**	30.9	30.9	30.9	30.9	30.9	30.9
2	Northeast	Mystic Valley Greenway	MVP/BostonNE3	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonNE4	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/BostonNE5	30.5	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/BostonSE1	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/BostonSE2	31.3	30.5	30.5	30.5	31.3	30.5	30.5	30.5	30.5	30.5	30.5
3	Southeast	Simons Gas	MVP/BostonSE3	**31.7**	**30.9**	**30.9**	**30.9**	**31.7**	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonSE4	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonSE5	31.3	30.5	30.5	30.5	31.3	30.9	30.5	30.9	30.9	30.5	30.5
			MVP/BostonSW1	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonSW2	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.9	30.9	30.9
4	Southwest	533 Mystic Valley Parkway	MVP/BostonSW3	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/BostonSW4	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/BostonSW5	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
Mystic Valley Parkway at Winthrop Street														
			MVP/WinthropNW1	32.1	31.3	31.3	31.3	32.1	31.3	31.3	31.3	31.3	31.3	31.3
		2430	MVP/WinthropNW2	32.1	31.3	31.3	31.3	32.1	31.3	31.3	31.3	30.9	31.3	31.3
5	Northwest	Mystic Valley Parkway	MVP/WinthropNW3	**32.9**	**31.7**	**31.7**	**31.7**	**32.9**	31.7	31.7	31.7	31.3	31.7	31.7
			MVP/WinthropNW4	32.1	30.9	30.9	30.9	32.1	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropNW5	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropNE1	32.1	31.3	31.3	31.3	32.1	31.3	31.3	31.3	30.9	31.3	31.3
		The Regal	MVP/WinthropNE2	32.1	30.9	30.9	30.9	32.1	30.9	31.3	31.3	30.9	30.9	31.3
6	Northeast	235 Winthrop Street	MVP/WinthropNE3	**32.1**	**31.3**	**31.3**	**31.3**	**32.5**	31.3	31.3	31.3	31.3	31.3	31.3
			MVP/WinthropNE4	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropNE5	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropSE1	32.1	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	31.3
		Mystic River	MVP/WinthropSE2	32.1	30.9	30.9	30.9	32.1	30.9	30.9	30.9	31.3	30.9	30.9
7	Southeast	Reservation	MVP/WinthropSE3	**32.5**	**31.3**	**31.3**	**31.3**	**32.5**	31.3	31.3	31.3	31.3	31.3	31.3
			MVP/WinthropSE4	32.1	30.9	30.9	30.9	32.1	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropSE5	32.1	30.9	31.3	31.3	32.1	31.3	31.3	31.3	30.9	31.3	31.3
			MVP/WinthropSW1	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropSW2	32.1	30.9	30.9	30.9	32.1	30.9	30.9	31.3	30.9	31.3	30.9
8	Southwest	Mystic River Reservation	MVP/WinthropSW3	**32.1**	**31.3**	**31.3**	**31.3**	**32.1**	31.3	31.3	31.3	31.3	31.3	31.3
			MVP/WinthropSW4	31.7	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/WinthropSW5	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.5	30.9	30.9
Mystic Valley Parkway EB Off Ramp at Main Street and South Street														
			MVP/Winthrop NW1	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/Winthrop NW2	31.3	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
9	Northwest	Greenspace/ Route 16	MVP/Winthrop NW3	**31.7**	**30.9**	**30.9**	**30.9**	**31.7**	**30.9**	30.9	30.9	30.9	30.9	30.9
			MVP/Winthrop NW4	30.9	30.5	30.5	30.5	31.3	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/Winthrop NW5	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/Winthrop E1	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/Winthrop NW2	31.3	30.9	30.9	30.9	31.3	30.9	30.9	30.9	30.9	30.9	30.9
10	East	Police Officer Academy	MVP/Winthrop NW3	**31.3**	**30.9**	**30.9**	**30.9**	**31.3**	**30.9**	30.9	30.9	30.9	30.9	30.9
			MVP/Winthrop NW4	31.3	30.5	30.5	30.5	31.3	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/Winthrop NW5	31.3	30.5	30.5	30.5	31.3	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/Winthrop SW1	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
			MVP/Winthrop NW2	30.9	30.5	30.5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5
11	Southwest	Medford Gas Napa Repair Center	MVP/Winthrop NW3	**31.3**	**30.9**	**30.9**	**30.9**	**31.7**	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/Winthrop NW4	31.3	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9
			MVP/Winthrop NW5	31.3	30.9	30.9	30.9	31.7	30.9	30.9	30.9	30.9	30.9	30.9

PM 2.5 24-Hour Results

				2007.0		2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Boston Avenue at College Avenue														
			College/BostonW1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		Post Office/Curtis	College/BostonW2	**31.3**	**30.5**	**30.5**	**30.5**	**30.5**	**30.5**	**30.5**	**30.5**	**30.5**	**30.5**	**30.5**
12	**West**	Hall	College/BostonW3	30.5	30.1	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			College/BostonW4	30.5	30.1	30.1	30.1	30.5	30.5	30.5	30.5	30.5	30.5	30.1
			College/BostonW5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			College/BostonN1	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		Train Tracks	College/BostonN2	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
13	**North**		College/BostonN3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			College/BostonN4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			College/BostonN5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			College/BostonE1	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
		Minor Hall/Paige	College/BostonE2	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
14	**East**	Hall	College/BostonE3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			College/BostonE4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			College/BostonE5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			College/BostonS1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		School of	College/BostonS2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
15	**South**	Engineering	College/BostonS3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		Arthur Anderson	College/BostonS4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.5	30.1	30.1
		Auditorium	College/BostonS5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
Main Street at Harvard Street														
			Harvard/MainNW1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainNW2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
16	**Northwest**	Oasis BBQ	Harvard/MainNW3	31.3	30.9	30.5	30.5	30.5	30.5	30.9	30.5	30.9	30.5	30.5
			Harvard/MainNW4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainNW5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainNE1	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		A. Carge & Son	Harvard/MainNE2	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
17	**Northeast**	Insurance	Harvard/MainNE3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainNE4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainNE5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainSE1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainSE2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
18	**Southeast**	Ruscuis Recording	Harvard/MainSE3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		Studio	Harvard/MainSE4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainSE5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainSW1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
		Stephen Maclone	Harvard/MainSW2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
19	**Southwest**	Photography	Harvard/MainSW3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.9	30.5	30.5
			Harvard/MainSW4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Harvard/MainSW5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

PM 2.5 24-Hour Results

				2007.0			2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Broadway at Medford St and Dexter St														
			MedfordSB/BroadwayEB1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordSB/BroadwayEB2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
20	**Northwest**	On The Hill Tavern	MedfordSB/BroadwayEB3	31.3	30.9	30.5	30.9	30.5	30.5	30.9	30.5	30.9	30.9	30.5
			MedfordSB/BroadwayEB4	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordSB/BroadwayEB5	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordSB/Dexter1	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MedfordSB/Dexter2	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
21	**North**	Western Union	MedfordSB/Dexter3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordSB/Dexter4	30.5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MedfordSB/Dexter5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			BroadwayWB/Dexter1	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			BroadwayWB/Dexter2	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
22	**Northeast**	Creative Signs Estate	BroadwayWB/Dexter3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			BroadwayWB/Dexter4	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.1	30.5	30.5	30.5
			BroadwayWB/Dexter5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MedfordNB/BroadwayWB1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordNB/BroadwayWB2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
23	**Southeast**	J. R. Pierre Real Estate	MedfordNB/BroadwayWB3	31.3	30.9	30.5	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.5
			MedfordNB/BroadwayWB4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordNB/BroadwayWB5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordNB/LotNEB1	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MedfordNB/LotNEB2	30.5	30.5	30.1	30.5	30.1	30.1	30.1	30.5	30.5	30.1	30.1
24	**South**	CVS	MedfordNB/LotNEB3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.9	30.5	30.5
			MedfordNB/LotNEB4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MedfordNB/LotNEB5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			BroadwaySB/LotNEB1	31.3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			BroadwaySB/LotNEB2	31.3	30.9	30.5	30.9	30.5	30.5	30.5	30.5	30.9	30.5	30.5
25	**Southwest**	Dunkin Donuts	BroadwaySB/LotNEB3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			BroadwaySB/LotNEB4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			BroadwaySB/LotNEB5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
Highland Street at Central Street														
			Highland/CentralNW1	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Highland/CentralNW2	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
26	**Northwest**	Parking for Dunkin Donuts Anthony's	Highland/CentralNW3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralNW4	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralNW5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralNE1	30.5	30.1	30.5	30.5	30.1	30.1	30.5	30.1	30.1	30.5	30.1
			Highland/CentralNE2	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
27	**Northeast**	Property Management	Highland/CentralNE3	30.5	30.1	30.5	30.5	30.5	30.5	30.5	30.1	30.1	30.5	30.1
			Highland/CentralNE4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Highland/CentralNE5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Highland/CentralSE1	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Highland/CentralSE2	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
28	**Southeast**	G Mart	Highland/CentralSE3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralSE4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralSE5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralSW1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralSW2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
29	**Southwest**	Dunkin Donuts	Highland/CentralSW3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Highland/CentralSW4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Highland/CentralSW5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1

PM 2.5 24-Hour Results

				2007.0		2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Medford Street at School Street														
			Medford/SchoolN1	30.5	30.1	30.1	30.1	30.1	30.1	30.5	30.1	30.1	30.5	30.1
			Medford/SchoolN2	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
30	**North**	367 Medford Street	Medford/SchoolN3	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolN4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolN5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolE1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolE2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
31	**East**	175 School Street	Medford/SchoolE3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolE4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Medford/SchoolE5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Medford/SchoolS1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Medford/SchoolS2	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
32	**South**	Xtra Fuel Street	Medford/SchoolS3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolS4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolS5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolW1	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolW2	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
33	**West**	176 School Street	Medford/SchoolW3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Medford/SchoolW4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			Medford/SchoolW5	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
Somerville at Washington & Webster														
			Sville/Wash/WebsNW1	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Sville/Wash/WebsNW2	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
34	**Northwest**		Sville/Wash/WebsNW3	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Sville/Wash/WebsNW4	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsNW5	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsNE1	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsNE2	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
35	**Northeast**		Sville/Wash/WebsNE3	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Sville/Wash/WebsNE4	31.3	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsNE5	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsSE1	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsSE2	31.7	30.9	30.9	30.9	31.3	31.3	30.9	30.9	30.9	30.9	30.9
36	**Southeast**		Sville/Wash/WebsSE3	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Sville/Wash/WebsSE4	31.3	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsSE5	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Sville/Wash/WebsSW1	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Sville/Wash/WebsSW2	32.5	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
37	**Southwest**		Sville/Wash/WebsSW3	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Sville/Wash/WebsSW4	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Sville/Wash/WebsSW5	32.1	30.9	30.9	30.9	31.3	31.3	31.3	30.9	30.9	30.9	30.9

PM 2.5 24-Hour Results

				2007.0		2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Washington Street at McGrath Highway														
			Wash/McgrathNW1	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathNW2	31.3	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.5	30.9	30.9
38	**Northwest**	J & J Restaurant	Wash/McgrathNW3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathNW4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathNW5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathNE1	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Wash/McgrathNE2	31.7	30.9	31.3	31.3	31.3	31.3	31.3	31.3	30.9	31.3	31.3
39	**Northeast**	Empty Building	Wash/McgrathNE3	31.7	30.9	31.3	31.3	31.3	31.3	31.3	31.3	30.9	31.3	31.3
			Wash/McgrathNE4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathNE5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathSW1	31.7	30.9	30.9	31.3	31.3	31.3	31.3	31.3	30.9	31.3	31.3
			Wash/McgrathSW2	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
40	**Southeast**	AutoZone	Wash/McgrathSW3	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Wash/McgrathSW4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathSW5	30.5	30.1	30.1	30.5	30.5	30.5	30.1	30.1	30.1	30.1	30.1
			Wash/McgrathSW1	31.7	30.9	30.9	31.3	31.3	31.3	31.3	31.3	30.9	31.3	31.3
			Wash/McgrathSW2	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
41	**Southwest**	Valvoline	Wash/McgrathSW3	31.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Wash/McgrathSW4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			Wash/McgrathSW5	30.5	30.1	30.1	30.5	30.5	30.5	30.1	30.1	30.1	30.1	30.1
Monsignor O'Brien Highway at Third Street														
			Obrien/ThirdN1	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
42	**North**	Parking Lot/	Obrien/ThirdN2	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
		Cambridge	Obrien/ThirdN3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
		Antique Market	Obrien/ThirdN4	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/ThirdN5	31.7	31.3	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/ThirdSE1	30.9	30.5	30.9	30.5	30.5	30.9	30.5	30.5	30.5	30.9	30.9
			Obrien/ThirdSE2	31.3	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
43	**Southeast**	Lechmere Rug	Obrien/ThirdSE3	31.7	31.3	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/ThirdSE4	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/ThirdSE5	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/ThirdSW1	31.7	31.3	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
44	**Southwest**	Dunkin Donuts	Obrien/ThirdSW2	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/ThirdSW3	31.7	31.3	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/ThirdSW4	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			Obrien/ThirdSW5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

PM 2.5 24-Hour Results

				2007.0		2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Monsignor O'Brien Highway at East St/Cambridge St														
			MsgrOb/CambStN1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MsgrOb/CambStN2	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
45	**North**	MBTA Parking Lot	MsgrOb/CambStN3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStN4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStN5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStE1	31.3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
46	**East**	Archstone/ Northpoint	MsgrOb/CambStE2	31.3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStE3	31.3	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.9
			MsgrOb/CambStE4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MsgrOb/CambStE5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MsgrOb/CambStS1	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStS2	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
47	**South**	Parking Garage/ Apartments	MsgrOb/CambStS3	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStS4	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambStS5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambSt1	31.3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambSt2	31.3	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.9
48	**West**	Lechmere Station	MsgrOb/CambSt3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			MsgrOb/CambSt4	30.5	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
			MsgrOb/CambSt5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Cambridge Street at First Street														
			CambSt/FirstSE1	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			CambSt/FirstSE2	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
49	**Southeast**	Bank of America	CambSt/FirstSE3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			CambSt/FirstSE4	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			CambSt/FirstSE5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			CambSt/FirstSW1	30.5	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
			CambSt/FirstSW2	30.5	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
50	**Southwest**		CambSt/FirstSW3	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			CambSt/FirstSW4	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
			CambSt/FirstSW5	30.5	30.9	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Monsignor O'Brien Highway at Charlestown Avenue														
			Obrien/CharlesN1	32.9	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
51	**North**	Archstone Condos	Obrien/CharlesN2	33.3	32.1	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/CharlesN3	32.9	32.1	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/CharlesN4	32.1	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/CharlesN5	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/CharlesE1	32.5	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
		Bridge	Obrien/CharlesE2	32.5	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
52	**East**	Abutment/Mobile	Obrien/CharlesE3	32.9	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
		Maintenance	Obrien/CharlesE4	32.5	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
		Headquaters	Obrien/CharlesE5	32.5	31.7	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/CharlesS1	32.9	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
		Mobile	Obrien/CharlesS2	32.9	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
53	**South**	Maintenance	Obrien/CharlesS3	33.3	32.5	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
		Support Unit	Obrien/CharlesS4	32.5	32.1	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/CharlesS5	32.5	31.7	31.7	31.3	31.3	31.3	31.3	31.3	31.3	31.7	31.7
			Obrien/CharlesW1	33.3	32.5	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
54	**West**	Thomas Graves	Obrien/CharlesW2	32.9	32.5	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
		Apartments	Obrien/CharlesW3	32.9	32.5	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
			Obrien/CharlesW4	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3
			Obrien/CharlesW5	32.1	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3

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Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Number	Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 5A Mystic Valley Parkway	Alternative 5B Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway at Boston Avenue														
			MVP/BostonNW1	22	21	21	21	21	21	21	21	21	21	21
			MVP/BostonNW2	23	22	22	22	22	22	22	22	22	22	22
1	**Northwest**	Mystic Valley Greenway	MVP/BostonNW3	**24**	**22**	**23**	**23**	**23**	**23**	23	23	23	23	23
			MVP/BostonNW4	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonNW5	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonNE1	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonNE2	**24**	**22**	**22**	**22**	**22**	22	22	22	22	22	22
2	**Northeast**	Mystic Valley Greenway	MVP/BostonNE3	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonNE4	22	21	21	21	21	21	21	21	21	21	21
			MVP/BostonNE5	22	21	21	21	21	21	21	21	21	21	21
			MVP/BostonSE1	22	21	21	21	21	21	21	21	21	21	21
			MVP/BostonSE2	23	22	22	22	22	22	22	22	22	22	22
3	**Southeast**	Simons Gas	MVP/BostonSE3	**24**	**22**	**22**	**22**	**22**	22	22	22	22	22	22
			MVP/BostonSE4	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonSE5	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonSW1	23	22	22	22	22	22	22	22	22	22	22
			MVP/BostonSW2	23	22	22	22	22	22	22	22	22	22	22
4	**Southwest**	533 Mystic Valley Parkway	MVP/BostonSW3	24	22	22	22	22	22	22	23	22	22	22
			MVP/BostonSW4	22	21	21	21	21	21	21	21	21	21	21
			MVP/BostonSW5	22	21	21	21	21	21	21	21	21	21	21
Mystic Valley Parkway at Winthrop Street														
			MVP/WinthropNW1	24	23	23	23	23	23	23	23	23	23	23
		2430	MVP/WinthropNW2	24	23	23	23	23	23	23	23	23	23	23
5	**Northwest**	Mystic Valley Parkway	MVP/WinthropNW3	**25**	**23**	**23**	**23**	**23**	23	23	23	23	23	23
			MVP/WinthropNW4	24	23	23	23	23	23	23	23	22	23	23
			MVP/WinthropNW5	23	22	22	22	22	22	22	22	22	22	22
			MVP/WinthropNE1	24	23	23	23	23	23	23	23	22	23	23
		The Regal	MVP/WinthropNE2	24	23	23	23	23	23	23	23	22	23	23
6	**Northeast**	235 Winthrop Street	MVP/WinthropNE3	**25**	**23**	**23**	**23**	**23**	23	23	23	23	23	23
			MVP/WinthropNE4	24	22	22	22	22	22	22	22	22	22	22
			MVP/WinthropNE5	24	22	22	22	22	22	22	22	22	22	22
			MVP/WinthropSE1	24	22	22	22	22	22	22	22	22	22	23
		Mystic River	MVP/WinthropSE2	24	23	23	23	23	23	23	23	23	23	23
7	**Southeast**	Reservation	MVP/WinthropSE3	**25**	**23**	**23**	**23**	**23**	23	23	23	23	23	23
			MVP/WinthropSE4	24	22	22	22	22	22	23	23	22	23	23
			MVP/WinthropSE5	24	23	23	23	23	23	23	23	22	23	23
			MVP/WinthropSW1	24	22	22	22	22	22	22	22	22	22	22
			MVP/WinthropSW2	24	22	23	23	23	23	23	23	22	23	23
8	**Southwest**	Mystic River Reservation	MVP/WinthropSW3	**25**	**23**	**23**	**23**	**23**	23	23	23	23	23	23
			MVP/WinthropSW4	23	22	22	22	22	22	22	22	22	22	22
			MVP/WinthropSW5	23	22	22	22	22	22	22	22	22	22	22

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Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway EB Off Ramp at Main Street and South Street														
			MVP/Winthrop NW1	23	22	22	22	22	22	22	22	22	22	22
			MVP/Winthrop NW2	23	22	22	22	22	22	22	22	22	22	22
9	Northwest	Greenspace/	MVP/Winthrop NW3	**23**	**22**	**22**	**22**	**22**	**22**	22	22	22	22	22
		Route 16	MVP/Winthrop NW4	23	21	21	21	22	22	21	22	22	21	21
			MVP/Winthrop NW5	22	21	21	21	21	21	21	21	21	21	21
			MVP/Winthrop E1	23	22	22	22	22	22	22	22	22	22	22
			MVP/Winthrop NW2	23	22	22	22	22	22	22	22	22	22	22
10	East	Police Officer	MVP/Winthrop NW3	**23**	**22**	**22**	**22**	**22**	**22**	22	22	22	22	22
		Academy	MVP/Winthrop NW4	23	22	22	22	22	22	22	22	22	22	22
			MVP/Winthrop NW5	23	22	22	22	22	22	22	22	22	22	22
			MVP/Winthrop SW1	22	21	21	21	21	21	21	21	21	21	21
			MVP/Winthrop NW2	22	21	21	21	21	21	21	21	21	21	21
11	Southwest	Medford Gas	MVP/Winthrop NW3	**23**	**22**	**22**	**22**	**22**	22	22	22	22	22	22
		Napa Repair	MVP/Winthrop NW4	23	22	22	22	22	22	22	22	22	22	22
		Center	MVP/Winthrop NW5	23	22	22	22	22	22	22	22	22	22	22
Boston Avenue at College Avenue														
			College/BostonW1	22	21	21	21	21	21	21	21	22	21	21
		Post Office/Curtis	College/BostonW2	**23**	**22**	**21**	**21**	**22**	**22**	**22**	**22**	**22**	**22**	**21**
12	West	Hall	College/BostonW3	22	21	21	21	21	21	21	21	21	21	21
			College/BostonW4	22	21	21	21	21	21	21	21	21	21	21
			College/BostonW5	21	21	21	21	21	21	21	21	21	21	21
			College/BostonN1	22	21	21	21	21	21	21	21	21	21	21
		Train Tracks	College/BostonN2	22	21	21	21	21	21	21	21	21	21	21
13	North		College/BostonN3	22	21	21	21	21	21	21	21	21	21	21
			College/BostonN4	22	21	21	21	21	21	21	21	21	21	21
			College/BostonN5	22	21	21	21	21	21	21	21	21	21	21
			College/BostonE1	21	21	21	21	21	21	21	21	21	21	21
		Minor Hall/Paige	College/BostonE2	21	21	21	21	21	21	21	21	21	21	21
14	East	Hall	College/BostonE3	22	21	21	21	21	21	21	21	21	21	21
			College/BostonE4	21	21	21	21	21	21	21	21	21	21	21
			College/BostonE5	21	21	21	21	21	21	21	21	21	21	21
			College/BostonS1	22	21	21	21	21	21	21	21	21	21	21
		School of	College/BostonS2	22	21	21	21	21	21	21	21	21	21	21
15	South	Engineering	College/BostonS3	22	21	21	21	21	21	21	21	21	21	21
		Arthur Anderson	College/BostonS4	22	21	21	21	21	21	21	21	21	21	21
		Auditorium	College/BostonS5	22	21	21	21	21	21	21	21	21	21	21

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Main Street at Harvard Street														
			Harvard/MainNW1	23	21	21	21	21	21	21	21	21	21	21
			Harvard/MainNW2	23	21	21	21	21	21	21	21	21	21	21
16	**Northwest**	Oasis BBQ	Harvard/MainNW3	23	22	22	22	22	22	22	22	22	22	22
			Harvard/MainNW4	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainNW5	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainNE1	23	22	22	22	22	22	22	22	22	22	22
		A. Carge & Son	Harvard/MainNE2	23	22	22	22	22	22	22	22	22	22	22
17	**Northeast**	Insurance	Harvard/MainNE3	23	22	22	22	22	22	22	22	22	22	22
			Harvard/MainNE4	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainNE5	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainSE1	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainSE2	22	21	21	21	21	21	21	21	21	21	21
18	**Southeast**	Ruscuis Recording Studio	Harvard/MainSE3	23	22	22	22	22	22	22	22	22	22	22
			Harvard/MainSE4	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainSE5	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainSW1	22	21	21	21	21	21	21	21	21	21	21
		Stephen Maclone	Harvard/MainSW2	22	21	21	21	21	21	21	21	21	21	21
19	**Southwest**	Photography	Harvard/MainSW3	23	22	22	22	22	22	22	22	22	22	22
			Harvard/MainSW4	22	21	21	21	21	21	21	21	21	21	21
			Harvard/MainSW5	22	21	21	21	21	21	21	21	21	21	21
Broadway at Medford St and Dexter St														
			MedfordSB/BroadwayEB1	22	21	21	21	21	21	21	21	21	21	21
			MedfordSB/BroadwayEB2	22	22	21	21	21	21	21	21	21	21	21
20	**Northwest**	On The Hill Tavern	MedfordSB/BroadwayEB3	23	22	22	22	22	22	22	22	22	22	22
			MedfordSB/BroadwayEB4	23	22	22	22	22	22	22	22	22	22	22
			MedfordSB/BroadwayEB5	23	22	22	22	22	22	22	22	22	22	21
			MedfordSB/Dexter1	21	21	21	21	21	21	21	21	21	21	21
			MedfordSB/Dexter2	22	21	21	21	21	21	21	21	21	21	21
21	**North**	Western Union	MedfordSB/Dexter3	22	21	21	21	21	21	21	21	21	21	21
			MedfordSB/Dexter4	21	21	21	21	21	21	21	21	21	21	21
			MedfordSB/Dexter5	21	21	21	21	21	21	21	21	21	21	21
			BroadwayWB/Dexter1	23	22	22	22	22	22	22	22	22	22	22
			BroadwayWB/Dexter2	23	22	21	21	21	21	21	21	22	21	21
22	**Northeast**	Creative Signs Estate	BroadwayWB/Dexter3	23	22	21	21	21	21	21	21	22	21	21
			BroadwayWB/Dexter4	22	21	21	21	21	21	21	21	21	21	21
			BroadwayWB/Dexter5	21	21	21	21	21	21	21	21	21	21	21
			MedfordNB/BroadwayWB1	22	21	21	21	21	21	21	21	21	21	21
			MedfordNB/BroadwayWB2	22	21	21	21	21	21	21	21	21	21	21
23	**Southeast**	J. R. Pierre Real Estate	MedfordNB/BroadwayWB3	23	22	22	22	22	22	22	22	22	22	22
			MedfordNB/BroadwayWB4	22	22	21	21	21	21	22	21	22	21	21
			MedfordNB/BroadwayWB5	22	21	21	21	21	21	21	21	21	21	21
			MedfordNB/LotNEB1	21	21	21	21	21	21	21	21	21	21	21
			MedfordNB/LotNEB2	22	21	21	21	21	21	21	21	21	21	21
24	**South**	CVS	MedfordNB/LotNEB3	23	22	22	22	22	22	22	22	22	22	22
			MedfordNB/LotNEB4	22	21	21	21	21	21	21	21	21	21	21
			MedfordNB/LotNEB5	22	21	21	21	21	21	21	21	21	21	21
			BroadwaySB/LotNEB1	23	22	21	21	21	21	21	22	22	21	21
			BroadwaySB/LotNEB2	23	22	22	22	22	22	22	22	22	22	22
25	**Southwest**	Dunkin Donuts	BroadwaySB/LotNEB3	23	22	21	22	22	22	22	22	22	22	21
			BroadwaySB/LotNEB4	22	21	21	21	21	21	21	21	21	21	21
			BroadwaySB/LotNEB5	21	21	21	21	21	21	21	21	21	21	21

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Highland Street at Central Street														
			Highland/CentralNW1	21	21	21	21	21	21	21	21	21	21	21
			Highland/CentralNW2	22	21	21	21	21	21	21	21	21	21	21
26	**Northwest**	Parking for Dunkin Donuts	Highland/CentralNW3	22	21	21	21	21	21	21	21	21	21	21
		Anthony's	Highland/CentralNW4	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralNW5	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralNE1	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralNE2	22	21	21	21	21	21	21	21	21	21	21
27	**Northeast**	Property Management	Highland/CentralNE3	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralNE4	21	21	21	21	21	21	21	21	21	21	21
			Highland/CentralNE5	21	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSE1	21	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSE2	22	21	21	21	21	21	21	21	21	21	21
28	**Southeast**	G Mart	Highland/CentralSE3	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSE4	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSE5	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSW1	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSW2	22	21	21	21	21	21	21	21	21	21	21
29	**Southwest**	Dunkin Donuts	Highland/CentralSW3	22	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSW4	21	21	21	21	21	21	21	21	21	21	21
			Highland/CentralSW5	21	21	21	21	21	21	21	21	21	21	21
Medford Street at School Street														
			Medford/SchoolN1	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolN2	22	21	21	21	21	21	21	21	21	21	21
30	**North**	367 Medford Street	Medford/SchoolN3	23	22	22	22	22	22	22	22	22	22	22
			Medford/SchoolN4	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolN5	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolE1	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolE2	22	21	21	21	21	21	21	21	21	21	21
31	**East**	175 School Street	Medford/SchoolE3	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolE4	21	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolE5	21	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolS1	21	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolS2	21	21	21	21	21	21	21	21	21	21	21
32	**South**	Xtra Fuel Street	Medford/SchoolS3	22	21	21	21	21	21	21	21	22	21	21
			Medford/SchoolS4	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolS5	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolW1	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolW2	22	21	21	21	21	21	21	21	21	21	21
33	**West**	176 School Street	Medford/SchoolW3	22	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolW4	21	21	21	21	21	21	21	21	21	21	21
			Medford/SchoolW5	21	21	21	21	21	21	21	21	21	21	21

PM Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Somerville at Washington & Webster														
			Sville/Wash/WebsNW1	24	23	23	23	23	23	23	23	23	23	23
			Sville/Wash/WebsNW2	24	23	23	23	23	23	23	23	23	23	23
34	**Northwest**		Sville/Wash/WebsNW3	25	23	23	23	23	23	23	23	23	23	23
			Sville/Wash/WebsNW4	23	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsNW5	24	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsNE1	23	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsNE2	23	22	22	22	22	22	22	22	22	22	22
35	**Northeast**		Sville/Wash/WebsNE3	24	23	23	23	23	23	23	23	23	23	23
			Sville/Wash/WebsNE4	23	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsNE5	24	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsSE1	24	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsSE2	24	22	23	23	23	23	23	23	23	23	23
36	**Southeast**		Sville/Wash/WebsSE3	24	23	23	23	23	23	23	23	23	23	23
			Sville/Wash/WebsSE4	23	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsSE5	23	22	22	22	22	22	22	22	22	22	22
			Sville/Wash/WebsSW1	25	23	23	23	23	23	23	23	23	23	23
			Sville/Wash/WebsSW2	25	23	23	23	23	23	23	23	23	23	23
37	**Southwest**		Sville/Wash/WebsSW3	24	23	23	23	23	23	23	23	23	23	23
			Sville/Wash/WebsSW4	24	22	22	23	23	23	22	22	22	22	23
			Sville/Wash/WebsSW5	24	22	23	23	23	23	23	23	23	23	23
Washington Street at McGrath Highway														
			Wash/McgrathNW1	23	21	22	22	22	22	22	22	21	22	22
			Wash/McgrathNW2	23	22	22	22	22	22	22	22	22	22	22
38	**Northwest**	J & J Restaurant	Wash/McgrathNW3	22	21	21	22	22	22	22	22	21	22	22
			Wash/McgrathNW4	23	21	22	22	22	22	22	22	22	22	22
			Wash/McgrathNW5	23	21	21	22	22	22	22	22	22	22	22
			Wash/McgrathNE1	24	23	23	23	23	23	23	23	23	23	23
			Wash/McgrathNE2	24	22	23	23	23	23	23	23	23	23	23
39	**Northeast**	Empty Building	Wash/McgrathNE3	23	22	23	23	23	23	23	23	22	23	23
			Wash/McgrathNE4	23	22	21	21	21	21	21	21	21	21	22
			Wash/McgrathNE5	22	21	21	21	21	21	21	21	21	21	21
			Wash/McgrathSW1	24	22	22	23	23	23	23	23	23	23	23
			Wash/McgrathSW2	24	22	22	23	23	23	23	23	23	23	23
40	**Southeast**	AutoZone	Wash/McgrathSW3	23	22	22	22	22	22	22	22	22	22	22
			Wash/McgrathSW4	22	21	21	21	21	21	21	21	21	21	21
			Wash/McgrathSW5	22	21	21	21	21	21	21	21	21	21	21
			Wash/McgrathSW1	24	22	22	23	23	23	23	23	23	23	23
			Wash/McgrathSW2	24	22	22	23	23	23	23	23	23	23	23
41	**Southwest**	Valvoline	Wash/McgrathSW3	23	22	22	22	22	22	22	22	22	22	22
			Wash/McgrathSW4	22	21	21	21	21	21	21	21	21	21	21
			Wash/McgrathSW5	22	21	21	21	21	21	21	21	21	21	21

PM Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Monsignor O'Brien Highway at Third Street														
			Obrien/ThirdN1	23	23	23	23	23	23	23	23	23	23	23
42	**North**	Parking Lot/ Cambridge Antique Market	Obrien/ThirdN2	23	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdN3	23	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdN4	23	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdN5	23	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdSE1	22	22	22	22	22	22	22	22	22	22	22
			Obrien/ThirdSE2	23	22	23	22	22	22	22	22	22	22	23
43	**Southeast**	Lechmere Rug	Obrien/ThirdSE3	24	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdSE4	24	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdSE5	24	23	23	23	23	23	23	23	23	23	23
			Obrien/ThirdSW1	24	23	24	24	24	24	24	24	23	24	24
44	**Southwest**	Dunkin Donuts	Obrien/ThirdSW2	23	23	24	24	24	24	24	24	23	24	24
			Obrien/ThirdSW3	24	23	24	23	23	24	23	23	23	24	24
			Obrien/ThirdSW4	22	22	22	22	22	22	22	22	22	22	22
			Obrien/ThirdSW5	22	22	22	22	22	22	22	22	22	22	22
Monsignor O'Brien Highway at East St/Cambridge St														
			MsgrOb/CambStN1	21	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStN2	21	21	21	21	21	21	21	21	21	21	21
45	**North**	MBTA Parking Lot	MsgrOb/CambStN3	22	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStN4	22	22	22	22	22	22	22	22	22	22	22
			MsgrOb/CambStN5	22	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStE1	23	22	22	22	22	22	22	22	22	22	22
46	**East**	Archstone/ Northpoint	MsgrOb/CambStE2	23	22	22	22	22	22	22	22	22	22	22
			MsgrOb/CambStE3	23	22	22	22	22	22	22	22	22	22	22
			MsgrOb/CambStE4	21	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStE5	21	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStS1	22	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStS2	21	21	21	21	21	21	21	21	21	21	21
47	**South**	Parking Garage/ Apartments	MsgrOb/CambStS3	22	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambStS4	22	21	22	22	22	22	22	22	22	22	22
			MsgrOb/CambStS5	23	21	22	22	22	22	22	22	22	22	22
			MsgrOb/CambSt1	23	22	22	22	22	22	22	22	22	22	22
			MsgrOb/CambSt2	23	22	22	22	22	22	22	22	22	22	22
48	**West**	Lechmere Station	MsgrOb/CambSt3	22	22	22	21	21	21	21	21	21	21	22
			MsgrOb/CambSt4	21	21	21	21	21	21	21	21	21	21	21
			MsgrOb/CambSt5	22	22	22	21	21	21	21	21	21	21	22

PM Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Cambridge Street at First Street														
			CambSt/FirstSE1	21	21	21	21	21	21	21	21	21	21	21
			CambSt/FirstSE2	21	21	21	21	21	21	21	21	21	21	21
49	**Southeast**	Bank of America	CambSt/FirstSE3	21	21	21	21	21	21	21	21	21	21	21
			CambSt/FirstSE4	22	21	21	21	21	21	21	21	21	21	21
			CambSt/FirstSE5	22	21	21	21	21	21	21	21	21	21	21
			CambSt/FirstSW1	22	22	22	22	22	22	22	22	22	22	22
			CambSt/FirstSW2	22	22	22	22	22	22	22	22	22	22	22
50	**Southwest**		CambSt/FirstSW3	21	21	21	21	21	21	21	21	21	21	21
			CambSt/FirstSW4	21	22	21	21	21	21	21	21	21	21	21
			CambSt/FirstSW5	21	22	21	21	21	21	21	21	21	21	21
Monsignor O'Brien Highway at Charlestown Avenue														
			Obrien/CharlesN1	25	24	24	24	24	24	24	24	24	24	24
51	**North**	Archstone Condos	Obrien/CharlesN2	26	24	24	24	24	24	24	24	24	24	24
			Obrien/CharlesN3	25	24	24	24	24	24	24	24	24	24	24
			Obrien/CharlesN4	25	23	23	23	23	23	23	23	23	23	23
			Obrien/CharlesN5	24	23	23	23	23	23	23	23	23	23	23
			Obrien/CharlesE1	25	23	23	23	23	23	23	23	23	23	23
		Bridge	Obrien/CharlesE2	25	23	23	23	23	23	23	23	23	23	23
52	**East**	Abutment/Mobile	Obrien/CharlesE3	25	24	23	23	23	23	23	23	23	23	23
		Maintenance	Obrien/CharlesE4	25	23	23	23	23	23	23	23	23	23	23
		Headquaters	Obrien/CharlesE5	25	23	23	23	23	23	23	23	23	23	23
			Obrien/CharlesS1	25	24	23	23	23	23	23	23	23	23	23
		Mobile	Obrien/CharlesS2	25	24	23	23	23	23	23	23	23	23	23
53	**South**	Maintenance	Obrien/CharlesS3	26	25	24	24	24	24	24	24	24	24	24
		Support Unit	Obrien/CharlesS4	25	24	23	23	23	23	23	23	23	23	23
			Obrien/CharlesS5	25	23	23	23	23	23	23	23	23	23	23
			Obrien/CharlesW1	26	25	24	24	24	24	24	24	24	24	24
54	**West**	Thomas Graves	Obrien/CharlesW2	26	25	24	24	24	24	24	24	24	24	24
		Apartments	Obrien/CharlesW3	25	25	24	23	23	23	23	23	23	23	23
			Obrien/CharlesW4	25	23	23	23	23	23	23	23	23	23	23
			Obrien/CharlesW5	25	23	23	23	23	23	23	23	23	23	23

8 Hour CO Results

Highest values for specific receptors are in bold

Project Persistance Factor 0.66

Default Persistance Factor 0.66

Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	2007 Existing	2007 No Build	2030 Enhanced Bus No Build	2030 Alternative 1 Medford Hillside/ Union Square	2030 Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	2030 Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	2030 Alternative 3 Medford Hillside/ Union Square Loop	2030 Alternative 4 Mystic Valley Parkway/ Union Square	2030 Alternative 7 Mystic Valley Parkway	2030 Alternative 5A Lowell Line only to Medford Hillside	2030 Alternative 6 Union Square
Number	Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 5A Mystic Valley Parkway	Alternative 5B Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway at Boston Avenue														
			MVP/BostonNW1	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MVP/BostonNW2	3.6	3.0	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
1	**Northwest**	Mystic Valley Greenway	MVP/BostonNW3	3.4	2.9	3.0	3.0	2.9	3.0	3.0	3.0	2.9	3.0	3.0
			MVP/BostonNW4	3.3	2.8	2.9	2.9	2.8	2.9	2.9	3.0	2.8	2.9	2.9
			MVP/BostonNW5	3.3	2.8	2.9	2.9	2.9	2.9	2.8	3.0	2.9	2.9	2.9
			MVP/BostonNE1	3.5	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			MVP/BostonNE2	3.4	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
2	**Northeast**	Mystic Valley Greenway	MVP/BostonNE3	3.3	2.8	2.9	2.9	2.8	2.9	2.9	3.0	2.8	2.9	2.9
			MVP/BostonNE4	3.0	2.7	2.6	2.6	2.7	2.6	2.6	2.6	2.7	2.6	2.6
			MVP/BostonNE5	2.8	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.6	2.5	2.5
			MVP/BostonSE1	3.0	2.6	2.6	2.6	2.7	2.6	2.6	2.6	2.7	2.6	2.6
			MVP/BostonSE2	3.1	2.7	2.7	2.7	2.8	2.7	2.7	2.8	2.8	2.7	2.7
3	**Southeast**	Simons Gas	MVP/BostonSE3	3.4	2.8	2.9	2.9	2.8	2.9	3.0	3.0	2.8	3.0	3.0
			MVP/BostonSE4	3.1	2.7	2.8	2.8	2.7	2.8	2.8	2.8	2.7	2.8	2.8
			MVP/BostonSE5	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/BostonSW1	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/BostonSW2	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
4	**Southwest**	533 Mystic Valley Parkway	MVP/BostonSW3	3.4	2.9	3.0	3.0	2.9	3.0	3.0	3.0	2.9	3.0	3.0
			MVP/BostonSW4	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MVP/BostonSW5	2.8	2.5	2.5	2.5	2.5	2.6	2.5	2.6	2.5	2.5	2.5
Mystic Valley Parkway at Winthrop Street														
			MVP/WinthropNW1	4.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
		2430	MVP/WinthropNW2	4.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.4	3.3
5	**Northwest**	Mystic Valley Parkway	MVP/WinthropNW3	4.5	3.4	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.6	3.6
			MVP/WinthropNW4	3.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	3.0	3.0
			MVP/WinthropNW5	3.3	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.9
			MVP/WinthropNE1	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
		The Regal	MVP/WinthropNE2	3.5	2.9	3.0	3.0	3.0	3.0	3.0	3.0	2.8	3.0	3.0
6	**Northeast**	235 Winthrop Street	MVP/WinthropNE3	4.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
			MVP/WinthropNE4	3.5	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0
			MVP/WinthropNE5	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			MVP/WinthropSE1	4.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
		Mystic River	MVP/WinthropSE2	4.1	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.3	3.3	3.3
7	**Southeast**	Reservation	MVP/WinthropSE3	4.0	3.2	3.2	3.3	3.3	3.3	3.2	3.2	3.2	3.4	3.3
			MVP/WinthropSE4	3.4	2.9	3.0	3.0	3.0	3.0	3.0	3.0	2.8	3.0	3.0
			MVP/WinthropSE5	3.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
			MVP/WinthropSW1	3.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.9
			MVP/WinthropSW2	3.6	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.0	3.0	3.1
8	**Southwest**	Mystic River	MVP/WinthropSW3	3.8	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.2	3.2
		Reservation	MVP/WinthropSW4	3.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.9
			MVP/WinthropSW5	3.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.9

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Project Persistance Factor 0.66

Default Persistance Factor 0.66

Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	2007 Existing	2007 No Build	2030 Enhanced Bus No Build	2030 Alternative 1 Medford Hillside/ Union Square	2030 Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	2030 Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	2030 Alternative 3 Medford Hillside/ Union Square Loop	2030 Alternative 4 Mystic Valley Parkway/ Union Square	2030 Alternative 7 Mystic Valley Parkway	2030 Alternative 5A Lowell Line only to Medford Hillside	2030 Alternative 6 Union Square
Mystic Valley Parkway EB Off Ramp at Main Street and South Street														
			MVP/Winthrop NW1	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MVP/Winthrop NW2	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
9	**Northwest**	Greenspace/ Route 16	MVP/Winthrop NW3	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/Winthrop NW4	3.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/Winthrop NW5	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/Winthrop E1	3.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			MVP/Winthrop E2	3.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
10	**East**	Police Officer Academy	MVP/Winthrop E3	3.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			MVP/Winthrop E4	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MVP/Winthrop E5	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MVP/Winthrop SW1	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MVP/Winthrop NW2	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
11	**Southwest**	Medford Gas Napa Repair Center	MVP/Winthrop NW3	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/Winthrop NW4	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MVP/Winthrop NW5	3.0	2.7	2.7	2.7	2.8	2.8	2.7	2.8	2.8	2.7	2.7
Boston Avenue at College Avenue														
			College/BostonW1	3.1	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.8	2.6	2.6
		Post Office/Curtis	College/BostonW2	3.6	3.0	2.8	2.8	2.9	2.9	2.9	2.9	3.0	2.9	2.9
12	**West**	Hall	College/BostonW3	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			College/BostonW4	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			College/BostonW5	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			College/BostonN1	2.9	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.6	2.5
		Train Tracks	College/BostonN2	2.8	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.6	2.5
13	**North**		College/BostonN3	2.7	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.5
			College/BostonN4	2.7	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.3	2.4
			College/BostonN5	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			College/BostonE1	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
		Minor Hall/Paige	College/BostonE2	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
14	**East**	Hall	College/BostonE3	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.5
			College/BostonE4	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			College/BostonE5	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			College/BostonS1	3.2	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6
		School of	College/BostonS2	3.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6
15	**South**	Engineering	College/BostonS3	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
		Arthur Anderson	College/BostonS4	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
		Auditorium	College/BostonS5	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

8 Hour CO Results

Highest values for specific receptors are in bold

Project Persistance Factor 0.66

Default Persistance Factor 0.66

				2007		2030									
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Main Street at Harvard Street														
			Harvard/MainNW1	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6
			Harvard/MainNW2	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
16	**Northwest**	Oasis BBQ	Harvard/MainNW3	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			Harvard/MainNW4	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Harvard/MainNW5	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Harvard/MainNE1	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
		A. Carge & Son	Harvard/MainNE2	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
17	**Northeast**	Insurance	Harvard/MainNE3	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			Harvard/MainNE4	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Harvard/MainNE5	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			Harvard/MainSE1	3.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Harvard/MainSE2	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
18	**Southeast**	Ruscuis Recording	Harvard/MainSE3	3.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
		Studio	Harvard/MainSE4	2.8	2.5	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5
			Harvard/MainSE5	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			Harvard/MainSW1	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
		Stephen Maclone	Harvard/MainSW2	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
19	**Southwest**	Photography	Harvard/MainSW3	3.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			Harvard/MainSW4	2.9	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.6	2.6	2.5
			Harvard/MainSW5	2.9	2.5	2.5	2.5	2.4	2.4	2.5	2.4	2.5	2.4	2.4
Broadway at Medford St and Dexter St														
			MedfordSB/BroadwayEB1	3.1	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.6
			MedfordSB/BroadwayEB2	3.2	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
20	**Northwest**	On The Hill Tavern	MedfordSB/BroadwayEB3	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MedfordSB/BroadwayEB4	3.0	2.8	2.6	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.7
			MedfordSB/BroadwayEB5	3.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6
			MedfordSB/Dexter1	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4
			MedfordSB/Dexter2	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
21	**North**	Western Union	MedfordSB/Dexter3	2.9	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.5
			MedfordSB/Dexter4	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			MedfordSB/Dexter5	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			BroadwayWB/Dexter1	3.6	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.8	2.8
			BroadwayWB/Dexter2	3.5	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.8	2.8
22	**Northeast**	Creative Signs	BroadwayWB/Dexter3	3.2	2.8	2.6	2.6	2.6	2.6	2.6	2.7	2.8	2.6	2.6
		Estate	BroadwayWB/Dexter4	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			BroadwayWB/Dexter5	2.8	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			MedfordNB/BroadwayWB1	3.0	2.6	2.6	2.6	2.7	2.7	2.6	2.6	2.6	2.7	2.6
			MedfordNB/BroadwayWB2	3.1	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
23	**Southeast**	J. R. Pierre Real	MedfordNB/BroadwayWB3	3.2	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.7
		Estate	MedfordNB/BroadwayWB4	3.0	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6
			MedfordNB/BroadwayWB5	3.0	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6
			MedfordNB/LotNEB1	3.0	2.6	2.4	2.5	2.5	2.5	2.6	2.5	2.6	2.6	2.5
			MedfordNB/LotNEB2	3.1	2.6	2.5	2.5	2.5	2.5	2.6	2.5	2.6	2.6	2.5
24	**South**	CVS	MedfordNB/LotNEB3	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7
			MedfordNB/LotNEB4	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6
			MedfordNB/LotNEB5	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.5
			BroadwaySB/LotNEB1	3.6	3.1	2.6	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.6
			BroadwaySB/LotNEB2	3.8	3.1	2.8	2.9	2.9	2.9	2.9	2.9	3.0	2.9	2.8
25	**Southwest**	Dunkin Donuts	BroadwaySB/LotNEB3	3.3	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.7	2.7
			BroadwaySB/LotNEB4	2.9	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.4
			BroadwaySB/LotNEB5	2.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

8 Hour CO Results

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Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	2007 Existing	2007 No Build	2030 Enhanced Bus No Build	2030 Alternative 1 Medford Hillside/ Union Square	2030 Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	2030 Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	2030 Alternative 3 Medford Hillside/ Union Square Loop	2030 Alternative 4 Mystic Valley Parkway/ Union Square	2030 Alternative 7 Mystic Valley Parkway	2030 Alternative 5A Lowell Line only to Medford Hillside	2030 Alternative 6 Union Square
Highland Street at Central Street														
			Highland/CentralNW1	2.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
			Highland/CentralNW2	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
26	**Northwest**	Parking for Dunkin Donuts Anthony's	Highland/CentralNW3	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			Highland/CentralNW4	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Highland/CentralNW5	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Highland/CentralNE1	2.8	2.4	2.5	2.5	2.4	2.4	2.5	2.4	2.4	2.5	2.4
			Highland/CentralNE2	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
27	**Northeast**	Property Management	Highland/CentralNE3	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Highland/CentralNE4	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
			Highland/CentralNE5	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
			Highland/CentralSE1	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Highland/CentralSE2	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
28	**Southeast**	G Mart	Highland/CentralSE3	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Highland/CentralSE4	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Highland/CentralSE5	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Highland/CentralSW1	2.9	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Highland/CentralSW2	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
29	**Southwest**	Dunkin Donuts	Highland/CentralSW3	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Highland/CentralSW4	2.6	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.3
			Highland/CentralSW5	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Medford Street at School Street														
			Medford/SchoolN1	2.8	2.5	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.6	2.5
			Medford/SchoolN2	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
30	**North**	367 Medford Street	Medford/SchoolN3	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Medford/SchoolN4	2.8	2.5	2.5	2.6	2.5	2.5	2.6	2.5	2.5	2.6	2.4
			Medford/SchoolN5	2.8	2.5	2.5	2.5	2.4	2.4	2.5	2.4	2.5	2.5	2.4
			Medford/SchoolE1	3.0	2.6	2.5	2.6	2.5	2.5	2.6	2.5	2.6	2.6	2.5
			Medford/SchoolE2	3.0	2.6	2.5	2.6	2.5	2.5	2.6	2.5	2.6	2.6	2.5
31	**East**	175 School Street	Medford/SchoolE3	2.9	2.6	2.5	2.5	2.5	2.5	2.6	2.5	2.6	2.5	2.5
			Medford/SchoolE4	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3
			Medford/SchoolE5	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
			Medford/SchoolS1	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3
			Medford/SchoolS2	2.6	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4
32	**South**	Xtra Fuel Street	Medford/SchoolS3	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Medford/SchoolS4	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Medford/SchoolS5	2.9	2.6	2.5	2.6	2.5	2.5	2.6	2.5	2.6	2.6	2.5
			Medford/SchoolW1	3.1	2.6	2.6	2.6	2.5	2.5	2.6	2.5	2.7	2.6	2.5
			Medford/SchoolW2	2.9	2.6	2.6	2.6	2.5	2.5	2.6	2.5	2.6	2.6	2.5
33	**West**	176 School Street	Medford/SchoolW3	2.9	2.6	2.5	2.6	2.5	2.5	2.6	2.5	2.6	2.5	2.5
			Medford/SchoolW4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			Medford/SchoolW5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3

8 Hour CO Results

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Somerville at Washington & Webster														
			Sville/Wash/WebsNW1	4.4	3.4	3.4	3.5	3.4	3.4	3.5	3.5	3.4	3.4	3.4
			Sville/Wash/WebsNE2	3.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
34	**Northwest**		Sville/Wash/WebsNE3	3.8	3.1	3.2	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.3
			Sville/Wash/WebsNE4	3.4	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			Sville/Wash/WebsNE5	3.6	3.0	3.0	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			Sville/Wash/WebsNE1	4.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
			Sville/Wash/WebsNE2	3.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
35	**Northeast**		Sville/Wash/WebsNE3	3.8	3.1	3.2	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.3
			Sville/Wash/WebsNE4	3.4	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			Sville/Wash/WebsNE5	3.6	3.0	3.0	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			Sville/Wash/WebsSE1	4.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
			Sville/Wash/WebsSE2	4.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
36	**Southeast**		Sville/Wash/WebsSE3	4.0	3.2	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4
			Sville/Wash/WebsSE4	3.4	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.9
			Sville/Wash/WebsSE5	3.2	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.7	2.7	2.8
			Sville/Wash/WebsSW1	4.1	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.4	3.3	3.4
			Sville/Wash/WebsSW2	4.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
37	**Southwest**		Sville/Wash/WebsSW3	4.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.2	3.2
			Sville/Wash/WebsSW4	4.1	3.2	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.4	3.4
			Sville/Wash/WebsSW5	4.2	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Washington Street at McGrath Highway														
			Wash/McgrathNW1	3.5	2.9	2.9	2.9	3.0	3.0	2.9	3.0	2.9	2.9	3.0
			Wash/McgrathNW2	3.5	2.9	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
38	**Northwest**	J & J Restaurant	Wash/McgrathNW3	3.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			Wash/McgrathNW4	3.0	2.6	2.7	2.8	2.8	2.8	2.7	2.7	2.7	2.8	2.8
			Wash/McgrathNW5	3.0	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			Wash/McgrathNE1	3.8	3.1	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.4	3.4
			Wash/McgrathNE2	3.7	3.0	3.4	3.4	3.5	3.5	3.4	3.5	3.1	3.4	3.5
39	**Northeast**	Empty Building	Wash/McgrathNE3	3.7	3.1	3.4	3.4	3.5	3.5	3.4	3.5	3.1	3.4	3.5
			Wash/McgrathNE4	2.9	2.6	2.5	2.6	2.6	2.6	2.5	2.5	2.5	2.6	2.6
			Wash/McgrathNE5	2.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			Wash/McgrathSW1	3.6	3.0	3.0	3.1	3.1	3.1	3.1	3.0	3.0	3.1	3.1
			Wash/McgrathSW2	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
40	**Southeast**	AutoZone	Wash/McgrathSW3	3.5	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			Wash/McgrathSW4	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Wash/McgrathSW5	2.8	2.5	2.5	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.4
			Wash/McgrathSW1	3.6	3.0	3.0	3.1	3.1	3.1	3.1	3.0	3.0	3.1	3.1
			Wash/McgrathSW2	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
41	**Southwest**	Valvoline	Wash/McgrathSW3	3.5	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			Wash/McgrathSW4	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			Wash/McgrathSW5	2.8	2.5	2.5	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.4

8 Hour CO Results

Highest values for specific receptors are in bold

Project Persistance Factor 0.66

Default Persistance Factor 0.66

				2007		2030									
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Monsignor O'Brien Highway at Third Street														
			Obrien/ThirdN1	3.5	3.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
42	**North**	Parking Lot/ Cambridge Antique Market	Obrien/ThirdN2	3.7	3.2	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4
			Obrien/ThirdN3	3.1	3.1	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4
			Obrien/ThirdN4	3.3	3.2	3.5	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4
			Obrien/ThirdN5	3.4	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.2	3.4	3.4
			Obrien/ThirdSE1	3.0	2.8	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0
			Obrien/ThirdSE2	3.2	2.9	3.2	3.1	3.1	3.1	3.1	3.1	3.2	3.1	3.2
43	**Southeast**	Lechmere Rug	Obrien/ThirdSE3	3.5	3.5	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			Obrien/ThirdSE4	4.0	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.6	3.6
			Obrien/ThirdSE5	4.0	3.3	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5
			Obrien/ThirdSW1	3.5	3.6	4.0	3.9	3.9	3.9	3.9	3.9	3.8	4.0	4.0
44	**Southwest**	Dunkin Donuts	Obrien/ThirdSW2	3.6	3.6	4.0	3.9	3.9	3.9	3.9	3.9	3.8	3.9	4.0
			Obrien/ThirdSW3	3.6	3.5	4.0	3.8	3.9	3.9	3.8	3.8	3.8	3.9	3.9
			Obrien/ThirdSW4	3.0	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			Obrien/ThirdSW5	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Monsignor O'Brien Highway at East St/Cambridge St														
			MsgrOb/CambStN1	2.4	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
			MsgrOb/CambStN2	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
45	**North**	MBTA Parking Lot	MsgrOb/CambStN3	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.8	2.8	2.8
			MsgrOb/CambStN4	3.2	3.0	2.9	2.8	2.9	2.9	2.9	2.9	2.8	2.9	2.9
			MsgrOb/CambStN5	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MsgrOb/CambStE1	3.2	3.2	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9
46	**East**	Archstone/ Northpoint	MsgrOb/CambStE2	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0
			MsgrOb/CambStE3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			MsgrOb/CambStE4	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
			MsgrOb/CambStE5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
			MsgrOb/CambStS1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MsgrOb/CambStS2	2.4	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
47	**South**	Parking Garage/ Apartments	MsgrOb/CambStS3	2.9	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MsgrOb/CambStS4	2.9	2.7	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
			MsgrOb/CambStS5	3.0	2.8	2.9	2.8	2.8	2.8	2.8	2.8	2.9	2.8	3.0
			MsgrOb/CambSt1	3.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MsgrOb/CambSt2	3.8	2.8	2.9	2.9	2.9	2.9	2.8	2.9	2.9	2.9	2.9
48	**West**	Lechmere Station	MsgrOb/CambSt3	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			MsgrOb/CambSt4	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			MsgrOb/CambSt5	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

8 Hour CO Results

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Project Persistance Factor 0.66

Default Persistance Factor 0.66

				2007		2030									
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Cambridge Street at First Street														
			CambSt/FirstSE1	2.6	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			CambSt/FirstSE2	2.7	2.8	2.7	2.6	2.7	2.7	2.7	2.7	2.6	2.7	2.7
49	**Southeast**	Bank of America	CambSt/FirstSE3	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
			CambSt/FirstSE4	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			CambSt/FirstSE5	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			CambSt/FirstSW1	3.0	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			CambSt/FirstSW2	2.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
50	**Southwest**		CambSt/FirstSW3	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
			CambSt/FirstSW4	2.7	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
			CambSt/FirstSW5	2.6	3.4	2.6	2.7	2.7	2.7	2.7	2.7	2.6	2.7	2.7
Monsignor O'Brien Highway at Charlestown Avenue														
			Obrien/CharlesN1	4.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.8	3.7
51	**North**	Archstone Condos	Obrien/CharlesN2	5.0	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
			Obrien/CharlesN3	4.6	4.0	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.7
			Obrien/CharlesN4	4.2	3.5	3.4	3.3	3.3	3.4	3.4	3.4	3.3	3.4	3.4
			Obrien/CharlesN5	4.0	3.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
			Obrien/CharlesE1	4.4	3.6	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3
		Bridge	Obrien/CharlesE2	4.6	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
52	**East**	Abutment/Mobile	Obrien/CharlesE3	4.5	3.7	3.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
		Maintenance	Obrien/CharlesE4	4.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
		Headquaters	Obrien/CharlesE5	4.0	3.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
			Obrien/CharlesS1	5.0	4.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
		Mobile	Obrien/CharlesS2	5.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
53	**South**	Maintenance	Obrien/CharlesS3	4.8	4.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
		Support Unit	Obrien/CharlesS4	4.0	3.9	3.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.6
			Obrien/CharlesS5	3.9	3.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
			Obrien/CharlesW1	5.5	4.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
54	**West**	Thomas Graves	Obrien/CharlesW2	5.3	5.1	4.0	3.8	3.8	3.9	3.8	3.8	3.8	3.9	3.9
		Apartments	Obrien/CharlesW3	5.1	5.2	3.9	3.7	3.7	3.7	3.7	3.7	3.8	3.7	3.8
			Obrien/CharlesW4	4.2	3.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
			Obrien/CharlesW5	4.2	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3

1 Hour CO Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Number	Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 5A Mystic Valley Parkway	Alternative 5B Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway at Boston Avenue														
			MVP/BostonNW1	4.4	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			MVP/BostonNW2	5.5	4.6	4.4	4.5	4.6	4.5	4.5	4.5	4.6	4.5	4.5
1	Northwest	Mystic Valley Greenway	MVP/BostonNW3	5.1	4.4	4.6	4.6	4.4	4.6	4.6	4.6	4.4	4.6	4.6
			MVP/BostonNW4	5.0	4.3	4.4	4.4	4.3	4.4	4.4	4.5	4.3	4.4	4.4
			MVP/BostonNW5	5.0	4.2	4.4	4.4	4.4	4.4	4.3	4.5	4.4	4.4	4.4
			MVP/BostonNE1	5.3	4.3	4.5	4.6	4.5	4.6	4.5	4.6	4.5	4.5	4.6
			MVP/BostonNE2	5.2	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
2	Northeast	Mystic Valley Greenway	MVP/BostonNE3	5.0	4.3	4.4	4.4	4.3	4.4	4.4	4.5	4.3	4.4	4.4
			MVP/BostonNE4	4.6	4.1	4.0	4.0	4.1	4.0	4.0	4.0	4.1	4.0	4.0
			MVP/BostonNE5	4.3	3.8	3.8	3.8	3.9	3.8	3.8	3.8	3.9	3.8	3.8
			MVP/BostonSE1	4.6	4.0	4.0	4.0	4.1	4.0	4.0	4.0	4.1	4.0	4.0
			MVP/BostonSE2	4.7	4.1	4.1	4.1	4.2	4.1	4.1	4.2	4.2	4.1	4.1
3	Southeast	Simons Gas	MVP/BostonSE3	5.1	4.3	4.4	4.4	4.3	4.4	4.5	4.5	4.3	4.5	4.5
			MVP/BostonSE4	4.7	4.1	4.2	4.2	4.1	4.2	4.2	4.3	4.1	4.2	4.2
			MVP/BostonSE5	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.2	4.2
			MVP/BostonSW1	4.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			MVP/BostonSW2	4.8	4.2	4.2	4.2	4.2	4.3	4.2	4.3	4.2	4.2	4.3
4	Southwest	533 Mystic Valley Parkway	MVP/BostonSW3	5.1	4.4	4.5	4.5	4.4	4.5	4.6	4.6	4.4	4.6	4.6
			MVP/BostonSW4	4.4	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			MVP/BostonSW5	4.2	3.8	3.8	3.8	3.8	3.9	3.8	3.9	3.8	3.8	3.8
Mystic Valley Parkway at Winthrop Street														
			MVP/WinthropNW1	6.4	5.1	5.1	5.1	5.2	5.1	5.2	5.2	5.1	5.1	5.2
		2430	MVP/WinthropNW2	6.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	5.1	5.0
5	Northwest	Mystic Valley Parkway	MVP/WinthropNW3	6.8	5.2	5.4	5.4	5.4	5.4	5.3	5.3	5.2	5.4	5.4
			MVP/WinthropNW4	5.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.5	4.5
			MVP/WinthropNW5	5.0	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.4	4.4
			MVP/WinthropNE1	5.3	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.6	4.6
		The Regal	MVP/WinthropNE2	5.3	4.4	4.5	4.6	4.6	4.6	4.6	4.6	4.3	4.6	4.6
6	Northeast	235 Winthrop Street	MVP/WinthropNE3	6.0	4.9	4.8	4.9	4.9	4.9	4.8	4.8	4.8	4.9	4.9
			MVP/WinthropNE4	5.3	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.5
			MVP/WinthropNE5	5.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
			MVP/WinthropSE1	6.6	4.9	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
		Mystic River	MVP/WinthropSE2	6.2	5.0	5.0	5.0	5.0	5.0	5.0	4.9	5.0	5.0	5.0
7	Southeast	Reservation	MVP/WinthropSE3	6.1	4.9	4.9	5.0	5.0	5.0	4.9	4.9	4.8	5.1	5.0
			MVP/WinthropSE4	5.2	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.5	4.5
			MVP/WinthropSE5	5.4	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.6	4.6
			MVP/WinthropSW1	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.4	4.4
			MVP/WinthropSW2	5.5	4.5	4.6	4.6	4.6	4.6	4.6	4.7	4.5	4.6	4.7
8	Southwest	Mystic River Reservation	MVP/WinthropSW3	5.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.8	4.8
			MVP/WinthropSW4	5.2	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.4	4.4
			MVP/WinthropSW5	5.2	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.4	4.4

1 Hour CO Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway EB Off Ramp at Main Street and South Street														
			MVP/Winthrop NW1	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			MVP/Winthrop NW2	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
9	**Northwest**	Greenspace/ Route 16	MVP/Winthrop NW3	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			MVP/Winthrop NW4	5.0	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.3	4.2	4.2
			MVP/Winthrop NW5	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			MVP/Winthrop E1	4.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			MVP/Winthrop NW2	4.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
10	**East**	Police Officer Academy	MVP/Winthrop NW3	4.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			MVP/Winthrop NW4	4.4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			MVP/Winthrop NW5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			MVP/Winthrop SW1	4.6	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			MVP/Winthrop NW2	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
11	**Southwest**	Medford Gas Napa Repair Center	MVP/Winthrop NW3	4.7	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.3	4.2	4.2
			MVP/Winthrop NW4	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			MVP/Winthrop NW5	4.6	4.1	4.1	4.1	4.2	4.2	4.1	4.2	4.2	4.1	4.1
Boston Avenue at College Avenue														
			College/BostonW1	4.7	4.1	3.9	4.0	4.0	4.0	4.0	4.0	4.2	4.0	4.0
		Post Office/Curtis	College/BostonW2	5.4	4.5	4.3	4.3	4.4	4.4	4.4	4.4	4.5	4.4	4.4
12	**West**	Hall	College/BostonW3	4.1	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			College/BostonW4	4.0	3.7	3.7	3.7	3.7	3.7	3.6	3.7	3.7	3.7	3.7
			College/BostonW5	4.1	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.6	3.6
			College/BostonN1	4.4	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.9	3.8
		Train Tracks	College/BostonN2	4.3	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.9	3.8
13	**North**		College/BostonN3	4.1	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.8	3.8
			College/BostonN4	4.1	3.5	3.5	3.5	3.6	3.6	3.5	3.5	3.6	3.5	3.6
			College/BostonN5	4.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			College/BostonE1	3.9	3.6	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6
		Minor Hall/Paige	College/BostonE2	3.9	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
14	**East**	Hall	College/BostonE3	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.0	3.8	3.8
			College/BostonE4	4.0	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.7	3.7
			College/BostonE5	4.0	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.7	3.7
			College/BostonS1	4.8	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0	4.0
		School of	College/BostonS2	4.7	4.0	3.9	3.9	4.0	4.0	3.9	3.9	4.1	3.9	3.9
15	**South**	Engineering Arthur Anderson	College/BostonS3	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			College/BostonS4	4.1	3.7	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.6
		Auditorium	College/BostonS5	4.0	3.6	3.6	3.6	3.7	3.7	3.6	3.6	3.6	3.6	3.6

1 Hour CO Results

				2007			2030							
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Main Street at Harvard Street														
			Harvard/MainNW1	4.6	4.0	4.0	4.0	3.9	3.9	4.0	3.9	4.1	4.0	4.0
			Harvard/MainNW2	4.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
16	Northwest	Oasis BBQ	Harvard/MainNW3	4.9	4.3	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.2	4.2
			Harvard/MainNW4	4.5	4.0	4.0	4.0	3.9	3.9	4.0	3.9	4.0	3.9	4.0
			Harvard/MainNW5	4.5	4.0	3.9	3.9	3.9	3.9	4.0	3.9	4.0	3.9	3.9
			Harvard/MainNE1	4.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
		A. Carge & Son	Harvard/MainNE2	4.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
17	Northeast	Insurance	Harvard/MainNE3	4.7	4.3	4.3	4.3	4.2	4.2	4.3	4.3	4.3	4.3	4.2
			Harvard/MainNE4	4.2	4.0	3.9	3.9	3.9	3.9	3.9	3.9	4.0	3.9	3.9
			Harvard/MainNE5	4.3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			Harvard/MainSE1	4.7	3.9	4.0	4.0	3.9	3.9	4.0	3.9	4.0	3.9	3.9
			Harvard/MainSE2	4.4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
18	Southeast	Ruscuis Recording Studio	Harvard/MainSE3	4.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			Harvard/MainSE4	4.2	3.8	3.8	3.8	3.7	3.7	3.8	3.8	3.8	3.8	3.8
			Harvard/MainSE5	4.3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			Harvard/MainSW1	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		Stephen Maclone	Harvard/MainSW2	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
19	Southwest	Photography	Harvard/MainSW3	4.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			Harvard/MainSW4	4.4	3.8	3.8	3.9	3.8	3.8	3.8	3.8	3.9	3.9	3.8
			Harvard/MainSW5	4.4	3.8	3.8	3.8	3.7	3.7	3.8	3.7	3.8	3.7	3.7
Broadway at Medford St and Dexter St														
			MedfordSB/BroadwayEB1	4.7	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.0
			MedfordSB/BroadwayEB2	4.9	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
20	Northwest	On The Hill Tavern	MedfordSB/BroadwayEB3	4.8	4.3	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.2	4.2
			MedfordSB/BroadwayEB4	4.6	4.2	4.0	4.1	4.1	4.1	4.1	4.1	4.2	4.1	4.1
			MedfordSB/BroadwayEB5	4.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0
			MedfordSB/Dexter1	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7
			MedfordSB/Dexter2	4.4	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
21	North	Western Union	MedfordSB/Dexter3	4.4	4.0	3.8	3.8	3.8	3.8	3.8	3.8	3.9	3.8	3.8
			MedfordSB/Dexter4	4.1	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			MedfordSB/Dexter5	4.1	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			BroadwayWB/Dexter1	5.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.3
			BroadwayWB/Dexter2	5.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.3
22	Northeast	Creative Signs Estate	BroadwayWB/Dexter3	4.8	4.2	4.0	4.0	4.0	4.0	4.0	4.1	4.2	4.0	4.0
			BroadwayWB/Dexter4	4.5	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			BroadwayWB/Dexter5	4.3	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			MedfordNB/BroadwayWB1	4.6	4.0	4.0	4.0	4.1	4.1	4.0	4.0	4.0	4.1	4.0
			MedfordNB/BroadwayWB2	4.7	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
23	Southeast	J. R. Pierre Real Estate	MedfordNB/BroadwayWB3	4.9	4.3	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.1	4.1
			MedfordNB/BroadwayWB4	4.6	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0	3.9
			MedfordNB/BroadwayWB5	4.6	4.1	3.9	4.0	4.0	4.0	4.0	4.0	4.1	4.0	3.9
			MedfordNB/LotNEB1	4.5	3.9	3.7	3.8	3.8	3.8	3.9	3.8	3.9	3.9	3.8
			MedfordNB/LotNEB2	4.7	4.0	3.8	3.8	3.8	3.8	3.9	3.8	4.0	3.9	3.8
24	South	CVS	MedfordNB/LotNEB3	4.9	4.3	4.2	4.2	4.2	4.2	4.3	4.2	4.3	4.3	4.1
			MedfordNB/LotNEB4	4.5	4.0	3.9	3.9	3.9	3.9	4.0	3.9	4.1	4.0	3.9
			MedfordNB/LotNEB5	4.3	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.9	3.8	3.8
			BroadwaySB/LotNEB1	5.5	4.7	4.0	4.1	4.1	4.1	4.1	4.1	4.3	4.1	4.0
			BroadwaySB/LotNEB2	5.7	4.7	4.3	4.4	4.4	4.4	4.4	4.4	4.6	4.4	4.3
25	Southwest	Dunkin Donuts	BroadwaySB/LotNEB3	5.0	4.3	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.1	4.1
			BroadwaySB/LotNEB4	4.4	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.8	3.8	3.7
			BroadwaySB/LotNEB5	4.3	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.6	3.6

1 Hour CO Results

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Highland Street at Central Street														
			Highland/CentralNW1	3.9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
			Highland/CentralNW2	4.0	3.6	3.7	3.6	3.6	3.6	3.6	3.7	3.6	3.6	3.7
26	**Northwest**	Parking for Dunkin Donuts	Highland/CentralNW3	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
		Anthony's	Highland/CentralNW4	4.0	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			Highland/CentralNW5	4.1	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			Highland/CentralNE1	4.3	3.7	3.8	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7
			Highland/CentralNE2	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
27	**Northeast**	Property Management	Highland/CentralNE3	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			Highland/CentralNE4	3.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
			Highland/CentralNE5	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.3
			Highland/CentralSE1	4.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			Highland/CentralSE2	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
28	**Southeast**	G Mart	Highland/CentralSE3	4.5	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			Highland/CentralSE4	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			Highland/CentralSE5	4.1	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
			Highland/CentralSW1	4.4	3.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			Highland/CentralSW2	4.4	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
29	**Southwest**	Dunkin Donuts	Highland/CentralSW3	4.4	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			Highland/CentralSW4	3.9	3.5	3.6	3.6	3.6	3.6	3.6	3.5	3.6	3.6	3.5
			Highland/CentralSW5	3.9	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Medford Street at School Street														
			Medford/SchoolN1	4.3	3.8	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.9	3.8
			Medford/SchoolN2	4.3	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
30	**North**	367 Medford Street	Medford/SchoolN3	4.5	4.0	3.9	4.0	3.9	3.9	4.0	3.9	4.0	3.9	3.9
			Medford/SchoolN4	4.2	3.8	3.8	3.9	3.8	3.8	3.9	3.8	3.8	3.9	3.7
			Medford/SchoolN5	4.3	3.8	3.8	3.8	3.6	3.6	3.8	3.6	3.8	3.8	3.6
			Medford/SchoolE1	4.5	3.9	3.8	3.9	3.8	3.8	3.9	3.8	4.0	3.9	3.8
			Medford/SchoolE2	4.5	3.9	3.8	3.9	3.8	3.8	3.9	3.8	3.9	3.9	3.8
31	**East**	175 School Street	Medford/SchoolE3	4.4	3.9	3.8	3.8	3.8	3.8	3.9	3.8	3.9	3.8	3.8
			Medford/SchoolE4	3.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.6	3.5	3.5
			Medford/SchoolE5	3.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
			Medford/SchoolS1	3.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.5	3.5
			Medford/SchoolS2	3.9	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.6	3.6
32	**South**	Xtra Fuel Street	Medford/SchoolS3	4.5	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0	4.0	3.9
			Medford/SchoolS4	4.5	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			Medford/SchoolS5	4.4	4.0	3.8	3.9	3.8	3.8	3.9	3.8	3.9	3.9	3.8
			Medford/SchoolW1	4.7	4.0	3.9	3.9	3.8	3.8	4.0	3.8	4.1	4.0	3.8
			Medford/SchoolW2	4.4	3.9	3.9	3.9	3.8	3.8	3.9	3.8	3.9	3.9	3.8
33	**West**	176 School Street	Medford/SchoolW3	4.4	3.9	3.8	3.9	3.8	3.8	3.9	3.8	3.9	3.8	3.8
			Medford/SchoolW4	3.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
			Medford/SchoolW5	3.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

1 Hour CO Results

				2007			2030							
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Somerville at Washington & Webster														
			Sville/Wash/WebsNW1	6.6	5.2	5.2	5.3	5.2	5.2	5.3	5.3	5.2	5.2	5.2
			Sville/Wash/WebsNW2	6.1	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.1	5.2	5.2
34	Northwest		Sville/Wash/WebsNW3	6.5	5.2	5.3	5.2	5.2	5.2	5.2	5.2	5.3	5.2	5.2
			Sville/Wash/WebsNW4	5.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
			Sville/Wash/WebsNW5	5.4	4.6	4.6	4.6	4.5	4.5	4.6	4.5	4.5	4.6	4.5
			Sville/Wash/WebsNE1	6.1	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8
			Sville/Wash/WebsNE2	5.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
35	Northeast		Sville/Wash/WebsNE3	5.8	4.7	4.9	5.0	5.0	5.0	5.0	5.0	4.9	4.9	5.0
			Sville/Wash/WebsNE4	5.1	4.4	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.6	4.6
			Sville/Wash/WebsNE5	5.4	4.5	4.6	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6
			Sville/Wash/WebsSE1	6.3	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
			Sville/Wash/WebsSE2	6.5	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
36	Southeast		Sville/Wash/WebsSE3	6.1	4.9	5.1	5.1	5.1	5.1	5.1	5.1	5.0	5.1	5.1
			Sville/Wash/WebsSE4	5.2	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.4	4.4
			Sville/Wash/WebsSE5	4.9	4.1	4.1	4.1	4.1	4.1	4.2	4.2	4.1	4.1	4.2
			Sville/Wash/WebsSW1	6.2	5.0	5.1	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.1
			Sville/Wash/WebsSW2	6.4	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.1	5.2	5.2
37	Southwest		Sville/Wash/WebsSW3	6.0	4.8	4.8	4.9	4.9	4.9	4.9	4.9	5.0	4.8	4.8
			Sville/Wash/WebsSW4	6.2	4.9	5.1	5.1	5.1	5.1	5.1	5.1	4.9	5.1	5.1
			Sville/Wash/WebsSW5	6.3	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Washington Street at McGrath Highway														
			Wash/McgrathNW1	5.3	4.4	4.4	4.4	4.5	4.5	4.4	4.5	4.4	4.4	4.5
			Wash/McgrathNW2	5.3	4.4	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.6	4.6
38	Northwest	J & J Restaurant	Wash/McgrathNW3	5.1	4.3	4.2	4.2	4.3	4.3	4.2	4.3	4.3	4.2	4.3
			Wash/McgrathNW4	4.5	4.0	4.1	4.2	4.2	4.2	4.1	4.1	4.1	4.2	4.2
			Wash/McgrathNW5	4.5	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			Wash/McgrathNE1	5.8	4.7	5.1	5.2	5.2	5.2	5.1	5.2	4.8	5.1	5.2
			Wash/McgrathNE2	5.6	4.5	5.1	5.2	5.3	5.3	5.2	5.3	4.7	5.2	5.3
39	Northeast	Empty Building	Wash/McgrathNE3	5.6	4.7	5.2	5.2	5.3	5.3	5.2	5.3	4.7	5.2	5.3
			Wash/McgrathNE4	4.4	3.9	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.9	3.9
			Wash/McgrathNE5	4.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			Wash/McgrathSW1	5.4	4.6	4.6	4.7	4.7	4.7	4.7	4.6	4.6	4.7	4.7
			Wash/McgrathSW2	5.3	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.6	4.6
40	Southeast	AutoZone	Wash/McgrathSW3	5.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
			Wash/McgrathSW4	4.5	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			Wash/McgrathSW5	4.3	3.8	3.8	3.7	3.8	3.8	3.7	3.7	3.7	3.7	3.7
			Wash/McgrathSW1	5.4	4.6	4.6	4.7	4.7	4.7	4.7	4.6	4.6	4.7	4.7
			Wash/McgrathSW2	5.3	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.6	4.6
41	Southwest	Valvoline	Wash/McgrathSW3	5.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
			Wash/McgrathSW4	4.5	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			Wash/McgrathSW5	4.3	3.8	3.8	3.7	3.8	3.8	3.7	3.7	3.7	3.7	3.7

1 Hour CO Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Monsignor O'Brien Highway at Third Street														
			Obrien/ThirdN1	5.3	4.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
42	**North**	Parking Lot/ Cambridge Antique Market	Obrien/ThirdN2	5.6	4.8	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
			Obrien/ThirdN3	4.7	4.7	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1
			Obrien/ThirdN4	5.0	4.9	5.3	5.1	5.1	5.1	5.1	5.1	5.0	5.1	5.2
			Obrien/ThirdN5	5.1	5.0	5.2	5.0	5.0	5.0	5.0	5.0	4.9	5.1	5.2
			Obrien/ThirdSE1	4.6	4.3	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.5
			Obrien/ThirdSE2	4.8	4.4	4.9	4.7	4.7	4.7	4.7	4.7	4.8	4.7	4.8
43	**Southeast**	Lechmere Rug	Obrien/ThirdSE3	5.3	5.3	5.9	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
			Obrien/ThirdSE4	6.0	5.0	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.4	5.4
			Obrien/ThirdSE5	6.1	5.0	5.3	5.2	5.2	5.2	5.2	5.2	5.1	5.2	5.3
			Obrien/ThirdSW1	5.3	5.4	6.1	5.9	5.9	5.9	5.9	5.9	5.8	6.0	6.0
44	**Southwest**	Dunkin Donuts	Obrien/ThirdSW2	5.5	5.5	6.0	5.9	5.9	5.9	5.9	5.9	5.8	5.9	6.0
			Obrien/ThirdSW3	5.4	5.3	6.0	5.8	5.9	5.9	5.8	5.8	5.8	5.9	5.9
			Obrien/ThirdSW4	4.6	4.4	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.6
			Obrien/ThirdSW5	4.4	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Monsignor O'Brien Highway at East St/Cambridge St														
			MsgrOb/CambStN1	3.7	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
			MsgrOb/CambStN2	4.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
45	**North**	MBTA Parking Lot	MsgrOb/CambStN3	4.4	4.3	4.2	4.2	4.2	4.2	4.2	4.1	4.2	4.2	4.2
			MsgrOb/CambStN4	4.8	4.5	4.4	4.3	4.4	4.4	4.4	4.4	4.3	4.4	4.4
			MsgrOb/CambStN5	4.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			MsgrOb/CambStE1	4.9	4.8	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4
46	**East**	Archstone/ Northpoint	MsgrOb/CambStE2	4.6	4.6	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.5
			MsgrOb/CambStE3	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
			MsgrOb/CambStE4	4.1	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
			MsgrOb/CambStE5	3.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
			MsgrOb/CambStS1	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			MsgrOb/CambStS2	3.7	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
47	**South**	Parking Garage/ Apartments	MsgrOb/CambStS3	4.4	4.1	4.3	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			MsgrOb/CambStS4	4.4	4.1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
			MsgrOb/CambStS5	4.5	4.2	4.4	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.5
			MsgrOb/CambSt1	5.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
			MsgrOb/CambSt2	5.8	4.3	4.4	4.4	4.4	4.4	4.3	4.4	4.4	4.4	4.4
48	**West**	Lechmere Station	MsgrOb/CambSt3	4.4	4.2	4.3	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3
			MsgrOb/CambSt4	4.2	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			MsgrOb/CambSt5	4.4	4.2	4.3	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3

1 Hour CO Results

				2007		2030								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Cambridge Street at First Street														
			CambSt/FirstSE1	3.9	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			CambSt/FirstSE2	4.1	4.2	4.1	4.0	4.1	4.1	4.1	4.1	4.0	4.1	4.1
49	**Southeast**	Bank of America	CambSt/FirstSE3	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
			CambSt/FirstSE4	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			CambSt/FirstSE5	4.1	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
			CambSt/FirstSW1	4.5	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
			CambSt/FirstSW2	4.4	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
50	**Southwest**		CambSt/FirstSW3	4.2	4.3	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
			CambSt/FirstSW4	4.1	4.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
			CambSt/FirstSW5	3.9	5.2	4.0	4.1	4.1	4.1	4.1	4.1	4.0	4.1	4.1
Monsignor O'Brien Highway at Charlestown Avenue														
			Obrien/CharlesN1	7.2	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.7	5.6
51	**North**	Archstone Condos	Obrien/CharlesN2	7.5	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
			Obrien/CharlesN3	6.9	6.0	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6
			Obrien/CharlesN4	6.4	5.3	5.1	5.0	5.0	5.1	5.1	5.1	5.0	5.1	5.1
			Obrien/CharlesN5	6.0	5.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
			Obrien/CharlesE1	6.6	5.4	5.0	4.9	4.9	4.9	4.9	4.9	4.9	5.0	5.0
		Bridge	Obrien/CharlesE2	7.0	5.6	5.2	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.2
52	**East**	Abutment/Mobile	Obrien/CharlesE3	6.8	5.6	5.4	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
		Maintenance	Obrien/CharlesE4	6.5	5.2	5.2	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
		Headquaters	Obrien/CharlesE5	6.1	5.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
			Obrien/CharlesS1	7.5	6.0	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
		Mobile	Obrien/CharlesS2	7.8	6.2	6.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.1
53	**South**	Maintenance	Obrien/CharlesS3	7.2	6.6	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8
		Support Unit	Obrien/CharlesS4	6.1	5.9	5.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.4
			Obrien/CharlesS5	5.9	5.8	5.2	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.2
			Obrien/CharlesW1	8.4	7.4	6.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
54	**West**	Thomas Graves	Obrien/CharlesW2	8.1	7.7	6.0	5.8	5.8	5.9	5.8	5.8	5.8	5.9	5.9
		Apartments	Obrien/CharlesW3	7.7	7.9	5.9	5.6	5.6	5.6	5.6	5.6	5.7	5.6	5.7
			Obrien/CharlesW4	6.3	5.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
			Obrien/CharlesW5	6.3	5.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

DO NOT INPUT ANYTHING ON THIS WORKSHEET

PM 2.5 Annual Results

				2007.0		2030.0								
Number	Quadrant	Receptor Location	SUPERCEDED CTPS ALT. NUMBERING	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 7 Mystic Valley Parkway	Alternative 5A Lowell Line only to Medford Hillside	Alternative 6 Union Square
Number	Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Enhanced Bus No Build	Alternative 1 Medford Hillside/ Union Square	Alternative 2A Mystic Valley Pkwy/ Union Square w/ Parking	Alternative 2B Mystic Valley Pkwy/ Union Square w/o Parking	Alternative 3 Medford Hillside/ Union Square Loop	Alternative 4 Mystic Valley Parkway/ Union Square	Alternative 5A Mystic Valley Parkway	Alternative 5B Lowell Line only to Medford Hillside	Alternative 6 Union Square
Mystic Valley Parkway at Boston Avenue														
			MVP/BostonNW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonNW2	12.0	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
1	Northwest	Mystic Valley Greenway	MVP/BostonNW3	**12.1**	**11.9**	**11.9**	**11.9**	**12.2**	**11.9**	11.9	12.0	11.9	11.9	11.9
			MVP/BostonNW4	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonNW5	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonNE1	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonNE2	**12.1**	**11.9**	**11.9**	**11.9**	**12.1**	11.9	11.9	11.9	11.9	11.9	11.9
2	Northeast	Mystic Valley Greenway	MVP/BostonNE3	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonNE4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonNE5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSE1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSE2	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
3	Southeast	Simons Gas	MVP/BostonSE3	**12.1**	**11.9**	**11.9**	**11.9**	**12.1**	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSE4	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSE5	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSW1	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSW2	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
4	Southwest	533 Mystic Valley Parkway	MVP/BostonSW3	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/BostonSW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
Mystic Valley Parkway at Winthrop Street														
			MVP/WinthropNW1	12.2	12.0	12.0	12.0	12.2	12.0	12.0	12.0	12.0	12.0	12.0
		2430	MVP/WinthropNW2	12.2	12.0	12.0	12.0	12.2	12.0	12.0	12.0	11.9	12.0	12.0
5	Northwest	Mystic Valley Parkway	MVP/WinthropNW3	**12.3**	**12.1**	**12.1**	**12.1**	**12.3**	12.1	12.1	12.1	12.0	12.1	12.1
			MVP/WinthropNW4	12.2	11.9	11.9	11.9	12.2	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropNW5	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropNE1	12.2	12.0	12.0	12.0	12.2	12.0	12.0	12.0	11.9	12.0	12.0
		The Regal	MVP/WinthropNE2	12.2	11.9	11.9	11.9	12.2	11.9	12.0	12.0	11.9	11.9	12.0
6	Northeast	235 Winthrop Street	MVP/WinthropNE3	**12.2**	**12.0**	**12.0**	**12.0**	**12.3**	12.0	12.0	12.0	12.0	12.0	12.0
			MVP/WinthropNE4	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropNE5	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropSE1	12.2	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	12.0
		Mystic River	MVP/WinthropSE2	12.2	11.9	11.9	11.9	12.2	11.9	11.9	11.9	12.0	11.9	11.9
7	Southeast	Reservation	MVP/WinthropSE3	**12.3**	**12.0**	**12.0**	**12.0**	**12.3**	12.0	12.0	12.0	12.0	12.0	12.0
			MVP/WinthropSE4	12.2	11.9	11.9	11.9	12.2	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropSE5	12.2	11.9	12.0	12.0	12.2	12.0	12.0	12.0	11.9	12.0	12.0
			MVP/WinthropSW1	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropSW2	12.2	11.9	11.9	11.9	12.2	11.9	11.9	12.0	11.9	12.0	11.9
8	Southwest	Mystic River Reservation	MVP/WinthropSW3	**12.2**	**12.0**	**12.0**	**12.0**	**12.2**	12.0	12.0	12.0	12.0	12.0	12.0
			MVP/WinthropSW4	12.1	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/WinthropSW5	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
Mystic Valley Parkway EB Off Ramp at Main Street and South Street														
			MVP/Winthrop NW1	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW2	12.0	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
9	Northwest	Greenspace/ Route 16	MVP/Winthrop NW3	**12.1**	**11.9**	**11.9**	**11.9**	**12.1**	**11.9**	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW4	11.9	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop E1	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW2	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
10	East	Police Officer Academy	MVP/Winthrop NW3	**12.0**	**11.9**	**11.9**	**11.9**	**12.0**	**11.9**	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW4	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW5	12.0	11.9	11.9	11.9	12.0	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop SW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
11	Southwest	Medford Gas Napa Repair Center	MVP/Winthrop NW3	**12.0**	**11.9**	**11.9**	**11.9**	**12.1**	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW4	12.0	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9
			MVP/Winthrop NW5	12.0	11.9	11.9	11.9	12.1	11.9	11.9	11.9	11.9	11.9	11.9

Boston Avenue
at College Avenue

			College/BostonW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Post Office/Curtis	College/BostonW2	**12.0**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**
12	**West**	Hall	College/BostonW3	11.9	11.8	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			College/BostonW4	11.9	11.8	11.8	11.8	11.9	11.9	11.9	11.9	11.9	11.9	11.8
			College/BostonW5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			College/BostonN1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Train Tracks	College/BostonN2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
13	**North**		College/BostonN3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			College/BostonN4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			College/BostonN5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			College/BostonE1	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
		Minor Hall/Paige	College/BostonE2	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
14	**East**	Hall	College/BostonE3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			College/BostonE4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			College/BostonE5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			College/BostonS1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		School of	College/BostonS2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
15	**South**	Engineering	College/BostonS3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Arthur Anderson	College/BostonS4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.9	11.8	11.8
		Auditorium	College/BostonS5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8

Main Street
at Harvard Street

			Harvard/MainNW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainNW2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
16	**Northwest**	Oasis BBQ	Harvard/MainNW3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainNW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainNW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainNE1	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		A. Carge & Son	Harvard/MainNE2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
17	**Northeast**	Insurance	Harvard/MainNE3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainNE4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainNE5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainSE1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainSE2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
18	**Southeast**	Ruscuis Recording	Harvard/MainSE3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Studio	Harvard/MainSE4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainSE5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainSW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Stephen Maclone	Harvard/MainSW2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
19	**Southwest**	Photography	Harvard/MainSW3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainSW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Harvard/MainSW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9

Broadway
at Medford St and Dexter St

			MedfordSB/BroadwayEB1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordSB/BroadwayEB2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
20	**Northwest**	On The Hill Tavern	MedfordSB/BroadwayEB3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordSB/BroadwayEB4	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordSB/BroadwayEB5	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordSB/Dexter1	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MedfordSB/Dexter2	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
21	**North**	Western Union	MedfordSB/Dexter3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordSB/Dexter4	11.9	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MedfordSB/Dexter5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			BroadwayWB/Dexter1	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			BroadwayWB/Dexter2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
22	**Northeast**	Creative Signs	BroadwayWB/Dexter3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Estate	BroadwayWB/Dexter4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.8	11.9	11.9	11.9
			BroadwayWB/Dexter5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MedfordNB/BroadwayWB1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordNB/BroadwayWB2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
23	**Southeast**	J. R. Pierre Real	MedfordNB/BroadwayWB3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Estate	MedfordNB/BroadwayWB4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordNB/BroadwayWB5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordNB/LotNEB1	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MedfordNB/LotNEB2	11.9	11.9	11.8	11.9	11.8	11.8	11.8	11.9	11.9	11.8	11.8
24	**South**	CVS	MedfordNB/LotNEB3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordNB/LotNEB4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MedfordNB/LotNEB5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			BroadwaySB/LotNEB1	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			BroadwaySB/LotNEB2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
25	**Southwest**	Dunkin Donuts	BroadwaySB/LotNEB3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			BroadwaySB/LotNEB4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			BroadwaySB/LotNEB5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8

Highland Street
at Central Street

			Highland/CentralNW1	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Highland/CentralNW2	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
26	**Northwest**	Parking for Dunkin	Highland/CentralNW3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Donuts	Highland/CentralNW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Anthony's	Highland/CentralNW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Highland/CentralNE1	11.9	11.8	11.9	11.9	11.8	11.8	11.9	11.8	11.8	11.9	11.8
			Highland/CentralNE2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
27	**Northeast**	Property	Highland/CentralNE3	11.9	11.8	11.9	11.9	11.9	11.9	11.9	11.8	11.8	11.9	11.8
		Management	Highland/CentralNE4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Highland/CentralNE5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Highland/CentralSE1	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Highland/CentralSE2	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
28	**Southeast**	G Mart	Highland/CentralSE3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Highland/CentralSE4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Highland/CentralSE5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Highland/CentralSW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Highland/CentralSW2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
29	**Southwest**	Dunkin Donuts	Highland/CentralSW3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Highland/CentralSW4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Highland/CentralSW5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8

Medford Street
at School Street

			Medford/SchoolN1	11.9	11.8	11.8	11.8	11.8	11.8	11.9	11.8	11.8	11.9	11.8
			Medford/SchoolN2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
30	**North**	367 Medford	Medford/SchoolN3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Street	Medford/SchoolN4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolN5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolE1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolE2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
31	**East**	175 School Street	Medford/SchoolE3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolE4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Medford/SchoolE5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Medford/SchoolS1	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Medford/SchoolS2	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
32	**South**	Xtra Fuel	Medford/SchoolS3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Street	Medford/SchoolS4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolS5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolW2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
33	**West**	176 School Street	Medford/SchoolW3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Medford/SchoolW4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			Medford/SchoolW5	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8

Somerville
at Washington & Webster

			Sville/Wash/WebsNW1	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Sville/Wash/WebsNW2	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
34	**Northwest**		Sville/Wash/WebsNW3	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Sville/Wash/WebsNW4	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsNW5	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsNE1	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsNE2	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
35	**Northeast**		Sville/Wash/WebsNE3	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Sville/Wash/WebsNE4	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsNE5	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsSE1	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsSE2	12.1	11.9	11.9	11.9	12.0	12.0	11.9	11.9	11.9	11.9	11.9
36	**Southeast**		Sville/Wash/WebsSE3	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Sville/Wash/WebsSE4	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsSE5	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsSW1	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Sville/Wash/WebsSW2	12.3	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
37	**Southwest**		Sville/Wash/WebsSW3	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Sville/Wash/WebsSW4	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Sville/Wash/WebsSW5	12.2	11.9	11.9	11.9	12.0	12.0	12.0	11.9	11.9	11.9	11.9

Washington Street
at McGrath Highway

			Wash/McgrathNW1	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathNW2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
38	**Northwest**	J & J Restaurant	Wash/McgrathNW3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathNW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathNW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathNE1	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Wash/McgrathNE2	12.1	11.9	12.0	12.0	12.0	12.0	12.0	12.0	11.9	12.0	12.0
39	**Northeast**	Empty Building	Wash/McgrathNE3	12.1	11.9	12.0	12.0	12.0	12.0	12.0	12.0	11.9	12.0	12.0
			Wash/McgrathNE4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathNE5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathSW1	12.1	11.9	11.9	12.0	12.0	12.0	12.0	12.0	11.9	12.0	12.0
			Wash/McgrathSW2	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
40	**Southeast**	AutoZone	Wash/McgrathSW3	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathSW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathSW5	11.9	11.8	11.8	11.9	11.9	11.9	11.8	11.8	11.8	11.8	11.8
			Wash/McgrathSW1	12.1	11.9	11.9	12.0	12.0	12.0	12.0	12.0	11.9	12.0	12.0
			Wash/McgrathSW2	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
41	**Southwest**	Valvoline	Wash/McgrathSW3	12.1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathSW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Wash/McgrathSW5	11.9	11.8	11.8	11.9	11.9	11.9	11.8	11.8	11.8	11.8	11.8

Monsignor O'Brien Highway
at Third Street

			Obrien/ThirdN1	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
42	**North**	Parking Lot/	Obrien/ThirdN2	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		Cambridge	Obrien/ThirdN3	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		Antique Market	Obrien/ThirdN4	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/ThirdN5	12.1	12.0	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/ThirdSE1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Obrien/ThirdSE2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
43	**Southeast**	Lechmere Rug	Obrien/ThirdSE3	12.1	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/ThirdSE4	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/ThirdSE5	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/ThirdSW1	12.1	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
44	**Southwest**	Dunkin Donuts	Obrien/ThirdSW2	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/ThirdSW3	12.1	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/ThirdSW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			Obrien/ThirdSW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9

Monsignor O'Brien Highway
at East St/Cambridge St

			MsgrOb/CambStN1	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MsgrOb/CambStN2	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
45	**North**	MBTA Parking Lot	MsgrOb/CambStN3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambStN4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambStN5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambStE1	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
46	**East**	Archstone/	MsgrOb/CambStE2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Northpoint	MsgrOb/CambStE3	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambStE4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MsgrOb/CambStE5	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MsgrOb/CambStS1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambStS2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
47	**South**	Parking Garage/	MsgrOb/CambStS3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
		Apartments	MsgrOb/CambStS4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambStS5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambSt1	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambSt2	12.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
48	**West**	Lechmere Station	MsgrOb/CambSt3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			MsgrOb/CambSt4	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
			MsgrOb/CambSt5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9

Cambridge Street
at First Street

			CambSt/FirstSE1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSE2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
49	**Southeast**	Bank of America	CambSt/FirstSE3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSE4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSE5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSW1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSW2	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
50	**Southwest**		CambSt/FirstSW3	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSW4	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
			CambSt/FirstSW5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9

Monsignor O'Brien Highway
at Charlestown Avenue

			Obrien/CharlesN1	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
51	**North**	Archstone Condos	Obrien/CharlesN2	12.4	12.2	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/CharlesN3	12.3	12.2	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/CharlesN4	12.2	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/CharlesN5	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/CharlesE1	12.3	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		Bridge	Obrien/CharlesE2	12.3	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
52	**East**	Abutment/Mobile	Obrien/CharlesE3	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
		Maintenance	Obrien/CharlesE4	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
		Headquaters	Obrien/CharlesE5	12.3	12.1	12.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/CharlesS1	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
		Mobile	Obrien/CharlesS2	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
53	**South**	Maintenance	Obrien/CharlesS3	12.4	12.3	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
		Support Unit	Obrien/CharlesS4	12.3	12.2	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/CharlesS5	12.3	12.1	12.1	12.0	12.0	12.1	12.1	12.1	12.0	12.1	12.1
			Obrien/CharlesW1	12.4	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
54	**West**	Thomas Graves	Obrien/CharlesW2	12.3	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
		Apartments	Obrien/CharlesW3	12.3	12.3	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
			Obrien/CharlesW4	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
			Obrien/CharlesW5	12.2	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0

Mesoscale (Regional) Analysis

- CTPS Model Data

Green Line Ext EIR Analysis:
AQ Results for Eastern MA

Eastern Massachusetts Air Quality Results								
Scenario	**CO-W**	**NOx**	**VOC**	**CO2**	**PM2.5**	**PM10**	**VMT**	**AvgMPH**
Nobuild	1,068,706	19,186.2	22,687.5	70,131,287.5	1,572.2	3,385.7	123,166,996	30.39
Alt 1	1,068,504	19,182.5	22,680.9	70,117,042.3	1,571.9	3,385.0	123,141,978	30.39
Alt 1	1,068,462	19,181.8	22,679.9	70,114,172.5	1,571.9	3,384.9	123,141,978	
	-244	-4.4	-7.6	-17,115.0	-0.4	-0.8	-25,018	0
Alt 2np	1,068,483	19,181.8	22,680.6	70,116,114.7	1,571.9	3,385.0	123,140,349	30.39
Alt 2np	1,068,442	19,181.1	22,679.6	70,113,244.9	1,571.8	3,384.9	123,140,349	
	-265	-5.1	-7.9	-18,042.6	-0.4	-0.8	-26,647	0
Alt 2wp	1,068,479	19,181.9	22,679.3	70,116,166.5	1,571.9	3,385.0	123,140,440	30.40
Alt 2wp	1,068,437	19,181.2	22,678.3	70,113,296.8	1,571.8	3,384.9	123,140,440	
	-269.1	-5.0	-9.2	-17,990.8	-0.4	-0.8	-26,556.0	
Alt 3	1,068,477	19,182.0	22,680.4	70,115,404.1	1,571.9	3,385.0	123,139,101	30.39
Alt 3	1,068,434	19,181.2	22,679.3	70,112,414.8	1,571.8	3,384.8	123,139,101	
	-272.5	-5.0	-8.2	-18,872.8	-0.4	-0.9	-27,895.0	
Alt 4	1,068,425	19,180.7	22,678.4	70,113,063.9	1,571.8	3,384.8	123,134,991	30.40
Alt 4	1,068,382	19,179.9	22,677.3	70,110,074.5	1,571.7	3,384.7	123,134,991	
	-324.3	-6.3	-10.2	-21,213.0	-0.5	-1.0	-32,005.0	
Alt 5	1,068,491	19,181.7	22,680.5	70,117,003.6	1,571.9	3,385.1	123,141,910	30.39
Alt 5	1,068,452	19,180.9	22,679.6	70,114,333.1	1,571.8	3,384.9	123,141,910	
	-254	-5.2	-7.9	-16,954.5	-0.4	-0.8	-25,086	
Alt 6	1,068,643	19,185.2	22,685.1	70,125,819.0	1,572.1	3,385.5	123,157,392	30.39
Alt 6	1,068,631	19,185.0	22,684.8	70,125,021.8	1,572.1	3,385.4	123,157,392	
	-75.1	-1.2	-2.7	-6,265.7	-0.1	-0.3	-9,604	
Alt 7	1,068,427	19,181.0	22,678.5	70,112,380.0	1,571.8	3,384.8	123,133,790	30.40
Alt 7	1,068,380	19,180.1	22,677.4	70,109,111.7	1,571.8	3,384.6	123,133,790	
	-327	-6.1	-10.1	-22,175.9	-0.5	-1.1	-33,206	0
Bus BL	1,068,651	19,185.2	22,686.3	70,126,257.4	1,572.1	3,385.5	123,158,162	30.38
	-55	-1.0	-1.3	-5,030.1	-0.2	-0.2	-8,834	0
CRR BL	1,068,634	19,184.4	22,684.9	70,126,028.0	1,572.1	3,385.5	123,157,759	30.39
	-72	-1.8	-2.6	-5,259.5	-0.1	-0.2	-9,237	0

* emissions are in kilograms on an average weekday in 2030
* emission factors based on MOBILE 6.2
* doesn't include emissions from transit vehicles
* Emass contains 164 communities within the CTPS model area

			Pollutant Reductions in kilograms					
Alt	**Drop-Offs**	**VMT Saved**	**Winter CO**	**Summer NOx**	**Summer VOC**	**Summer CO2**	**Summer PM2.5**	**Summer PM10**
6	200	1,400.0	11.54	0.21	0.28	797.16	0.02	0.04
5b	650	4,550.0	37.51	0.69	0.90	2,590.77	0.06	0.12
5a	670	4,690.0	38.67	0.71	0.93	2,670.49	0.06	0.13
1,2a,2b	720	5,040.0	41.55	0.76	1.00	2,869.78	0.06	0.14
3,4	750	5,250.0	43.29	0.79	1.04	2,989.35	0.07	0.14
7	820	5,740.0	47.33	0.87	1.14	3,268.36	0.07	0.16

Green Line Extension EIR Analysis:
Off-model KNR AQ Analysis

2030 Arterial MOBILE 6.2 (MA DEP Approved)

SPEED	Summer VOC (g/mi)	Summer NOx (g/mi)	Winter CO (g/mi)	Summer CO2 (g/m)	Summer PM2.5 (g/m)	Summer PM (g/m)
25.0	0.198	0.151	8.245	569.40	0.0127	0.0274

Drop-offs	Mileage (rt)	VMT	VMTx.7	VOC	Nox	CO	CO2	PM2.5	PM10
200	10	2000	1400	277.2	211.4	11543	797,160	17.78	38.36
650	10	6500	4550	900.9	687.05	37514.75	2,590,770	57.79	124.67
670	10	6700	4690	928.62	708.19	38669.05	2,670,486	59.56	128.51
720	10	7200	5040	997.92	761.04	41554.8	2,869,776	64.01	138.10
750	10	7500	5250	1039.5	792.75	43286.25	2,989,350	66.68	143.85
820	10	8200	5740	1136.52	866.74	47326.3	3,268,356	72.90	157.28

			Pollutant Reductions in grams					
Alt	Drop-Offs	VMT Saved	Summer VOC	Summer NOx	Winter CO	Summer CO2	Summer PM2.5	Summer PM10
6	200	1,400.0	277.2	211.4	11,543.0	797,160.0	17.8	38.36
5b	650	4,550.0	900.9	687.1	37,514.8	2,590,770.0	57.8	124.67
5a	670	4,690.0	928.6	708.2	38,669.1	2,670,486.0	59.6	128.51
1,2a,2b	720	5,040.0	997.9	761.0	41,554.8	2,869,776.0	64.0	138.10
3,4	750	5,250.0	1,039.5	792.8	43,286.3	2,989,350.0	66.7	143.85
7	820	5,740.0	1,136.5	866.7	47,326.3	3,268,356.0	72.9	157.28

Pollutant Reductions in grams

Green Line Extension EIR Analysis:
Off-model KNR AQ Analysis

Alt	Drop-Offs	VMT Saved	Summer VOC	Summer NOx	Winter CO	Summer CO2	Summer PM2.5	Summer PM10
6	200	1,400.0	0.28	0.21	11.54	797.16	0.02	0.04
5b	650	4,550.0	0.90	0.69	37.51	2,590.77	0.06	0.12
5a	670	4,690.0	0.93	0.71	38.67	2,670.49	0.06	0.13
1,2a,2b	720	5,040.0	1.00	0.76	41.55	2,869.78	0.06	0.14
3,4	750	5,250.0	1.04	0.79	43.29	2,989.35	0.07	0.14
7	820	5,740.0	1.14	0.87	47.33	3,268.36	0.07	0.16

Station Level Boarding and Alighting Data		2006		2030		2030		2030		2030		2030		2030		2030		2030		2030		2030		2030	
		Base Year		No-Build		Alt 1		Alt 2a		Alt 2b		Alt 3		Alt 4		Alt 5a		Alt 6		Alt 7		Alt 5b		Bus BL		CRR BL	
By Time Period and Mode		Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings
Daily minus KNR																									
Green Line	N.Station	7,100	7,100	11,400	11,400	12,100	12,100	12,200	12,200	12,200	12,200	12,100	12,100	12,200	12,200	12,000	12,000	11,800	11,800	12,300	12,300	12,000	12,000	17,200	17,200	11,600	11,600
Green Line	Science Park	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,700	1,700	1,500	1,500	1,600	1,600	1,500	1,500
Green Line	Old Lechmere	5,900	5,900	9,100	9,100	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	10,600	10,600	9,000	9,000
Green Line	New Lechmere	na	na	na	na	10,900	10,900	11,000	11,000	11,100	11,100	10,800	10,800	11,000	11,000	10,800	10,800	10,400	10,400	11,300	11,300	10,800	10,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	2,600	2,600	2,700	2,700	2,700	2,700	2,600	2,600	2,700	2,700	3,500	3,500	na	na	4,800	4,800	3,500	3,500	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	4,200	4,200	4,300	4,300	4,300	4,300	4,200	4,200	4,300	4,300	4,300	4,300	na	na	5,200	5,200	4,300	4,300	na	na	na	na
Green Line	Lowell St	na	na	na	na	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	na	na	1,500	1,500	1,200	1,200	na	na	na	na
Green Line	Ball Sq	na	na	na	na	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	na	na	2,300	2,300	1,800	1,800	na	na	na	na
Green Line	College Ave	na	na	na	na	2,300	2,300	2,000	2,000	2,000	2,000	2,300	2,300	2,000	2,000	2,300	2,300	na	na	2,300	2,300	2,000	2,000	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	2,400	2,400	2,000	2,000	na	na	2,400	2,400	na	na	na	na	3,000	3,000	2,400	2,400	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	2,200	2,200	2,200	2,200	2,200	2,200	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	2,700	2,700	2,700	2,700	na	na	3,900	3,900	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	14,500	14,500	22,000	22,000	38,900	38,900	41,400	41,400	41,100	41,100	39,300	39,300	41,900	41,900	37,400	37,400	27,600	27,600	44,400	44,400	39,500	39,500	29,400	29,400	22,100	22,100
Daily with Off-Model KNR																									
Green Line	N.Station	7,100	7,100	11,400	11,400	12,100	12,100	12,200	12,200	12,200	12,200	12,100	12,100	12,200	12,200	12,000	12,000	11,800	11,800	12,300	12,300	12,000	12,000	17,200	17,200	11,600	11,600
Green Line	Science Park	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,700	1,700	1,500	1,500	1,600	1,600	1,500	1,500
Green Line	Old Lechmere	5,900	5,900	9,100	9,100	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	New Lechmere	na	na	na	na	10,900	10,900	11,000	11,000	11,100	11,100	10,800	10,800	11,000	11,000	10,800	10,800	10,400	10,400	11,300	11,300	10,800	10,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	2,730	2,730	2,840	2,840	2,840	2,840	2,730	2,730	2,840	2,840	3,680	3,680	na	na	5,040	5,040	3,680	3,680	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	4,410	4,410	4,520	4,520	4,520	4,520	4,410	4,410	4,520	4,520	4,520	4,520	na	na	5,460	5,460	4,520	4,520	na	na	na	na
Green Line	Lowell St	na	na	na	na	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	na	na	1,580	1,580	1,260	1,260	na	na	na	na
Green Line	Ball Sq	na	na	na	na	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	1,890	na	na	2,420	2,420	1,890	1,890	na	na	na	na
Green Line	College Ave	na	na	na	na	2,420	2,420	2,100	2,100	2,100	2,100	2,420	2,420	2,100	2,100	2,420	2,420	na	na	2,420	2,420	2,100	2,100	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	2,400	2,400	2,000	2,000	na	na	2,400	2,400	na	na	na	na	3,000	3,000	na	na	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	2,310	2,310	2,310	2,310	2,310	2,310	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	2,840	2,840	2,840	2,840	na	na	4,100	4,100	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	14,500	14,500	22,000	22,000	39,620	39,620	42,120	42,120	41,820	41,820	40,050	40,050	42,650	42,650	38,070	38,070	27,800	27,800	45,220	45,220	37,750	37,750	18,800	18,800	13,100	13,100
Non-Modelled KNR																									
Green Line	N.Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Green Line	Science Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Green Line	Old Lechmere	-	-	-	-	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	New Lechmere	na	na	na	na	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	na	na	na	na
Green Line	Brickbottom	na	na	na	na	130	130	140	140	140	140	130	130	140	140	180	180	na	na	240	240	180	180	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	210	210	220	220	220	220	210	210	220	220	220	220	na	na	260	260	220	220	na	na	na	na
Green Line	Lowell St	na	na	na	na	60	60	60	60	60	60	60	60	60	60	60	60	na	na	80	80	60	60	na	na	na	na
Green Line	Ball Sq	na	na	na	na	90	90	90	90	90	90	90	90	90	90	90	90	na	na	120	120	90	90	na	na	na	na
Green Line	College Ave	na	na	na	na	120	120	100	100	100	100	120	120	100	100	120	120	na	na	120	120	100	100	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	-	-	-	-	na	na	na	na	na	na	na	na	-	-	na	na	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	110	110	110	110	110	110	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	140	140	140	140	na	na	200	200	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	-	-	-	-	720	720	720	720	720	720	750	750	750	750	670	670	200	200	820	820	650	650	-	-	-	-

Green Line Extension EIR Analysis:
Off-model KNR AQ Analysis

2030 Arterial MOBILE 6.2 (MA DEP Approved)

SPEED	Summer VOC (g/mi)	Summer NOx (g/mi)	Winter CO (g/mi)	Summer CO2 (g/m)
25.0	0.198	0.151	8.245	569.40

Drop-offs	Mileage (rt)	VMT	VMTx.7	VOC	Nox	CO	CO2
200	10	2000	1400	277.2	211.4	11543	797,160
650	10	6500	4550	900.9	687.05	37514.75	2,590,770
670	10	6700	4690	928.62	708.19	38669.05	2,670,486
720	10	7200	5040	997.92	761.04	41554.8	2,869,776
750	10	7500	5250	1039.5	792.75	43286.25	2,989,350
820	10	8200	5740	1136.52	866.74	47326.3	3,268,356

			Pollutant Reductions in grams			
Alt	Drop-Offs	VMT Saved	Summer VOC	Summer NOx	Winter CO	Summer CO2
6	200	1,400.0	277.2	211.4	11,543.0	797,160.0
5b	650	4,550.0	900.9	687.1	37,514.8	2,590,770.0
5a	670	4,690.0	928.6	708.2	38,669.1	2,670,486.0
1,2a,2b	720	5,040.0	997.9	761.0	41,554.8	2,869,776.0
3,4	750	5,250.0	1,039.5	792.8	43,286.3	2,989,350.0
7	820	5,740.0	1,136.5	866.7	47,326.3	3,268,356.0

Green Line Extension EIR Analysis: Station Level Data

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Station Level Boarding and Alighting Data		2006 Base Year		2030 No-Build		2030 Alt 1		2030 Alt 2a		2030 Alt 2b		2030 Alt 3		2030 Alt 4		2030 Alt 5a		2030 Alt 6		2030 Alt 7		2030 Alt 5b		2030 Bus BL		2030 CRR BL	
By Time Period and Mode																											
		Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings	Boardings	Alightings
Key Operating Characteristics		Green E ends at Lech. Green D ends at Govt Ctr Rte 80 _ Arlington to Lech. Existing Lech Station		Green E ends at Lech. Green D ends at Govt Ctr Rte 80 _ Arlington to Lech. Existing Lech Station		Green E ends at Union Sq Green D ends at College Ave No Parking New Lech Station Union Sq via CRR ROW		Green E ends at Union Sq Green D ends at MVP With MVP Parking New Lech Station Union Sq via CRR ROW		Green E ends at Union Sq Green D ends at MVP No MVP Parking New Lech Station Union Sq via CRR ROW		Green E ends at Union Sq Green D ends at College Ave No Parking New Lech Station Union Sq via Somerville Ave		Green E ends at Union Sq Green D ends at MVP With MVP Parking New Lech Station Union Sq via Somerville Ave		Green E ends at Lech. Green D ends at College Ave No Parking New Lech Station		Green E ends at Union Sq Green D ends at Lech. No Parking New Lech Station Union Sq via CRR ROW		Green E ends at MVP Green D ends at MVP with Parking @ MVP New Lech Station		Green E ends at Lech. Green D ends at MVP/Rte16 with Parking @ MVP New Lech Station		Green E ends at Lech. Green D ends at Lechmere Rte 80 _ Arlington to Lech. Existing Lech Station Rte 80 Exp_ MVP to Lech. Shuttle - Union to Lech		Green E ends at Lech. Green D ends at Lechmere CRR Shuttle to W.Medford CRR adds 3 new stations Rte 80 _ Arlington to Lech. Existing Lech Station	
AM																											
Green Line	N.Station	900	2,300	1,500	3,600	1,600	3,800	1,600	3,900	1,600	3,900	1,600	3,800	1,600	3,900	1,600	3,800	1,600	3,700	1,600	3,900	1,600	3,800	2,300	5,500	1,500	3,700
Green Line	Science Park	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Green Line	Old Lechmere	1,700	1,000	2,700	1,500	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	3,100	1,800	2,600	1,500
Green Line	New Lechmere	na	na	na	na	3,200	1,800	3,200	1,800	3,300	1,800	3,200	1,800	3,200	1,800	3,200	1,800	3,100	1,700	3,300	1,900	3,200	1,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	700	400	800	400	800	400	700	400	800	400	1,000	500	na	na	1,300	700	1,000	500	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	1,500	700	1,600	700	1,600	700	1,500	700	1,600	700	1,600	700	na	na	1,900	800	1,600	700	na	na	na	na
Green Line	Lowell St	na	na	na	na	500	100	500	100	500	100	500	100	500	100	500	100	na	na	600	200	500	100	na	na	na	na
Green Line	Ball Sq	na	na	na	na	700	200	700	200	700	200	700	200	700	200	700	200	na	na	900	300	700	200	na	na	na	na
Green Line	College Ave	na	na	na	na	800	400	700	400	700	400	800	400	700	400	800	400	na	na	800	400	700	400	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	900	300	800	200	na	na	900	300	na	na	na	na	1,200	300	900	300	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	700	300	700	300	700	300	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	800	400	800	400	na	na	1,200	600	na	na	na	na	na	na	na	na
MD																											
Green Line	N.Station	2,000	2,100	3,200	3,400	3,400	3,700	3,500	3,700	3,500	3,700	3,400	3,700	3,500	3,700	3,400	3,600	3,400	3,600	3,500	3,700	3,400	3,600	4,900	5,200	3,300	3,500
Green Line	Science Park	300	500	300	500	300	500	300	500	300	500	300	500	300	500	300	500	300	500	400	500	300	500	300	500	300	500
Green Line	Old Lechmere	1,600	1,500	2,500	2,400	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2,900	2,800	2,500	2,300
Green Line	New Lechmere	na	na	na	na	3,000	2,800	3,000	2,900	3,000	2,900	3,000	2,800	3,000	2,900	3,000	2,800	2,800	2,700	3,100	2,900	3,000	2,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	600	800	700	900	700	900	600	800	700	900	900	1,100	na	na	1,200	1,600	900	1,100	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	1,100	1,000	1,100	1,100	1,100	1,100	1,100	1,000	1,100	1,100	1,100	1,100	na	na	1,400	1,300	1,100	1,100	na	na	na	na
Green Line	Lowell St	na	na	na	na	300	300	300	300	300	300	300	300	300	300	300	300	na	na	400	400	300	300	na	na	na	na
Green Line	Ball Sq	na	na	na	na	500	500	500	500	500	500	500	500	500	500	500	500	na	na	600	600	500	500	na	na	na	na
Green Line	College Ave	na	na	na	na	600	600	500	500	500	500	600	600	500	500	600	600	na	na	600	600	500	500	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	700	600	600	500	na	na	700	600	na	na	na	na	900	800	700	600	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	500	600	500	600	500	600	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	600	800	600	800	na	na	900	1,100	na	na	na	na	na	na	na	na
PM																											
Green Line	N.Station	2,300	1,400	3,700	2,200	4,000	2,300	4,000	2,400	4,000	2,400	4,000	2,300	4,000	2,400	3,900	2,300	3,900	2,300	4,000	2,400	3,900	2,300	5,600	3,300	3,800	2,300
Green Line	Science Park	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	700	400	600	400	600	400	600	400
Green Line	Old Lechmere	1,600	2,000	2,500	3,000	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2,900	3,500	2,500	3,000
Green Line	New Lechmere	na	na	na	na	3,000	3,600	3,100	3,700	3,100	3,700	3,000	3,600	3,100	3,700	3,000	3,600	2,900	3,500	3,100	3,800	3,000	3,600	na	na	na	na
Green Line	Brickbottom	na	na	na	na	700	700	800	700	800	700	700	700	800	700	1,000	900	na	na	1,300	1,200	1,000	900	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	800	1,400	900	1,400	900	1,400	800	1,400	900	1,400	900	1,400	na	na	1,100	1,700	900	1,400	na	na	na	na
Green Line	Lowell St	na	na	na	na	200	400	200	400	200	400	200	400	200	400	200	400	na	na	300	600	200	400	na	na	na	na
Green Line	Ball Sq	na	na	na	na	300	600	300	600	300	600	300	600	300	600	300	600	na	na	400	800	300	600	na	na	na	na
Green Line	College Ave	na	na	na	na	500	800	500	700	500	700	500	800	500	700	500	800	na	na	500	800	500	700	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	400	900	300	800	na	na	400	900	na	na	na	na	500	1,200	400	900	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	700	700	700	700	700	700	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	800	900	800	900	na	na	1,200	1,300	na	na	na	na	na	na	na	na
NT																											
Green Line	N.Station	1,900	1,300	3,000	2,200	3,100	2,300	3,100	2,200	3,100	2,200	3,100	2,300	3,100	2,200	3,100	2,300	2,900	2,200	3,200	2,300	3,100	2,300	4,400	3,200	3,000	2,100
Green Line	Science Park	300	300	300	300	400	400	400	400	400	400	400	400	400	400	300	300	300	300	300	500	300	300	400	400	300	300
Green Line	Old Lechmere	1,000	1,400	1,400	2,200	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,700	2,500	1,400	2,200
Green Line	New Lechmere	na	na	na	na	1,700	2,700	1,700	2,600	1,700	2,700	1,600	2,600	1,700	2,600	1,600	2,600	1,600	2,500	1,800	2,700	1,600	2,600	na	na	na	na
Green Line	Brickbottom	na	na	na	na	600	700	400	700	400	700	600	700	400	700	600	1,000	na	na	1,000	1,300	600	1,000	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	800	1,100	700	1,100	700	1,100	800	1,100	700	1,100	700	1,100	na	na	800	1,400	700	1,100	na	na	na	na
Green Line	Lowell St	na	na	na	na	200	400	200	400	200	400	200	400	200	400	200	400	na	na	200	300	200	400	na	na	na	na
Green Line	Ball Sq	na	na	na	na	300	500	300	500	300	500	300	500	300	500	300	500	na	na	400	600	300	500	na	na	na	na
Green Line	College Ave	na	na	na	na	400	500	300	400	300	400	400	500	300	400	400	500	na	na	400	500	300	400	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	400	600	300	500	na	na	400	600	na	na	na	na	400	700	400	600	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	300	600	300	600	300	600	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	500	600	500	600	na	na	600	900	na	na	na	na	na	na	na	na
Daily																											
Green Line	N.Station	7,100	7,100	11,400	11,400	12,100	12,100	12,200	12,200	12,200	12,200	12,100	12,100	12,200	12,200	12,000	12,000	11,800	11,800	12,300	12,300	12,000	12,000	17,200	17,200	11,600	11,600
Green Line	Science Park	1,500	1,500	1,500	1,500	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,500	1,500	1,500	1,500	1,700	1,700	1,500	1,500	1,600	1,600	1,500	1,500
Green Line	Old Lechmere	5,900	5,900	9,100	9,100	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	10,600	10,600	9,000	9,000
Green Line	New Lechmere	na	na	na	na	10,900	10,900	11,000	11,000	11,100	11,100	10,800	10,800	11,000	11,000	10,800	10,800	10,400	10,400	11,300	11,300	10,800	10,800	na	na	na	na
Green Line	Brickbottom	na	na	na	na	2,600	2,600	2,700	2,700	2,700	2,700	2,600	2,600	2,700	2,700	3,500	3,500	na	na	4,800	4,800	3,500	3,500	na	na	na	na
Green Line	Gilman Sq	na	na	na	na	4,200	4,200	4,300	4,300	4,300	4,300	4,200	4,200	4,300	4,300	4,300	4,300	na	na	5,200	5,200	4,300	4,300	na	na	na	na
Green Line	Lowell St	na	na	na	na	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	na	na	1,500	1,500	1,200	1,200	na	na	na	na
Green Line	Ball Sq	na	na	na	na	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	na	na	2,300	2,300	1,800	1,800	na	na	na	na
Green Line	College Ave	na	na	na	na	2,300	2,300	2,000	2,000	2,000	2,000	2,300	2,300	2,000	2,000	2,300	2,300	na	na	2,300	2,300	2,000	2,000	na	na	na	na
Green Line	MVP-Rte16	na	na	na	na	na	na	2,400	2,400	2,000	2,000	na	na	2,400	2,400	na	na	na	na	3,000	3,000	2,400	2,400	na	na	na	na
Green Line	Union Sq-CRR ROW	na	na	na	na	2,200	2,200	2,200	2,200	2,200	2,200	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Green Line	Union Sq-Somerville Ave	na	na	na	na	na	na	na	na	na	na	2,700	2,700	2,700	2,700	na	na	3,900	3,900	na	na	na	na	na	na	na	na
Green Line	Green Line, N. of N.Station	14,500	14,500	22,000	22,000	38,900	38,900	41,400	41,400	41,100	41,100	39,300	39,300	41,900	41,900	37,400	37,400	27,600	27,600	44,400	44,400	39,500	39,500	29,400	29,400	22,100	22,100
CRR-Shuttle	N.Station	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	800	800
CRR-Shuttle	Gilman Sq	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	300	300
CRR-Shuttle	Lowell St	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	100	100
CRR-Shuttle	College Ave	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	200	200
CRR-Shuttle	W.Medford	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	200	200
Bus	Rte 80	1,900	1,900	2,500	2,500	1,900	1,900	1,600	1,600	1,600	1,600	1,900	1,900	1,600	1,600	1,900	1,900	3,300	3,300	1,400	1,400	1,900	1,900	2,200	2,200	2,600	2,600
Bus-Shuttle	Rte 80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,600	1,600	na	na
Bus-Shuttle	Union Sq	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	300	300	na	na

Appendix I
Draft Section 4(f) Evaluation

1 Introduction

Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966, codified in 23 United States Code (U.S.C.) § 138 and 49 U.S.C. § 303 with implementing regulations at 23 Code of Federal Regulations (C.F.R.) 774, stipulates that, prior to taking an action that requires the use of land from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or from a historic property or archaeological site on or eligible for listing on the National Register of Historic Places, the agency proposing the action (in this case the Federal Transit Administration (FTA)) must determine that there is no feasible and prudent alternative to the use of the land from that property, and that the Proposed Action includes all possible planning to minimize harm to the property resulting from the use. Use is defined[1] as:

- When land from a Section 4(f) resource is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute's preservationist purpose; and
- When there is a constructive use of a Section 4(f) resource (when the proximity impacts of the transportation project on a Section 4(f) resource, without acquisition of land, are so great that the purposes for which the Section 4(f) resource exists are substantially impaired).

This Draft Section 4(f) evaluation provides an estimation of impacts to Section 4(f) resources that would be used by alternatives (alignment options) under consideration for the Proposed Action, and identifies avoidance alternatives and potential measures to mitigate harm resulting from Section 4(f) resource use.

[1] FTA *Section 4(f) Policy Paper*, March 1, 2005.

1.1 Introduction

The Green Line Extension Project is an initiative of the Executive Office of Transportation and Public Works (EOT) and the Massachusetts Bay Transportation Authority (MBTA) to enhance transit services in order to improve mobility and regional access for residents in the communities of Cambridge, Somerville and Medford. The Project is required by the State Implementation Plan (SIP) and fulfills a longstanding commitment of the Central Artery/Tunnel (CA/T) Project to increase public transit. The Massachusetts Air Pollution Control Regulations (310 CMR 7.36) require that EOT complete this Project by December 31, 2014.

Numerous studies over the last 40 years have explored extending transit from Lechmere Station (the current northern terminus of the Green Line) along the existing MBTA Lowell or MBTA Fitchburg Line commuter rail rights-of-way. Most recently, the *Beyond Lechmere Northwest Corridor Study* conducted a Major Investment Study/Alternatives Analysis that evaluated a wide range of technologies and operating plans for a future extension. The *Beyond Lechmere Northwest Corridor Study* did not identify a preferred alternative, but rather investigated a range of cost-effective transit solutions that would increase transit accessibility, improve corridor mobility, increase transit services, and support opportunities for smart growth initiatives and sustainable development.

NEPA regulations direct Federal agencies to integrate into their planning and decision-making the natural and social sciences, environmental amenities and values, and the design arts along with the necessary engineering and economic considerations. The objective is to balance infrastructure development, economic prosperity, health and environmental protection, community and neighborhood preservation, and quality of life. FTA uses the NEPA process as the overarching umbrella under which the mandates and considerations of all laws affecting transit project development are considered. FTA's NEPA process provides a forum for interested agencies and the public to learn about proposed transportation actions and to react to those proposals. The formal review process requires the transit agency to develop and evaluate a range of reasonable alternatives, in addition to the proposed project, in order to determine the best option for addressing transportation problems, respecting the community, and protecting the environment.

Since the submission of the Expanded Environmental Notification Form in 2006, the Project Area has been expanded to include relocating Lechmere Station (currently southwest of the highway) to the opposite side of the Monsignor O'Brien Highway. Relocating Lechmere Station is essential to the Green Line Extension Project, because the railroad rights-of-way that will be used for the project are on the east side of the Monsignor O'Brien Highway. Relocating Lechmere Station was previously reviewed under MEPA as part of the NorthPoint Development Project (EOEA 12651), but has not been reviewed under NEPA. This DEIR/EA includes an evaluation of relocating Lechmere Station to the location previously reviewed under MEPA. This evaluation

includes the need to relocate the station, alternatives evaluated, and the environmental consequences of moving the station. EOT anticipates that the final determined NorthPoint developer will fund the station relocation.

1.2 Project Overview

The Green Line Extension Project documented in this DEIR/EA (Figure 1-1) includes:

- Extending Green Line service to Medford within the existing MBTA Lowell Line commuter rail right-of-way (the Medford Branch), terminating at either College Avenue or at the Mystic Valley Parkway/Route 16, with intermediate stations at Brickbottom, Lowell Street, Gilman Square, and Ball Square; and
- Extending Green Line service to Union Square in Somerville (the Union Square Branch), either within the existing MBTA Fitchburg Line commuter rail right-of-way, or using the in-street running option (a new at-grade alignment along Somerville Avenue), with a station near Union Square.

The purpose of the Green Line Extension Project is to improve corridor mobility, boost transit ridership, improve air quality, ensure equitable distribution of transit services, and support opportunities for smart growth initiatives and sustainable development in the Project Area of Cambridge, Somerville, and Medford.

Six "Build" Alternatives and a Baseline Alternative are evaluated in the DEIR/EA. The Baseline Alternative is evaluated, as required by FTA, to identify the best option for meeting the transportation needs of the study area with smaller capital investments than are proposed in the Build Alternatives.

The six Build Alternatives evaluated in Chapter 3 of the DEIR/EA are summarized below. All of these alternatives include relocating Lechmere Station and include constructing a new layover/maintenance facility. The Build Alternatives are:

- Alternative 1 – Green Line Extension to Medford Hillside and Union Square (via commuter rail rights-of-way);
- Alternative 2 – Green Line Extension to Mystic Valley Parkway/Route 16 and Union Square (via commuter rail rights-of-way);
- Alternative 3 – Green Line Extension to Medford Hillside (via commuter rail right-of-way) and Union Square (in-street running);
- Alternative 4 – Green Line Extension to Mystic Valley Parkway/Route 16 (via commuter rail right-of-way) and Union Square (in-street running);
- Alternative 5 – Green Line Extension to Mystic Valley Parkway/Route 16 (via commuter rail right-of-way); and

- Alternative 6 – Green Line Extension to Union Square (via commuter rail right-of-way).

The Proposed Project, as described in Chapter 2, is Alternative 1 – to provide service to Union Square and to Medford using a two-branch operation, both in existing commuter rail rights-of-way. One branch would operate from Relocated Lechmere Station to Medford along the MBTA Lowell Line. This branch would begin at Relocated Lechmere Station and head northwest, transitioning into the MBTA Lowell Line just south of Washington Street in Somerville. From Washington Street, the alignment would run parallel to the MBTA Lowell Line to Medford, terminating its route at College Avenue. The second branch would operate along the Fitchburg Line from Lechmere Station into a terminus at Union Square in Somerville. The Union Square Branch would begin at Lechmere Station and head northwest, following the Fitchburg Line to the Union Square area.

1.3 Section 4(f) Applicability

Section 4(f) of the DOT Act of 1966, as amended in 1983 and 2008, specifies that the Secretary of the DOT may approve a transportation program or project requiring the use of publicly owned land (such as a park, recreation area, or wildlife or waterfowl refuge) or land of an historic site of national, state, or local significance (as determined by federal, state, or local officials having jurisdiction over the park, recreation area, refuge, or site) only if:

- There is no feasible and prudent alternative to the use of land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from the use.

Use is defined as the permanent incorporation of land from a Section 4(f) site into a transportation facility, temporary occupancy of a Section 4(f) property, or constructive use of a Section 4(f) property. For example, the acquisition of land that is within a public park, recreation area, wildlife refuge, or property listed on or eligible for listing on the National Register, for a highway right-of-way is considered permanent incorporation of land. At this time, EOT does not anticipate that Section 4(f) uses that are "temporary occupancy of land" would occur during construction as a result of the need for temporary construction easements or activities. These would be identified during the final design process, and are not defined at this conceptual stage of project development. EOT anticipates that the final design for the Proposed Action would avoid temporary occupancy of any Section 4(f) site.

2 Project Description

2.1 Preferred Alternative

The Green Line Extension Project (Figure 2-1) is intended to provide service to Union Square and to Medford using a two-branch operation, both in existing commuter rail rights-of-way. One branch would operate from Relocated Lechmere Station to Medford along the MBTA Lowell Line. This branch would begin at Relocated Lechmere Station and head northwest, transitioning into the MBTA Lowell Line just south of Washington Street in Somerville. From Washington Street, the alignment would run parallel to the MBTA Lowell Line to Medford, terminating its route at College Avenue. The second branch would operate along the Fitchburg Line from Lechmere Station into a terminus at Union Square in Somerville. The Union Square Branch would begin at Lechmere Station and head northwest, following the Fitchburg Line to the Union Square area.

Alternative 1, Green Line Extension to Medford Hillside and Union Square (using commuter rail rights-of-way), has been selected as the "Proposed Project" for the Green Line Extension Project, as it provides a balance of cost, ridership, and environmental impacts. EOT also believes that this alternative will help the Commonwealth achieve its goal of providing expanded transportation services and improve regional air quality. This alternative extends to Union Square via the MBTA Fitchburg Line right-of-way, which would require fewer acquisitions of private property, have more operational reliability, and have a lower capital cost than the Somerville Avenue option. Alternative 1 would meet all project goals, would be operationally practical, and would generate a high number of new systemwide transit trips. This is the project for which EOT is currently seeking approval by the FTA.

A total of seven stations are included in the Proposed Project, at Lechmere, Brickbottom, Gilman Square, Lowell Street, Ball Square, College Avenue and at Union Square. The route length would be about three miles to Medford Hillside with an approximately one-mile spur to Union Square. The primary infrastructure improvements of the Proposed Project would include relocating existing commuter

rail lines, and constructing approximately four miles of new light rail track and systems, 11 bridge structures and a maintenance facility to support the extension service. The Proposed Project is expected to generate new systemwide transit ridership of 7,900 boardings per day and a reduction of 25,018 VMTs per day (projected to the year 2030).

Although the FTA action that is the subject of this EA is the Proposed Project described above, EOT has selected as its Preferred Alternative, Alternative 2, Green Line Extension to Mystic Valley Parkway/Route 16, with no parking at Mystic Valley Parkway/Route 16 Station, and Union Square (using commuter rail rights-of-way). This alternative also meets all of the project goals and provides additional regional benefits. However, because of the constraints placed on EOT by federal funding requirements and the economic crisis facing the Commonwealth, at this time EOT is not able to identify sufficient funding to support the construction of the Medford Hillside to Mystic Valley Parkway/Route 16 segment within the 2014 timeframe mandated by the State Implementation Plan.

The Green Line Extension Project has been designed to minimize impacts to the communities by reducing the footprint of the project and maximizing the use of existing transportation corridors. The project would use existing railroad rights-of-way for most of its approximately five-mile length. This is possible because the MBTA Fitchburg Line and the MBTA Lowell Line had sufficient width to accommodate additional tracks for freight rail lines dating back to the late 19th century that have since been abandoned. The footprint of the abandoned tracks provides space for new tracks for this proposed Project. The existing right-of-way ranges from 55 to 110 feet in width. In places where space is limited by steep slopes, retaining walls have been proposed to maximize usable space in the railroad rights-of-way. The proposed retaining walls will include a "green" design component, which means that efforts will be made to use recycled and recyclable materials and to incorporate vegetation as part of the wall system, which will provide a more natural aesthetic for the retaining wall. Landscape treatments are proposed on the slopes above the walls and to the greatest extent practicable at each of the stations.

2.2 The Green Line Branches

The Proposed Project (Figure 2-2a-b) includes extending the Green Line along two branches – the Medford Branch (from Lechmere Station to College Avenue and the Union Square Branch (from Lechmere Station to Union Square). The Medford Branch would extend to Mystic Valley Parkway in the future Full-Build Alternative.

2.2.1 Medford Branch

The Medford Branch of the Green Line Extension Project would be constructed within the existing MBTA Lowell Line right-of-way, owned by the MBTA. The existing commuter rail tracks would be shifted approximately 13 feet toward the east side of the right-of-way, using retaining walls where necessary to avoid property impacts. The new light rail track and overhead catenary would be added within the western half of the right-of-way. For the Preferred Alternative (IOS), five stations would be constructed:

- south of Washington Street (Brickbottom Station);
- at Gilman Square;
- at Lowell Street;
- at Ball Square, north of Broadway;
- at College Avenue; and
- just south of Mystic Valley Parkway/Route 16 (Full-Build only).

Although all of the Medford Branch alternatives would be constructed within the existing MBTA right-of-way, several existing bridges over the rail line would need to be reconstructed to accommodate the new light rail tracks. These bridges include:

- former Red Bridge (Somerville);
- Washington Street (Somerville);
- Walnut Street (Somerville);
- Medford Street (Somerville);
- School Street (Somerville);
- Lowell Street (Somerville);
- Cedar Street (Somerville);
- Broadway (Somerville);
- Harvard Street (Medford);
- College Avenue (Medford);

Two additional bridges would be reconstructed for the Full Build Preferred Alternative:

- Winthrop Street (Medford); and
- North Street (Medford).

2.2.2 Union Square Branch

The Union Square Branch of the Green Line Extension Project would be constructed within the existing MBTA Fitchburg Line right-of-way, owned by the MBTA. The existing commuter rail tracks would be shifted approximately 10 to 14 feet toward the south side of the right-of-way, using retaining walls where necessary to avoid property impacts. The new light rail track and overhead catenary would be constructed within the west half of the right-of-way. A station would be constructed along the rail corridor at Prospect Street near Union Square. The Union Square Branch would require reconstructing the Medford Street bridge in Somerville.

Other alternatives also evaluated the Union Square Branch of the Green Line Extension as a single-track loop alignment, starting its outbound service at Relocated Lechmere Station and travelling on a new alignment and connect into Somerville Avenue, where embedded tracks would allow Green Line trains to operate in the roadway. From Union Square, the tracks would turn south towards the MBTA Fitchburg Line using private property along Prospect Street. This option was not selected as part of the Preferred Alternative because of its substantially higher environmental impacts.

2.2.3 Construction

Construction staging and sequencing strategies are critical to achieving the balance of an efficient construction project while minimizing the impacts to vehicular traffic, pedestrian traffic, on-street parking, public access, and emergency access to local businesses and residences. This corridor presents several construction challenges including narrow roadways, high urban traffic volumes, a variety of commercial, industrial, and residential land uses that require continuous access, limited space for construction zones and lay down areas within or near the rail corridor, and existing rail service that must be maintained throughout construction.

The use of the existing MBTA commuter rail right-of-way for the proposed Green Line tracks greatly reduces the complexity of construction as well as construction impacts. Figures 2-3 and 2-4 show the existing right-of-way and the proposed right-of-way. The existing cut would be widened by installing retaining walls on either side and excavating the slopes. On the MBTA Lowell Line, the commuter rail tracks would be shifted to the east side of the widened cut, and the new Green Line tracks would be built along the west side. Most of the right-of-way is located below the surrounding land surface, reducing potential land acquisitions as well as environmental impacts such as noise and visual changes.

Figure 2-3 Existing Section Looking North

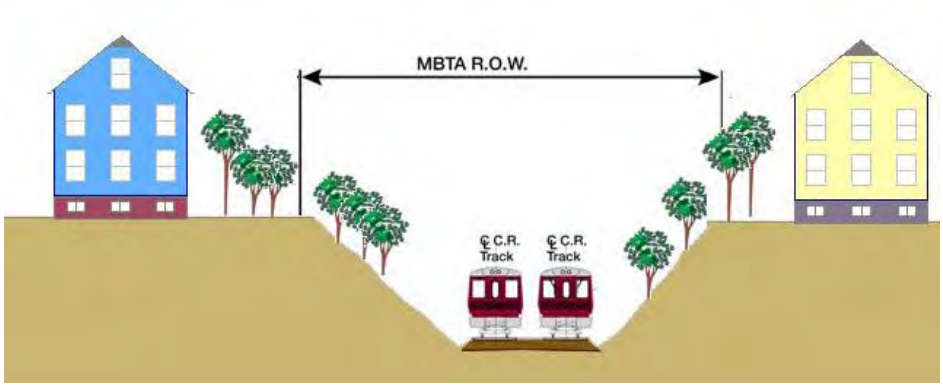
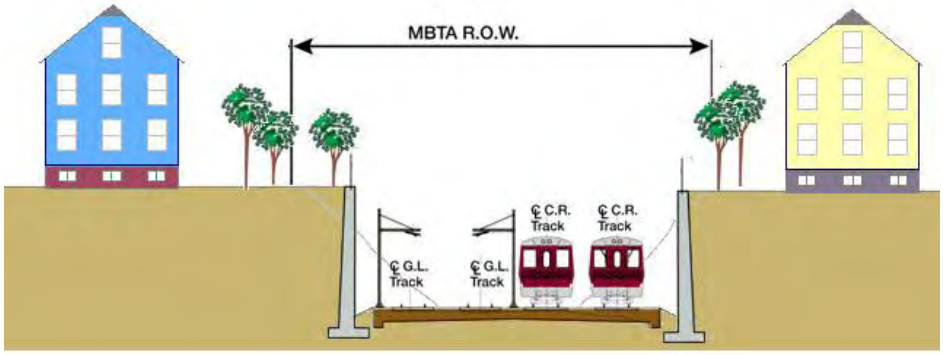


Figure 2-4 Proposed Section Looking North



Bridge reconstruction will be staged whenever possible to maintain traffic over the respective bridges during construction. Construction staging will be required for roadway traffic as well as rail traffic beneath the bridge. In some cases, the existing bridge structure, the extent of reconstruction required on the bridge, and/or the proposed bridge structure are such that staged construction is not feasible and the bridge will have to be closed during construction. A detour will be required to provide alternative traffic routes during construction. Based on analysis of the existing bridges and a conceptual level design, up to five bridges will require traffic detours during construction.

The current level of construction staging and sequencing developed for the Project address the constraints of the corridor, impacts to abutters, and other construction issues. More detailed evaluation and staging recommendations will be developed as design progresses and through coordination with the City of Cambridge, City of Somerville, and City of Medford, and the respective Fire and Police Departments. This coordination will define restrictions that will be placed on the contractor, such

as time of construction and construction zone set-up requirements, as well as maintenance of traffic and access to abutting properties. Blasting is not anticipated for construction of the Project. Rodent control policies will be included in construction management plans to prevent increased pest populations during the construction period. Likely measures would include good waste management (sealed trash containers, closed drains on dumpsters, etc.), fencing around long-term construction sites, and traps and/or baits as needed for any observed rodent problems. Construction procedures will comply with MassDEP's solid waste and air quality control regulations to prevent the spread of contaminated material or air quality impacts during construction.

Close coordination with MBTA, City of Cambridge, City of Somerville, City of Medford, and the respective Fire and Police Departments will address specific construction issues. The preliminary analysis of construction staging and sequencing shows that it is feasible to construct the Project while maintaining railroad operations, access to abutters, and traffic and pedestrian paths. As the design progresses, the traffic management details will be refined to better identify specific measures in specific areas, including detours. A comprehensive construction staging and sequencing plan will be developed and included in the final construction contract documents and communicated to the public.

2.3 Stations

Stations locations for the Green Line Extension were identified through an evaluation process and in working with the public and local officials. Important considerations in station siting and configuration included operations and access, as well as impacts to area properties. Stations are intended to function as neighborhood stations with no provisions for parking. The Full-Build Preferred Alternative could include parking at the terminal location at Mystic Valley Parkway/Route 16 Station although none is currently proposed.

The design for each station is envisioned to provide: a head house as a shelter for the paid and unpaid lobbies with automated fare lines; vending machines; an information booth; and restrooms. In addition to these design elements, the stations are also envisioned to provide:

- Landscaping;
- Bike racks at all stations, which will encourage the use of bicycles to access the station and reduce vehicular access;
- MBTA Direction Maps showing inbound and outbound stations as well as the MBTA Spider Maps showing all rapid transit lines;
- Street-facing fascia displaying the station name;
- Uniformly lit platforms at a level that enhances a feeling of safety;
- Tactile/Braille Station Identification signs; and

- Trash receptacles.

Many station platforms are envisioned to be located at a different elevation than the station access points. Entry to and exit from the platforms will be provided by elevators, escalators, and stairs. The design of the platform was based on peak hour passenger volume. Station access and platform design were based on requirements and guidance provided by:

- Americans with Disabilities Act, 1990;
- Commonwealth of Massachusetts Architectural Access Board (AAB); and
- the MBTA.

2.4 The Layover and Maintenance Facility

The Build Alternatives also include constructing a layover/maintenance facility (Figure 2-5). A separate alternatives analysis (described in Chapter 3 of the DEIR) was developed to evaluate sites for this facility. The analysis determined that the only practicable location was the area known as "Yard 8," a six-acre former railroad yard located adjacent to the proposed Green Line alignment and accessed from Inner Belt Road in Somerville. This site, combined with the adjacent grassy parcel along Inner Belt Road, could accommodate the necessary maintenance facility components. In general, the requirements include four storage tracks (providing storage capacity for approximately 80 cars), an approximate 100-vehicle employee parking lot, equipment for the various types of vehicle maintenance required, and a support facility building that includes storage room, loading docks, administrative offices, and employee facilities and amenities.

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3

Purpose and Need

3.1 Overview

The Commonwealth of Massachusetts, in obtaining environmental permits for the CA/T Project in the early 1990s, committed to implement a number of transit improvement projects in the Boston region as mitigation measures. The transit project commitments included a Green Line Extension to Medford Hillside. The Green Line Extension Project is also a requirement of the Massachusetts Air Pollution Control Regulations (310 CMR 7.36).

The study area is generally bounded by I-93 and the MBTA Orange Line to the east, the MBTA Red Line and MBTA Fitchburg Line commuter rail right-of-way to the west and south, and the MBTA West Medford commuter rail station to the north. This area includes East Cambridge and portions of Somerville and Medford. The area consists of densely settled urban corridors with a large base of commuters and transit users, but is currently underserved by fixed-guideway transit. Figure 1-1 shows the study area for the Green Line Extension Project.

With approximately 18,870 people per square mile in Somerville, 15,760 in Cambridge, and 6,850 in Medford, the study area neighborhoods are among the densest in the Boston region.[2] In addition, approximately 60 percent of the residents of Cambridge, Somerville, and Medford live in state-defined environmental justice areas, which take up approximately 42.8 percent of the cities' combined area.[3] The region is currently underserved by transit, and U.S. Census data (2000) indicate that approximately 21 percent of study area households do not own a vehicle, which can create a need for reliable and efficient transit service. Although MBTA commuter rail lines passes through the study area corridor, there are no rail transit stops within these communities. In addition, roadway congestion in the study area impacts the reliability of current on-street transit services and results in lengthy travel times

2 U.S. Census Bureau, Census 2000.

3 Environmental justice areas are defined by thresholds for income, minority populations, foreign-born populations, and English proficiency. Therefore, most environmental justice areas contain a mix of environmental justice and non-environmental justice residents.

(approximately 30 minutes) from Lechmere Station to Mystic Valley Parkway/Route 16 Station despite the relatively short distance (approximately four miles).

This chapter defines the purpose of, and need for, the Green Line Extension Project and identifies a number of related Project goals. The Purpose and Need statement is a simple method for outlining both the reasons for proposing a project and the underlying need for the Project.

3.2 Project Purpose

Traffic congestion, mode transfer, and service delays hamper access from the study area to downtown Boston, as well as to employment and services within the study area. The Purpose of this Project is to improve corridor mobility, boost transit ridership, improve regional air quality, ensure equitable distribution of transit services, and support opportunities for smart growth initiatives and sustainable development.

3.3 Need for Transit Improvements

Transit improvements are needed along the Green Line Extension corridor as a result of:

- Poor transit access and mobility;
- Limited transit capacity;
- Poor regional air quality; and
- Traffic congestion on local roads.

Existing transit service within the study area in Cambridge, Somerville, and Medford is currently offered by 15 MBTA bus routes with access to points within those communities as well as to Boston, Arlington, Woburn, and Winchester. However, existing bus routes operate within existing traffic, which hinders bus service and causes inefficient and unreliable transit service in the study area. Although MBTA commuter rail lines travels through the study area, with impacts to the environment within the study area, there are no rail transit stops within the area communities to provide the benefit of transit access. These deficiencies and needs are more fully defined in the Chapter 2 of the DEIR/EA, and include.

- Transit Access and Mobility
- Transit Capacity and Service Quality

- Air Quality
- Sustainable Development/Smart Growth
- Environmental Justice

3.4 Goals and Objectives

In addition to the Commonwealth's commitments to provide transit service to this area as part of the CA/T Project and the SIP, the Green Line Extension Project is also part of EOT's efforts to achieve a series of broad transportation goals to improve the quality and equity of transportation services. The goals, associated objectives, and potential evaluation measures are described fully in Chapter 2 of the DEIR/EA, and include:

- Improve Regional Mobility and Capacity and Expand Transit Access and Intermodal Connections
- Maximize Transportation Capacity Efficiently
- Improve Air Quality
- Advance Sustainable Development
- Provide Services to Environmental Justice Populations

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4

Efforts to Identify Section 4(f) Properties

This chapter describes how properties subject to Section 4(f) were identified, and lists the Section 4(f) properties adjacent to the Proposed Project. Parks and Recreation Public parks, recreation areas, and conservation lands are subject to Section 4(f) provisions of the U.S. Department of Transportation Act of 1966, recodified at 49 U.S.C., Section 303(c)[4] and the Commonwealths' Article 97 Land Disposition Policy.[5]

The Green Line Extension Project area of potential effects (APE) for parks and recreational areas is defined as an area extending approximately 100 feet on either side of the proposed Medford and Union Square corridors, associated station locations, and maintenance and/or interim train storage facilities. This area encompasses the construction limits of the Project and the associated area of impacts (physical disturbance, noise, changes in access, etc.). Playgrounds on public school properties are considered Section 4(f) resources if they meet the four conditions of a park or recreation area (publicly owned, open to the public, must be used for recreation, and must be considered significant). No public school playgrounds were identified within 100 feet of the proposed transit corridor and stations

This section identifies and describes public parks, recreation areas, and conservation lands within the APE. These resources were identified within the study area (Cambridge, Somerville, and Medford) using available GIS data, information from DCR, and information provided by the municipalities of Somerville and Medford.

Data used to identify parks and recreational facilities subject to Section 4(f) were obtained from public agencies having jurisdiction over public lands and recreational facilities. Review of the data revealed no properties adjacent to or intersected by the

4 *Section 4(f) of 1966, (Recodified at 49 U.S.C., Subtitle I, Section 303(c)*. United States Department of Transportation Act.

5 Executive Office of Environmental Affairs. *Article 97 Land Disposition Policy*. February 19, 1998.

Green Line Extension Alternatives subject to protection under Section 6(f) of the Land and Water Conservation Funds Act.

Five existing public parks, recreation areas, and conservation lands were identified within 100 feet of the proposed transit corridor and stations and are described below. These parks, recreation areas, and conservation lands are also compared in Table 4-1.

- Lechmere Canal Park is southeast of the Cambridgeside Galleria Mall off of Edwin H. Land Boulevard in Cambridge. This 4.39-acre area offers a scenic area for passive recreational opportunities such as picnic areas, walking, running, and bicycling. Lechmere Canal Park is owned and operated by the City of Cambridge.
- Hoyt-Sullivan Playground is on Central Street between Pembroke Street and the railroad bridge in Somerville. This 0.38-acre recreational area contains children's playground equipment and a basketball court. Hoyt-Sullivan Playground is owned and operated by the City of Somerville.
- Trum Playground is at the corner of Cedar Street and Franey Road, across from Trum Field in Somerville. This 0.39-acre area contains playground equipment and benches. Trum Playground is owned and operated by the City of Somerville.
- Grant Park, off of Boston Avenue in Medford, is a 0.20-acre public park used for passive recreation. Grant Park is owned and operated by the City of Medford.
- The Mystic River Reservation, along the Mystic Valley Parkway/Route 16 in Medford and Somerville, offers picnic areas, and trails for bicycling, running, and hiking. Three parcels of the reservation, containing 4.87 acres between the intersection of Boston Avenue and Mystic Valley Parkway/Route 16 in Medford to the intersection of Auburn Street and Mystic Valley Parkway/Route 16 in Somerville, are located within 100-feet of the proposed transit corridor and stations. The reservation is operated by the DCR.

An additional park area under development has also been identified. According to Somerville's Office of Strategic Planning and Community Development Office, an approximate 0.5-acre passive park area is in Phase 1 of construction at the former location of Somerville Junction.[6] This park is intended to connect the future Community Path at the intersection of Centre Street and Woodbine Street. Funding to construct the "Park at Somerville Junction" has been provided by the Massachusetts Urban Self Help Program, which places a conservation deed restriction on the property in perpetuity.

6 Phone conversation June 23, 2008 with Stephen Winslow, Somerville Office of Strategic Planning and Community Development.

Table 4-1 Existing Park and Recreation Areas within the Study Area

Property	Size *(acres)*	Ownership	Type of Property	Primary (Designated) Use of Property	City
Mystic River Reservation (3 parcels)	4.87 total (2.40, 1.80, 0.67)	DCR	Conservation Land	Passive Recreation, Picnic Areas, Running, Walking, Bicycling	Medford/Somerville
Grant Park	0.20	City of Medford	Public Park	Passive Recreation	Medford
Trum Playground	0.39	City of Somerville	Public Recreation Area	Passive Recreation, Playground	Somerville
Hoyt Sullivan Playground	0.38	City of Somerville	Public Recreation Area	Active Recreation, Playground, Basketball	Somerville
Lechmere Canal Park	4.39	City of Cambridge	Public Park	Passive Recreation, Picnic Areas, Running, Bicycling, Walking	Cambridge

DCR = Massachusetts Department of Conservation and Recreation, Division of Urban Parks and Recreation

4.1 Historic and Archaeological Resources

A historic and archaeological resources reconnaissance survey for the Green Line Extension Project was undertaken as the first step in fulfilling compliance responsibilities regarding cultural resources under Section 106 of the National Historic Preservation Act (NHPA) as amended, the regulations of the Advisory Council on Historic Preservation (Council) at 36 CFR 800, NEPA, and Section 4(f) of the Department of Transportation Act. The FTA is the lead Federal agency for the Green Line Extension Project. EOT serves as the lead state agency and is responsible for identifying and evaluating properties through archaeological and historic architectural surveys in accordance with MGL Ch. 9 Sections 26-27C, as amended; 950 CMR 71.00, 950 CMR 70.00, and MEPA.

4.1.1 Methodology

The purpose of the cultural resources reconnaissance survey was to identify known historic and archaeological resources within the MBTA's Green Line Extension Project Area of Potential Effects (APE). The survey was also designed to provide recommendations regarding the locations of potential sensitivity for archaeological resources and identified historic resources requiring additional intensive survey

and/or significance evaluation. To achieve these goals, archival research, field survey of the APE, and analysis were completed.

The APE, in accordance with 36 CFR 800.16(d) is the area or areas within which an undertaking may directly, indirectly, or cumulatively cause changes in the character or use of historic properties (defined as resources listed or eligible for listing in the National Register), if any such properties exist there. In addition to the actual site of the undertaking, the APE also includes other areas where the undertaking could cause changes in land use, traffic patterns, or other aspects that could affect historic properties. Different project factors may produce more than one APE for a given undertaking. Factors with potential to cause changes are noise, vibration, visual (setting), traffic, atmospheric, construction, indirect, and cumulative.

The Green Line Extension APE for historic resources is defined as an area extending approximately 125 feet or one assessor's lot on either side of the proposed Medford and Union Square Branch routes, associated proposed station locations, and maintenance and/or interim train storage facilities. This area encompasses the direct APE, defined as the construction limits of the Project, as well as the indirect APE. The Green Line Extension APE for archaeological resources is the direct APE where ground disturbances are planned for the construction of project elements. These elements include the active and inactive railroad right-of-way segments, new station locations, the new layover/maintenance facility, and any other ancillary work areas and land takings identified as part of the alternatives refinement.

Archival research included review of existing cultural resource inventories, reports, and collected information on previously documented archaeological and historic resources in the Green Line Extension Project Area. These include the Inventory of the Historic and Archaeological Assets of the Commonwealth, and State and National Register of Historic Places (National Register) files maintained by the Massachusetts Historical Commission (MHC) as well as the files of the Boston Landmarks Commission (BLC). Other archival materials, including local histories, historic maps and photographs, and census data were collected to establish a historical context for the towns encompassing the Project Area. Environmental, geotechnical, and utilities information was reviewed to establish environmental contexts and understand prior ground disturbance.

A walkover/driveover reconnaissance field survey was conducted for the Green Line Extension Project to identify historic resources and areas potentially sensitive for archaeological resources. The historic resources survey included an initial driveover along the Project corridor to become familiar with the general character and number of historic resources within it, and a walkover of the entire length of both of the existing rail rights-of-way, including proposed station locations. Field survey for archaeological sensitivity was conducted for work areas outside the rights-of-way, including stations and land-takings to obtain existing conditions information on ground surface integrity, modern disturbances, and current environmental settings.

Because of safety and permit requirements, the existing conditions information for right-of-way work areas was obtained from digital photographs and field notes. The archaeological survey was conducted under Massachusetts State Archaeological Permit No. 3014.

Analysis for historic architectural resources included the application of the National Register Criteria for Evaluation in order to provide preliminary National Register eligibility recommendations and recommendations for further identification survey and for evaluation of the significance of cultural resources within the APE.

The National Register criteria established by the National Park Service state that, "the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- that are associated with events that have made a significant contribution to the broad patterns of our history; or
- that are associated with the lives of persons significant in our past; or
- that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose component may lack individual distinction; or
- that have yielded, or may be likely to yield information important in prehistory or history."

The analysis for the archaeological sensitivity assessment utilized information collected during the archival research and the walkover survey/existing conditions review to develop a predictive model of potential site types and their cultural and temporal affiliation. The development of predictive models for locating archaeological resources has become an increasingly important aspect of cultural resource management planning. The predictive model considers various criteria to rank the potential for the Project study area to contain archaeological sites. The criteria are proximity of recorded and documented sites, local land use history, environmental data, and existing conditions. The Project study area was stratified into zones of expected archaeological sensitivity to determine which areas would be tested.

4.1.2 Historic Resources

The Green Line Extension APE is a linear corridor that spans dense, urban development over hilly terrain, along the railroad corridor from Cambridge, through Somerville to Medford. The south/east end of the APE, which extends parallel to Monsignor O'Brien/McGrath Highway, consists primarily of boxy, multi-story

commercial and industrial structures constructed from the early to late twentieth century. The highway separates the rail corridor from residential neighborhoods to the south and limits pedestrian traffic. The majority of the APE is comprised of late-nineteenth to early-twentieth-century residential neighborhoods with modest wood-frame, two- to three-story single and multi-family houses. The neighborhoods within the APE are adjacent to pockets of commercial development and small civic or institutional centers. The Tufts University Medford campus is near the north end of the APE on either side of Boston Avenue.

A total of 423 individual properties, two railroad corridor landscapes, and 15 areas/districts were identified during the architectural survey. Of these properties, four are individually listed in the National Register, 16 are recommended eligible for listing, and 52 were previously recorded in the MHC Inventory. The locations of all individual properties identified within the APE are shown on DEIR Figures 4.15-1 through 4.15-10. Of the areas/districts, two are districts, two are multiple property submissions listed in the National Register, one is a local historic district listed in the State Register, and five are recommended eligible as historic districts.

Two properties previously recommended as National Register-eligible have lost integrity and are no longer eligible. These are the B&M Railroad Building (now the Glass Factory Condominiums) at 167-169 Monsignor O'Brien Highway, Cambridge (Map No. 10) and the Kiley Wagon Shop Complex at 5-9 Linwood Street, Somerville (MHC No. SMV.1020) (Map No. 21). Several previously inventoried resources were observed in the field to be no longer extant.

The following section presents a summary of the two railroad landscape corridors followed by information about resources that have been listed, determined eligible for listing, or are recommended eligible for listing in the National Register. Resources are organized by the geographical order from south to north along the Project alignment. Individual resources have map numbers references for figures (see DEIR Figures 4.15-1 through 4.15-10) and tables.

4.1.2.1 National Register Listed Properties

Eight properties located along the APE that may be affected by the Project are listed on the National Register of Historic Places.

- Charles River Basin Historic District, Cambridge (MHC No. CAM.AJ)
- Somerville Multiple Resource Area (MHC No. SMV.AY)
- Samuel Ireland House, 117 Washington Street, Somerville (MHC No. SMV.12; SMV.AY)

- City Hall, 93 Highland Avenue, Somerville (MHC No. SMV.37; SMV.AY, SMV.C)
- Susan Russell House, 58 Sycamore Street, Somerville (MHC No. SMV.40; SMV.AY),
- Mystic Valley Parkway Historic District (MHC No. SMV.BJ)
- Metropolitan Parks System of Greater Boston Multiple Property Submission
- B&M Railroad Bridge (No. S-17-014, MBTA No. 2.11, Br.5.08) over Mystic Valley Parkway/Route 16 (MHC No. SMV.906)

4.1.2.2 National Register Determined Eligible Properties

Three properties were not on the National Register but were determined to be eligible for listing on it as part of this study.

- Lechmere Viaduct (a/k/a East Cambridge Viaduct), Cambridge and Boston (MHC No. CAM.913)
- McGrath Highway/Route 28 Bridge over B&M Railroad, Somerville (MHC No. SMV.911)
- Somerville High School, 81 Highland Avenue, Somerville (MHC No. SMV.69)

4.1.2.3 Local Historic Districts (State Register Listed Only)

Three properties are identified on the State Register as Local Historic Districts.

- Buddy's Truck Stop/Sawin's Diner, 113 Washington Street, Somerville (MHC No. SMV.303; SMV.BA)
- The Montrose, 156 School Street, Somerville (MHC No. SMV.321; SMV.BA)
- Michael Cotter House, 282 Lowell Street, Somerville (MHC No. SMV.1272; SMV.BA)

4.1.2.4 Properties Recommended Eligible for National Register Listing

Fifteen additional properties are not on the National Register but are recommended to be eligible for listing on it.

- Lechmere Station, Lechmere Square at Cambridge and Gore Street, Cambridge (MHC No. CAM.914)
- John Morrell and Company, 221 Monsignor O'Brien Highway, Cambridge (Not in MHC Inventory)

- Whitehead Metal Products Company, 225 Monsignor O'Brien Highway, Cambridge (Not in MHC Inventory)
- Jackson and Newton Company, 51 McGrath Highway/Route 28, Somerville (MHC No. SMV.1019)
- Atlantic and Pacific (A&P) Grocery Warehouse, 3-25 Fitchburg Street, Somerville (MHC No. SMV.664)
- Hill-Michie Company Auto Garage, 295-97 Medford Street, Somerville (MHC No. SMV.669)
- Gilman Square Area, Somerville (MHC No. SMV.M)
- Stickney Subdivision Area, Somerville (MHC No. SMV.Y)
- Powderhouse/Winter Hill Industrial Area, Somerville (MHC No. SMV.F)
- Kelly's Diner, 674 Broadway, Somerville (Not in MHC Inventory)
- Hillson Building, 693-701 Broadway, 651 Boston Avenue, Somerville (MHC No. SMV.717, SMV.K)
- Middlesex Canal, Somerville (MHC No. SMV-HA-5)
- Warner & Childs Division Factory, 574 Boston Avenue, Medford (Not in MHC Inventory)
- Tufts University, Bray Memorial Laboratory of Mechanical Engineering, 504 Boston Avenue, Medford (Not in MHC Inventory)
- Tufts University, Commons Building/Curtis Hall, 474 Boston Avenue, Medford (Not in MHC Inventory)

4.1.3 Archaeological Resources

There are no previously recorded pre-contact period archaeological sites within the Green Line Project APE for archaeological resources. The pre-contact/contact period estuarine environment of the Mystic and Charles Rivers and Boston Harbor would have been highly conducive for Native American subsistence activities and settlement. It is generally expected that portions of the project APE could possibly contain intact pre-contact/contact period archaeological deposits such as shell resource processing/middens, fish weirs, and seasonal encampments. According to MHC site files, one such resource area, a pre-contact period shell midden (19-MD-171), was identified in 1968 near the tip of Lechmere's Point, about half a mile to the north and east of Lechmere Station.

The Green Line Extension Project area and the surrounding land have experienced large-scale and widespread post-contact period earthmoving activities. The most prominent disturbance factors include extensive filling and/or cutting of the existing rail line. It is therefore expected that the degree of post-contact period disturbances

have substantially decreased the likelihood of encountering intact pre-contact/contact period archaeological deposits in the majority of the APE.

There is one recorded historic archaeological site that crosses the MBTA Lowell Line right-of-way in Medford. It consists of a portion of the Middlesex Canal (SMV-HA-5) over which the rail corridor was built (via a stone arch bridge). The built-over sections of the Middlesex Canal in Cambridge, Somerville, and Medford and have recently been included in this National Register eligible resource area. In addition, there is one recorded historic site immediately adjacent (south side) to the MBTA Fitchburg Line right-of-way in Somerville. It consists of the Union Glass Works (SMV-HA-1), a mid-nineteenth- thru early-twentieth-century industrial complex.

It can be generally expected that evidence of recorded sites as well as additional documented resources based on historical maps and underdocumented resources from the seventeenth-century through the late nineteenth-century and early twentieth-century could be present in belowground strata within sensitive sections of the APE. Resource types could range from residential (early farmsteads to urban dwellings), commercial, industrial, and transportation-related resources both in terrestrial and riverine environments. As with the pre-contact/contact period site potential, it is expected that the degree of modern period (twentieth-century and ongoing) disturbances would substantially decrease the likelihood of encountering intact historic period archaeological deposits in the majority of the APE.

The reconnaissance archaeological survey identified five sensitive areas where potentially significant archaeological resources may be located within proposed project impact areas. These sensitive areas include:

- Historic Middlesex Canal (SMV-HA-1) stone bridge crossing, canal prism, and tow path within and adjacent to the MBTA Lowell Line in Medford;
- Mid- to late-nineteenth-century worker housing on Joy Street in Somerville;
- Late-nineteenth/early-twentieth-century North meat-packing plant factory complex off Somerville Avenue in Somerville;
- Early/mid-nineteenth-century Clark Bennett residence, outbuildings, and yard areas on Prospect Street in Somerville and potential for pre-contact/contact period Native American resources in yard areas; and
- Late-nineteenth-century dwelling (possible worker housing) on the subdivided Clark Bennett estate property on Prospect Street in Somerville.

There is also the potential for archaeologically-sensitive strata below railroad and upper fill deposits in the Yard 8 area where the new maintenance facility is proposed. No other areas of archaeological sensitivity were identified for the Green Line Project APE because of the presence of extensive fill and/or previously disturbed belowground soil contexts.

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5

Proposed Use of Section 4(f) Properties

This section describes any potential direct, indirect and/or construction related effects of the Project to determine if there would be a "use" of any Section 4(f) resource.

5.1 Methodology

For public parks and recreation areas, a use would be any permanent land acquisition of protected open space through fee or easement, or physical disturbance of protected open space that would affect the property's designated use.

An indirect impact or "constructive use" is an effect of the Project, other than land acquisition or physical disturbance that would substantially impair the protected activities, features, or attributes that qualify the property for protection under Section 4(f). Indirect impacts include noise impacts, access restrictions, vibration impacts, ecological intrusions, and visual impacts that substantially diminish the activities, features or attributes of a resource that contribute to its significance or enjoyment. For outdoor recreational areas such as parks, athletic fields, and outdoor music shells, noise levels of up to 75 dB DNL are compatible with these uses. Moderate or substantial noise increases above that level may result in an impact to the use of that facility under Section 4(f).

For historic resources that are National Register listed or eligible, the limits of existing right-of-way were obtained from EOT mapping. The limits of each property and existing property lines for historic properties were obtained from municipal tax assessment maps. The National Register property boundaries of historic properties were developed in consultation with the MHPC based on the nature of the property's significance, integrity, setting, landscape features, functions, and research value. National Register property boundaries are used to define the boundaries of historic properties for the purposes of review under Section 4(f) because legal property

boundaries do not always coincide with the distribution of buildings, landscape features, or elements of setting that contribute to the significance of an historic property. Where the property acquisition for the Proposed Action did not require taking land within the National Register property boundary, a finding of "no effect" was made and there would be no "use" under Section 4(f). Findings of EOT and FTA regarding properties to which there would be "no adverse effect" were provided to MHC for concurrence.

Archaeological sites are subject to Section 4(f) only if the State Historic Preservation Office concurs with FTA's finding that preservation of archaeological material in place is warranted. There are no known archaeological resources within the project area for which this determination has been made.

5.2 Use of Parks and Recreation Areas

The Proposed Project would not result in direct impacts to any Section 4(f) park or recreation property. Direct impacts could include acquisition or physical disturbance, air quality or vibration impacts, or alteration of the visual setting, ecology, or access of these properties.

As documented in DEIS/EA Section 5.7, *Noise*, one Section 4(f) property, Trum Playground, would be indirectly impacted by moderate noise level increases. Sound levels would increase by 3.5 dBA, from 68.6 dBA [Leq] to 72.0 dBA [Leq] under Alternatives 1 through 5. Trum Playground, located at the corner of Cedar Street and Franey Road across from Trum Field in Somerville, is a passive recreational playground owned and operated by the City of Somerville. According to the FTA's noise criteria, Trum Playground is a Category 3 land use, which applies to recreational resources that are not sensitive to noise. Without mitigation, Trum Playground would experience these impacts 40 feet from the commuter train track centerline.

Any indirect noise impacts to this resource would be mitigated to a condition equivalent, or better than, that which would occur if the Project were not built, as determined after consultation with the official(s) with jurisdiction of the Section 4(f) resource. Noise barrier construction is the most common path noise control treatment and can be very effective at reducing noise levels in the community. Noise barriers ranging between six and 12 feet in height would be effective in reducing noise levels from the proposed Project generally seven to 11 decibels. The Proposed Project includes raising the existing six-foot noise barrier at the right-of-way to a height of 10 feet, which will reduce noise to a level that will not impact the use of the property.

5.3 Use of Historic Properties

Takings, new construction, and site and road work at the stations that are directly adjacent to National Register-listed or eligible historic districts or individual properties are expected to be minor and to have no effect on those districts and properties. Gilman Square Station will have an effect on the Gilman Square Area and Central Hill Area through the introduction of new visual elements. The two areas are recommended as National Register-eligible and flank the right-of-way at the station site; however, the station will be at track level in the right-of-way cut between the backs of an industrial building and the High School and will have no adverse effect. No other stations are located near historic areas or individual properties that are listed or eligible for the National Register.

The construction of a maintenance support facility at or near Yard 8 in Somerville will not affect historic properties.

The bridge reconstruction work will not affect historic resources, as neither of the two National Register-eligible bridges on McGrath Highway in the APE are included. All the bridges proposed for reconstruction have been previously altered.

The introduction of additional rail service will result in increased noise and vibration during operations that could affect adjacent individual historic architectural resources that abut the right-of-way and listed in the National Register, i.e. the Susan Russell House, or that are eligible for National Register listing – Whitehead Metal Products, Jackson and Newton Co., A&P Grocery Warehouse, Hill Michie Co. Auto Garage, Reid & Murdock Warehouse, Somerville High School and Superintendent's Office, Derby Desk Company, Agar Manufacturing Co., Carlisle Ayer Co., Warner and Childs Division Factory Mill and Garage.

Most historic properties are expected to experience no effect or no adverse effect from noise and vibration. Historic properties meeting the criteria for noise and vibration screening and affected by noise are:

- A & P Warehouse (Brickbottom Lofts), National Register-eligible, severe impact;
- Susan Russell House, National Register-listed, moderate impact;
- Michael Cotter House, listed in the State Register and not a designated receptor, but next to residential receptors with severe impact; and
- Warner & Childs (Tufts Bacon Hall), moderate impact.

None of these properties are considered sensitive to noise – the increase in noise would not alter the characteristics that qualify these properties for listing in the National Register.

Proposed mitigation for noise impacts includes sound insulation for individual properties and up to 19 noise walls, each 6 to 12 feet high. The seven-foot-tall noise wall proposed at the National Register-listed Susan Russell House and an eight-foot-tall noise wall proposed near the State Register-listed Michael Cotter House would have a visual effect. Mitigation measures for insulating sound in individual historic buildings, including new windows and doors, would affect the appearance, character, and physical fabric of such structures.

New construction, including stations, relocation of Lechmere Station, support facility, bridge replacements, and any roadway/intersection changes, would have indirect visual impacts on the setting of nearby historic architectural resources, but the effects are not expected to be adverse and are not a constructive use.

Noise mitigation would include noise walls and sound insulation, treatments which in themselves have the potential for adverse effect. Noise walls that are proposed adjacent to the Susan Russell House, Michael Cotter House, and Hill-Michie Co. Auto Garage would be of a material and color that is compatible with the historic character of the properties to minimize any additional visual affect from noise walls. The introduction of new doors, windows, or other insulating treatments would be appropriate for the historic property and meet the Secretary of the Interiors Standards for Rehabilitation. Affected historic properties proposed to be subject to sound insulation mitigation consist of the A & P Warehouse (Brickbottom Lofts) and Warner and Childs Garage (Tufts Bacon Hall). Vibration mitigation would consist of measures incorporated into the rail bed, ballast, and track design and therefore there would be no effects and no need for additional mitigation. Mitigation for temporary construction impacts would include pre-construction status documentation and monitoring during construction in sensitive areas.

Should any significant and National Register-eligible archaeological resources be identified during the intensive survey or subsequent site evaluation testing, then measures to avoid, minimize, or mitigate any adverse effects of the Project on the National Register-eligible resource(s) will need to be determined by the FTA and EOT, in consultation with the MHC and other consulting and interested parties. Mitigation measures for archaeological sites that will be adversely affected by construction activities will include an archaeological data recovery program designed in accordance with state and federal guidelines and standards for the excavation of National Register-eligible archaeological sites.

Aside from the relocation of Lechmere Station, the Proposed Project would have no direct effects on any historic properties. Indirect effects may include changes to the visual setting surrounding the rail right-of-way due to construction of noise barriers at the National Register-listed Susan Russell House and near the State Register-listed Michael Cotter House. The barriers would be necessary to prevent adverse noise effects on sensitive receptors. The noise barriers will be designed to match the local environment as much as possible in order to minimize visual changes to the

neighborhood. The design of the noise barriers will be developed through consultation with the affected neighborhoods. The construction of new stations, replacement bridges, and the maintenance facility will alter the local environment but will not have an adverse impact on historic structures.

5.4 Relocated Lechmere Station

This section describes the proposed work at the Lechmere Station that would constitute a use of a Section 4(f) property.

The MBTA Green Line Lechmere Station in Cambridge (Figure 5-1) is a multimodal, terminus transit station serving both light rail and bus customers and has the following components:

- Two separate inbound and outbound building structures and platform areas for light rail and buses;
- Two drop-off/pick-up areas for light rail and buses; and
- Four-track storage area in the center of the station allowing storage of two- to four-train cars.

Lechmere Station is the terminus of the MBTA Green Line. From Boston, the Green Line travels north over the Charles River Basin via the East Cambridge Viaduct, which runs parallel to the north side of Monsignor O'Brien Highway. In the vicinity of Lechmere Station, the East Cambridge Viaduct crosses to the south side of Monsignor O'Brien Highway at the intersection of Monsignor O'Brien Highway and Cambridge Street and terminates at Lechmere Station. There is also a 300-car at-grade parking lot located on the east side of Monsignor O'Brien Highway, requiring patrons to cross the highway to access the station.

5.4.1 Summary of Historical Significance

Existing Lechmere Station (Map No. 2) is an MBTA Green Line light rail complex in Cambridge between O'Brien Highway (Bridge Street/SR 28) and Cambridge Street. The station is at the north end of the Lechmere Viaduct, which carries the Green Line across the Charles River. The station was opened July 10, 1922 as a transfer point between street cars from Cambridge and Somerville and the Tremont Street Subway. Prior to the opening of the new station, cars from the Tremont Street Subway passed over the Lechmere Viaduct (completed 1910) and continued in streetcar service through Cambridge and Somerville. The station continues to serve in its intended capacity today. The station complex appears to be eligible under Criteria A and C at the local level. The station's construction and design as a transfer point was an important step in the rationalization of Tremont Street Subway operations and has continued to serve as a critical operations point to the present day. The station

platforms are rare surviving early twentieth century street rail shelters. The bus shelter is eligible as part of the complex and, in conjunction with the original platforms, is illustrative of changing approaches to mass transit shelter construction.

The MBTA Green Line, formerly known as the Tremont Street Subway, was the first subway line in the United States. This line opened on September 1, 1897 and was constructed in stages throughout the City of Boston and outlying areas. The Boston Elevated Railway Company, predecessor to the MBTA, constructed the East Cambridge Viaduct train bridge between 1910 and 1912 to extend streetcar service from North Station in Boston to Cambridge.

The East Cambridge Viaduct was constructed as two sections that are part of a single engineering structure. The two integral, but stylistically distinct sections include the, concrete-encased steel portion of the viaduct that extends from the east bank of the Charles River in Boston and continues approximately 1,700 feet across the river, parallel to Monsignor O'Brien Highway, to the intersection of Monsignor O'Brien Highway and Edward H. Land Boulevard. The exposed steel girder bridge connecting the viaduct with Lechmere Station extends from the western end of the concrete portion of the viaduct, at the intersection of Monsignor O'Brien Highway and Edward H. Land Boulevard west approximately 1,000 feet. At Cambridge Street, the viaduct crosses to the south side of Monsignor O'Brien Highway before entering Lechmere Station.

The steel portion of the viaduct is a deck plate girder structure with plate girder piers on steel posts. The bridge deck is concrete on concrete-encased wood with gravel overlay and includes cantilevered walkways for track service and emergency egress supported on steel scroll brackets. The plate girders have an I-beam cross section and are stabilized with cross bracing between each girder. The steel piers are flush with the girders along straight section of the structure, and are offset from the structure at a slight curve into Lechmere Station.

In 1912, the Boston Elevated Railway constructed the East Cambridge Viaduct, now known as the Lechmere Viaduct, which allowed the trolley car service to extend from North Station to connect with several streetcar rail lines that operated in Cambridge and Somerville. In 1922, the streetcar service was discontinued and a new Lechmere Station was built at the end of the viaduct with a turn-around loop track allowing trolley cars to turn and head back to Boston. The viaduct and support columns have complicated traffic operations in this area since their construction. The Massachusetts Historical Commission has determined that the East Cambridge Viaduct is eligible for listing in the National Register of Historic Places.

Lechmere Station has been an important facility in East Cambridge since it opened. The Station was constructed above-ground with two platforms on opposite sides of the station and two tracks making a loop between them. The inbound platform area was primarily made of wood and brick with a flat roof supported by braced posts. In

1937, the southern portion of the station was enclosed to provide a waiting area. The outbound platform was also made of wood and brick and supported by braced posts. In 1932, a bus shed was added to the existing station. The two-lane bus addition was also made of wood, brick and steep with industrial windows running the length of the building. The addition of the bus shed required changes to the alignment of the Monsignor O'Brien Highway and negatively impacted traffic operations in the area.

Since the 1980s, the MBTA has been planning the design for a relocated Lechmere Station to create a multimodal hub to allow an easy transfer connection from rail to bus, provide a more efficient and safer operation, and encourage the redevelopment of adjacent underused industrial properties.

5.4.2 Impacts to Section 4(f) Resources

The Proposed Project requires that Lechmere Station be relocated to the north (east) side of Monsignor O'Brien Highway, between East Street and Water Street in order to connect the existing Green Line tracks with the Fitchburg and Lowell Line rights-of-way. Retaining Lechmere Station in its current location would preclude extending the Green Line. In addition, approximately 450 feet of the existing steel viaduct (the portion crossing over the O'Brien Highway) would be demolished and a new elevated structure built to construct an elevated guideway connecting the Viaduct with the proposed Green Line Extension tracks. The new station platforms would be located on the elevated structure, and would be enclosed in a steel and glass wall and covered by an arched canopy. A new bus terminal would be constructed under the northern half of the station. Figures 5-2 and 5-3 show the relocated station in plan view and profile.

The existing station would be demolished and the land cleared. The land would then be available for redevelopment. Impacts to the historic resource include the loss of the station, the loss of a portion of the viaduct, and changes to the visual setting of the remaining viaduct where the historic and new structures would come together. This will result in an Adverse Effect on the Lechmere Station and the Lechmere Viaduct (East Cambridge Viaduct), a National Register-Eligible property and a use under Section 4(f).

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6 Avoidance Alternatives

Section 4(f) of the Department of Transportation (DOT) Act of 1966, as amended in 1983, specifies that the Secretary of DOT may approve a transportation program or project requiring the use of publicly owned land of a park, recreation area, or wildlife or waterfowl refuge, or land of a historic site of National, State or local significance (as determined by the Federal, State or local officials having jurisdiction over the park, recreation area, refuge, or site) only if:

- There is no feasible and prudent alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

This federally-funded transportation project requires the use of a portion of the East Cambridge (Lechmere) Viaduct, a National Register-eligible structure. The Lechmere Station Relocation Project requires demolishing a 450-foot section of the steel deck girder and column portion of the viaduct.

This chapter evaluates whether there are feasible and prudent alternatives that would avoid the use of this property.

The Green Line Extension Project, as described in Chapter 2, is a federally-mandated mitigation project that is required to extend Green Line service from Lechmere Station to Medford and Somerville.

6.1 No-Build Alternative

The No-Build Alternative includes the NorthPoint development, which has been reviewed under MEPA and has received state and local approvals and clearances. The approved and permitted NorthPoint development includes relocating the Lechmere Station as an integral part of the project, to accommodate the project's access roadways and provide safe and efficient transit access. The No-Build Alternative, therefore, would not avoid the use of this property.

6.2 Option 1: Retain Existing Lechmere Station With an At-Grade Green Line Extension

This alternative evaluated retaining the existing Lechmere Station in its current location by extending the Green Line at-grade from the existing station to the Railroad right-of-way in the Inner Belt Area. The at-grade station is on the west side of the Monsignor O'Brien Highway. As shown in Figure 6-1, there are no exclusive transit rights-of-way on the southwest side of the O'Brien Highway between the existing Lechmere Station and the MBTA Fitchburg Line right-of-way, a distance of 2,700 feet. The intervening area is entirely developed with a range of uses including the Cambridge Fire Department, residences, commercial buildings, a public recreational property (the Gore Field and Playground) and a large commercial/retail mall.

Two bridge structures will have to be constructed to connect the at-grade Green Line Extension to the MBTA Lowell Line railroad right-of-way at Washington Street. The proposed alignment would extend along the west side of O'Brien Highway to the mall where it will curve to the east and cross over McGrath Highway on a proposed bridge to a short 100-foot long retained fill section and then it will cross over the MBTA Fitchburg Line on a second structure. Several buildings will have to be demolished including the Brickbottom Artist's Loft and a portion of the Galleria Mall.

Extending the Green Line along the southwest side of the O'Brien Highway would have significant adverse impacts to residential and commercial properties, and would significantly increase the cost of the proposed project. This option would increase the capital costs for the project by approximately $ 130 million in 2008 dollars. More than half of that cost differential is attributed to land acquisition, building demolition and site cleanup costs for the properties acquired. This alternative would also result in the use of a public recreation area (Gore Field) and therefore would not avoid the use of Section 4(f) properties.

Given the extensive impacts to Cambridge and Somerville residences; major commercial outlets such as the mall; and high costs (as described in Section 2-1, the MBTA does not currently have the financial capacity to extend the Green Line to Mystic Valley Parkway/Route 16, which would cost approximately $150M more than the Proposed Project) this at-grade alternative is not prudent.

6.3 Option 2: Retain Existing Lechmere Station with a Tunnel Extension

This alternative evaluated retaining the existing Lechmere Station in its current location by extending the Green Line below grade, from the existing station. The at-grade station is on the west side of the Monsignor O'Brien Highway. As shown in Figure 6-1, there are no exclusive transit rights-of-way on the southwest side of O'Brien Highway between the existing Lechmere Station and the MBTA Fitchburg Line right-of-way, a distance of 2,700 feet. The intervening area is entirely developed with a range of uses including the Cambridge Fire Department, residences, commercial buildings, a public recreational property (the Gore Field and Playground) and a large commercial/retail mall.

Extending the Green Line along the southwest side of the O'Brien Highway in twin bored tunnels would reduce significant adverse impacts to residential and commercial properties, but would very significantly increase the cost of the proposed project, making it infeasible within the fiscal constraints of the Commonwealth. The impacts to area properties would be significant on both tunnel approaches (where open "boat sections" would be required to transition from the surface to the tunnel) and would significantly increase the cost of the proposed project.

The tunnel option will require a 1000-foot transition boat section starting at the existing station heading north. Assuming the transition will follow a maximum profile gradient of 4 percent, a 1000-foot transition/boat section will be required to attain a tunnel depth of 40 feet (approximately twice the bored tunnel diameter). Once the tunnel reaches its maximum depth of 55 feet it will curve to the northeast and pass under O'Brien Highway, below some commercial properties and then under the Fitchburg Line right-of-way (approximately 1000 feet). On the north side of the Fitchburg line the Green Line will rise to the existing railroad grade south of Washington Street through a 1000-foot transition/boat section.

This option would increase the capital costs for the project by approximately $290 million in 2008 dollars. More than half of that cost differential is attributed to structural costs for the tunnel and both transitions. There would also be significant impacts to many residential and commercial properties in Cambridge. Given the extensive impacts to Cambridge and Somerville residences and exceptionally high structural costs (as described in Section 2-1, the MBTA does not currently have the financial capacity to extend the Green Line to Mystic Valley Parkway/Route 16, which would cost approximately $150M more than the Proposed Project) the tunnel alternative is not prudent.

6.4 Option 3: Retain Existing Lechmere Station With an At-Grade Green Line Extension within the median of Monsignor O'Brien Highway

This alternative evaluated placing the Green Line Extension within the Monsignor O'Brien Highway and McGrath Highway right-of-way between the existing Lechmere Station and the MBTA Fitchburg Line rail right-of-way. This alternative would retain the existing Lechmere Station in its current location by extending the Green Line at-grade from the existing station to O'Brien Highway. The at-grade station is on the west side of the Monsignor O'Brien Highway. As shown in Figure 6-1, this would require widening the roadway right-of-way by 30 feet between the existing Lechmere Station and the MBTA Fitchburg Line right-of-way, a distance of approximately 2,700 feet. Because McGrath Highway currently crosses the MBTA Fitchburg Line on a bridge, the bridge will have to be reconstructed to accommodate the Green Line extension. The properties abutting O'Brien Highway are developed with a range of residential and commercial uses including, a public recreational property (the Gore Field and Playground) and a large commercial/retail mall. Similar to Option 1, this would have substantial property impacts and would significantly increase the cost of the proposed project.

The Green Line Extension will curve in a northeasterly direction from existing Lechmere Station to O'Brien Highway where it will follow O'Brien Highway for 2400 feet within a proposed 30-foot median reservation to the McGrath Highway Bridge over the Fitchburg Line. The bridge will be widened to accommodate the proposed Green Line. From the bridge over the Fitchburg Line, the Green Line Extension will curve in northeasterly direction across several Brickbottom area properties where it will rise within a 700-foot long retained fill section to the existing rail right-of-way south of Washington Street.

This option would increase the capital costs for the project by approximately $120 million in 2008 dollars. More than half of that cost differential is attributed to land acquisition, building demolition and site cleanup costs within properties north of Lechmere Station; along O'Brien Highway and through the Brickbottom area.

Running the Green Line Extension within the O'Brien Highway will increase the need for additional traffic signals and traffic controls along this already congested roadway. Adding Green Line vehicles to this corridor will exacerbate the capacity of this roadway particularly during peak hours.

Given the extensive impacts to Cambridge residences; industrial/commercial properties in Somerville; O'Brien Highway traffic and high costs (as described in Section 2-1, the MBTA does not currently have the financial capacity to extend the Green Line to Mystic Valley Parkway/Route 16, which would cost approximately

$150M more than the Proposed Project) this in-street running alternative is not prudent.

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6.5 Preferred Alternative – Relocate Lechmere Station

It is not feasible to meet the mandate of extending the Green Line to Medford and Somerville while retaining Lechmere Station in its current location. The existing station is on the south (west) side of the Monsignor O'Brien Highway, while the railroad rights-of-way that the Green Line Extension must use are on the north (east) side of the highway. The use of this Section 4(f) resource, therefore, cannot be avoided.

The preferred alternative would extend the Lechmere Viaduct approximately 1,000 feet to the north and incorporate the station and platform on the new elevated structure (Figure 5-2). The proposed station will be a two-level, multimodal, ADA-accessible station that will accommodate both rail and bus operations (Figure 5-3). The preferred alternative will provide interim train storage, bicycle accommodations, parking for MBTA use and off-site roadway improvements including new roadways, roadway widening at existing signalized intersections and new signals. The preferred alternative will provide the same or improved functions as the existing Lechmere Station and will allow future ridership expansion and operations.

6.6 Measures to Minimize Harm

Once all parties in the Section 106 process concur that there will be an Adverse Effect on Lechmere Station and the East Cambridge Viaduct, a Memorandum of Agreement (MOA) will be prepared that will present the agreed-upon measures to mitigate the demolition of a portion of the East Cambridge Viaduct. Consultation required under Section 106 of the National Historic Preservation Act is being conducted as part of this NEPA process. The Section 106 coordination, including a Draft MOA, is attached to this DEIR/EA.

Proposed mitigation measures for the partial removal of the steel portion of the East Cambridge Viaduct would include archival photographic documentation of the viaduct. Archival photographic documentation will likely consist of digital views of the viaduct from several angles, views of its setting, and close-up views of any distinguishing decorative or construction details. The photographs are accompanied by a site plan showing their location and a photograph list.

The FTA will include, in the design plans, measures to protect and enhance the historic architectural character of the Viaduct, including minimal cleaning of work areas and restoring ornamental features that would be altered by the project. An architectural materials conservator would be consulted concerning changes to the existing structure. The FTA will ensure that the design of the new station is responsive to the recommended approaches to new construction and rehabilitation set forth in the Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings. The FTA will ensure that the design plans and construction specifications for the Lechmere Station are submitted to the MHC prior to construction for its review and comment.

An on-site or off-site history exhibit may also be included as mitigation. This exhibit could either be an on-site incorporation of the history and engineering aspects of the viaduct and Lechmere Station as part of the design, similar to references to the archaeological sites within the North Point development or an off-site, more traditional exhibit on the history and engineering aspects of the viaduct and station.

7

Public and Agency Coordination

The Green Line Extension Project has received significant public input throughout the planning process. As noted in the Secretary's Certificate, the approximately 90 comment letters on the EENF reflect a substantial interest in the future of the corridor from elected officials and municipal representatives; city, state, and regional agencies; environmental, bicycle, and pedestrian advocacy groups; neighborhood groups; groups that represent the disabled; businesses; residents; and the general public.

To plan and develop the Green Line Extension Project in coordination with this wide range of interests, EOT established a public involvement process that included an Advisory Group, open public meetings, and coordination with the staff and elected officials of Cambridge, Somerville and Medford as well as other stakeholders along the corridor. This process continued the public involvement that began in 2004, during the *Beyond Lechmere Northwest Corridor* study. The Project website (www.mass.gov/greenlineextension) contains all of the materials used at the Advisory Group and public meetings, including comments and responses to comments, fact sheets, project updates, maps, and graphics.

Eleven Advisory Group meetings were held during preparation of this DEIR/EA, between September 2007 and March 2009. One round of public meetings, attended by 226 people, was held in January 2008, in two different locations. Station workshops were held to obtain neighborhood input on station locations, access, and potential impacts and mitigation measures. Five station workshops were held in January and February 2008. A second round of public meetings was held in March 2009, in two different locations, in which over 600 people attended. In addition to these meetings, the Project Team also attended numerous community and neighborhood briefings.

7.1.1 Project Advisory Group

EOT established a Project Advisory Group of municipal officials, community representatives, and other interested individuals to help guide the public process, build consensus, and advise EOT on issues of concern. The members were recommended by the respective municipalities and appointed by the Secretary of Transportation.[7] The Advisory Group provides important guidance and input to EOT and the consultant team on a range of issues relating to the Project.

The Advisory Group has met approximately monthly throughout this process and serves as the Project's liaison to the community. Members review information and advise on the preferred alternatives, station stops, and recommendations. Several members have made independent recommendations as well. Advisory Group meeting presentations, materials, and summary meeting minutes are posted on the Project website to keep the public apprised of issues that arise during meetings. All Advisory Group meetings are open to the public. Several meetings were filmed for local cable access broadcast. Eleven Advisory Group meetings have taken place between September 2007 and January 2009.

7.1.2 Agency Coordination

The EOT facilitated 30 interagency meetings with federal and state regulatory agencies, and 43 public agency and local official briefings to guide the environmental review process. Meetings included representatives of:

- Federal Transit Administration;
- Massachusetts Bay Transportation Authority;
- Massachusetts Department of Conservation and Recreation;
- Massachusetts Department of Environmental Protection (MassDEP);
- Massachusetts Executive Office of Energy ad Environmental Affairs (EOEA);
- Massachusetts Environmental Policy Act Office (MEPA);
- Massachusetts Highway Department;
- Massachusetts Historical Commission;
- Central Transportation Planning Staff; City of Cambridge;
- City of Somerville; and
- City of Medford.

7 **The Advisory Group consists of:** Lee Auspitz, Davis Square Task Force; Paul Cote, Appointed by City of Cambridge; William Deignan, City of Cambridge; Councilor Frederick DelloRusso, City of Medford; Rita Donnelly, Appointed by City of Medford; Mimi Graney, Union Square Main Streets; Joe Guelpa, Appointed by City of Somerville; David Jordan, Appointed by City of Somerville; Kenneth Krause, Appointed by City of Medford; Monica Lamboy, City of Somerville; Barbara Lucas, MAPC; Steve Mackey, Somerville Chamber of Commerce; Jim McGinnis, Appointed by City of Somerville; Ellin Reisner, STEP/Green Line Forum; Barbara Rubel, Tufts University; Carrie Russell, Conservation Law Foundation; William Wood, Appointed by City of Medford.

7.1.3 Meetings

Advisory Group Tutorials

EOT has facilitated tutorial sessions for Advisory Group members to help them gain a deeper understanding of aspects of the Project. Three tutorial sessions were offered during the Summer of 2008: a ridership modeling presentation and discussion led by the Central Transportation Planning Staff (CTPS); a presentation and discussion of the proposed Community Path design; and a tour of the existing Riverside Green Line support facility with a presentation about the proposed layover/support facility for the Project.

General Public Meetings

Two public meetings were held in Medford in January and February 2008 to provide project background and context. Meetings included a half-hour open house for participants to talk with Project Team members, followed by a presentation and a question and answer session. Attendance was over 100 at each meeting.

In March 2009, EOT held two public meetings in Somerville and Medford, where it presented an overview of the Project, an environmental analysis, recommendations for station sites, and the preferred Project alignment. At both meetings, there was a one-hour Open House, where members of the Project Team were available to answer questions about the project. The meeting presentation, followed by a public question and comment period, lasted two hours. These meetings were advertised in local newspapers, noticed to the Project database, and all residents of Somerville, Medford, and portions of East Cambridge received notices of the meetings. The distribution list for these meetings totaled approximately 37,000 individuals. Meeting notices were also translated into multiple languages including Spanish, Portuguese and Haitian Creole. Approximately 265 individuals attended the Medford meeting, and 346 attended the Somerville meeting.

Station Workshops

Beginning in late January 2008 and continuing throughout February, residents of Cambridge, Somerville, and Medford came in the hundreds to a series of five station workshops for the Green Line Extension Project. As the alternatives analysis phase began, EOT reached out to communities early in the process to help incorporate residents' everyday knowledge of the corridor into the analysis. The meetings began with a half-hour open house for participants to review maps of the corridor and talk with Project Team members. After a brief overview of the Project and its current phase, the meetings broke into workshop style sessions with participants surrounding tables of maps and providing input regarding station locations, station access, traffic intersections, pedestrian, bus, and bike path connections, and desired station amenities. With attendance reaching 100 or more at some workshops, this robust series of meetings allowed residents to express both their excitement and their

concerns about the Green Line Extension. The Project Team wrote down participants' comments on flipcharts near the station tables, while participants themselves filled out worksheets for the Project Team to collect and review.

Members of the Project distribution list were mailed notices of these meetings, and abutters to the proposed station locations received flyers about the meetings. Flyers in multiple languages were also distributed at nearby commuter rail and Orange Line stations. Flyers in multiple languages were sent to area libraries and city clerks' offices for posting.

Briefings for Public Agencies and Elected Officials

EOT has had over 70 meetings with public agencies, municipal officials, elected officials, and municipal disability commissions in Cambridge, Somerville and Medford.

Briefings for Neighborhood Groups and Institutions

EOT has attended over 15 meetings with neighborhood groups. The team provided brief presentations at these neighborhood meetings (targeted by EOT and upon request by a group) and for the disability communities (municipal disability commissions and MBTA Access Advisory Committee) in Cambridge, Somerville and Medford.

7.1.3.1 Website

EOT has maintained an informative and up-to-date interactive Project website, **www.mass.gov/greenlineextension**. Between November 2007 and March 2009, the site attracted more than 16,000 new visitors and had a total of more than 97,000 page views. Along with a brief overview of the Project's history and current phase, the website provides access to various reference materials, including documents from previous phases of the Project as well as the most up-to-date Project materials. Interested individuals are also able to sign up to be part of the Project mailing list. Individuals are also able to post comments about the Project publicly as well as use the website to ask questions of EOT and the Project Team. Materials from the Project website have been converted into audio tapes upon request from members of the public.

7.1.3.2 Written Materials

The Project Team has also provided documents summarizing Project meetings, activities, and information on a regular basis. These materials have been provided to the 1,967 names in the Green Line Extension database.

Summary Meeting Minutes

The Project Team provided summary minutes of every EOT-hosted meeting, including Public meetings, Advisory Group meetings and tutorials, and agency briefings (Table 7-1). These notes highlight the presentation, key issues raised, and participants' concerns. They are posted on the website and printed versions are available in different formats upon request.

Fact Sheets

The Project Team prepared one fact sheet in advance of the January/February 2008 public meetings to outline the issues and options under review and indicate how and when comments can be shared or submitted. The Project Team also prepared an additional fact sheet and frequently asked questions (FAQs) sheet in advance of the March 2009 public meetings. The fact and FAQ sheets are available in print and are formatted for downloading from the Project website. Fact and FAQ sheets are available in multiple languages as well as in a large-print, text-only version.

Table 7-1 Meeting Summary (as of March 31, 2009)

Meeting Type	Number of Meetings to Date
Advisory Group Meetings	11
Station Taskforce Meetings	5[1]
Interagency Meetings	30
Neighborhood Briefings	15
Public Agency and Local Official Briefings	43
Institutions/Business Groups Briefings	3
Public Meetings	4[2]
EOT Tutorials	3

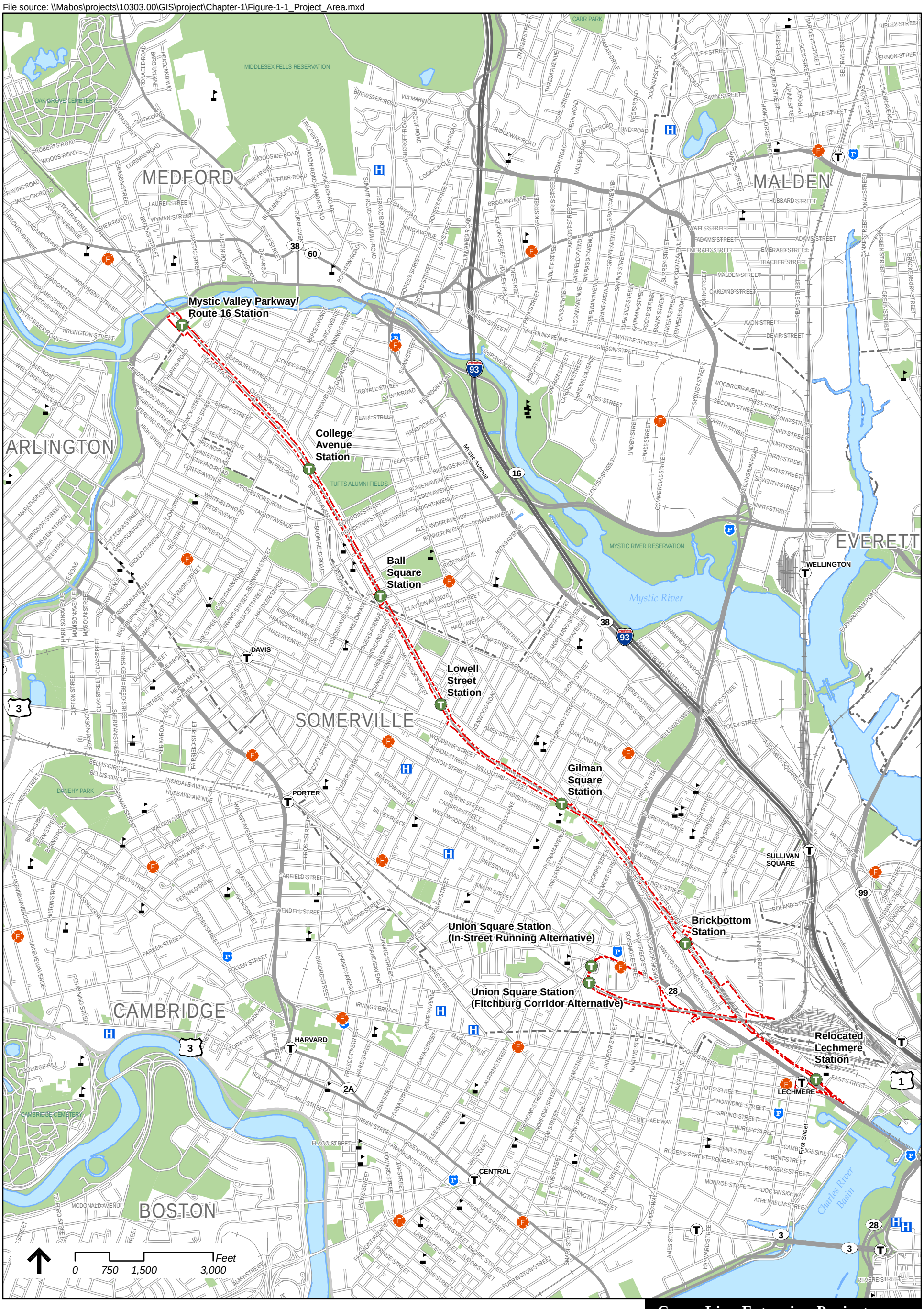
1 Attendance at these five meetings was 83, 114, 98, 89, and 74, respectively.
2 Attendance at these four meetings was 138, 88, 264, and 350, respectively.

7.2 Section 4(f) and Section 106 Coordination

As previously noted, the Lechmere Station Relocation was part of the NorthPoint Project which completed the state (MEPA) review process and project review requirements for local approvals by the City of Cambridge and the City of Boston. As part of the MEPA review process, pertinent state, regional and transportation agencies, surrounding cities, and interested parties were contacted to discuss and review the project and potential impacts. North Point also held numerous public informational meetings. Consulted parties that provided written correspondence on the MEPA review were documented on the areas of potential environmental impacts.

The FTA is the lead federal agency for the Project with responsibility for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, DOT Section 4(f), and other federal statutes. EOT serves as the lead state agency for the Project and is responsible for identifying and evaluating properties through archaeological and historic architectural surveys in accordance with MGL Ch. 9 Sections 26-27C, as amended; 950 CMR 71.00, 950 CMR 70.00 and the Massachusetts Environmental Policy Act (MEPA). The FTA and EOT will seek the comments of the MHC, the Cambridge Historical Commission, the Somerville Historical Commission, and the Medford Historical Commission on the historic and archaeological resources identification and evaluation and on potential Project impacts. Following a determination of effect by the FTA and EOT, and concurrence by MHC, further consultation with the MHC and other consulting and interested parties will occur as Project planning proceeds in order to consider alternatives and measures that would avoid, minimize, or mitigate any adverse effects of the Project on significant historic and archaeological resources. It is anticipated that that this process will culminate in the SHPO concurring with FTA's Section 106 Adverse Effect finding and the execution of a MOA.

File source: \\Mabos\projects\10303.00\GIS\project\Chapter-1\Figure-1-1_Project_Area.mxd



Legend

- Proposed Stations
- Existing MBTA Station
- Schools
- Hospitals
- Fire Stations
- Police Stations
- Project Area
- Municipal Boundaries
- Protected and Recreational Open Space

MASSACHUSETTS EXECUTIVE OFFICE OF TRANSPORTATION

Green Line Extension Project

Figure 1-1

Study Area

Source:
Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

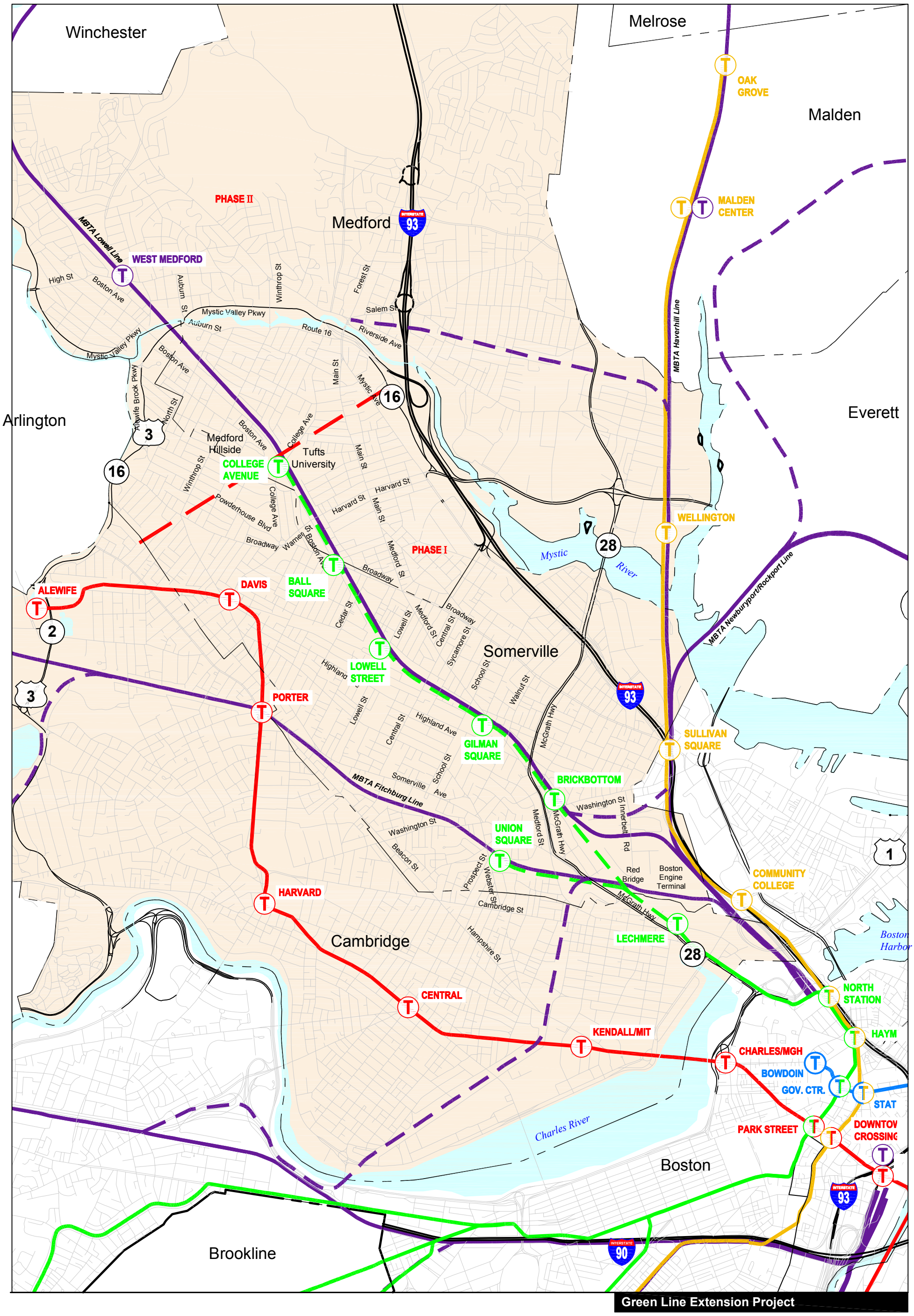


Figure 2-1
Proposed Project

0 1250 2500 Feet



Green Line Extension Project

Figure 2-2a

Proposed Project - Alignment and Stations
Sheet 1 of 2

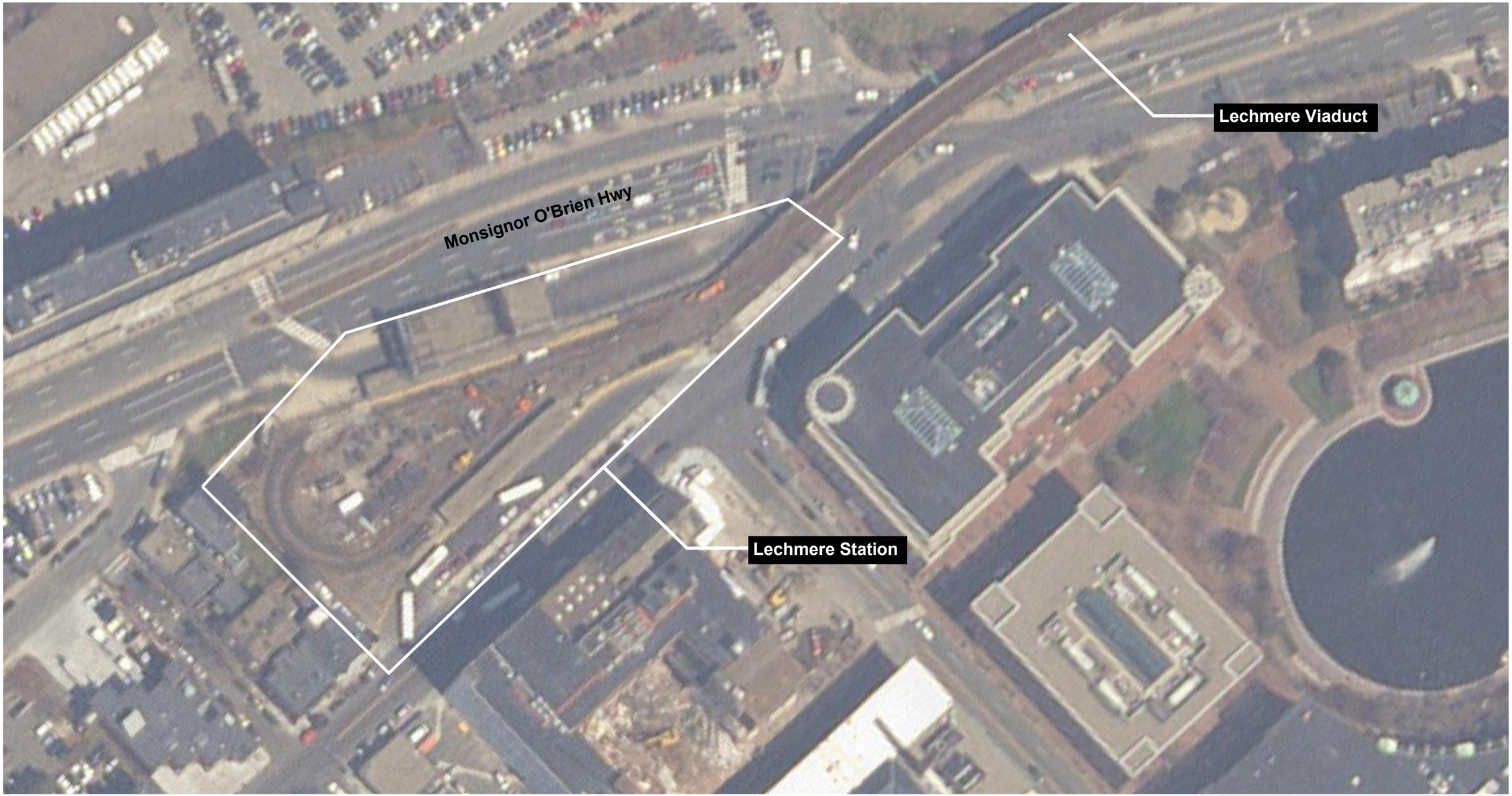


Green Line Extension Project

MBTA Green Line
MBTA Commuter Rail Line
Other Rail ROW
Proposed Green Line

0 500 1000 Feet

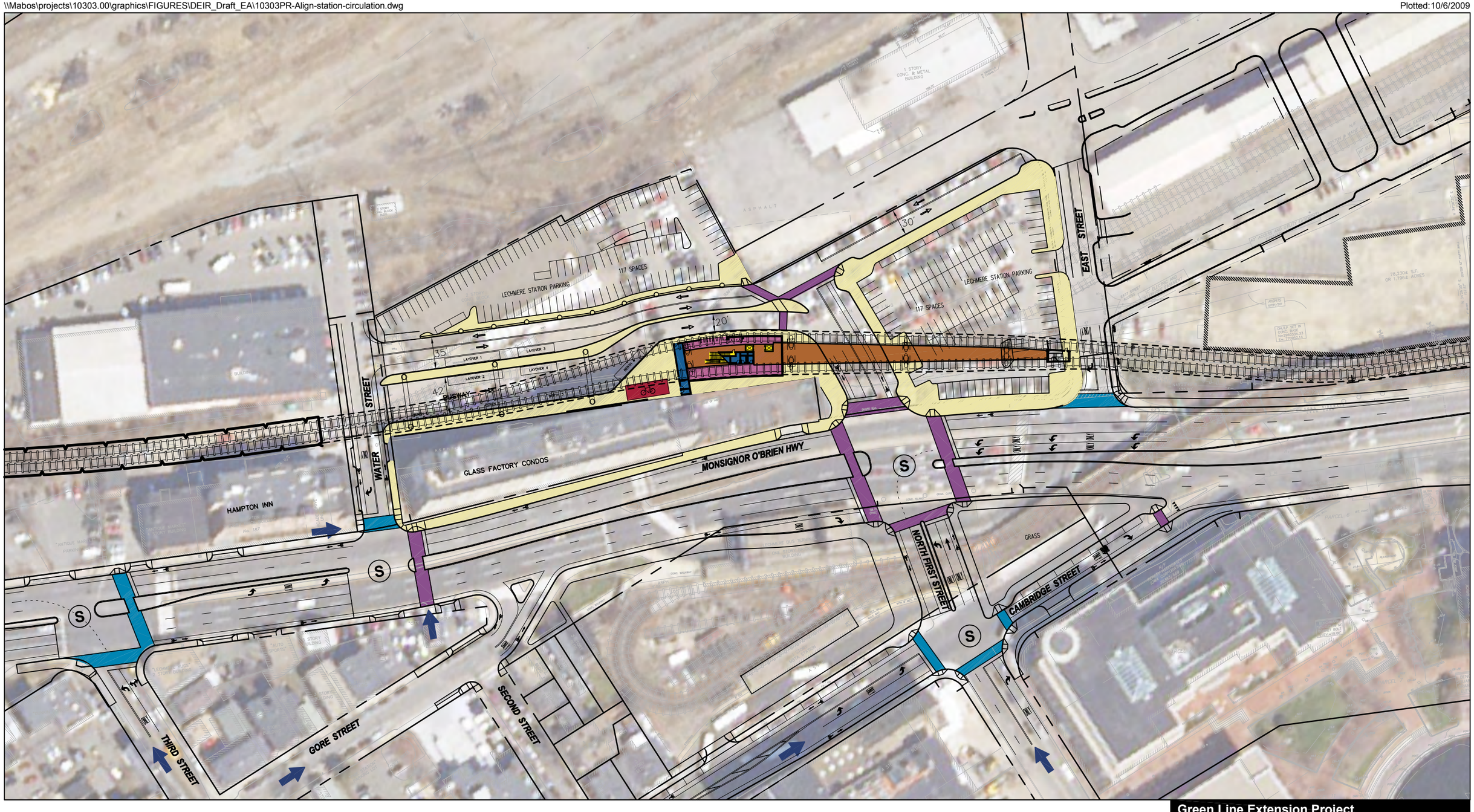
Figure 2-2b
Proposed Project - Alignment and Stations
Sheet 2 of 2



Green Line Extension Project

0 40 80 Feet

Figure 5-1
Existing Lechmere Sation



0 50 100 Feet

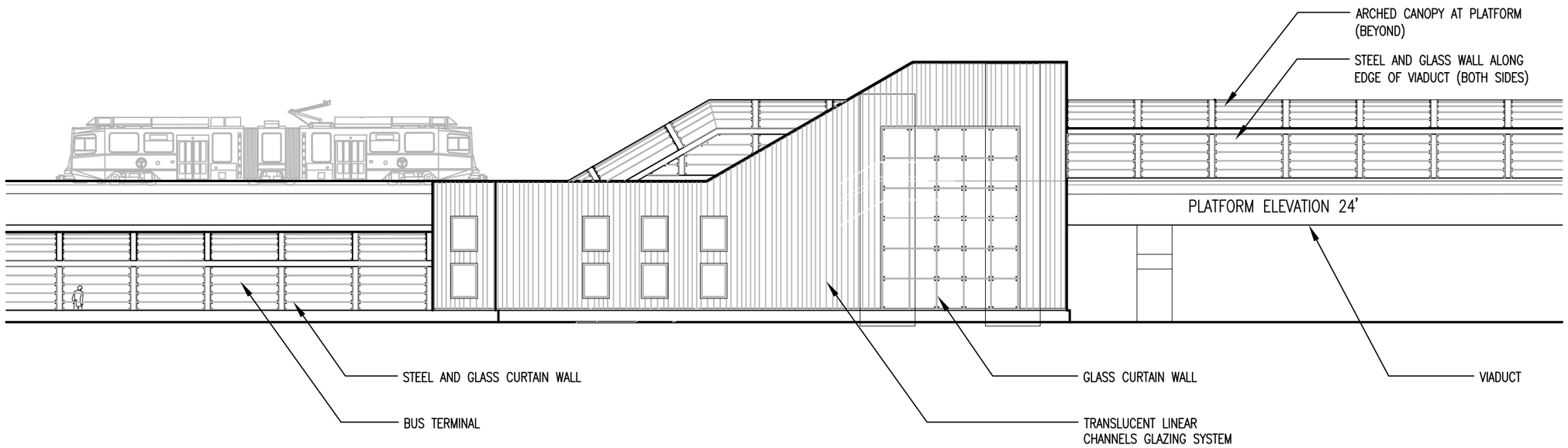
Legend

- MBTA Bus Stop
- Proposed Traffic Signal
- Bicycle Storage
- Existing Crosswalks
- Proposed Crosswalks
- Pick-Up/Drop-Off Area
- Pedestrian/Bicycle Access
- Platform
- Station Concourse
- Station Entry
- Service Areas
- Stairs, Elevators, Escalators
- New Sidewalk
- New Landscaping
- Proposed Community Path

Green Line Extension Project

Figure 5-2

Proposed Relocated Lechmere Station

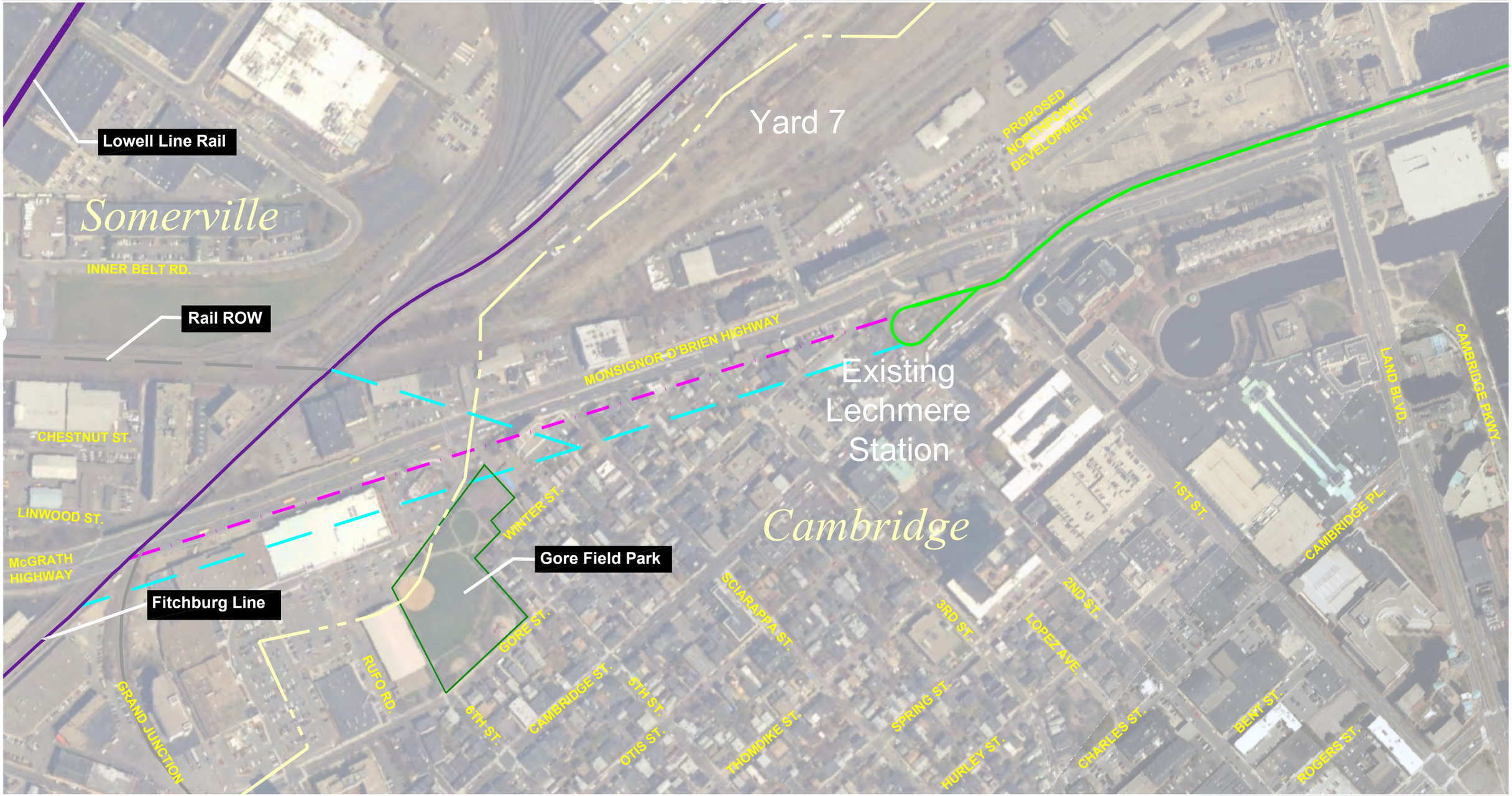


0 10 Feet 20 Feet

Green Line Extension Project

Figure 5-3

Relocated Lechmere Station Elevation



Green Line Extension Project

0 150 300 Feet

- *MBTA Green Line*
- *MBTA Commuter Rail Line*
- *Other Rail ROW*
- *Avoidance Alternative Tunnel or at Grade*
- *Avoidance Alternative Boulevard*

Figure 6-1
Avoidance Alternatives

Appendix J
Draft Memorandum of Agreement

DRAFT
8-31-09

Memorandum of Agreement between the Federal Transit Administration and the Massachusetts State Historic Preservation Officer Pursuant to 36 CFR § 800 regarding the MBTA Green Line Lechmere Station Relocation Project Boston, Massachusetts

WHEREAS, the U.S. Department of Transportation, Federal Transit Administration (FTA) has determined that the proposed Massachusetts Bay Transportation Authority (MBTA) Green Line Lechmere Station Relocation Project in Cambridge, Massachusetts will have an adverse effect upon the Lechmere Viaduct, in Boston and Cambridge, a property that has been determined individually eligible for National Register listing; and will also affect the Lechmere Station in Boston, pursuant to 950 CMR 71.05(a) a property that has been determined by consensus to meet the criteria of eligibility for listing in the National Register of Historic Places under Criteria A and C at the local level (36 CFR 60).

WHEREAS, the FTA has consulted with the Massachusetts State Historic Preservation Officer (MASHPO) pursuant to 36 CFR § 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the Massachusetts Bay Transportation Authority (MBTA) and the Cambridge Historical Commission (CHC) have participated in the consultation and have been invited to concur in this Memorandum of Agreement;

NOW, THEREFORE, the FTA and the MASHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

The FTA will ensure that the following measures are carried out:

1. Archival Photographic Documentation

(a) Prior to any demolition or construction activities associated with the project, the FTA shall ensure that a qualified historic preservation consultant prepares archival photographic documentation of the MBTA Lechmere Station and the area of the Lechmere Viaduct that will be altered. The documentation shall include printed digital photographs, a CD-R, and technical documentation prepared according to the attached *Photographic Documentation Technical Requirements for Digital Images* (hereto attached as Appendix A). The scope of the photographic documentation will be developed in consultation with the MASHPO, and the CHC. It will include the MBTA Lechmere Station and the area of the Lechmere Viaduct that will be altered. All documentation shall be enclosed in suitable archival-quality enclosures within an archival-quality box.

(b) Unless otherwise agreed to by the MASHPO, the FTA shall ensure that the original archival photographic documentation is completed, delivered to and accepted by the MASHPO prior to commencement of demolition or construction activities. Upon acceptance by the MASHPO, FTA shall then submit copies of the archival documentation to the following repositories: the Massachusetts State Archives, Historic New England, Boston Public Library, Bostonian Society, and Cambridge Historical Society. FTA shall provide a copy of the archival documentation transmittal letters to the MASHPO.

2. New Construction and Rehabilitation

Lechmere Station
The FTA shall ensure that the designs of the alterations to the Lechmere MBTA Station are compatible with the surrounding properties and are responsive to the recommended approaches to new construction and rehabilitation set forth in the Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings (U.S. Department of the Interior, National Park Service, 1992). The FTA shall ensure that the design plans and construction specifications for the Lechmere MBTA Station are submitted to the MASHPO, and CHC prior to construction for their review and comment.

Lechmere Viaduct
The FTA shall include in the design plans measures to protect and enhance the historic architectural character of the Lechmere Viaduct, including minimal cleaning of work areas, restoration of ornamental features that will altered by the project (The general contractor that is awarded construction of the project will engage an architectural conservator that meets the National Park Service's standards set forth at 36 CFR Part 61 regarding qualifications for preservation/conservation professionals (http://www.nps.gov/history/locallaw/gis/html/table_of_contents.html). The conservator will meet the NPS professional standards and have demonstrated experience performing conservation work within the guidelines of the American Institute for Conservation Code of Ethics and Guidelines for Practice. The MASHPO and CHC will review and approve the qualification requirements for the architectural conservator.

The FTA shall ensure that the design plans and construction specifications for the Lechmere Station are submitted to the MASHPO, and CHC prior to construction for their review and comment and will provide an opportunity for field review of samples and mock-ups.

3. Historical Interpretation

(a) The MBTA Design Department, following MBTA design protocol review, will develop an Interpretive Display to be located at the Lechmere MBTA Station. The MBTA Design Department will develop the concept and content of the display panels and will coordinate with the MBTA Design Consultant to incorporate the construction and installation of the interpretive panels into the contract. At a minimum, the contents of the interpretive display will be on weather and vandal-resistant panels, and the panels specifications will be in accordance with the MBTA enamel panel specifications, which meet and exceed National Park Service standards for permanent outdoor interpretive signage (www.nps.gov/hfc/products/waysides/way-productpanels.htm). The interpretative display shall discuss the history of the Lechmere Station, the adjacent Lechmere Viaduct, elevated railway, Boston Museum of Science and Charles River Basin within their appropriate historic contexts using text, photographic images, and maps. Draft plans, renderings, and specifications, including the proposed text and illustrations of the interpretive display will be prepared for review prior to preparation of the final design. The panels will be installed within the Lechmere Station in a location that is convenient, safe, and accessible for passenger viewing.

(b) The MBTA shall seek and take into account the MASHPO's and CHC's comments on the draft plans, renderings, and specifications for the Interpretive Display prior to final design.

4. Site Restoration

The FTA shall ensure that the construction site work zone is restored to the condition immediately prior to construction, including but not limited to pavement, curbs and plantings.

5. Administrative Provisions

Dispute Resolution
If at any time during the implementation of this Memorandum of Agreement (MOA), the MBTA or the MASHPO objects to any actions proposed or the manner in which the terms of this MOA are

implemented and cannot resolve the issue between them, they shall immediately notify and consult with FTA in order to resolve the objection. If, within 30 days of such written notice, FTA determines that such objection(s) cannot be resolved, FTA will forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (Council). Within 30 days after receipt of all pertinent documentation, the Council will either:

- Provide FTA with recommendations, which FTA will take into account in reaching a final decision regarding the dispute; or

- Notify FTA that it will comment pursuant to 36 CFR Section 800.7(b) and Section 110(1) of the National Historic Preservation Act and then proceed to comment. Any Council comment provided in response to such a request will be taken into account by FTA in accordance with 36 CFR Section 800.6(a)(1)(C)(ii) with reference to the subject of the dispute.

If the Council does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, FTA may render a decision regarding the dispute. In reaching its decision, FTA will take into account all comments regarding the dispute from the parties to the MOA.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FTA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

FTA will notify all parties of its decision in writing before implementation of that portion of the undertaking that was subject to dispute. FTA's decision will be final.

Amendments and Noncompliance

Any signatory to this MOA who determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other signatories to the agreement to develop an amendment to this MOA pursuant to 36 CFR §§800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy signed by all of the original signatories is filed with the Council. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with stipulation below regarding duration.

Termination

If an MOA is not amended following the consultation set out in this stipulation, it may be terminated by any signatory. Within 30 days following termination, FTA shall notify the signatories if it will initiate consultation to execute an MOA with the signatories under 36CFR §800.6(c)(1) or request the comments of the Council under 36 CFR §800.7(a) and proceed accordingly.

Duration

If the terms of this MOA have not been implemented by December 30, 2011, this MOA shall be considered null and void. In such event, the FTA shall so notify the parties to this MOA, and if it chooses to continue with the undertaking, shall reinitiate review of the undertaking in accordance with 36 CFR Part 800.

Execution of this MOA by the FTA and the MASHPO and implementation of its terms evidences that the FTA has afforded the Council an opportunity to comment on the proposed MBTA Green Line Lechmere Station relocation (part of the Green Line Extension Project) and its effects on historic properties and that the FTA has taken into account the effects of the undertaking on historic properties.

FEDERAL TRANSIT ADMINISTRATION

By:_____ Date:_____
Richard Doyle
Region 1 Administrator

MASSACHUSETTS HISTORICAL COMMISSION

By:_____Date:_____
Brona Simon, Executive Director
Massachusetts State Historic Preservation Officer

Concur:

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

By:_____Date:_____
Daniel Grabauskas
General Manager

CAMBRIDGE HISTORICAL COMMISSION

By:_____Date:_____
Charles Sullivan
Executive Director